



Request for Quote

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
 ONE CAPITOL HILL
 PROVIDENCE RI 02908

BUYER: Cadoret, David
 PHONE #: N/A

CREATION DATE : 27-JAN-10
 BID NUMBER: 7323429
 TITLE: SECURITY SYSTEM - WILLIAM M. DAVIES CAREER & TECH
 BLANKET START : 01-APR-10
 BLANKET END : 30-SEP-10
 BID CLOSING DATE AND TIME: 26-FEB-2010 10:00:00

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 DOA CONTROLLER
 ONE CAPITOL HILL, 4TH FLOOR
 SMITH ST
 PROVIDENCE, RI 02908
 US

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 RIDE WILLIAM M DAVIES CAREER & TECH HS
 50 JENCKES HILL RD
 LINCOLN, RI 02865
 US

Requisition Number: 1167004

Note to Bidders: QUESTIONS CONCERNING THIS SOLICITATION MUST BE RECEIVED BY THE DIVISION OF PURCHASES AT BIDINFO@PURCHASING.STATE.RI.US NO LATER THAN 12 NOON 2/12/10.

QUESTIONS SHOULD BE SUBMITTED IN A MICROSOFT WORD ATTACHMENT. PLEASE REFERENCE THE RFP/LOI #ON ALL CORRESPONDENCE. QUESTIONS RECEIVED, IF ANY, WILL BE POSTED ON THE INTERNET AS AN ADDENDUM TO THIS SOLICITATION. IT IS THE RESPONSIBILITY OF ALL INTERESTED PARTIES TO DOWNLOAD THIS INFORMATION.

Line	Description	Quantity	Unit	Unit Price	Total
1	THE WILLIAM M. DAVIES, JR. CAREER AND TECHNICAL HIGH SCHOOL IS SEEKING A CONTRACTOR FOR ALL LABOR, OVERSIGHT, EQUIPMENT, MATERIALS AND SERVICES TO PROCURE, INSTALL, COMMISSION AND SERVICE A CCTV SYSTEM AS PER ATTACHED SPECIFICATIONS.	1.00	Sum		

Delivery: _____

Terms of Payment: _____

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP. This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer

Section 28270 - Security Management System

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PART 1.00 - GENERAL

1.01 GENERAL

- A. This Request for Proposal (RFP) includes Contract Documents such as Bid Instructions, Drawings/Plans, a Specification and other supporting bid information developed by William M Davies Technical High School to procure and install a Video Assessment and Recording System for the William M. Davies Technical High School facilities located at 50 Jenckes Hill Road, Lincoln, RI.
- B. The following general definitions shall apply:
 - 1. The Security Management System (SMS) shall consist of a Closed Circuit Television (CCTV) system.
 - 2. The Owner is William M. Davies Technical High School (Owner); the Owner's Engineering Technical Representative (Engineer) is Good Harbor-TECHMARK.
 - 3. The Contractor is the firm selected by the Owner to perform the work outlined in this RFP and supporting documentation. The Contractor shall supply all equipment, labor, material and services necessary to complete the project construction in accordance with the Contract Documents.
- C. In cases where the term "provide" is used throughout this Specification and associated Contract Documents, it shall mean "furnish, install and service".
- D. The Contractor shall indemnify and hold harmless, to the fullest extent of the law, the Owner, the Architect, any of the Architect's Engineers and agents and employees from and against any claims, damages, losses and expenses arising from these Specifications and associated Contract Documents.
- E. The Contractor shall consider these plans and specifications as containing confidential information of the Owner. The Contractor shall ensure that these plans and specifications are kept secure at all times and not copied for any reason unless authorized by the Owner and Engineer. The Contractor shall restrict disclosure of

specific SMS design information to any other duly assigned and authorized subcontractor personnel who require such disclosure to perform their work under this Contract.

- F. All Contractor submittals including any drawings shall be marked "Confidential" in the top and bottom of the page and all subsequent pages should have the restriction appearing as a footer at the bottom of the page. The outside back cover of the submission should also contain the "Confidential" header and footer.

1.02 **GENERAL BID INSTRUCTIONS**

- A. Qualified Bidder/Contractor, shall submit bids in accordance with the instructions set forth below in addition to any specific bid instructions provided separately by the Owner.
- B. Contractor bid submissions shall include the procurement, installation and services of a video assessment and recording system for the William M. Davies Technical High School.
- C. All submitted proposals must comply with these instructions and specifications in order to be considered valid bids.
- D. Bidders are required to complete all bid forms in the format specified. Should the format conflict with the bidder's normal format for responding to bids, the Contractor may provide his bid on his own format only as a supplement to the required bid forms specified and provided herein.
- E. All questions or inquiries regarding this bid, to include all Contract Documents, Specification requirements and Bid Document preparation instructions and formats, shall be submitted in writing via facsimile within 72 hours prior to the bid due date.
- F. The Owner will evaluate and respond to all reasonable bid questions within forty-eight (48) hours and provide a complete reply to specific bidders question(s) with a copy to all prospective bidders whose names are on the Bidders List.
- G. In response to this RFP, facsimile or email responses or partial responses are not permitted. Bidders transmitting any or all of their proposal responses via facsimile or email shall be considered non-responsive and their bid rejected. Proposals delivered after the established deadline indicated above will be discarded unopened.
- H. The Owner reserves the right to conduct discussions with any Bidder and to accept revisions and/or clarifications of proposals as specifically requested by the Owner. The Owner will not disclose any information derived from the proposals to other bidders or from discussions with any of the other Bidders.
- I. The Owner reserves the right to reject any or all proposals, or any part thereof, or to accept any proposal, or any part thereof, or to withhold the award and to waive or decline to waive irregularities in any proposal when it determines that it is in their best interest to do so.
- J. The Owner reserves the right to hold all proposals for 90 days after the bid opening date and the right to accept a proposal not withdrawn before the scheduled opening time and date.
- K. In order to be considered for selection, qualified Bidders must submit a complete response to this RFP. Four (4) copies of each proposal must be submitted separately to the Owner.

1.03 **BID/PROPOSAL PREPARATION AND SUBMISSION REQUIREMENTS**

- A. Bidders who do not completely respond to all RFP requirements and/or whose bid response is in any way considered incomplete or unresponsive to Contract Document requirements shall be subject to rejection of their complete bid without cause at the discretion of the Owner.
- B. There may arise during the bid process a situation where the plans and specifications do not completely agree or coincide with respect to quality, quantities, and costs with other supporting Contract Documents. In the event such a discrepancy exists, the Bidder shall notify the Owner/Engineer and select the item presenting the higher quality, greater quantity and/or higher cost unless specifically directed by the Owner in writing prior to the bid submission date.
- C. Proposals shall be prepared and delivered bound in a three-ring binder contained in a sealed envelope. Binders shall be equipped with dividers separating each section. Proposals in response to this RFP shall be prepared simply and economically yet remain completely and totally responsive to the RFP requirements. Each copy of the Bidder's proposal should be bound or contained in a single volume. Include all supporting documentation or technical literature in a separate binder clearly marked and separate from the official response to this RFP.
- D. Contractor proposals, to include the firm fixed price or other bid, shall be signed by an authorized company representative at the company officer level. Failure to submit all information required by this RFP may result in the Owner requiring prompt submission of missing information and/or determining at the Owner's discretion a lowered evaluation of the proposal. Proposals which are substantially incomplete or lack key information may be rejected outright by the Owner.
- E. Contractors shall submit with their proposal a Proposal Compliance Checklists/Specification Compliance Statement organized in the order in which the Specification requirements are presented in this RFP. The Bidder shall indicate bid compliance or deviation for each requirement item in the Bid Specification either by the word "Comply", "Do Not Comply" or "Exception" following the applicable paragraph number. Each paragraph in the Bidder's proposal should reference the paragraph number of the corresponding section of the Specification, Bid Document and/or RFP.
- F. An entry of "Do Not Comply" will be interpreted that the Bidder's proposed systems do not meet the Specification requirement(s). An entry of "Exception" will indicate the Bidder is taking exception with the Specification requirement(s), and he shall provide an explanation within the checklist as to why he takes exception with the particular requirement and what he proposes as a requirement, technical solution and why. Lack of indication that the Bidder is either compliant or takes exception with the requirement shall be considered non-compliant. Failure to submit the Proposal Compliance Checklist will automatically disqualify a Bidder.
- G. Selected Bidders who submit a proposal in response to this RFP may be requested to give an oral presentation and/or interview describing further details from the Bid, upon request of the Owner or the Owner's authorized representatives.
- H. Contractors may submit alternate bids with the expressed purpose of increasing system functionality and efficiency or reducing costs while maintaining required specification functionality. Alternates will be considered by the Owner only if they are submitted separately as an alternate bid with specific references to the Bidder's main bid. All

alternate bids are to be separate from the main SMS bid, appended to the bidder's response and labeled as alternate bids, with a full and detailed explanation(s) of the alternate bid contained in an appendix to the Bid. All alternate bids shall be explained in terms of the Contractor's expected increased efficiency, functionality and/or reduced costs versus the main Bid. The Owner reserves the right to accept any alternative proposal presenting clear advantages to the Owner.

- I. Bidders shall also submit the following additional information with their Bid to the Owner:
 1. Manufacturers' cut sheets and functional descriptive literature for all functional SMS equipment items specified and included in the Bidder's equipment spreadsheet. This includes any equipment the Bidder is proposing that is not listed in the equipment spreadsheet and any alternate proposal equipment.
 2. Proposed Bidder Maintenance and Service Agreement details and costs for years two through five along with a Sample Contract describing the Contractor's proposed scope of Maintenance and Services to be provided to the Owner after the SMS warranty period has expired. Specifically delineate in the Sample Contract both during and after hours labor rates and provide a description of the various service levels available to the Owner.
 3. Narrative outline of the Contractor's approach to Preventive Maintenance and expected cost for implementing a Preventive Maintenance Program as proposed by the Bidder.
 4. Use the following breakdown to include bid estimated Maintenance and Service contract costs on an annual basis from time of total system acceptance by the Owner:
 - a. First Year: No cost, Under Warranty
 - b. Second Year: \$
 - c. Third Year: \$
 - d. Fourth Year: \$
 - e. Fifth Year: \$
- J. Provide an indication of the Contractors' current and anticipated workload during the period of the proposed contract. Bidder shall provide a listing of active projects expected during the proposed period of the contract according to anticipated size and duration.
- K. Specifically identify in the bid response the name and qualifications of the Bidder's Project Manager assigned to this project, the name of the person to whom Contractor's on-site technical installation personnel will report and the name of the Contractor's senior technical representative to be assigned to this project.
- L. Provide a complete list of the equipment and materials offered by the Bidder and their associated lumped material and installation costs on the spreadsheet format provided as bid forms with the Contract Documents.
- M. Bidders shall provide a firm fixed price for the complete installation and commissioning of the CCTV system in accordance with these Contract Documents using the hard formats of the electronic spreadsheet formats provided. Two major spreadsheet formats are provided for Bidder use in preparing their proposal binder, one with a complete SMS

breakdown of individual equipment unit prices, quantities and labor estimates by subsystems and one reflecting a Major Cost Summary of the Contractor's total bid according to major cost elements.

- N. The completed SMS spreadsheets will be used by the Owner as one of many Contractor evaluation criteria leading to the subsequent negotiation and/or award of a firm fixed price. The unit prices and labor rates included in the Bidders' proposal and reflected on the spreadsheets shall be used for all additions, deductions and alterations to the original contract for the proposed period of the contract. These same spreadsheet unit prices and labor rates will be used for additional purchases by the Owner from the Contractor for a period of two (2) years from the date of final acceptance of the SMS base bid system.
- O. Separate spreadsheets shall be used by the Bidder to present any and all alternate bids.

1.04 **EVALUATION AND AWARD CRITERIA:**

A. EVALUATION CRITERIA:

- 1. Contractor's Experience
 - a. Company
 - 1) Number of years providing SMS/ACS Systems specified
 - 2) Financial stability/history
 - 3) Sufficient number of employees trained and certified
 - 4) Demonstrated ability to offer a cost-effective solution
 - b. Staff assigned to the project
 - 1) Number of staff and designated Project Manager for the duration of the project.
 - 2) Experience of staff (resumes)
 - 3) Project Manager
 - 4) Account Manager
 - 5) Chief Technician
 - c. Capability & Skill -- In providing similar SMS systems at other similar locations and to other like accounts in the greater Providence area.
- 2. Contractor References:
 - a. List and names of other companies or institutions of similar size and project scope (and points of contact along with current telephone number) where Contractor has provided or is providing similar SMS services. List other companies or institutions (and points of contact) at which your proposed SMS system was installed by the Bidder and is currently in operation. References will be used to ascertain the quality, reliability, and flexibility of systems installed.
 - b. Current accounts
 - 1) Were deadlines met for installation & training?
 - 2) Did the system meet expectations upon installation & training?
 - 3) Were upgrades provided as required by the contracts?
 - 4) Were networking/systems integration requirements reliably met?

- a) Identify accounts which were lost within the past three years and the manner in which these accounts were lost.
 - b) Statistics on maintenance history of systems installed.
3. Training programs implemented and scope of training programs for initial operation and refresher/on-going training for operators and maintainers. Includes Contractor's own internal training for in-house personnel.
4. Technical Responsiveness
- a. Degree to which the Contractor has demonstrated their SMS system's functionality, capability and flexibility to meet the Owner's needs.
 - b. Degree to which the Contractor submitted the required RFP technical information to support bid
 - c. Bidder's technical installation approach and flexibility in providing required installation, maintenance services and systems to meet the Owner's needs.
5. Cost:
- a. Equipment costs, including labor, for the equipment and systems indicated on the spreadsheets are reasonable.
 - b. Annual Maintenance and Preventive Maintenance Service costs (separately) to include parts, labor and upgrades to hardware/software based on yearly costs as outlined in 1.03.1.4 above.
 - c. Training costs.
- B. AWARD CRITERIA: Selection shall be made on the basis of the Owner's determination that a single Contractor/Bidder is deemed to be fully qualified and best suited among those submitting bids on the basis of the evaluation factors included in the RFP, including price. Negotiations shall be conducted with the Bidders so selected. Prices will be a determining factor in evaluating Bidder proposals, but may not be the sole determining factor. After negotiations have been conducted with each Bidder so selected, the Owner shall select the Contractor which, in its opinion, has made the best proposal, and shall award the contract to that Contractor.

1.05 **REFERENCES AND CODE REQUIREMENTS**

- A. The video assessment and recording system shall be installed in accordance with all applicable national, state, provincial, regional and local codes and standards, including, but not limited to the most current issue of the following publications, including all amendments thereto of the issue that is current on the date of the contract award. Where conflicts exist between the Contract Documents and the referenced publications, local codes shall govern. All equipment shall be U.L. listed or meet U.L. requirements for its intended use. Applicable requirements of the following publications shall apply to the work under this specification as if fully written herein.
1. Institute of Electrical and Electronic Engineers (IEEE)
 2. National Fire Protection Association (NFPA 70-2008 NEC)
 3. National Fire Protection Association Life Safety Code (NFPA 101)
 4. Building Officials & Code Administrators International, Inc. (BOCA) National Building Code or the International Building Code (IBC) and all applicable amendments, errata, and modifications by the local entity

5. Americans with Disabilities Act (ADA)
 6. Underwriters Laboratories (UL) Applicable Standards for Safety
 7. Underwriters Laboratories (UL) Applicable Standards for Proprietary Security Systems
 8. National, State, Provincial, Regional and Municipal Building Codes and all other Authorities having Jurisdiction
- B. The SMS systems equipment and its installation shall comply with all local codes and authorities having jurisdiction in Lincoln, RI
- C. When applicable, the Contractor shall submit a letter to the Owner prior to final system acceptance, either signed by the Fire Marshal or indicating the installed SMS has been inspected and approved by the Fire Marshal with a specific reference to the date of the inspection and those present.

1.06 **SCOPE OF WORK**

- A. The scope of this project is to select a Contractor who will act as the prime contractor to the General Contractor for all labor, oversight, equipment, materials and services to procure, install, commission and service the entire SMS for the William M. Davies Technical High School CCTV project.
- B. The Contractor shall be responsible for the electrical wiring for this project will provide all line voltage (120-240vac) required for all SMS equipment including wall mounted enclosures and free standing equipment racks, based on the contract drawings and this specification.
- C. The Contractor shall be responsible for installing all low voltage cabling associated with the SMS system based on the contract drawings and this specification. The Contractor shall be responsible for providing all surface metal raceways and conduits necessary to support the cabling and termination of the SMS cable and devices.
- D. The Contractor shall be responsible for the installation of wall mounted enclosure(s) and wall mounted equipment rack(s). The Contractor shall furnish the wall mounted enclosure(s) and wall mounted equipment rack(s).
- E. The SMS system offered and installed by the Contractor shall consist of terminating security devices such CCTV cameras and associated equipment in accordance with the contract drawings and this specification.
- F. The Contractor shall provide and install client workstations, CCTV recording and viewing equipment and a variety of peripheral devices and communications support devices as required for the project to provide a complete and functional system per the drawings and contact documents.
- G. The Contractor shall coordinate all network requirements and connections with the telecommunications vendor and a representative of the William M. Davies Technical High School IT department. No devices shall be connected to the Davies network without prior approval.
- H. The scope of work is detailed in the Contract Drawings and Contract Documents. The scope includes but shall not be limited to the following:
1. **CCTV System**
 - a. Installation of CCTV cameras to provide comprehensive coverage of the noted areas within the contract drawings.

- b. Installation of a Networked Video Recording (NVR) system.
 - c. Installation of a Video Data Management and Retention (VDMR) System.
- I. All cables must be marked with the appropriate cable number based on the Device Schedule included with these contract drawings, within six (6) inches of each end of the cable.
Exception: Where entered into termination panels or equipment racks, cables numbers must be labeled within twelve (12) to eighteen (18) inches of the entrance into the enclosure where the purpose of the cable is dual, such as power and signal.
- J. Where installed in panels or equipment racks and bundled into harnesses and/or installed within raceways, individual cables terminated at one location only must be also be marked within six (6) inches of the termination point in addition to other requirements in this specification.
- K. All cable marking shall be installed to remain in place after the installation is complete. Cable marking systems shall be of a factory pre-printed label or field manufactured by use of a machine printed label process. No hand written cable markings shall be used for cable identification.
- L. The bid sheet appended to this specification contains twenty-six line items for video equipment. The line items that constitute the base bid for this project are identified in the spreadsheet by the letters: A, B, C, D, E, F, G, H, I, P, Q, R, U, W & X. These items constitute the system head end, including servers, software, licenses, power and racking equipment. As part of the bid response, the contractor shall provide pricing for procurement and installation of these line items.
- M. As an ADD to the base bid, the contractor shall include pricing for the procurement and installation of the individual video cameras, associated wiring, conduit and lightning protection. These items are designated by letters J, K, M, O, S & T on the bid sheet.
- N. As an ALTERNATE to the base bid, the contractor shall include pricing for the procurement and installation of the individual IP video cameras, associated wiring, conduit and lightning protection. These items are designated by letters L & N on the bid sheet.

Davies Technical High School

Global Device Number	Location Description	ADD Analog Camera, Wiring, Conduit & Lighting Prot.	ADD IP Camera, Wiring, Conduit & Lighting Prot.
101	MAIN ENTRANCE		
102	MAIN ENTRANCE		
103	EXIT DOOR NEAR DIRECTORS CONFERENCE RM		
104	AUTO CARREER EXIT, PARKING		
105	ELECTRICAL, CARPENTRY EXIT, PARKING		
106	RED BARN		
107	VIEWING MECHANICAL SYS.		
108	KITCHEN EXIT		
109	MACHINE SHOP EXIT		
110	BRIDGE EXIT		
111	ROOM 014 EXIT DOOR		
112	CAFT. ENTRANCE		
113	BUS STOP		
114	VIEWING THE BUILDING		
115	ROOM 126 EXIT		
116	3RD FL. ELEVATOR EXIT		
117	GUIDANCE RAMP EXIT		
118	MODULAR BUILDING		
119	COSMETOLOGY EXIT		
120	2ND FL GUIDANCE EXIT		
121	ROOM 005 EXIT		
122	ANNEX BUILDING		
123	LOADING DOCK & RM 127 EXIT		
124	LOADING DOCK		
125	ROOM 009 & 012 EXIT		
126	GYM EXIT		
127	BLDG MAIN ENTRY AREA		
128	STAFF PARKING LOT		

1.07 DESIGN REQUIREMENTS

- A. The SMS shall provide a means to monitor and record activity in and around 100% of the facility perimeter. System programming for commissioning shall be accomplished by the Contractor.
- B. The SMS shall be provided with capacities that will allow for 25% expansion of all systems included in this specification.

1.08 SUBMITTALS

- A. The Contractor shall prepare and submit acceptable equipment for the SMS as specified below. The Contractor shall bear all liability and penalties for damages arising from his failure to submit equipment that meets these Specifications.
- B. All submittals including any drawings shall be marked "Confidential" in the top and bottom of the page and all subsequent pages should have the restriction appearing as a footer at the bottom of the page. The outside back cover of the submission should also contain the "Confidential" header and footer.
- C. Final determination of compliance with these Contract Documents and Specifications shall rest with the Owner, who, at its discretion, may require proof of performance. Required proof may include, but shall not be limited to, visits by the Project Manager and other Owner representatives to sites where identical equipment is installed and providing beneficial use.
- D. At the time of the bid, the Contractor shall submit the following material:
 - 1. Using the recommended SMS Base Bid Spread Sheet and SMS Major Cost Summary formats, provide a Base Bid and complete Proposal per the enclosed proposal instructions for the Davies facility on a firm fixed price system installation and complete system turnover basis.
 - 2. A description of the proposed SMS system operation, to include any and all departures (exceptions, variances or substitutions) listed at the time of the Base Bid. Failure to submit a description of system operations and any departures from these Specifications at the time of the Base Bid shall be cause for summary rejection of the submittal documents at the discretion of the Owner. The Contractor shall also submit at the time of the bid an SMS Compliance Checklist.
 - 3. Printed data/cut sheets providing product descriptions of the preliminary equipment intended to be installed and any special installation procedures to be used for the SMS to satisfy the requirements of this specification. Sheets shall be printed in color and double sided for each individual product submitted. Product sheets shall be bound in a three ring binder and arranged as the products appear in Section 2 of this specification.
 - 4. A list of recommended spare equipment for the SMS with unit prices.
 - 5. A detailed proposed schedule of installation milestones, events, testing and commissioning and turnover for approval by the Owner.

6. The Contractor shall provide any special mounting details for power supplies as needed.
 7. Provide the required Vendor Quality Assurance information specified below.
 8. Any additional information as required by other sections of this specification.
- E. After bid award, the Contractor shall submit the following materials:
1. Prepare and submit complete Shop Drawings in the manner described herein. Shop Drawings shall include all necessary wiring diagrams and connectivity points of all equipment. Shop drawings shall be required of all SMS devices including all peripheral alarm devices, access control devices, magnetic door contacts, electric mortise locks, power supplies, intercoms and request to exit devices and related equipment.
 2. The Contractor shall provide a Wiring Schedule as part of Shop Drawings showing the individual SMS device type, wiring type, device location of all interior and exterior SMS devices.
 3. Printed data/cut sheets providing product descriptions of the final equipment selected to be installed and any special installation procedures to be used for the SMS to satisfy the requirements of this specification. Sheets shall be printed in color and double sided for each individual product submitted. Product sheets shall be bound in a three ring binder and arranged as the product appears in Part 2.00 of this specification.
 4. The contractor shall supply comprehensive "record drawings" in standard CAD format (.DWG) and digital pictures of the security system. The "record drawings" shall include the specific location of all components, wiring diagrams, and schematics to allow for the understanding and troubleshooting of the system. The digital pictures should comprehensively represent both the Davies facility and the security system.
 5. Shop Drawings shall also include an SMS System Description and Analysis. The data package shall include system descriptions. Descriptions and calculations shall show how the equipment will operate as a system to meet the performance of this specification. The data package shall include the following:
 - a. Description of site equipment and its configuration
 - b. Operating protocol description
 - c. Start up operations
 - d. System expansion capability and method of implementation
 - e. System power requirements and UPS sizing
 6. Provide complete manufacturer's operating equipment manuals, diagrams and other data to such persons as directed by the Owner's Project Manager for the operation and maintenance of this equipment.
 7. Accurate information, in the form of a spreadsheet, regarding the total consumed wattage and BTU requirements shall be provided for all equipment located in each of the SMS equipment locations where line voltage power is to be supplied to SMS equipment.

8. Any additional information as required by other sections of this specification.

1.09 COMPLETION

- A. The contractor shall substantially complete the SMS installation according to the established move-in date to the facility by the Owner. Substantially complete is defined as the security system being operational locally.
- B. Failure to complete and provide the system for acceptance as specified on the date required shall result in the imposition of a penalty against the contractor. The penalty shall be all costs incurred by the Owner to provide, in its sole opinion, "adequate" security coverage and situational awareness for the affected area.
- C. A point to point test of all parts of the system will be required for acceptance. System acceptance testing will establish system operability and the warranty commencement date, and will be completed and documented by Contractor and an Owner representative.

1.10 SAMPLES

- A. Submit samples of all SMS materials as requested by the Owner's Project Manager.
- B. If and when requested, submit samples of any specific SMS devices to the Owner's Project Manager for approval. Samples might include motion detectors, cameras, communications devices and other similar SMS equipment. In cases of alternative bids, submit samples of all equipment items.

1.11 RECORD DRAWINGS

- A. The Contractor shall furnish and keep on the job at all times, one (1) complete separate set of red-line drawings, elementary diagrams and wiring diagrams of the SMS on which shall be clearly, neatly and accurately noted, promptly as the work progresses, all architectural and electrical/electronic changes, revisions and additions to the work. Wherever work is installed otherwise than as shown on the Contract Drawings, such changes shall be noted.
- B. Indicate daily progress on these prints by coloring in various devices as they are installed, wired and initially tested.
- C. No approval of requisition for work installed will be given unless supported by record prints as required above.
- D. At the conclusion of the work, prepare Record Drawings in accordance with the Contract requirements.

1.12 COOPERATION AND COORDINATION WITH OTHER TRADES

- A. The work shall be so performed such that the Contractor shall coordinate with all other trades to ensure no delays and that the work of other contractors is not interfered with. Materials and apparatus shall be installed as fast as conditions of the building will permit and must be installed promptly when and as directed.
- B. The SMS shall be furnished and installed by a company that is a qualified security systems integrator. The Contractor shall be responsible for properly preparing the project for installation.

- C. Contractor shall be responsible for providing, installing, programming, troubleshooting, training and warranty service of all security systems devices and cabling, terminal equipment, control and display equipment specified in this section for a completely operational system.

1.13 OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS

- A. Furnish operating and maintenance (O&M) manuals in accordance with General Conditions and forward them to the Owner's Project Manager prior to SMS test and evaluation. These manuals shall be bound.
- B. Furnish a draft copy of the operation and maintenance manuals which shall be delivered to the Owner's Project Manager prior to beginning the performance verification test for use during site testing.
- C. The Contractor shall enter and program all SMS data needed to make the system operational. Deliver the data to the Owner's Project Manager on data entry forms, utilizing data from the contract documents and all pertinent information in the Contractor's possession required for complete installation of the database. The Contractor shall identify to the Owner's Project Manager any additional data needed to provide a complete and operational SMS.
- D. Two copies of the system manuals shall be provided. Manuals shall be bound in hardback, loose-leaf binders. The draft copy used during site testing shall be updated with any changes required prior to final delivery of the manuals. Each manual's contents shall be identified on the cover. The manuals shall have a table of contents and tab sheets. Tab sheets shall be placed at the beginning of each chapter or section and at the beginning of each appendix. The final copies delivered after completion of the endurance test shall include all modifications made during installation, checkout, and acceptance.
- E. The operating instructions shall be specific for each system and shall include copies of posted specific instructions.
- F. For maintenance purposes, provide shop drawings, parts lists, specifications and manufacturer's bulletins for each piece of SMS equipment.
- G. In addition to other sections of this specification, O&M manuals, shop drawings, parts list and equipment specifications shall be provided to the Owner's Project Manager in soft copy on a media format sized appropriately for the all of the documentation.
- H. Documentation shall be arranged on the soft media in folders by SMS subsystem.

1.14 WORKMANSHIP

- A. It is the intent of this Specification to provide for the system equipment and installation of the SMS that complies in all respects with the requirements of all applicable codes and standards. Equipment, material, installation practices, etc. that do not meet requirements or do not meet the performance standards herein specified shall not be acceptable.
- B. The entire work provided by the Contractor in this Specification shall be constructed and finished in every respect in a workmanlike and substantial manner. It is not intended that the contract drawings shall show every installation support device, pipe, fitting or fixture associated with installation and operation. The Contractor shall furnish and install all parts as may be necessary to complete the SMS in accordance with the best trade practice and to the satisfaction of the Owner's Project Manager.

- C. The Contractor shall keep other subcontractors fully informed as to shape, size and position of all openings required for his equipment and shall give full information to the General Contractor and other subcontractors sufficiently in advance of the work so that all openings may be built in advance.
- D. In the case of failure on the part of the Contractor to give proper notice and timely information as noted above, the Contractor shall do his own cutting and patching or have the same done by another subcontractor, but in any case, without expense to the General Contractor or the Owner and only upon prior approval of the Project Manager and/or Owner.
- E. The Contractor shall obtain detailed information from the manufacturers of SMS equipment on the proper method of installation and connecting same. He shall also obtain all information from the General Contractor and the other subcontractors which may be necessary to facilitate his work and the completion of the whole project.
- F. Remove daily to a centrally designated location on-site all rubbish and debris and all refuse from workmen's lunches and at completion, remove all surplus materials, temporary works and leave all work in clean condition, acceptable to the General Contractor.

1.15 APPROVED EQUAL

- A. Approved equal shall mean that the use of all materials shall be submitted to the Owner's Project Manager for approval, and that such approval shall be the sole discretion of the Owner.
- B. The term "submit for approval" or similar expressions shall mean that work shall be contingent upon the specific approval of shop drawings, etc., by the Owner in writing.

1.16 MAINTENANCE AND SERVICE

- A. The Contractor shall provide all services required and equipment necessary to maintain the entire SMS in an operational state as specified for a period of 1 year after formal written acceptance of the system, and shall provide all necessary material required for performing scheduled adjustments or other nonscheduled work.
- B. The adjustment and repair of the SMS includes all computer equipment, software updates, communications transmission equipment, local processors, facility interface, and support equipment. Responsibility shall be limited to Contractor installed equipment. Provide the manufacturer's required adjustments and other work as necessary.
- C. Contractor's service personnel shall be qualified to accomplish all work promptly and satisfactorily. The Owner shall be advised in writing of the name of the designated service representative, and of any change in personnel.
- D. The Owner will initiate service calls when the SMS is not functioning properly. Qualified personnel shall be available to provide service to the complete SMS. The Owner shall be furnished with a telephone number where the service supervisor can be reached at all times. Service personnel shall be at the site within four (4) hours after receiving a request for service. The SMS shall be restored to proper operating condition within one (1) calendar day after receiving a request for service. The contractor shall initiate all service and repair within four (4) hours from receipt of a report of a system malfunction.
- E. Failure of the Contractor to provide appropriate response within the specified time period shall result in the imposition of a penalty against the contractor. The penalty will be for

each hour, or fraction thereof, in excess of four (4) hours, the contractor shall credit the Owner with one (1) hour of current service labor cost. Appropriate response shall be defined as the arrival on site of a technically certified and qualified service representative, who is trained, equipped and experienced to repair, said problem or malfunction.

- F. Performance of scheduled adjustments and repair shall include verification of operation of the SMS as demonstrated by the applicable tests of the performance verification test.
- G. The Contractor shall keep records and logs of each task, and shall organize cumulative records for each major component, and for the complete system chronologically. A continuous log shall be maintained for all devices. The log shall contain calibration, repair, and programming data. Complete logs shall be kept and shall be available for inspection on site, demonstrating that planned and systematic adjustments and repairs have been accomplished for the SMS.
- H. The Contractor shall separately record each service call request, as received. The form shall include the serial number identifying the component involved, its location, date and time the call was received, nature of trouble, names of the service personnel assigned to the task, instructions describing what has to be done, the amount and nature of the materials to be used, the time and date work started, and the time and date of completion. The Contractor shall deliver a record of the work performed within 5 days after work is accomplished.
- I. The Contractor shall make recommendations for system modification in writing to the Owner. No system modifications, including operating parameters and control settings, shall be made without prior approval of the Owner. Modifications made to the systems shall be incorporated into the operations and maintenance manuals, and other documentation affected.
- J. The Contractor shall provide software updates automatically the first warranty year and upon approval of the Owner in subsequent years based upon an extended service agreement. These updates shall be accomplished in a timely manner, fully coordinated with the Owner, and shall be incorporated into the operations and maintenance manuals, and software documentation. There shall be at least one scheduled update near the end of the first year's warranty period, at which time the Contractor shall install and validate the latest released version of the manufacturer's software.

1.17 **QUALITY ASSURANCE**

- A. The Contractor shall establish and maintain a quality assurance (QA) program and specific procedures which provide documented evidence of system compliance and ensures that all security related and manufactured components and SMS installation meet or exceed all contract requirements. All Contractor inspections and tests, which are conducted under this quality assurance program, shall be subject to review.
- B. The Contractor shall be experienced in the operations they are engaged to perform.
- C. The SMS shall be provided/installed by a single firm/company (Contractor) that is a qualified security systems integrator. The Contractor shall have local in-house engineering and project management capabilities consistent with the requirements of the project.

- D. The Contractor must customarily furnish the size, scope and nature of this section in its entirety with labor consisting of employees who are on their payroll and are authorized, certified, experienced and qualified to provide, install, program, troubleshoot, train, warrant and service this section in its entirety.
- E. With his proposal the Contractor hereby certifies that it is qualified in all areas pertaining to, either directly or indirectly, the project scope of work. In the event the Contractor becomes unable to complete the project or any portion thereof in accordance with the Contract Documents or to the satisfaction of the Owner's Project Manager or its representatives, due to a lack of understanding of equipment, systems, requirements or services required by the Contract Documents, it shall be the responsibility of the Contractor to retain the services of the applicable manufacturer's representatives to expeditiously complete the project in accordance with the agreed upon and submitted construction schedule with no additional cost to the Owner.
- F. The Contractor shall have a history of annual sales volume in excess of one million dollars in SMS installations of the same nature as outlined within this specification.
- G. The Contractor shall provide factory certified technicians to install, troubleshoot, commission and maintain the SMS specified herein.
- H. Provide at the time of the installation the latest version, unless specified otherwise, of all equipment and software. Discontinued equipment will not be accepted and shall not be installed by the Contractor.
- I. All exterior devices shall be sealed and protected against all weather conditions including heat, cold, moisture, dust and sand.

1.18 **WARRANTY**

- A. The Contractor shall warrant to the Owner that it is the owner of the equipment and that the equipment will be free and clear of any lien or encumbrance on the final acceptance date. The Contractor shall further warrant for a period of one (1) year from the final acceptance date agreed by the Owner that all security equipment and labor provided in the complete SMS system will, under normal use and service, be free from defects and faulty workmanship.
- B. The Contractor's obligation under this warranty is to repair or replace defective equipment, parts, and associated labor thereto at the Contractor's expense. The Contractor shall warrant that replacement or repaired equipment furnished hereunder and labor shall be in accordance with current industry standards.
- C. The foregoing warranty does not extend to the equipment or any part thereof which has been subjected by the Owner to unauthorized modification, movement, misuse, neglect, or accident, faulty installation, maintenance, or repairs performed by the Owner or a third party. This applies to SMS equipment used in violation of instructions furnished by Contractor as well as removal, defacement, or alteration of the date of manufacture or manufacturer's serial number. This includes increased or additional warranty service requirements for the equipment resulting from Owner's connection of devices, which are incompatible with the equipment, or to any other external cause not attributable to defects in material or workmanship on the part of Contractor.
- D. The Owner is granted a nontransferable fully paid license to use all software furnished by the Contractor as part of the security equipment under terms established by the software manufacturer. The Owner will be provided with a copy of all applicable licenses. The Contractor shall warrant that it has the right to grant such licenses.

- E. A copy of the Contractor's standard warranty agreement must be provided.
- F. The Contractor's maintenance personnel shall respond to all system failures within four (4) hours from the time the Owner attempts to notify the designated Contractor representative that remedial maintenance for the failures is required. All failures shall be corrected within eight (8) hours of the arrival on site of the Contractor's maintenance personnel.
- G. For the purpose of this contract, failures are defined as follows:
 - 1. Complete failure of the components controlling the system security equipment or interfacing with existing equipment.
 - 2. Complete or partial failure of the panel(s) or workstation(s), resulting in the loss of monitoring or reporting capability.
 - 3. Complete failure of the security equipment, resulting in loss of all system capability.
- H. All other failures shall be considered minor failures. The Owner will call a designated Contractor-provided telephone number to effect Contractor notification of maintenance problems. The Owner will make reasonable repeat attempts to make notification. However, response time requirements shall be measured from the time of the first attempt by the Owner to notify the Contractor.
- I. The Contractor shall maintain an inventory of security equipment spare parts, materials, consumables, and any other system item in order to meet the specified warranty maintenance requirements and keep the security equipment in a continuous operational mode during the warranty period.
- J. Maintenance service shall not be assigned or transferred to any agent or other Contractor.
- K. The Contractor shall identify and provide proof in writing of manufacturers who warranty their equipment for a period of longer than one year. Additional warranty extension time frames beyond one (1) year shall also be identified in this document. This document is required with the other submittal documents identified in Section 1.08.E above.
- L. It is understood that unless required by other sections of this specification, or requested by the Owner, the Contractor is not responsible to provide additional warrantee coverage at not cost to the owner, matching that of the manufacturer's offering extending beyond one (1) year.

1.19 **DRAWINGS**

- A. The security drawings are diagrammatic only and are not intended to show every detail of construction or arbitrary location of wiring. Each system shall be complete with minor parts not specifically noted on the Drawings, but required for a properly functioning system conforming to state and local codes. Where building construction makes it advisable or necessary to change location of wiring or devices without increasing the cost of the work, such changes shall be made with the consent of the Owner and at no additional cost.
- B. In case of conflict with building parts or the work of other trades, the Owner shall be notified immediately and requested to render a decision so that there will be no delay in SMS construction.

1.20 **LIST OF DRAWINGS**

A. GENERAL

1. SE-000 – SECURITY LEGEND, TITLE SHEET AND NOTES
2. SE-001 – SECURITY DEVICE SCHEDULE
3. SE-1.S0 – OVERALL SITE PLAN
4. SE-1.S1 – PARTIAL SITE PLAN 1 OF 2
5. SE-1.S2 – PARTIAL SITE PLAN 2 OF 2
6. SE-600 – SECURITY RISER DIAGRAM
7. SE-601 – SECURITY BLOCK DIAGRAM
8. SE-700 – SECURITY TYPICAL DRAWINGS

PART 2.00 - PRODUCTS

2.01 **GENERAL PRODUCT DESCRIPTION**

- A. It is the intent of this specification to describe to the Contractor the scope of work pertaining to the installation of an integrated Security Management System at the William M. Davies Technical High School.
- B. The SMS shall be capable of integrated intrusion detection, video surveillance and recording, and alarm monitoring that allows for easy expansion or modification of inputs and outputs.

2.02 **PRODUCT QUALITY ASSURANCE**

- A. The Contractor shall state what, if any, specific points of the proposed SMS systems' operation or the proposed equipment's quality differ in any way from the manufacturer's listed below by submission of a complete technical compliance checklist for that specific item of equipment to include any supporting literature and drawings. Only those departures from these Specifications, submitted in writing at the time of the bid, shall be considered by the Owner's Project Manager during the bid review phase.
- B. Acceptance of substitutions, based on submittal documents furnished by the Contractor, shall only be construed as permission to proceed with the installation pending final test and approval of the system. The Contractor shall continue to bear the liability for replacement of substituted equipment if, in the opinion of the Owner, the substitute equipment fails to perform as specified within three (3) months after scheduled project completion.
- C. Units of the same type of equipment shall be products of a single manufacturer. All material and equipment shall be new and currently in production. Each major component of equipment shall have the manufacturer's model and serial number in a conspicuous place.

- D. System enclosures shall be metallic. All terminal devices to be used in an interior environment shall be housed in an enclosure that provides protection against dust, falling dirt, and dripping non-corrosive liquids.
- E. Enclosures, cabinets, housings, boxes, and fittings of every description having hinged doors or removable covers, and which contain circuits or connections of the SMS equipment or power supplies, shall be provided with cover operated, corrosion resistant tamper switches, arranged to initiate an alarm signal when the door or cover is moved. Tamper switches shall be mechanically mounted to maximize the defeat time when enclosure covers are opened or removed.
- F. Enclosures, cabinets, equipment racks having hinged doors shall further be supplied with a key lock to minimize unauthorized entry into equipment. All key locks must be identically keyed to facilitate service.

2.03 VIDEO MANAGEMENT/DISPLAY AND IDS CONTROL CLIENT WORKSTATION

- A. Software requirements:
 - 1. For video management and display, the client workstation shall have NVR client software installed and programmed to connect to the NVR(s) via the Davies network.
- B. Hardware requirements:
 - 1. The SMS Server shall be 100% IBM Personal Computer Standard compatible, approved for Microsoft Windows XP Professional, and scaled according to the following minimum system configuration:
 - a. SMS Workstation minimum requirements shall consist of Dell Precision T5400 or equivalent business class workstation
 - b. Quad Core Intel® Xenon® Processor E5420 (2.5GHz, 2X6M L2, 1333)
 - c. 2GB, DDR2 SDRAM FDB Memory, 667MHz, ECC (2DIMMS)
 - d. 48X/32X CD-RW/DVD Combo Drive
 - e. 80GB 7200 RPM SATA hard drive
 - f. 10/100/1000 Ethernet communication
 - g. Dual 512MB PCIe x16 nVidia Quadro FX1700 Quad monitor configuration
 - h. Standard speaker system
 - i. 3 year limited warranty with 24 hour response time
 - j. The video management and display and client workstation shall be HP
 - 2. The SMS Video Client Workstation monitor shall be of a widescreen format to provide multiple options for viewing and controlling video. The monitor shall be furnished with the following requirements:
 - a. 17" panel display size
 - b. Maximum Resolution of 1680 x 1050
 - c. Contrast ratio of 1000:1
 - d. Response time of 5ms
 - e. Color support for 16.7 million colors
 - f. Pixel Pitch of 0.282mm

2.04 DIGITAL VIDEO RECORDING AND MANAGEMENT SYSTEM

- A. The Digital Video Recording and Management System shall be fully compatible and integrated with the SMS and Video Management Display Systems. Components of the system shall include the following:

1. The product shall be a hybrid Digital Video Recorder (DVR) and transmission system with a graphical user interface display to view live video from as many as 30 analog cameras, and 32 network (IP) cameras while simultaneously recording or viewing recorded images.
2. The DVR shall accept programming to record images and audio continuously, or only when motion, alarm or a triggered event occurs.
3. The DVR shall provide two analog spot monitor outputs for alarm call-up, or full screen or sequenced display from attached analog cameras.
4. The DVR shall use MPEG4 compression technology and shall also be able to receive JPEG images from a variety of network cameras.
5. The DVR shall allow live and recorded images to be viewed over a public or a private Ethernet network via Internet Explorer 6.0 or higher or via a PC workstation using remote receiver software supplied by the manufacturer.
6. The DVR shall also support Bosch Bilinx capability to provide over-the-coax pan/tilt/zoom functionality or camera setup from the local recorder or remote workstation.
7. Provide manufacturer's warranty covering 3 years for replacement and repair of defective equipment.

B. Playback Requirements:

1. The hybrid DVR shall allow playback of the stored video in the forward or reverse direction, frame by frame, and from beginning or end of the clip using standard VCR-like buttons. Reviewed video clips or still images can be zoomed in or out. The images can be sent to a printer connected to the parallel port of the local recorder or to a network printer. An image displayed in the image window can be saved as a single JPEG, BMP, or HTML file.
2. The hybrid DVR shall have an instant playback function that allows instant recall of recorded images from 10 to 300 seconds in the past to be replayed at the same rate the images were recorded. Live images continue to be simultaneously displayed along with the recorded images.

C. Exporting Video Images:

1. The hybrid DVR will be capable of exporting video clips to the CD/DVD drive or network drive.
2. Images can be exported along with a stand-alone player. Playback of the exported images with the player will be possible from any Windows® based PC. This proprietary format provides video authentication to assure that images are not altered in any way.
3. Images can also be exported in a format that can be played back with a default software program such as Windows Media Player.
4. The DVR shall provide an export video scheduler function that allows previous days recorded video to be exported for back up to a designated target drive. Images from the current day can also be exported up to the time that the export program job is activated.

D. Remote Access

1. The hybrid DVR will support login of users in LDAP (Lightweight Directory Access Protocol) groups.
2. The hybrid DVR will provide embedded Internet Web Browser access that allows up to five (5) remote PCs using Windows Explorer 6.0 or higher to communicate

with the recorder via a network. The browser will be a secure connection using log-on and authorization levels during transmission. From the remote site using the browser, the live video images will be displayed in single or multi-screen format; video displayed as single screen sequences; status of the inputs will be displayed; remote relays will be controllable; and compatible P/T/Z cameras will be controllable.

3. Optional remote receiver software program shall be included and installed on the remote Windows XP based PC client workstation. Operation of the remote receiver software program will require installation of a manufacturer supplied Dongle key to the remote PC.
4. The optional remote receiver shall display the database information from DiBos recorders.
5. The optional remote receiver shall be able to receive and record alarm video from the DVR to its local drive

E. Alarm and Trigger Input Capability

1. The hybrid DVR will be capable of automatically displaying incoming camera alarms, with the option of displaying alarms when in playback mode. The DVR will also allow the option to manually acknowledge an alarm to silence, or to delete an alarm. All alarm acknowledgements and deletions will be saved to a log file.
2. The hybrid DVR will be capable of hiding a camera during normal operation, only to display the camera during an alarm when the camera is part of the alarm.
3. The hybrid DVR shall be programmed to send an e-mail notification on the following events: an alarm, motion detection, video loss, or a reference image check failure.
4. The hybrid DVR will be capable of handling up to 32 N/O or N/C alarm inputs and providing up to 16 relay outputs where 1 of those relays will be designated as a malfunction relay.
5. The malfunction relay shall be wired to the IDS system for notification of DVR malfunctions on a 24x7x365 basis. As expansion happens, additional DVRs may share the same circuit for malfunction notification as all others.
6. The hybrid DVR will be capable of recording pre-alarm video on an alarm or motion detection for a time period from 0 to 120 seconds. Post alarm recording time will be selectable from 0 to 999 seconds. The DVR will be capable of having pre and post alarm video recorded from the analog and compatible MPEG4 and JPEG cameras.
7. The hybrid DVR will be capable of transmitting live video images via a network upon an alarm or triggered event to a remote location(s) that is running the specified manufacturer's DVR remote software program. The DVR will maintain a list of remote sites in order of priority so that an attempt is made to establish communication with the first site on the list. If the attempt fails, the DVR will move to the next remote site on the list to establish connection. Once communication is established, the DVR will initially alert the operator at the remote station via a flashing icon and audible tone (or selected wav file) that an alarm has occurred. The operator will then have the option to acknowledge the alarm and display the live video at the workstation. The DVR will also have the capability to be programmed to establish communication with multiple remote sites upon an alarm.
8. The hybrid DVR shall provide and be programmed with motion detection sensing of the connected analog cameras. Sensitive areas of the camera's field of view may be programmed within the DVR. The DVR will also react to Bosch IP cameras and encoders on the network that have been programmed to detect video motion.
9. The hybrid DVR will be capable of programmed to automatically commanding Bosch AutoDome pan/tilt/zoom cameras to move to preprogrammed preset positions.

10. The hybrid DVR will provide 32 virtual alarm inputs that can be controlled via the browser interface to execute preprogrammed jobs within the DVR such as controlling relay outputs, camera sequences, alarm recording, etc.
11. The hybrid DVR will interface to a Bosch G-Series Alarm Panel via an RS232 interface.

F. DVR Video Analytics

1. The DVR shall contain a means of automated detection of targeted behaviors based on fully scalable rules-based video content analytics. These rules-based analytics shall integrate with the camera system for the purpose of detecting, recording and alarm generation based on any or all of the following situations;
 - a. Movement-In-Zone
 - b. Directional Line Crossing
 - c. Crowding
 - d. Tailgating
 - e. Loitering
 - f. Grouping
 - g. Fallen Person
 - h. Object Counting
 - i. Stickiness
 - j. Abandoned Object
 - k. Illegally Parked Vehicle
 - l. Road Obstacle
 - m. Object Removal

G. DVR Setup and Configuration

1. The hybrid DVR will provide the following two methods of system setup and configuration:
2. A Quick Configuration Wizard will be provided and intended for the inexperienced user who must create a basic system configuration and operate the recorder in a minimum amount of time. The quick configuration will allow setup of the following system parameters:
 - a. Time and date.
 - b. Authorization levels and users.
 - c. Network settings including the capability to limit the bandwidth to a value that the system does not exceed.
 - d. Display analog cameras that were automatically detected during the initial startup of the configuration wizard.

- e. A graphical time planner to allow the record rates, quality of recording, and type of recording to be assigned to specific days of the week and times.
 - f. A dialog box to determine the type of recordings, rate of recording, and quality of recording desired including up to 30 minutes of pre-alarm recording.
3. A Default (customized) Configuration shall be provided to allow for programming of more complex applications of the specified DVR. A configuration menu will be displayed in a Windows tree format to allow the user to create the system configuration setup by going from top to bottom of the menu and making the corresponding entries in the dialog boxes. The Default Configuration will provide, but not be limited to, the following configuration selections:
- a. Connection and disconnection of local and network hard drives. Displays total storage capacity, used storage capacity, and available storage.
 - b. Provides an overview of the local recorder including cameras and audio inputs. Allows addition, deletion, editing of cameras and audio inputs, including JPEG and MPEG4 IP cameras, pre-position, and setup of pre-position scenes, motion detection, and sequence programming for two analog monitors.
 - c. Recording setup – On a camera by camera basis, allows setup of IPS rate and type of recording such as continuous, motion, or alarm. Time profiles can be assigned to these setups.
 - d. Graphical time planner provides eight profiles that can be assigned to any day of the week, holiday, or special day.
 - e. The recorder provides activation and deactivation of up to 32 N/O or N/C alarm contacts to the input. Up to 16 relay outputs will be available at the local station that can be activated from a manufacturer provided remote station software package or via a browser. A malfunction relay is also provided. Four alarm inputs can be used for alarm simulation purposes.
 - f. The recorder shall be compatible with the Bosch G Series Panel to allow selection of up to 32 software inputs from the panel.
 - g. Jobs may be created that are started by input triggers, cameras using motion detection, or a virtual input. Jobs can also be assigned a time profile. Jobs created can 1) control up to 4 dome cameras 2) control relay outputs 3) control camera sequences for two analog monitors and 4) start alarm recording.
 - h. Allow setup of connection between local recorder and remote stations.
 - i. The DVR specified will transmit images and/or messages to other locations upon an alarm or trigger event.
 - j. Video authentication.

H. Camera Control

- 1. The hybrid DVR will provide Bosch biphas camera control from local or remote recorders or via PC workstations running optional remote receiver software and /or using the Internet Explorer 6.0 or higher, Web Browser.
- 2. The hybrid DVR will be capable of configuring Bosch Dinion, FlexiDome, and AutoDome cameras via Bosch Bilinx technology over a coaxial cable. The DVR will provide Bosch AutoDome camera control via Biphase, RS232, or Bilinx (coaxial cable).
- 3. The hybrid DVR will provide an RS 232 port that supports Bosch, Panasonic, Pelco (D-Protocol) JVC, SAE, and Sensormatic/American Dynamics protocols.
- 4. The hybrid DVR will provide manual or automatic call-up to preset positions stored within Bosch AutoDome and other supported dome cameras.

I. System Administration

1. Upon initial installation of the recorder, three (3) user authorization levels will be automatically created. These levels can not be edited or deleted. An unlimited number of users can then be assigned to these authorization levels. The authorization levels will be as follows:
 - a. The first authorization level (Administrator) will allow the user all the rights of the system including configuration and operation.
 - b. The second level of authorization (Extended User) allows the user all system operational rights- but no configuration capability. The Extended User may, however, create a user at the next lower authorization level.
 - c. The third level of authorization (Normal User) has operational rights of the recorder only, but can not configure the unit.
2. The hybrid DVR will also have a dual login feature where one user may only login to the system in conjunction with a second user.
3. The hybrid DVR will log events of who starts up or shuts down the system, who logs in or off, status changes, and images transmitted.

J. Recording Rates:

1. Cameras shall be continuously recorded at a low frame rate and resolution then transition to a high frame rate and resolution when an alarm is initiated. Alarms may be initiated by one or more of the following:
 - a. Video Motion Detection
 - b. Hard wired alarm input
 - c. Serially communicated alarm
2. Continuous non-alarmed recording rates shall be at a minimum of CIF resolution at 2IPS per camera.
3. Alarm recording rates shall be a minimum of 2CIF at 15IPS per camera.
4. The Contractor is responsible for coordination of all recording and resolution settings with the Owner for acceptance of frame rate and image resolution prior to system turnover.

K. External Storage-the hybrid DVR shall be capable of iSCSI interface

L. Electrical

1. 100/240VAC, 50/60Hz (auto switch)
2. Power Consumption
 - a. Typical: 150W
 - b. Maximum: 210W

M. Environmental

1. Temperature:
 - a. Operating: +41°F to +104°F
 - b. Storage: -14°F to +140°F
2. Relative Humidity:
 - a. Operating: 15% to 80%, non-condensing
 - b. Storage: 8% to 80%, non-condensing

N. The Digital Video Recording and Management System shall be manufactured by OnSSI or approved equal.

2.05 **VIDEO DATA MANAGEMENT AND RETENTION (VDMR)**

- A. External storage shall be provided for the hybrid DVR on an iSCSI platform. The premise for external storage deployment is so that in the event of DVR failure, stored video images are not removed from the site.
- B. It is the intention of the storage device specified herein to include sufficient storage for up to thirty-two (32) Cameras for a minimum of thirty (30) days.
- C. The VDMR shall be provided with following:
 - 1. Size and performance:
 - a. Minimum of 4TB of storage
 - b. Two 1GB Ethernet ports for data transfer
 - c. Contained within a 1U chassis
 - 2. Administration and Management:
 - a. The ability to be part of a video surveillance retention environment consisting of one to numerous individual VDMR devices which can all be managed through a single web based graphical user interface (GUI).
 - b. The interface to the VDMR shall use physical security terminology for frame rate, resolution, compression, number of cameras etc. and not IT network or storage terminology.
 - 3. Data Protection:
 - a. The VDMR must support fault resilient hardware and software configurations, with hot-swap disk drives and field replaceable components with dual inbound 1GB Ethernet IP connections to IP cameras, DVRs, NVRs, servers and other network infrastructure.
 - b. The VDMR must allow data redundancy and enable data restoration in case of disk failure by supporting standard RAID5 protection. The VDMR must provide automatic data recovery from individual disk failures with no downtime of the overall system.
 - c. The meantime between failures (MTBF) shall be as high as commercially available, typically exceeding 1 million hours of operation for OEM-grade disk drives used in the VDMR.
 - d. After disk failure, the VDMR platform shall continue operation without interfering with the video streams, the IP or analog cameras or the DVR, VMS or other equipment utilizing the VDMR. Video channels or recording streams shall not be forced offline and frames should not be dropped or lost during a RAID5 rebuild to recover lost video.
- D. The VDMR shall be an Intransa StorStac StarterBlock model number SB-M4_SCE4S-1

2.06 **CLOSED CIRCUIT TELEVISION (CCTV) CAMERAS**

- A. Fixed CCTV Cameras
 - 1. The fixed CCTV cameras shall be discreet miniature dome cameras recessed into ceiling location(s) as shown on the contract drawings.
 - 2. The fixed CCTV camera(s) shall have the following features and performance characteristics:
 - a. 1/3-inch format CCD imager
 - b. 540 TVL color resolution
 - c. OSD for control and adjustment
 - d. Bilinx support for remote control and adjustment
 - e. Availability of multiple varifocal lens options for finite field of view adjustment
 - f. S/N Ratio >50dB

- g. AGC 20dB max
- h. NTSC composite video output
- 3. The fixed CCTV camera shall be the Pelco ICS 110 series, or equivalent.
- 4. Fixed IP cameras shall be the Pelco IP 110-DWV9 or an approved equal.

B. Pan Tilt Zoom (PTZ) CCTV Cameras

- 1. The PTZ cameras shall be discreet miniature dome cameras recessed into the ceiling location(s) as shown on the contract drawings.
- 2. The PTZ camera(s) shall have the following features and performance characteristics:
 - a. A modular camera system based on five types of interchangeable modules:
 - 1) CPU module-to determine fixed or PTZ capability and advanced intelligence functions like: privacy masking, motion detection and tracking.
 - 2) Camera module-includes fixed or PTZ, color or Day/Night and zoom range options.
 - 3) Housing module-shall be available for indoor and outdoor applications.
 - 4) Communications module-to determine how video & data will be communicated to the head end control and recording equipment.
 - 5) Power supply module options meet site specific installation requirements (indoor or outdoor) and protection against unexpected surges in power.
 - b. The PTZ camera(s) shall allow for hotswapping of modules without having to power down the system.
 - c. The PTZ dome bubble shall:
 - 1) Meet flame, crush and impact resistant requirements able to exceed UL °746C standard for polymeric material enclosures.
 - 2) Made of 2.6mm thick polycarbonate able to withstand a 100ft/lb impact.
 - 3) Be clear, not tinted in composition.
 - d. The PTZ camera housing shall be of a recessed design.
 - e. The PTZ camera shall be programmed with preset positions that will automatically rotate, pivot, zoom and focus the camera on pre programmed locations that correspond to alarm conditions wired into the DVR or commands from an operator console.
 - f. Provide 360° per second camera pan/tilt speeds, advanced troubleshooting and diagnostics via diagnostic LEDs and on-screen display, and built in surge protection. The camera's 360° rotation shall be capable of being divided into 16 independent sectors with 16 character titles per sector. Any or all of the 16 sectors can be blanked from the operator's view.
 - g. Provide 24 masks with up to 8 masks per scene that prohibit areas of the field of view from being seen even if the cameras is panned, tilted, or zoomed. The masks can be shaped using three (3), four (4) or five (5) anchor points to form different shapes to best fit the area to be masked. Mask selections shall be capable of being black, white or blurred.
 - h. Have preset tour function to allow the recording of two (2) separate tours of an operator's keyboard movements consisting of tilt and zoom activities for a total combined duration time of 15 minutes. The recorded tours shall be capable of continuous playback.
 - i. Ability to store up to 99 preset scenes with each preset programmable for 16 character titles. Two (2) separate preset tours can be available to display consecutively the preset scenes for a programmed dwell time. Any or all of the presets can be included or excluded from the tour.

- j. Provide advanced alarm handling to manage up to seven (7) alarm inputs and four (4) alarm outputs by means of a programmable "Rules" engine. Any or all of the input contacts can be programmed upon activation to automatically move the camera to any preposition location, close and output relay for a programmed period of time, and display and alarm indication on the on-screen display of the monitor.
- k. When an operator stops manual control of the camera, and a programmed period of time is allowed to expire, the camera can execute one of the following programmable options:
 - 1) Return to a preset number
 - 2) Return to the automated tour previously executed
 - 3) Do nothing
- l. Provide an AutoPivot feature to automatically rotate and flip the camera as it tilts through the vertical position to maintain the correct orientation of the image.
- m. Provide an AutoScaling feature that reduces the pan/tilt speed as the camera zooms in on an object so that the relative speed on the screen remains constant.
- n. Be interchangeable with any AutoDome Modular Camera System
- o. The PTZ camera shall be the Pelco Spectra IV series, or equivalent.
- p. The alternate IP PTZ camera shall be the Pelco Spectra IV IP series, or equivalent.

2.07 **CCTV VIDEO TRANSMISSION AND POWER DISTRIBUTION**

- A. All CCTV cameras shall utilize unshielded twisted pair cabling for the purpose of video transmission to the head end location.
 - 1. Termination of cabling at the fixed camera shall be accomplished by the manufacturers specifications for UTP video and power transmission.
 - 2. Termination of cabling at the PTZ camera shall be accomplished by the manufacturers specifications for UTP video, data and power transmission.
 - a. Power shall be accomplished through the UTP transceiver for the fixed CCTV cameras, and a local power supply module for each PTZ CCTV camera.
 - 1) The UTP Transceiver for fixed cameras shall be the Nitek CHM16, or approved equal. The UTP Transceiver for P/T/Z cameras shall be the Nitek CHM22, Nitek UTPSYS16, or approved equal.
 - 2) The power supply for the UTP transceivers shall be the Nitek PS115, or approved equal. All UTP transceivers shall be installed in an appropriate card cage as recommended by the manufacturer.
 - 3) The local power Supply for the P/T/Z cameras shall be the Pelco WCS series, or approved equal.
 - 4) Video Encoders shall be the Axis 243Q or an approved equal.
 - 5) Video server rack units shall be the Axis 291 1U or an approved equal.

2.08 **EQUIPMENT RACKING**

- A. Equipment racks as shown on the contract drawings are presently existing within the noted locations and shall be utilized, wherever feasible, to mount and install all provided equipment. It is the responsibility of the Security Contractor to ensure that ventilation is sufficient to meet the requirements of the manufacturer's specifications.

2.09 UNINTERRUPTABLE POWER SUPPLY (UPS)

- A. The Contractor shall supply UPS for SMS equipment mounted in equipment racks with sufficient capacity to maintain complete equipment operation for a period of no less than one (1) hour. UPS units shall be rack mounted within vertical equipment rack(s), tower style for wall mounted equipment rack(s) and support all of the equipment within the associated rack.
- B. Where future expansion of SMS equipment and the system is planned and noted within the contract drawings, UPS sizing shall be sufficient to support all intended future devices within the equipment rack.
- C. Battery expansion modules may be added as needed to support the operational requirements listed above.
- D. It is the expectation of this section that the Contractor shall provide, as part of the submittal process, supporting documentation for the size selection of the UPS units. This shall be a document showing the calculation of the power requirements of the equipment installed as part of this contract as well as that of intended future equipment and how the resolution of the UPS unit's size was achieved.
- E. Where the UPS is capable of AC power fail notification via hard wired output, such outputs shall be wired to the IDS for AC power fail notification on a 24x7x365 basis.
- F. Vertical equipment rack UPS unit(s) shall be the APC model SUA2200RMXL3U or approved equal.
- G. Supplemental battery expansion modules shall be the APC model SUA48RMXLBP3U or approved equal.
- H. Wall mounted equipment rack UPS unit(s) shall be the APC model SUM1500RMXL2U or approved equal.
- I. Where not locked inside SMS enclosures or racks, plug connected UPS unit(s) shall have their 120vac connection protected inside locked SMS enclosures or equipment racks.
- J. All loads connected to the UPS units not locked inside SMS enclosures or racks, via cord and plug connection, shall have a locking mechanism to prevent accidental disconnection of loads. This may be accomplished via ground locking cord caps.

2.10 WIRE AND CABLE

- A. The Contractor shall provide all wire & cable necessary to comply with the Contract Drawings. All wire and cable components shall be able to withstand the environment the wire or cable is installed in for a minimum of 20 years.
- B. Interconnecting cable carrying digital data shall be not less than 22 AWG and shall be constructed of stranded copper wires for each conductor. Shielded cable or individual shielded conductors within the cable shall have a shield that provides 100 percent coverage. Cables with a single overall shield shall have a tinned copper shield drain wire. Plenum or riser cables shall be ANSI-C2 CL2P certified. All wiring shall meet and be installed within all NFPA 70 standards.
- C. Network cable utilized for Ethernet communications shall be a minimum of CAT5e, 24 AWG 4 pair unshielded.

- D. Cabling for the purpose of video, data and fixed camera power transmission shall be a minimum of CAT5e, 24 AWG 4 pair unshielded.
- E. All wiring/cabling is to be protected from accidental and/or intentional tampering through the use of conduit and/or concealment. In areas where cabling is exposed and easily accessible, it must be placed into metallic conduit, metallic surface metal raceway or flexible metallic conduit.

2.11 **PREDELIVERY TESTING**

- A. The Contractor shall assemble and test the Owner's SMS at a Contractor maintained facility as a system prior to on-site delivery to demonstrate that the performance of the system satisfies the requirements of this specification in accordance with the approved predelivery test procedures. The tests shall take place during regular daytime working hours on weekdays.

PART 3.00 - EXECUTION

3.01 **GENERAL**

- A. The Contractor shall install all proposed SMS system components in accordance with the manufacturers' instructions and as shown on the Contract Drawings. Furnish all necessary interconnections, services, and adjustments required for a complete and operable SMS system as specified and shown during each phase of construction as shown on the Contract Drawings. All low voltage wiring outside the control console/control desk area, cabinets, boxes, and similar enclosures, shall be plenum rated wiring.
- B. The Contractor shall survey the Owner site and facilities during the Contractor walkthrough to determine system interfacing requirements. During the walkthrough, the Contractor shall inspect the site and survey the conditions to be encountered during performance of the work. This shall be accomplished prior to starting the work.
- C. In the event the Contractor notes any condition that affects or potentially could affect the performance of the SMS, the Contractor shall submit a report to the Owner documenting any changes to the site or conditions. Failure of the Contractor to become familiar with the site conditions shall not relieve the Contractor of responsibility for full completion of the work in accordance with the contract provisions.
- D. The Contractor shall inspect locations where installation work will be performed and verify that conditions found are in accordance with the Contract Documents and are acceptable for the Contractor's installation work. Report any discrepancies in writing to the Owner, stating suggested means of correction.
- E. All device mounting locations, precise wire and cable runs, and any conduit routing have not been specified on the Contract Drawings. Coordinate all aspects of installation with the Owner and ensure that adequate conduit is provided, that equipment backboxes are adequate for system installation, that power has been provided and properly located and that doors and door frames are properly prepared for SMS door hardware.
- F. The Contractor shall check all power and communications cabling for continuity before making connections.

- G. Coordinate all camera fields of view and mounting and housing details/finishes with the Owner's representative prior to installation. The Contractor shall coordinate finishes and colors of all equipment with the Owner and the Owner's architect.
- H. No alarm system in the project premises shall be disarmed or disabled, nor shall any zones, sensors or system devices be disconnected, nor shall any system be impaired in any manner or fashion without making a prior written announcement and receiving a written acknowledgement and authorization from the Owner representative identified as responsible for the system to be impacted.

3.02 **PREPARATION**

- A. Arrange through the General Contractor to have temporary electrical power for installation work and testing of security system components as necessary.
- B. The Contractor shall coordinate with the work of other Contractors, as required and as necessary, for the purposes of having the security installation progress as rapidly and as smoothly as possible with minimum interference.
- C. Before starting work, the Contractor shall submit information to the General Contractor concerning any additional or reconfigured openings and/or penetrations into the core building that may be required for the work. In no case shall the Contractor make any core building penetration or opening in the building exterior without expressed approval of the Owner in writing.

3.03 **COMPLIANCE**

- A. Install the equipment in accordance with the contract documents, all applicable codes and standards and the manufacturer's written instructions. The installed Owner SMS shall meet all applicable equipment and performance requirements.
- B. Standardize the installation practices and material to provide uniform materials and procedures to the maximum extent possible.
- C. Locate pull boxes, wireways or other items requiring inspection, removal, or replacement conveniently and accessibly with reference to the finished facilities.
- D. Installation of electrical service to equipment shall conform to specific UBC Codes and Standards, NFPA 70, and other applicable requirements.

3.04 **INSTALLATION REQUIREMENTS**

- A. Control signal, communications, and data transmission line grounding shall be installed as necessary to preclude ground loops, noise, and surges from adversely affecting system operation. Provide mounting hardware as required.
- B. Components within the system shall be configured with appropriate service points to pinpoint system trouble in less than 20 minutes.
- C. All wiring, including low voltage wiring, cabinets, boxes, and similar enclosures shall be plenum rated.
- D. All equipment connected to alternating current circuits shall be protected from power line surges. Equipment protection shall meet the requirements of ANSI C62.41. Fuses shall not be used for surge protection.

- E. All inputs shall be protected against surges induced on device wiring. Outputs shall be protected against surges induced on control and device wiring installed outdoors. All communications equipment shall be protected against surges induced on any communications circuit. All cables and conductors, except fiber optics, shall have surge protection circuits installed at each end.
- F. Inspect each component, determine obvious defects, if any, and correct.
- G. Perform tests as recommended by manufacturer or as required to ensure the security equipment is operating properly and meets specified requirements.
- H. Correct all deficiencies detected and retest affected components.
- I. Record test data, tabulate, and write narrative describing tests, results, deficiencies found, corrective measures, and results of retesting. Certify to the Owner that the security equipment has been tested and is ready for performance verification testing.
- J. All enclosure penetrations shall be as indicated on the contract drawings. All enclosure penetrations where cable will be transitioned through, shall be bushed with a fitting or bushing approved for the purpose, to provide physical protection of cable entering or exiting the enclosure.
- K. Penetrations of enclosures involving transitions of cable or cable from interior to exterior, and all penetrations on exterior enclosures shall be sealed with rubber silicone or similar sealant to preclude the entry of water.
- L. During and upon completion of the installation, all debris created by the Contractor's installation shall be removed by the Contractor from the premises and disposed of as directed.

3.05 **SITE TESTING**

A. GENERAL

- 1. The Contractor shall provide all personnel, equipment, instrumentation, and supplies necessary to perform all testing of the SMS. The Owner's representative will witness all performance verification and endurance testing. Original copies of all data produced during performance verification and endurance testing shall be turned over to the Owner at the conclusion of each phase of testing.
- 2. The Contractor shall calibrate and test all equipment, verify signal/control cable operation, place the integrated system in service, and test the integrated system.

B. PERFORMANCE VERIFICATION TEST: The Contractor shall demonstrate that the completed Owner SMS complies with the contract requirements. Using approved test procedures, all physical and functional requirements of the SMS project shall be demonstrated and shown.

C. SMS ENDURANCE TEST

- 1. The SMS endurance test shall be conducted 24 hours per day for two (2) consecutive calendar days, including holidays, and the system shall operate under normal conditions as specified. The Contractor shall make no repairs during this phase of testing unless authorized by the Owner's representative in the event of a major failure. If the system experiences no failures during testing, the Contractor

may proceed directly to Acceptance Testing upon receipt of authorization from the Owner. If the system experiences a major failure(s) during testing, the Endurance Test shall be stopped and rescheduled by the Owner after the Contractor has completed necessary repairs and declares to the Owner that the system ready for a second endurance test.

2. The Contractor will not be held responsible for failures in system performance resulting from the following:
 - a. An outage of the main power in excess of the capability of any backup power source, provided that the automatic initiation of all backup sources was accomplished and that automatic shutdown and restart of the SMS performed as specified.
 - b. Failure of furnished communications circuit, provided that the failure was not due to Contractor furnished equipment, installation, or software.
 - c. Failure of existing owned equipment, provided that the failure was not due to Contractor furnished equipment, installation, or software.
 - d. The occurrence of specified nuisance alarms.
 - e. The occurrence of specified environmental alarms.

D. SYSTEM COMMISSIONING

1. GENERAL: After all installation and acceptance test requirements specified have been complied with, the equipment shall be commissioned. After commissioning has been completed, The Owner will take possession of the equipment and utilize it in accordance with the conditions described in the contract documents.
2. PRECOMMISSIONING: Outstanding work items that may exist, such as facility interfaces, project record drawings, and/or in-process change orders, shall be documented and submitted to the Owner for review prior to the start of equipment commissioning. Documentation of outstanding work items shall take the form of punch lists of critical action items lists which describe the work, the expected completion schedule, and the impact upon operation. Depending upon the nature of the outstanding work items, the Owner may grant a waiver to accomplish partial commissioning of any of the equipment. Completion of waived outstanding work items shall then be assigned to the post-commissioning operations and maintenance.
3. COMMISSIONING
 - a. The SMS commissioning procedure will be witnessed by the Owner's representatives. The commissioning procedure shall be conducted by the Contractor and shall consist of a detailed inspection, and a physical accounting of each equipment item. An operational demonstration shall then be conducted in which the equipment shall function in the normal operational mode, and shall operate completely error-free in terms of hardware and software performance.
 - b. Occurrence of any equipment failure shall terminate the demonstration. The demonstration shall restart and run for a period of time designated by the

Owner's representative after the failure has been corrected. Except for any outstanding work items as previously described, this shall complete the commissioning procedure.

3.06 OPERATIONS AND MAINTENANCE DOCUMENTATION

- A. The Contractor shall provide the Owner with applicable Operations and Maintenance (O&M) manual(s), as specified in Part I, which describe the equipment installed under this contract. The O&M manual(s) shall, as a minimum, consist of an operations section, a maintenance section, and a drawings section where necessary.
- B. Except as otherwise specified, all documentation shall contain sufficient written text and illustrations necessary to present a full description of the equipment, including an overview, concept of operation or maintenance, operating instructions using all functions and capabilities, and interfaces with other systems/subsystems.

3.07 PROJECT MANAGEMENT

- A. The Contractor shall provide written project progress reports to the Owner's Project Manager, either by fax or electronic mail. Project progress reports shall be submitted on a weekly basis.

3.08 INSTALLATION GUIDELINES

- A. Each head end component shall be individually labeled.

3.09 TRAINING

- A. The Contractor shall conduct training courses for designated Owner personnel in the maintenance and operation of the Owner SMS as specified. The training shall be oriented to the specific system being installed under this contract.
- B. Training manuals shall be delivered for each trainee with two additional copies delivered for archiving at the project site.
- C. The Contractor shall prepare, administer, and conduct a training program for designated Owner operator personnel to fully and efficiently operate the installed SMS and maintain configurable data bases. At a minimum, the following training elements should be incorporated into the training program and documented separately for individual training segments:
 - 1. System back-up and restoration, software access and operator tasks
 - 2. CCTV system interfaces and control
 - 3. Maintenance and preventive maintenance
- D. Training shall be in sufficient scope and depth to ensure that all designated personnel who complete the program shall be fully qualified, certified, and capable of operating the system and subsystems as installed.
- E. The Contractor shall provide training, orientation, and "hands-on" practical familiarization necessary to ensure a smooth transition between system installation and operational activities.

- F. Operator training shall be provided for the topics and periods indicated in “C” above at least one week prior to the scheduled turnover to the Owner of the system. Upon completion of training, each trainee, using appropriate documentation, should be able to perform elementary operations with guidance and describe the general hardware architecture and functionality of the system.
- G. Upon completion of training outlined in “C” above, each trainee should be able to start the system, operate the system, recover the system after a failure, and describe the specific hardware architecture and operation of the system. The course shall consist of hands-on training under the constant monitoring of the instructor.
- H. The instructor(s) shall be responsible for determining the appropriate password to be issued to the student commensurate with each trainee's acquired skills at the beginning of each of these individual training sessions.
- I. The Contractor shall provide and use all training aids such as films, slides, audio/video tapes, etc. as necessary to complement instruction and enhance learning.
- J. Provide a Training Manual for trainees' use during and after training. The Training Manuals shall include a list of recommended references useful for learning the details of SMS operation.
- K. Training requirements defined by this section of the specification shall be conducted for a minimum of eight hours for a minimum of four operators.

DAVIES TECHNICAL HIGH SCHOOL COST ESTIMATE

		Manufacturer	Model	Unit Cost	Quantity	Base Price	Installation Time	Hours Labor	Labor Cost	Installed Cost
CCTV HEAD END										
A	Client PC Station w/Quad Monitor Card	Dell	Precision T5400		1	\$0.00		0	\$0.00	\$0.00
B	Client PC Monitor	Dell	2208WFP		1	\$0.00		0	\$0.00	\$0.00
C	Storage Solution	Intrinsa	SB-M4_SCE4S-1		1	\$0.00		0	\$0.00	\$0.00
D	CCTV Network Hub	Linksys	16 Port		1	\$0.00		0	\$0.00	\$0.00
E	Rack UPS	APC	SUM1500RML2U		1	\$0.00		0	\$0.00	\$0.00
F	NetDVR-Base Server License	ONSSI	DVRB		1	\$0.00		0	\$0.00	\$0.00
G	NetDVR Base Site Server License 1 Year Software Upgrade Plan	ONSSI	SUP-DVRB-1Y		1	\$0.00		0	\$0.00	\$0.00
H	NetDVR Single Camera License	ONSSI	DVR-1C		29	\$0.00		0	\$0.00	\$0.00
I	NetDVMS Single Camera License 1 Year Software Upgrade Plan	ONSSI	SUP-DVR-1C-1Y		29	\$0.00		0	\$0.00	\$0.00
CCTV										
J	PTZ Dome Camera Mount	Pelco	IWM		12	\$0.00		0	\$0.00	\$0.00
K	PTZ Dome Camera	Pelco	SD4CBW-PG-0		12	\$0.00		0	\$0.00	\$0.00
L	PTZ Dome Camera (IP PTZ alternate)	Pelco	SD4NCBW-PG-0		12	\$0.00		0	\$0.00	\$0.00
M	Interior Vandal Proof/Dome Camera, 3.8-9mm Lens	Pelco	ICS110-CDV39A		17	\$0.00		0	\$0.00	\$0.00
N	Interior Vandal Proof/Dome Camera, 3.8-9mm Lens (IP Fixed Camera - alternate)	Pelco	IP110-DWV9		17	\$0.00		0	\$0.00	\$0.00
O	Camera Power Supply, PTZ Camera	Pelco	WCS1-4		12	\$0.00		0	\$0.00	\$0.00
P	UTP Transceiver, Video, Power & Data	Nitek	UTPSYS16		3	\$0.00		0	\$0.00	\$0.00
Q	Video Encoder	Axis	243Q		8	\$0.00		0	\$0.00	\$0.00
R	Video Server Rack	Axis	291 1U		3	\$0.00		0	\$0.00	\$0.00
Miscellaneous Equipment										
S	Cable, Connectors and Fasteners	Estimated Cable Cost			1	\$0.00		0	\$0.00	\$0.00
T	Conduit				1	\$0.00		0	\$0.00	\$0.00
U	Electrical Power/Outlets for IDF/MDF/CCTV				1	\$0.00		0	\$0.00	\$0.00
V	Miscellaneous Landscaping				0	\$0.00		0	\$0.00	\$0.00
W	Vertical Equipment Rack Sliding Keyboard Tray with 17"LCD Monitor	Mid-Atlantic	RM-KB-LCD17		1	\$0.00		0	\$0.00	\$0.00
X	Vertical Equipment Rack Power Strip	LinkSys	KVM-2		1	\$0.00		0	\$0.00	\$0.00
Communication Equipment										
Y	Lightning Protection - CCTV, Fixed Camera	Ditek	DTK-4TPV		17	\$0.00		0	\$0.00	\$0.00
Z	Lightning Protection - CCTV, PTZ Camera	Ditek	DTK-DP4P		12	\$0.00		0	\$0.00	\$0.00
	Hourly Labor Rate			\$0.00						\$0.00
	Total Parts and Labor									\$0.00
	Estimated Sales Tax									\$0.00
	Estimated Project Management									\$0.00
	Estimated Freight									\$0.00
	Estimated Permits									\$0.00
	TOTAL ESTIMATED COST									\$0.00

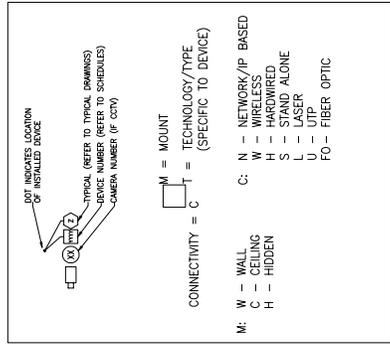


GENERAL NOTES:

1. PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS FOR ALL WORK INDICATED AS NECESSARY TO PROVIDE A COMPLETE AND USABLE SYSTEM. ALL ITEMS SHOWN AND SPECIFIED ARE TO BE NEW AND SHALL BE PROVIDED BY THE SECURITY CONTRACTOR UNLESS SPECIFICALLY STATED OTHERWISE.
2. IN CASES WHERE THE TERM 'PROVIDE' IS USED THROUGHOUT THE CONTRACT DOCUMENTATION, IT SHALL MEAN FURNISH, INSTALL AND SERVICE.
3. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING REQUIREMENTS: NATIONAL ELECTRICAL CODE (NEC) (NEPA 70), THE NATIONAL LIFE SAFETY CODE (NFPA101), THE APPLICABLE STATE BUILDING CODE AND ALL STATE AND LOCAL ORDINANCES THAT MAY SUPPLEMENT OR SUPERSEDE NATIONAL CODES.
4. THE SECURITY CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTORIAL AND PERMITTING FEES AS REQUIRED BY LAW.
5. THE SECURITY CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DRAWINGS AND SPECIFICATIONS TO ESTABLISH EXISTING SITE CONDITIONS AND COORDINATE REQUIREMENTS AND POINTS OF INTERFERENCE WITH OTHER TRADES AND WORK AS NECESSARY. NO SUBSEQUENT COST CLAIMS SHALL BE ALLOWED FOR DIFFERING SITE CONDITIONS NOR FOR INCREASED COST DUE TO COORDINATION REQUIREMENTS WITH OTHER TRADES.
6. THE SECURITY CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL TRADES PRIOR TO ROUGH-IN.
7. THE SECURITY CONTRACTOR SHALL VERIFY ALL EQUIPMENT CHARACTERISTICS AND MOUNTING REQUIREMENTS PRIOR TO DEVICE AND CABLE ROUGH IN.
8. THE SECURITY CONTRACTOR SHALL COORDINATE ALL CCTV CAMERA TRIM AND ACCESSORIES WITH THE WALL/CEILING PROVIDED. PROVIDE ALL FITTINGS, TRIM, ETC FOR A COMPLETE INSTALLATION AT EACH CONTROL POINT.
9. THE SECURITY CONTRACTOR SHALL PROVIDE A WRITTEN WARRANTY STATING THAT ALL MATERIALS AND WORKMANSHIP ARE FREE FROM DEFECTS FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER. IN ADDITION, DELIVER TO THE OWNER ALL WARRANTY AGREEMENTS FROM THE EQUIPMENT MANUFACTURERS.
10. POWER SUPPLIES FOR ALL SECURITY DEVICES SHALL BE BACKED UP FROM UNINTERRUPTIBLE POWER SUPPLIES (UPS). THIS MAY BE ACCOMPLISHED BY MEANS OF INDIVIDUAL UPS UNITS SEGMENTED BY GROUPED SECURITY EQUIPMENT, UPS BACKUP ON PRIMARY 120/208/240VAC BRANCH CIRCUITS SUPPLYING SECURITY EQUIPMENT OR GENERATOR BACKED PRIMARY 120/208/240VAC BRANCH CIRCUITS SUPPLYING SECURITY EQUIPMENT AS LONG AS POWER SUPPLIES FED FROM SAID BRANCH CIRCUITS HAVE SUFFICIENT ON BOARD BATTERY SUPPORT TO MAINTAIN SYSTEM OPERATION DURING GENERATOR FAIL OVER TIME. IN NO CASE SHALL UPS RUNTIME BE LESS THAN ONE HOUR; THIS TIME MAY BE SUPERCEDED BY ADDITIONAL REQUIREMENTS WITHIN THE SPECIFICATION.
11. WHERE BACKUP POWER IS ACCOMPLISHED BY MEANS OF INDIVIDUAL UPS UNITS SEGMENTED BY GROUPED SECURITY EQUIPMENT, THE SECURITY CONTRACTOR SHALL PROVIDE THE UPS.
12. BRANCH CIRCUITS SUPPLYING POWER TO SECURITY DEVICES SHALL BE DEDICATED TO AND ONLY POWER SECURITY RELATED DEVICES. NO NON-SECURITY RELATED EQUIPMENT SHALL BE POWERED BY BRANCH CIRCUITS SUPPLYING POWER TO SECURITY DEVICES UNLESS THE ELECTRICAL CONTRACTOR IS GRANTED PERMISSION BY THE SECURITY SYSTEM DESIGN ENGINEER.
13. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL POWER, CONDUITS, BACK BOXES AND RACEWAYS, WHETHER SHOWN ON THE PLANS OR NOT, REQUIRED FOR THE SECURITY SYSTEM.
14. ALL PENETRATIONS OF FIRE RATED FLOOR SLABS, FIRE RATED WALLS, AND FIRE RATED ENCLOSURES SHALL BE SLEEVED IN APPROPRIATELY SIZED RIGID STEEL CONDUIT AND FIRESTOPPED IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATION, THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE FIRE CODES. SLEEVING AND FIRESTOPPING SHALL BE PROVIDED BY THE INDIVIDUAL PENETRATING SAID SLAB OR WALL. FIRESTOPPING SYSTEMS SHALL BE HILTI BRAND AND INSTALLED AS APPROPRIATE FOR THE PENETRATION AND IN ACCORDANCE WITH THIS SECTION AND THE HILTI INSTALLATION INSTRUCTIONS.
15. ALL OTHER PENETRATIONS NOT ADDRESSED ABOVE AND DISRUPTIONS TO SURFACES SHALL BE PATCHED AND PAINTED TO MATCH EXISTING PLASTER, WALLPAPER OR OTHER FINISHED SURFACES.
16. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL OF THE LOW VOLTAGE WIRING AND FIBER OPTIC CABLE FOR THE SECURITY DEVICES. THE SECURITY CONTRACTOR SHALL FURNISH THE LOW VOLTAGE CABLE FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR.
17. ALL LOW VOLTAGE CABLING SHALL HAVE JACKETING APPROPRIATE FOR THE ENVIRONMENT IN WHICH IT IS INSTALLED. DIRECT BURIAL CABLE IS REQUIRED FOR INSTALLATION IN ANY UNDERGROUND OR EXTERIOR MOUNTED RACEWAY.
18. NO LOW VOLTAGE CABLING SHALL BE LESS THAN #22AWG WITH THE EXCEPTION OF CATEGORY (CAT) CABLING FOR NETWORKED DEVICES.

LEGEND

- FIXED CCTV CAMERA T: D - DOME
- PTZ CCTV CAMERA T: D - DOME
- EQUIPMENT RACK T: C - CCTV EQUIPMENT



LIST OF DRAWINGS

- SE-000 SECURITY LEGEND AND NOTES
- SE-001 SECURITY DEVICE SCHEDULE
- SE-1 S0 SECURITY OVERALL SITE PLAN
- SE-1 S1 SECURITY PARTIAL NORTH SITE PLAN
- SE-1 S2 SECURITY PARTIAL SOUTH SITE PLAN
- SE-600 SECURITY SYSTEM RISER DIAGRAM
- SE-601 EQUIPMENT RACK & BLOCK DIAGRAM
- SE-700 SECURITY TYPICAL DRAWING

SECURITY LEGEND AND NOTES

DRAWING NO. SE-000

WILLIAM M. DAVIES, JR.
 CAREER AND TECHNICAL
 HIGH SCHOOL
 BID DOCUMENTS



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HIGH SCHOOL
BID DOCUMENTS

100% DESIGN SUBMITTAL
NO. REVISIONS DATE
DESIGNED BY FG
DRAWN BY SC
CHECKED BY
SCALE N.E.S.
DATE 10.09.2009
TITLE

SECURITY
DEVICE SCHEDULE

DRAWING NO.

SE-001

NO.	DESCRIPTION	QTY	UNIT	CONNECTIVITY	TECHNOLOGY/TYPE	REMARKS
91	MAN INTRUSION	1	C	D	H	0
92	MAN INTRUSION	1	C	D	H	0
93	EXIT DOOR REAR EXTERIOR CONFERENCE	1	C	D	H	0
94	EXIT DOOR REAR EXTERIOR CONFERENCE	1	C	D	H	0
95	AUTO CLOSURE EXIT-INTERIOR	1	C	D	H	0
96	ELECTRICAL COMPARTMENT EXIT-INTERIOR	1	C	D	H	0
97	VIDEO MONITORING KIT	1	C	D	H	0
98	INTERCOM KIT	1	C	D	H	0
99	MAN INTRUSION	1	C	D	H	0
100	MAN INTRUSION	1	C	D	H	0
101	MAN INTRUSION	1	C	D	H	0
102	MAN INTRUSION	1	C	D	H	0
103	MAN INTRUSION	1	C	D	H	0
104	MAN INTRUSION	1	C	D	H	0
105	MAN INTRUSION	1	C	D	H	0
106	MAN INTRUSION	1	C	D	H	0
107	MAN INTRUSION	1	C	D	H	0
108	MAN INTRUSION	1	C	D	H	0
109	MAN INTRUSION	1	C	D	H	0
110	MAN INTRUSION	1	C	D	H	0
111	MAN INTRUSION	1	C	D	H	0
112	MAN INTRUSION	1	C	D	H	0
113	MAN INTRUSION	1	C	D	H	0
114	MAN INTRUSION	1	C	D	H	0
115	MAN INTRUSION	1	C	D	H	0
116	MAN INTRUSION	1	C	D	H	0
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197	MAN INTRUSION	1	C	D	H	0
198	MAN INTRUSION	1	C	D	H	0
199	MAN INTRUSION	1	C	D	H	0
200	MAN INTRUSION	1	C	D	H	0

CABLE LEGEND W/BELDEN EQUIVALENTS:

A	22AWG	4 cond SH	A	6502FE
B	22AWG	2 cond	B	6502UE
C	18AWG	2 cond SH	C	6300UE
D	22AWG	2 cond SH	D	6504FE
E	12AWG	2 cond	E	6000UE
F	22AWG	12 cond	F	6509UE
G	RG-59U	Coax	G	643948
H	18AWG	2 cond SH	H	6300FE
I	18AWG	4 cond SH	I	6302UE
J	18AWG	6 cond SH	J	6304FE
K	RG-6	Coax	K	633948
L	22AWG	2 cond	L	6500UE
M	16AWG	2 cond	M	6200UE
N	Cat 5e		N	1701A
P	Cat 6e		P	7852A
R	24AWG 1pr.	Low Cap	R	8284I
S	24AWG 2pr.	Low Cap	S	8284Z
T	16AWG 1pr.	cond SH	T	6200FE
U	20AWG 2pr.	SH/Un	U	25359
X	DB Composite		X	5439W5
Z	Multi Composite-Access		Z	6584F S

CONNECTIVITY = C **M** = MOUNT **T** = TECHNOLOGY/TYPE (SPECIFIC TO DEVICE)

M: W - WALL C - CEILING H - HIDDEN
 N - NETWORK/IP BASED T: D - DOME (CAMERA)
 W - WIRELESS H - HARDWIRED
 S - STAND ALONE
 L - LASER
 U - UTP
 FO - FIBER OPTIC

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DRAWING NO.

SE-001



TECHMARK
Security Integration, Inc.
AN ISO 9001:2008 CERTIFIED COMPANY
11515 WEST 10TH AVENUE, SUITE 100
DENVER, COLORADO 80231

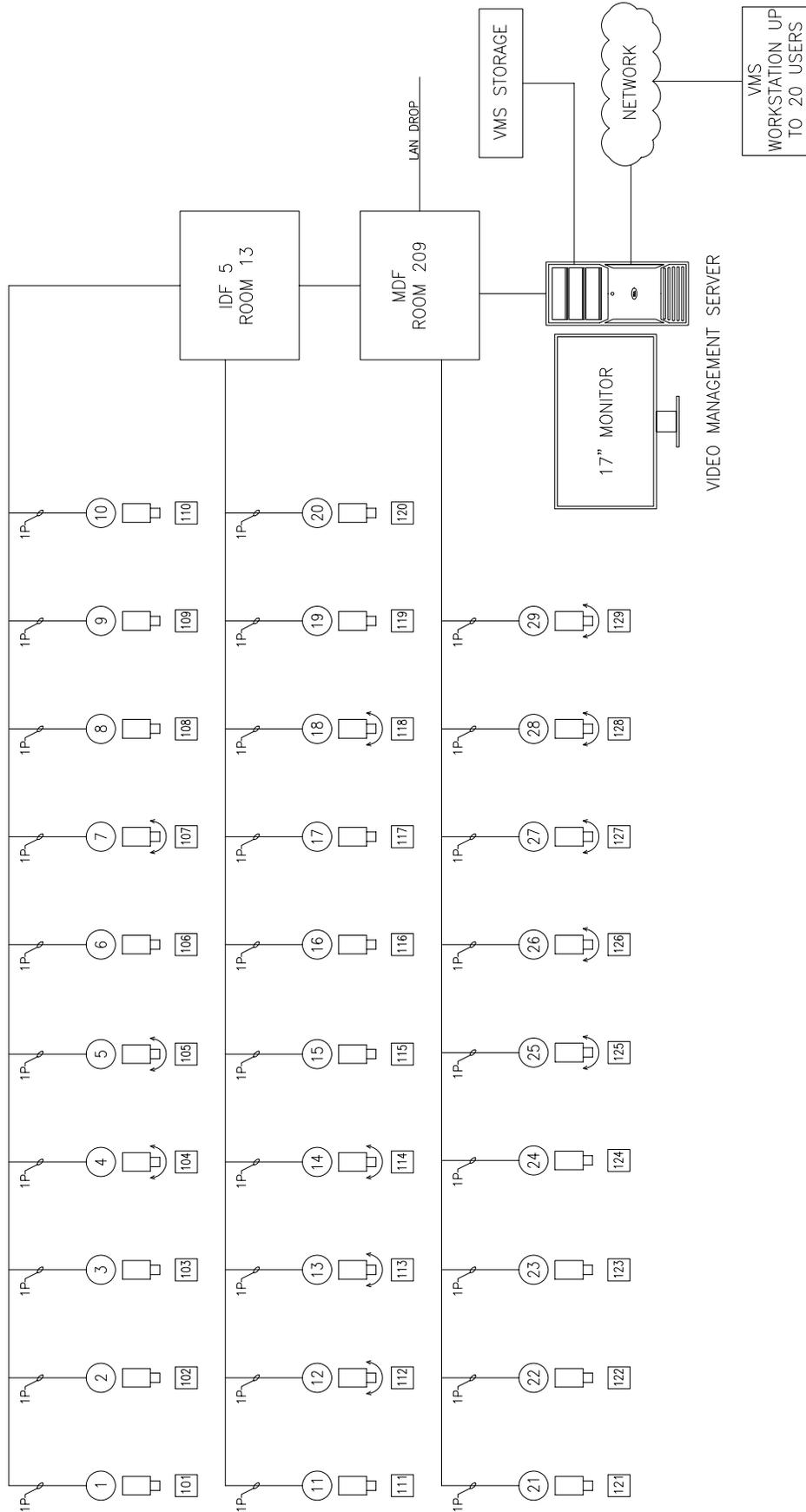
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JOB NO.	
DESIGNED BY	FG
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CHECKED BY	N.T.S.
SCALE	N.T.S.
DATE	10.09.2009
TITLE	

SECURITY SYSTEM
RISER DIAGRAM

DRAWING NO.

SE-600



Contract Terms and Conditions

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Terms and Conditions

BID STANDARD TERMS AND CONDITIONS

TERMS AND CONDITIONS FOR THIS BID

SURETY REQUIREMENTS

BIDDER IS REQUIRED TO PROVIDE A BID SURETY IN THE FORM OF A BID BOND, OR A CERTIFIED CHECK PAYABLE TO THE STATE OF RHODE ISLAND, IN THE AMOUNT OF A SUM NOT LESS THAN FIVE PERCENT (5%) OF THE BID PRICE. BID SURETY MUST BE ATTACHED TO THE BID FORM. THE SUCCESSFUL BIDDER WILL ALSO BE REQUIRED TO FURNISH PERFORMANCE AND LABOR AND PAYMENT BONDS AT TIME OF TENTATIVE CONTRACT AWARD.

START DATE

STARTING DATE _____ NO. OF WORKING DAYS REQUIRED FOR COMPLETION

WAGE REQUIREMENTS

BIDDERS ARE ADVISED THAT ALL PROVISIONS OF TITLE 37 CHAPTER 13 OF THE GENERAL LAWS OF RHODE ISLAND APPLY TO THE WORK COVERED BY THIS REQUEST, AND THAT PAYMENT OF THE GENERAL PREVAILING RATE OF PER DIEM WAGES AND THE GENERAL PREVAILING RATE FOR REGULAR, OVERTIME, AND OTHER WORKING CONDITIONS EXISTING IN THE LOCALITY FOR EACH CRAFT, MECHANIC, TEAMSTER, OR TYPE OF WORKMAN NEEDED TO EXECUTE THIS WORK IS A REQUIREMENT FOR BOTH CONTRACTORS AND SUBCONTRACTORS. THE PREVAILING WAGE TABLE MAY BE OBTAINED AT THE RI DIVISION OF PURCHASES HOME PAGE BY INTERNET at www.purchasing.state.ri.us. SELECT "INFORMATION" AND THEN SELECT "PREVAILING WAGE TABLE". THE STATE OF RHODE ISLAND USES THE GENERAL DECISION NUMBER RI20070001. PRINTING THE ENTIRE DOCUMENT AVERAGES APPROXIMATELY ONE MINUTE PER PAGE - YOU MAY WANT TO PRINT ONLY THE PAGES APPLICABLE TO YOUR BID. BIDDERS NOTE: IN THE EVENT THIS BID SPECIFIES PRICE OFFERS ON A TIME-AND-MATERIALS BASIS, i.e., AN HOURLY RATE, ANY OR ALL BIDS SUBMITTED IN AN AMOUNT LESS THAN THE PREVAILING RATE IN EFFECT FOR THE WORK COVERED BY THIS REQUEST AS OF THE DATE OF BID ISSUANCE SHALL BE REJECTED BY THE DIVISION OF PURCHASES.

INSURANCE REQUIREMENTS

AN INSURANCE CERTIFICATE IN COMPLIANCE WITH PROVISIONS OF ITEM 31 (INSURANCE) OF THE GENERAL CONDITIONS OF PURCHASE IS REQUIRED FOR COMPREHENSIVE GENERAL LIABILITY, AUTOMOBILE LIABILITY, AND WORKERS' COMPENSATION AND MUST BE SUBMITTED BY THE SUCCESSFUL BIDDER(S) TO THE DIVISION OF PURCHASES PRIOR TO AWARD. THE INSURANCE CERTIFICATE MUST NAME THE STATE OF RHODE ISLAND AS CERTIFICATE HOLDER AND AS AN ADDITIONAL INSURED. FAILURE TO COMPLY WITH THESE PROVISIONS MAY RESULT IN REJECTION OF THE OFFEROR'S BID. ANNUAL RENEWAL CERTIFICATES MUST BE SUBMITTED TO THE AGENCY IDENTIFIED ON THE PURCHASE ORDER. FAILURE TO DO SO MAY BE GROUNDS FOR CANCELLATION OF CONTRACT.

NOTE: IF THIS BID COVERS CONSTRUCTION, SCHOOL BUSING, HAZARDOUS WASTE, OR

VESSEL OPERATION, APPLICABLE COVERAGES FROM THE FOLLOWING LIST MUST ALSO BE SUBMITTED TO THE DIVISION OF PURCHASES PRIOR TO AWARD: * PROFESSIONAL LIABILITY INSURANCE (AKA ERRORS & OMISSIONS) - \$1 MILLION OR 5% OF ESTIMATED PROJECT COST, WHICHEVER IS GREATER. * BUILDER'S RISK INSURANCE - COVERAGE EQUAL TO FACE AMOUNT OF CONTRACT FOR CONSTRUCTION. * SCHOOL BUSING - AUTO LIABILITY COVERAGE IN THE AMOUNT OF \$5 MILLION. * ENVIRONMENTAL IMPAIRMENT (AKA POLLUTION CONTROL) - \$1 MILLION OR 5% OF FACE AMOUNT OF CONTRACT, WHICHEVER IS GREATER. * VESSEL OPERATION - (MARINE OR AIRCRAFT) - PROTECTION & INDEMNITY COVERAGE REQUIRED IN THE AMOUNT OF \$1 MILLION.

MULTI YEAR AWARD

THIS IS A MULTI-YEAR BID/CONTRACT. PER RHODE ISLAND STATE LAW 37-2-33, CONTRACT OBLIGATIONS BEYOND THE CURRENT FISCAL YEAR ARE SUBJECT TO AVAILABILITY OF FUNDS. CONTINUATION OF THE CONTRACT BEYOND THE INITIAL FISCAL YEAR WILL BE AT THE DISCRETION OF THE STATE. TERMINATION MAY BE EFFECTED BY THE STATE BASED UPON DETERMINING FACTORS SUCH AS UNSATISFACTORY PERFORMANCE OR THE DETERMINATION BY THE STATE TO DISCONTINUE THE GOODS/SERVICES, OR TO REVISE THE SCOPE AND NEED FOR THE TYPE OF GOODS/SERVICES; ALSO MANAGEMENT OWNER DETERMINATIONS THAT MAY PRECLUDE THE NEED FOR GOODS/SERVICES.

RIVIP INFO - BID SUBMISSION REQUIREMENTS

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP. This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer. When delivering offers in person to One Capitol Hill, vendors are advised to allow at least one hour additional time for clearance through security checkpoints.

VENDOR SPECIFICATIONS

ALL VENDORS MUST INCLUDE SPECIFICATIONS WITH BID PROPOSAL (EVEN THOSE BIDDING BRAND SPECIFIED). FAILURE TO SUBMIT SPECIFICATIONS WITH BID PROPOSAL MAY RESULT IN DISQUALIFICATION OF BID. ITEMS IN CATALOGS MUST BE CLEARLY MARKED AND PAGES TABBED.

AWARD

THE STATE, AT ITS SOLE DISCRETION, SHALL RESERVE THE RIGHT TO MAKE ONE OR MULTIPLE AWARDS FOR THIS REQUIREMENT AND/OR TO REJECT ANY OR ALL BIDS.