Oak Park and River Forest High School
District 200

201 North Scoville Avenue • Oak Park, IL 60302-2296

TO: Board of Education

FROM: Ron Johnson – Director of Purchasing and Transportation
Randy Braverman - Director of Security and Campus Safety

DATE: June 27, 2013

RE: Executive Summary for Video Management System - RFP

Background:
Our current video management system is in desperate need of replacing. The digital video recorders are failing to record and provide documentation. This puts the security of the school in jeopardy. The current system is slow, has no real-time playback and downtime is expensive. Downtown requires staff that is available to diagnose the failure, identify appropriate fixes, obtain replacement parts, replace the failed component, and then test the system.

The Director of Security and Campus Safety along with the District's Technology Department researched the market to determine which system would meet the needs of the District. The Salient CompleteView Enterprise system was chosen since the Enterprise software supports Active Directory/LDAP for user and group memberships and provides the user the flexibility to view, control, search, and export video from virtually any type of camera, from any location. The application is also highly intuitive; it is designed to take advantage of the latest processor and server technologies for optimal performance.. Please see the attached document for a complete view of the Salient CompleteView Enterprise system. The building's 20 exterior cameras are connected to the Districts S2 door security system. The Salient System will be integrated with the S2 cameras to record and document when the building doors are opened during times they are locked..

Summary of Findings:

1. Selection Criteria - Award will be made by the District and will be based on the fees, experience, reputation and the financial stability of the contractor as well as compliance with the format, terms, and conditions of the Request for Proposals.

2. Cost Summary - Proposals were received from four vendors with an optional second year warranty. The system comes with a standard one-year warranty. The District is looking to purchase the 2nd year warranty agreement.

The results are as follows:

	Vendor Name	Total Project Price	Optional 2nd Year Cost	Total Purchase Cost
1	Advent Systems	$48,116.00	$12,000.00	$60,116.00
2	Precision Control	$70,585.00	$9,492.00	$80,077.00
3	Eagle Security	$76,303.00	$4,943.00	$81,246.00
4	Simplex Grinnell	$97,530.00	$12,750.00	$110,280.00
***	New Eagle Security Proposal	$75,057.00	$4,943.00	$80,000.00

* Proposal was non-responsive

3. Summary of Results - Advent Systems notified the District that their proposal did not include a critical cost to the pricing of the system. After reviewing the evidence of the conditions of the material mistake, a decision was made to classify Advent Systems proposal as non-responsive due to the proposal not being in strict compliance with the RFP specifications. The proposal contained a material variance that would have deprived the District of its assurance that the system would have performed and been guaranteed according to the specifications. The material mistake was greater than 10% of the total value of the proposal. The next lowest proposal was Precision Control Systems of Chicago, Inc. however Precision is not an authorized S2 dealer and would need to use a third party contractor to perform the integration with the Salient System. Eagle Security was the next lowest proposal, meets all the requirements listed in the specifications, and is an authorized S2 dealer. The Director of Purchasing and Transportation discussed the pricing with Eagle Security and negotiated a new price that would not cost the District more than the Precision proposal.

Policies, regulations or laws the Board should be aware of in consideration of this approval and purchase. An RFP process was used to have the vendor perform some level of evaluation, or where the purchaser is not certain of the methods of manufacture, quality standards, processes, or other elements. This method allows the District to gather information without committing to purchase until the best product or service is discovered.

Recommendation
For information only at this time. The Board of Education will be asked to approve the purchase of the Video Management System to Eagle Security at the regular Board of Education meeting scheduled for July 18, 2013**.**

OAK PARK AND RIVER FOREST HIGH SCHOOL DISTRICT 200

"THOSE THINGS THAT ARE BEST"

Request for Proposals

Video Management System

June 5, 2013

11:00 A.M.

OAK PARK, ILLINOIS

OAK PARK AND RIVER FOREST HIGH SCHOOL
DISTRICT 200
201 North Scoville Avenue
Oak Park, Illinois 60302
(708) 383-0700

Request for Proposal - Video Management System

Oak Park and River Forest High School District 200 is accepting proposals for a Salient Video Management System. Sealed proposals are due by **Wednesday, June 5, 2013 at 11:00 A.M.,** at which time they will be publicly opened and read aloud. Proposals are to be submitted to:

Oak Park and River Forest High School District 200
Attn: Ron Johnson, Purchasing Coordinator
RFP - Video Management System
Room 270A
201 North Scoville Avenue
Oak Park, Illinois 60302

Failure to comply with these RFP requirements may lead to disqualification of your proposal.

Contractors intending to submit a proposal must attend a mandatory conference and site visit Tuesday, May 21, 2013 at 1:00 PM at Oak Park and River Forest High School, 201 North Scoville Avenue, Oak Park, Illinois 60302.

Ron Johnson
Purchasing Coordinator

PROVIDER OF SALIENT VIDEO MANAGEMENT SYSTEM GUIDELINES

1. Oak Park and River Forest High School (the "District") is presently soliciting proposals for a Salient Video Management System.

2. Proposals are to be placed in a sealed envelope bearing the title of the RFP and the name of the vendor. The proposals shall be addressed and delivered to Oak Park and River Forest High School, District 200, Ron Johnson, Purchasing Coordinator, Room 270A, 201 North Scoville Avenue, Oak Park, Illinois 60302 any time prior to, but no later than 11:00 A.M., Central Time, Wednesday, June 5, 2013. Proposals received after this deadline, will not be considered and will be returned unopened.

3. Proposals will be publicly opened immediately after above deadline. The method of transmittal is at the seller's risk of untimely receipt by the District. The District will not be responsible for delays in delivery by UPS, FedEx, Airborne or any other carrier the vendor chooses. Faxed copies are not acceptable.

4. The submission of a proposal by a contractor will be construed as an indication that it is fully informed as to the extent and character of the service and materials required and can offer the services and materials satisfactorily in compliance with the specifications. The items and criteria set forth herein are minimal standards and statements, and shall be provided for in proposal submissions and contractual arrangements.

5. Please be informed that, should a contractor find discrepancies and omissions in the specifications or instructions, or should he be in doubt as to their true meaning, he shall at once notify the Purchasing Coordinator. The Purchasing Coordinator will in turn clarify such specifications and notify each person who has received specification documents as to the true interpretation thereof. The District shall not be held responsible for oral instructions to contractors.

6. Contractors intending to submit a proposal must attend a mandatory conference and site visit Tuesday, May 21, 2013 at 1:00 PM at Oak Park and River Forest High School, 201 North Scoville Avenue, Oak Park, Illinois 60302. The District encourages Contractors to submit written questions to the Purchasing Coordinators office *prior* to the conference. Answers to questions regarding the content and interpretation of this Request for Proposals shall be valid only when provided in writing by the District's Purchasing Coordinator. Any Contractor not represented at the conference who submits a proposal will not be considered for award.

7. The District reserves the right to accept or reject any or all proposals, and to waive technicalities, if deemed to be in the best interest of the District. Award will be made by the District and shall be based on the fees, experience, reputation and the financial stability of the contractor as well as compliance with the format, terms, and conditions of this Request for Proposals.

8. Upon selection of an award winner, the Contractor shall enter into a contract with the Board of Education of Oak Park and River Forest High School in accordance with the specific provisions of the attached Specifications ("Contract") between the District and the supplier. The Contractor, by signing the Contract, acknowledges and agrees to comply with all other requirements, terms provisions, and conditions as listed in these RFP specifications.

9. Each Contractor, by submitting a proposal, acknowledges the provisions of the attached Contract and does thereby agree to comply with all provisions of the Contract. No Contractor shall make any changes to the wording of the Contract. If exception to any provision is requested, the Contractor will submit a listing of all requested exceptions and attach this listing as a separate document attached to the Contract.

10. Direct integration with S2 for 20 cameras included and 4 workstations included.

11. The district has existing devices - Pelco DX8100 DVR's, 166 Pelco Stationary Cameras and 1 Pelco PTZ camera

12. Provide six (6) servers - HVR PowerPro-6TB

13. 30-day recording capability with 7 frames per second and 100% constant recording.

14. IPhone& iPad apps to be made functional for District needs by successful vendor.

15. Optional maintenance agreement cost for 2nd year.

16. Existing DVR`s to be given to Educational Technology department

17. Work is not to commence before July 1, 2013 and is to be complete by August 9, 2013

AGREEMENT TO PROVIDE SALIENT VIDEO MANAGEMENT SYSTEM

THIS AGREEMENT made this by and between the BOARD OF EDUCATION OF OAK PARK AND RIVER FOREST HIGH SCHOOL, County of Cook, State of Illinois (the "District") and _____, an _____ corporation, of _____, _____ (the "Contractor").

1. **Scope.** The District's facility ("facility") is located at 201 North Scoville Avenue, Oak Park, Illinois.

   The proposal shall be based on the equipment indicated in the specifications, which is incorporated as terms of the contract between the successful Contractor and the District.

2. **Independent Contractor Relationship.** It is understood, acknowledged and agreed by the Parties that the relationship of Contractor to the District arising out of this Contract shall be that of an independent contractor. Neither Contractor nor any person engaging in any work or services related to the Agreement at the request or with the actual or implied consent of Contractor may represent himself to others as an employee of the District. Should any person indicate to Contractor or any employee or agent of Contractor, by written or oral communication, course of dealing, or otherwise, that such person believes Contractor to be employee or agent of the District, Contractor shall use its best efforts to correct such belief. In ordering or accepting delivery of or paying for any goods or services for the location, Contractor shall do so in Contractor's own business name and not in the name of the District..

4. **Title and Risk of Loss.** Title to the goods herein described shall not pass until said goods have actually been received by the District or its consignee, notwithstanding any agreement to the contrary, including, but not by way of limitation, any agreement to pay freight, express, or other transportation or insurance charges. Risk of loss prior to such actual receipt by District or its consignee shall be borne by Contractor. [Nothing herein contained, however, shall be construed to deprive District of its interest, or limiting such interest, in the goods herein described prior to such actual receipt.]

5. **Withdrawal of Proposals.** Contractors may withdraw their proposals at any time prior to the time specified in the advertisement as the closing time for the receipt of proposals. However, no Contractor shall withdraw or cancel his proposal for a period of sixty (60) calendar days after said advertised closing time for the receipt of proposals, nor shall the successful Contractor withdraw, cancel, or modify their proposal after having been notified by the Purchasing Coordinator that said proposal has been accepted by the District.

6. **Compliance with Laws.** The Contractor shall comply with all Federal, State and local laws and regulations pertaining to wages and hours of employment all personnel employed by the Contractor. To the extent required by law, Contractor shall comply with the Prevailing Wage Act.

7. **Payment and Price.** Payment by District for goods supplied hereunder shall not constitute acceptance thereof if subsequent inspection discloses defects in material or workmanship or a failure to meet the specification contained herein.

8. **Inspection.** All material and workmanship shall be subject to inspection and test by District. District reserves the right to reject any goods which contain defects in material or workmanship or which fail to meet the specifications contained herein or Contractor's warranties (express or implied). Rejected goods shall be removed at the expense of the Contractor, including transportation both ways, promptly after notification of rejection. As to rejected goods, Contractor shall bear all costs of inspection and all risk of loss. Upon rejection, Contractor shall immediately return full purchase price to District.

9. **Shipping Instructions.** Unless otherwise specified, packages must bear Purchaser's order number and bulk containers must also show gross, tare, and net weights and/or quantity. No packaging charge shall be made to District unless specified herein. All goods shall be suitably packed and classified to assure the lowest transportation rates consistent with full protection against loss or damage in transit and to meet the carrier's requirements.

10. **Deliveries/Time.** Time is of the essence. Deliveries shall be made to District's receiving area or designated installation site.

11. **Rejection and Cancellation.** District reserves its rights to reject any goods and to cancel all or any part of this sale if Contractor fails to deliver all or any part of the goods in accordance with the terms, conditions and specifications contained herein. Acceptance of any part of the goods covered shall not obligate District to accept future shipments nor deprive it of its rights to revoke any acceptance theretofore given. If Contractor ceases to conduct its operations in the ordinary course of business (including inability to meet its obligations as they mature), or if any proceeding under bankruptcy or insolvency laws is brought by or against Contractor, or if a receiver for Contractor is appointed or applied for, or if an assignment for the benefit of creditors is made by Contractor, District may cancel this order without liability except for deliveries previously made or for goods covered by the request for proposals then completed and subsequently delivered in accordance with the terms, conditions and specifications contained herein.

12. **Warranties.** Contractor makes the following warranties to District and users of the goods herein described:

    a. It will, at the date of delivery, have good title to any and all goods supplied hereunder, and said goods will be free and clear of any and all liens and encumbrances;

    b. Any and all goods supplied hereunder will be of merchantable quality;

c. Any and all goods supplied hereunder will be fit for the particular use intended, will be free from defects, whether patent or latent in material or workmanship, and will be in full conformity with the specifications contained herein.

Contractor agrees that the foregoing warranties shall survive acceptance of the goods, and that said warranties shall be in addition to any warranties of additional scope given to District by Contractor. Contractor shall, at its sole cost and expense, promptly repair or replace to District's satisfaction all goods/services received for a period of two (2) years from date of delivery, unless the specifications require a greater warranty period.

13. **Patent Infringement.** Contractor agrees to indemnify and hold harmless District, its successors, assigns, customers, and users of the goods herein described against any and all loss, damage, or injury arising out of a claim or suit for alleged infringement or any letters patent granted by the United States or any foreign government relating to the goods herein described. Contractor agrees that it will assume the defense of any and all such suits and pay all costs and expenses incidental thereto.

Items must be new and current. Unless otherwise specified in the specifications, all items and commodities must all be new and of the latest model, crop, or manufacture.

14. **Alternate Proposals.** Alternate proposals shall not be considered unless requested by the District. Alternate proposals shall not be considered a counter-offer. Alternate proposals shall not become a part of the contract unless approved by the District in writing upon the award of the proposal. If proposing other than specified, alternates offered must be guaranteed equal or better than that originally specified. Burden of proof is on the Contractor. Alternate proposals should include specifications, brand name, numbers and/or trademark, if any, and any other information pertinent to the identification.

15. **Unit and Total Prices.** The price for the units specified should be clearly shown for each separate item in the space provided on the pricing form. Only one unit price should be quoted for each item and this unit price should be according to the unit of measure. The total price for the quantity requested should also be shown. If the group totals are requested, Contractors should show group totals on the space provided. In the event a group totals are miscalculated, unit prices will prevail.

16. **Acceptance of Split Award.** Every attempt will be made to award orders on an overall low price basis. However, the right is reserved to split the award if it is in the interest of the District. If a split award is not acceptable to a Contractor, it must be so stated in the proposal.

17. **Time Price Will be Firm.** It must be stated for the period your price will continue to be firm. This period must be at least thirty (30) days after the latest time specified for submission of proposals.

18. **Delivered Price.** Unless otherwise specified, YOUR PROPOSED PRICE MUST BE A DELIVERED PRICE, TO THE DISTRICT'S DESTINATION, WITH ALL TRANSPORTATION AND HANDLING CHARGES PAID BY THE CONTRACTOR.

19. **Default.** Should Contractor fail to fulfill any and/or all terms and conditions of the agreement, he shall be declared by buyer to be in default.

20. **Interpretation of Contract Documents.** If any person contemplating submitting a proposal is in doubt as to the true meaning of any part of the specifications or other contract documents, he may submit to the Purchasing Coordinator a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addendum duly issued by the Purchasing Coordinator. A copy of such addendum will be mailed or delivered to each person receiving a set of such contract documents and to such other prospective Contractors as shall have requested that they be furnished with a copy of each addendum. Failure on the part of the prospective Contractor to receive a written interpretation prior to the time of the opening of proposals will not be grounds for withdrawal of his proposal. Contractors shall acknowledge receipt of each addendum issued by signing the addendum and returning it with their proposal. Oral explanations will not be binding.

21. **Order of Precedence of Component Contract Parts.**

    a. General conditions.

    b. Addenda, if any.

    c. Special conditions.

    d. Plans or drawings, if any, which may be a part of this contract requirement.

    e. Detail specifications.

    f. Standard specifications of the county, state or federal government, if any.

    g. Advertisement for proposals.

    h. Instructions to Contractors.

    The foregoing order of precedence shall govern the interpretation of the contract in all cases of conflict or inconsistency therein, except as may be otherwise expressly provided by the District.

22. **Licenses and Taxes.** The Contractor shall obtain and maintain all licenses, permits and certification required by federal, state, and local law. Prior to starting the work under this contract, the Contractor must present the District copies of all applicable permits and licenses.

23. **Representations.**

a. Contractor represents and covenants that no official employee or agent of the District:

(1) has been employed or retained to solicit or aid in the procuring of this Agreement;

(2) will be employed or otherwise benefit from this Agreement without the immediate divulgence of such fact to the District.

b. In compliance with Section 33E-1 et seq. of the Illinois Criminal Code, Contractor certifies that it has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois nor has Contractor made an admission of guilt of such conduct which is a matter of record, nor has an official, agent or employee of Contractor been so convicted nor made such an admission.

24. **Terms and Termination.**

a. This Agreement may be terminated prior to its expiration under any of the following circumstances:

(1) In the event Contractor shall breach or be in default, under any of the provisions of this Agreement, with the exception of provisions relating to maintenance of insurance, the District may terminate the Agreement if the Contractor shall not have commenced and continued correction of such default or neglect with diligence and promptness within five (5) days after the District shall have notified Contractor thereof in writing; provided, however, that if Contractor shall have breached or been in default under the same provision on a previous occasion, the District may terminate the Agreement immediately without affording Contractor an opportunity to cure the breach or default, upon written notice to Contractor.

(2) In the event Contractor shall breach or be in default under the insurance provisions of this Agreement, the District may terminate the Agreement immediately without affording Contractor an opportunity to cure the breach or default, upon written notice to Contractor.

(3) In the event Contractor shall have (i) filed a voluntary petition in bankruptcy or made an assignment for benefit of creditors; (ii) consented to the appointment of a receiver or trustee of all or part of its property; or

(iii) an involuntary petition in bankruptcy shall have been filed in regard to Contractor and the same shall not have been dismissed within ten (10) days of such filing, the Agreement shall automatically terminate.

(4) Should the Contractor abandon or neglect the service, or if at any time the District is convinced that the service is unreasonable or that the conditions of the Agreement are being willfully violated, executed carelessly, or in bad faith, he may notify the Contractor in writing, then, and in that case, the Contractor shall discontinue all work under the Agreement and the District shall have full authority to make arrangements for the completion of the Agreement.

(5) The District determines that the contract will be terminated for its convenience. In such case, the Contractor shall be paid for all work and products completed less mitigation of damages, but not for lost profit or overhead.

b. Neither the Contractor nor the District shall be responsible for any losses resulting if the fulfillment of the terms of the contract shall be delayed or prevented by wars, acts of public enemies, strikes, fires, floods, acts of God, or any other acts which could not have been prevented by the exercise of due diligence.

c. Contractor agrees to comply and to cause its employees to comply fully with the Federal Equal Employment Opportunities Act, including 29 C.F.R./Part 1609 "Guidelines on Harassment," the Illinois Human Right Act, the Americans with Disabilities Act, and all applicable rules and regulations promulgated thereunder and all amendments made thereto, Title VII of the Civil Rights Act of 1964, as amended, the USDA regulations implementing Title IX of the Education Amendments, and Section 504 of the Rehabilitation Act of 1973, and any additions or amendments, and Contractor represents certifies and agrees that it has implemented a sexual harassment policy pursuant to 775 ILCS 5/2-105 and that no person shall be denied or refused service or other full or equal use of Contractor's services, or denied employment opportunities by Contractor on the basis of race, creed, color, religion, sex, national origin or ancestry, age disability unrelated to ability, marital status, or unfavorable discharge from military service.

25. **Indemnity-Hold Harmless.** The Contractor shall defend, indemnify, keep and save harmless the District, its board members, representatives, agents and employees, in both individual and official capacities, against all suits, claims, damages, losses and expenses, including attorneys' fees, cases by, growing out of, or incidental to, the performance of the work under the Contract by the Contractor or its subcontractors to the full extent as allowed by the laws of the State of Illinois and not beyond any extent which would render these provisions void or unenforceable. In the event of any such injury (including death) or loss or damage, or claims therefore, the Contractor shall give prompt notice to District.

In the event of any claim against the District or against any of its officials or employees, in either their personal or official capacities, made by any direct or indirect employee or agent of the contractor or of any subcontractor, the Contractor's indemnification obligation shall not be affected by any limitation on the amount or type of damages, compensation or benefits payable to said employee or agent contained in any other type of employee benefit act.

26. **Installation.** Contractor shall provide installation specifications, which shall include structural and electrical drawings. Contractor must have a qualified representative on-site during installation to supervise the installation and to certify in writing to the District that the equipment was installed according to the manufacturer's specifications and engineering requirements.

27. **Miscellaneous.**

a. The District recognizes that the Contractor is an expert in the manner in which the work under this Contract is to be performed, and expects Contractor to perform all work in accordance with the standards required by such expertise.

b. Contractor shall have no authority or power to sell, transfer or assign this Agreement or Agreement or any interest therein, nor any power or authority to permit any other person or party to have any interest or use any part of the District property covered by the Agreement, for any purpose whatsoever without the prior express written consent of the District, it being the intention of this Agreement to grant the right and privilege solely to Contractor and neither directly or indirectly to any other party.

c. The waiver by the District of any breach or default under any provision of this Agreement shall not be deemed to constitute a waiver of such provision for any subsequent breach or default of the same or any other provision. The acceptance of any payment by the District shall not be deemed to constitute a waiver of any prior occurring breach or default by Contractor of any provision of the Agreement regardless of the knowledge of the District of such breach or default at the time of its acceptance of such payment.

d. This Agreement constitutes the entire agreement between the District and the Contractor. All changes shall be in writing, duly approved by the District and may not be changed, extended orally, or by conduct.

e. Payments on any claim shall not prevent the District from making claim for adjustment on any item found not to have been in accordance with the provisions of this contract.

f. It is further agreed between the District and Contractor that the clauses attached and designated as are hereby in all respects made a part of this contract.

g. This Agreement shall be governed by and construed in accordance with the laws of the State of Illinois and venue for any lawsuits shall be in Cook County, Illinois.

h. The validity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement.

i. This Agreement may be signed upon any number of counterparts with the same effect as if the signatures to each were upon the same Agreement.

j. The Contractor shall comply with all applicable state, local and federal laws and regulations.

28. **Notices.** All notices required or permitted to be given under this Agreement shall be deemed given when such notice is either hand delivered or sent by certified mail, returned receipt requested and deposited in the United States mail, with postage thereon prepaid, addressed to the other party at the following addresses:

If to the District, to:

Ron Johnson
Director of Purchasing & Transportation
Oak Park and River Forest High School District 200
201 N Scoville Avenue
Oak Park, IL 60302
TEL: (708) 434-3266

If to the Contractor, to:

_____

_____

_____

_____

_____

BOARD OF EDUCATION OF

OAK PARK AND RIVER FOREST HIGH SCHOOL:

By: _____ _____
President **Date**

Attest:

_____ _____
Secretary **Date**

CONTRACTOR:

By: _____ _____
Name/Title **Date**

RFP Calendar

Date	Time	Description
Thursday, May 16, 2013		Notification Made, Bid Packets Released
Tuesday, May 21, 2013	1:00 PM	Vendor Site Visit
Wednesday, June 05, 2013	11:00 AM	RFP opening (201 N. Scoville Avenue, Oak Park, IL).
Tuesday, June 18, 2013	7:30 PM	Vendor recommendation made to Board of Education, Finance Committee (201 N. Scoville Avenue, Oak Park, IL).
Thursday, June 27, 2013	7:30 PM	Board of Education meeting-bid award approval by Board.

EXHIBIT A - RFP SPECIFICATIONS

VIDEO SURVEILLANCE CONTROL AND MANAGEMENT SYSTEMS

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes:
   1. Video Surveillance Control and Management Systems (VMS).

B. Related Sections:
   1. Section 28 23 16 – Video Surveillance Monitoring and Supervisory Interfaces.
   2. Section 28 23 19 – Digital Video Recorders and Analog Recording Devices.
   3. Section 28 23 23 – Video Surveillance Systems Infrastructure.
   4. Section 28 23 29 – Video Surveillance Remote Devices and Sensors.

1.2 REFERENCES

A. FCC CFR 47 Part 15 Class A – Telecommunications – Radio Frequency Devices – Digital Device Emission

B. UL 60950-1 Information Technology Equipment – Safety.

1.3 SUBMITTALS

A. Submit under provisions of Section [01 33 00].

B. Product Data:
   1. Manufacture's data, user and installation manuals for all equipment and software programs including computer equipment and other equipment required for a complete VMS.

C. Shop Drawings:
   1. System device locations on architectural floor plans.

   2. Full schematic of system including wiring information for all devices.

D. Closeout Submittals:
   1. User manuals.

   2. Parts list.

   3. System device locations on architectural floor plans.

   4. Wiring and connection diagrams.

   5. Maintenance requirements.

1.4 QUALITY ASSURANCE

A. Manufacturer shall have a minimum of ten (10) years experience in the manufacture and design of VMS products.

B. Installer:
   1. Minimum of five (5) years experience installing VMS products.

   2. All installation, configuration, setup, programming and related work shall be performed by technicians thoroughly trained by the manufacturer in the installation and service of the equipment provided.

1.5 DELIVERY, STORAGE AND HANDLING

A. Comply with requirements of Section [01 60 00] Product Requirements.

B. Deliver materials in manufacturer's original, unopened, undamaged containers with original identification labels.

C. Protect stored materials from environmental and temperature conditions following the manufacturer's instructions.

D. Handle and operate products and systems according to the manufacturer's instructions.

1.6 WARRANTY

A. Provide manufacturer's warranty covering one (1) year for replacement and/or repair of defective equipment.

1.7 MAINTENANCE

A. Make ordering of new equipment for expansions, replacements and spare parts available.

B. Provide factory direct technical support to the installing firm.

C. VMS system manufacturer shall offer online, self-paced training for installers, system administrators and users. Online training shall be accessible from VMS system manufacturer's website at any time.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Acceptable Manufacturer:
The Video Management System shall be the CompleteView Enterprise System as supplied by:

Salient Systems
10801 N. MoPac Expy.
Building 3, Suite 700
Austin, TX 78759
512-617-4800
512-617-4801 FAX

www.salientsys.com

2.2 VIDEO MANAGEMENT SYSTEM COMPONENTS

A. Components

The networked Video Management System (VMS) shall consist of the following components:

1. Direct integration with S2 for 20 cameras included and 4 workstations included.

2. The district has existing devices - Pelco DX8100 DVR's, 166 Pelco Stationary Cameras and 1 Pelco PTZ camera

3. Scalable video management software hosted on commercial grade servers with Microsoft Windows operating system.

4. Industry standard server and storage platforms supplied by Salient Systems, Salient certified integrator or customer supplied.

5. The VMS shall be a true hybrid system capable of integrating existing or new analog and/or IP cameras into the IP infrastructure.

6. The VMS shall support virtually all leading IP and analog camera and encoder manufacturers for user choice and design flexibility.

7. The VMS shall be full featured with client software applications intended for
    a. Live video monitoring
    b. Real-time alarm monitoring and display
    c. Alarm display prioritization
    d. System management
    e. Instantaneous retrieval of archived video
    f. Evidence production on AVI files that can be viewed on any PC
    g. Export of tamper evident video on recordable CD's or DVD's.

B. Video Management System Concept of Operation

The VMS and its manufacturer shall provide the following key functions and capabilities:

1. The system shall operate in a Microsoft Windows environment. It shall be an IT server based solution purpose-built for the capture, processing, storage and retrieval of unlimited amounts of digital video and supporting audio, alarm, associated systems (access control, etc.), and other surveillance data.

2. The VMS shall support a wide range of deployments including new, all-IP camera environments as well as incorporating existing analog cameras, cabling and other security and IT infrastructure where appropriate to maximize existing investments.

    a. The VMS shall integrate with Axis One Click Connection Component v1.0, v1.4 & v2.0 which enables the Axis One Click Connection method of installing Axis Communications cameras.

3. The VMS software shall operate consistently on stand-alone or integrated host and storage platforms from recognized IT industry suppliers. This hardware independence shall allow the host and storage platforms to be sourced from the VMS manufacturer, an integrator certified by the VMS manufacturer or supplied by the customer for optional loading and certification by the VMS manufacturer at the manufacturer's facility.

4. The VMS shall capture video, audio, alarm, associated systems and other data from a single or multiple servers.

5. Each server shall be capable of thirty two (32) direct connect analog cameras and an unlimited number of IP camera sources depending on selected model.

6. The VMS shall have the ability to write to DAS, NAS iSCSI and Fiber SAN in addition to local storage. The VMS storage volume can be configured in RAID levels 0, 1, 5, 6, 10, 50 and JBOD.

7. The VMS shall support all leading industry-standard compression formats including Motion JPEG, MPEG-4 & H.264.

8. The VMS shall simultaneously handle recording, archiving, retrieving, playback and live distribution of video and audio. The software shall operate in a continuous recording mode or according to a programmed time/date schedule. Recording functions may also be triggered by events and motion detection.

9. Live and archived video/audio data shall be available to authorized users at anytime over local or wide area network connections.

10. The VMS shall incorporate a Web Client so live and recorded video may be viewed via the Internet by authorized users.

11. The VMS shall be capable of exporting video clips or images to CD/DVD's without third party software. All images or clips shall include an executable player that verifies no tampering has occurred and can be played on standard PC's.

12. The VMS Server software shall utilize a high performance, multi-threaded, application engine. This allows multiple tasks to be executed at the same time and is required to take full advantage of multiple core or multi-processor technology.

13. The VMS software must minimize user actions required ("mouse clicks") wherever possible. The ten (10) most common operator tasks shall average not more than 2.8 clicks to complete.

14. The VMS software shall utilize a camera abstraction layer. Video shall be captured in such a way as to provide seamless support of multiple, disparate video source technologies transparent to the user and allowing for the integration of new capture technologies as they become available.

15. The VMS shall provide direct support of IP-based video sources in such a way that the use of camera manufacturer supplied COM application software interfaces such as ActiveX controls are not required.

16. The VMS shall provide a Video Proxy capability allowing for a designated server to be a single point of client connection requests for video recording to any of multiple recording servers.

17. The VMS shall support QuickTrack recording allowing a user to custom record a series of cameras being focused on. This provides the ability to record the cameras of interest when tracking a suspect across multiple cameras.

18. The VMS shall be capable of integrated operation with other security related systems such as Access Control Systems (ACS) and Video Analytics Systems (VAS) or applications. Integrated manufacturers at time of publication of this specification include:

ACS Products

a. AMAG
b. Apollo
c. Continental Access
d. DSX
e. Maxxess
f. Precision Edge Access Control, Inc. (formerly Novus Edge)
g. Open Options
h. S2 Security
i. Software House (CCURE 9000)
j. RS2
k. Lenel OnGaurd

VAS Products

a. Agent VI

(NOTE: The list of integrated ACS and VAS products is expanding rapidly. Please check with Salient Systems for the latest listings.)

C. Licensing

The VMS manufacturer shall license the software on a per video channel basis only, in such a way that there are no license fees associated with client applications, site installation, user accounts, add-on features or other license fees. The licensing program characteristics are:

1. IP camera license shall not be tied to a hardware address (MAC Address).

2. The VMS Server software shall not be tied to the server hardware.

3. Camera licenses may be moved between servers.

4. All server and camera licenses are moveable without requiring manufacturer action of any type.

5. All VMS Client software modules shall be included in the base VMS software cost. Modules include Administration Console, Alarm Client, Video Client, Mapping Client, Web Client and SpotLight.

6. Client applications can be installed an unlimited number of times and may be running simultaneously without additional licensing cost.

7. Licensing for directly connected analog cameras shall include for no additional cost, PCI or PCIe, connected encoding hardware. The VMS manufacturer shall allow for trade in or conversion of the encoding hardware for the equivalent number of IP camera licenses in the future allowing the user to switch from analog cameras to IP cameras without incurring additional licensing cost.

2.3 SYSTEM HARDWARE REQUIREMENTS

(Refer to Section 28 23 19 Digital Video Recorders and Analog Recording Devices *and* Section 28 23 29 Video Surveillance Remote Devices and Sensors.)

A. VMS System Host:

1. The VMS host server shall be a standalone or integrated product from a recognized industry leader including internal or external storage arrays.

2. Storage capacity and configuration shall be scalable based on specific application needs without modification to the base VMS software package.

3. The hardware may be supplied by the VMS manufacturer, an integrator certified by the VMS manufacturer or by the client IT Team.

4. All hardware platforms will be capable of mounting in a standard nineteen inch (19”) equipment rack and accepting power, network and other standard IT wiring connections.

B. Minimum hardware requirements

1. The VMS manufacturer shall provide an online HTML based tool to calculate hardware requirements for a specific recording configuration managed by the VMS server.

C. IP Cameras

The VMS manufacturer shall periodically test various IP cameras to insure compatibility. Check with the VMS manufacturer for a comprehensive list of supported camera models. The following camera and encoder manufacturers have been tested and have models compatible with the VMS:

a. ACTi
b. American Dynamics
c. Appro
d. Arecont
e. Axis Communications
f. Bosch
g. Basler
h. Canon
i. Cisco
j. HikVision
k. IQeye
l. Lumenera
m. Mobotix
n. OpenEye
o. Panasonic
p. Pelco

q. PSIA (Honeywell)
r. Scallop
s. SmarterCam
t. SightLogix
u. Sony
v. Toshiba
w. Vivotek

D. Analog Cameras

1. Up to 32 analog cameras can be directly connected to a server via coaxial cables and standard BNC connectors. No IP encoder is required.

2. The integrated analog inputs shall support the following video resolutions:
   a. 160 x 120 pixels NTSC
   b. QVGA (320 x 240 pixels NTSC)
   c. Field Mode (640 x 240 pixels NTSC doubled to 640x480)
   d. VGA (640 x 480 pixels NTSC)
   e. SECAM and PAL inputs shall also be supported.

2.4 SYSTEM SOFTWARE CHARACTERISTICS

A. Recording Servers

The VMS recording server component shall have the following characteristics and features:

1. Video servers shall be capable of supporting an unlimited number of IP cameras.

2. IP cameras may record up to 11 mega-pixel resolution per camera.

3. Video inputs may be recorded up to 30 Frames Per Second (FPS).

4. VMS Server shall be capable of interfacing with MJPEG, Microsoft MPEG-4, ISO MPEG-4 and H.264 compressions.

5. VMS Server shall record native camera format or transcode video to any supported format.

6. Recorded video shall be tamper evident. Video recordings shall be marked with an electronic watermark. The electronic watermark shall be generated using an MD5 Hash algorithm.

7. Separate, programmable event and motion detection settings shall be provided per video input.

8. VMS Servers shall execute as a Windows “system service” so full VMS functionality is maintained even if a Windows user is not logged into the operating system.

9. The VMS Server shall maintain full VMS functionality regardless of the user rights of a locally logged-on Windows user.

10. A locally logged-on Windows user with less than administrative rights shall not have the ability to stop, start or otherwise control the running state of the VMS Server.

11. A windows user with administrative rights shall be able to control access to Windows applications, application settings, operating system settings and other functions without compromising VMS functionality.

12. The VMS server shall store video events as a user accessible file within the NTFS file system without requiring the user or administrator to extract the video event from an image database or other proprietary storage database for purposes of archive or review.

13. The VMS shall operate using “Client/Server” architecture with no central video streaming server required.

14. The VMS shall be compatible with IT backup software and not require a proprietary “archiving” function for management of stored video files. Compatible IT backup software shall include these features:
    a. Locked file support
    b. Ability to duplicate files and folders
    c. Backup without encryption and compression
    d. Delete original files after backup

15. The VMS shall include a built-in archiving feature for the purpose of moving recordings from their original storage volume to a different local or network-attached storage volume on an administrator-defined schedule. The VMS shall be capable of separately archiving video marked as motion recordings, external alarm recordings and scheduled recordings or any combination of those types.

16. The VMS shall provide a stable recording environment via a modular video storage and data management architecture to minimize common database corruption situations. Video and audio storage shall be stored outside of a database in a flat file structure. This reduces the potential of video/audio data corruption and allows rapid database rebuilding with no restart required in the event of system failure.

17. The VMS shall provide “Dynamic Resolution Scaling” to minimize bandwidth sent to displays. While video sent from the camera is recorded in its original resolution, the server automatically resizes the video stream sent to the display based on the size of the display window. The viewing pane can be resized at any time and the server will automatically adjust accordingly with no user intervention required to adjust the video stream. This provides for the lowest possible bandwidth consumption without sacrifice of display quality.

18. The VMS Client and Server applications scale to any number of cameras and servers as required.

19. There shall be no imposed limit on the scalability of the system. The VMS system shall be expandable by adding additional video servers and storage devices to support increased camera capacities.

20. The VMS manufacturer shall allow for third-party integration through the implementation of an application programming interface (API). The API shall grant internal or third-party developers the ability to add the following video functionality to their applications without the need for VMS client software to be installed or otherwise invoked:
    a. Display live camera views.
    b. Perform video archive search and retrieval functions.
    c. Control pan-tilt-zoom cameras.
    d. Add/Modify/Delete user accounts.
    e. Initiate recording of external alarm events.
    f. Modify a subset of the server configuration.

B. Configuration Server

The VMS shall provide a Config Server software component which centrally stores VMS client software configuration. The VMS shall support Roaming User accounts whereby users shall be able to log into any workstation running VMS client software and the Config Server shall provide their account information and configuration. When new client software updates are available, using the Config Server the administrator shall be able to deploy the client software updates to all clients centrally and without manually installing the update.

1. The Config Server shall accept client software update files from the VMS system's Administration Console for pull-mode client software updates. When a user logs into the client the new software update is pulled from the server and installed automatically without further administrator or user intervention.

2. The Config server shall centrally store VMS client configuration. When a user of the VMS client logs in, their configuration is downloaded to the workstation they are using. This allows them to maintain their configuration when logged into any workstation running VMS client software.

3. Config Server shall be optionally installable and run as a Windows System Service so full Config Server functionality is maintained even if a Windows user is not logged in to the operating system.

C. System Administration

The VMS shall provide the system administrator with the tools to monitor the overall system health, individual camera status, video archive usage and status plus other elements of every server in the Enterprise system. This tool is also used to perform individual or group updates of the VMS software on selected servers.

1. The VMS shall support "single seat administration" so that a single management application administers multi-server/multi-client environments. This allows simultaneous control of multiple servers and clients and system-wide monitoring of the health and status of all servers and cameras from one console. Support is included for:
   a. Push-based, secure, distribution of application software updates for all VMS server software components where the update process occurs in parallel for all selected servers.
   b. Pull-based updates of video client application software via a centralized data store.
   c. Support for remote configuration of all VMS server software components.
   d. Support for remote monitoring of all VMS server software components.
   e. Support for remote configuration of the centralized data store.
   f. Copy or move cameras between servers.
   g. Configure users and groups.
   h. Replicate users and groups.

2. The VMS software shall be capable of monitoring one (1) or more VMS systems and reporting the following items:
   a. Installed VMS software version.
   b. Total amount of system memory.
   c. Total amount of available system memory.
   d. Total CPU utilization.
   e. Total VMS uptime.
   f. Video source status including current recording status and the volume where video events are currently being stored.

g. Storage volume status including total number of days video available on the selected storage volume, the amount of storage that is currently being utilized and the amount of storage that remains before triggering the FIFO-mode event deletion process.
h. Provide a list of events that have occurred on the selected server since the initial connection.
i. Listing of currently connected clients including connection number, client (source) IP address, description of the client and the username used by the selected client.

3. The VMS shall automatically and without user intervention provide a process whereby critical system events shall be visually brought to the attention of the user.

4. The VMS shall provide the ability to remotely perform, in parallel, a push-mode, unattended software update to one (1) or more servers over the IP network. While updates are being performed, update events will be received and logged.

5. The VMS shall visually notify the user if a server becomes unreachable during a session.

6. The VMS shall be able to program notification to one (1) or more administrator configured e-mail addresses if any of the following events occur and the server has been configured to provide the events:
   a. Server Connection Lost
   b. Camera Offline
   c. Volume Offline
   d. Hardware Key Missing
   e. Server Connection regained

7. The VMS shall support limiting the number of email notifications. Limitations shall be configurable specifying the maximum number of emails which can be sent for an individual event and the minimum time between events.

8. The e-mail server configuration shall utilize the SMTP protocol over TCP port 25 to connect to an administrator defined e-mail server. It will utilize SMTP Authentication if configured as such by an administrator.

9. The VMS shall provide the administrator the ability to control the running state of the core video server software on the selected VMS. These include starting and stopping the video system service.

10. The VMS shall provide the administrator the ability to retrieve a filterable list of events from the log files maintained on each VMS.

11. The VMS shall be capable of saving the current session with all user or administrator configured settings to a file.

12. The VMS shall be able to restore a user session from the settings located within a saved session file.

D. Recording Server Configuration

Configuration of VMS recording servers and VMS client users is performed in the System Configuration application. The application can be run from any network connected workstation and used to perform configuration of multiple recording servers (simultaneously) or clients.

1. All configuration options shall be menu driven and provide control of functions such as Add server/client configuration; Edit server/client information; Delete server/client configuration;

Backup / Restore client or server configuration; Users; View layouts, etc. The following functions shall be included to reduce configuration time.

a. The administrator shall be able to clone users and/or groups to reduce redundant configuration.
b. The administrator shall be able to clone IP camera configuration to reduce redundant configuration.
c. The administrator shall be able to clone recording schedule to reduce redundant configuration.
d. The administrator shall be able to move or copy IP cameras between servers. Copying cameras will copy the camera configuration. Moving cameras will move the camera configuration and automatically remove the configuration from the source server.

2. The VMS shall provide a tree-view of all configured cameras in the system. A single right click on any object displays a context-menu containing the primary camera configuration information.

3. The VMS shall allow configuration of the following server information:
   a. Server name; TCP port numbers used for client/server communication; Embedded Web server enable and HTTP port, etc.
   b. Shall Import Active Directory and Lightweight Directory Access Protocol (AD/LDAP) users and groups.
   c. Which events are to be kept in server logs.
   d. E-mail configuration information for camera alarm notifications.
   e. Administration of Feature Keys associated with the system.

4. The VMS shall support an unlimited number of Users/Groups. Controls shall include:
   a. AD/LDAP shall be supported to allow importing of users groups existing elsewhere on the network.
   b. Administration of both groups and users including viewing/modifying server configuration; logging of events such as login, logout, playback requests and live view requests.
   c. User camera permissions including enable view, enable playback (with or without export capability), enable Snapshot, enable PTZ control, number of presets allowed per camera and PTZ priority.
   d. PTZ Priority shall be configurable from 1 to 10, with higher numbers indicating a higher priority level. Should multiple users request access to the same PTZ camera the highest priority user will gain control.

5. The VMS shall allow the administrator to define video archival volumes. A single or multiple recording volumes may be configured for each server.
   a. The user shall be able to specify the location of the video recording volume. A volume can be defined as any drive letter and folder path on the server's direct attached, mapped or iSCSI storage or any UNC path. This allows for defining a volume as C:\Video\ or \\StorageServer\Video.
   b. Volumes can be marked as "Regular Storage", "Archive Only" , "Backup Only" or "Permanent Storage". Each volume can be associated to one or more cameras managed by the recording server.
   c. The location of recordings across the volumes shall be tracked automatically by the VMS server so a user searching for video shall not need to specify the recording's location on disk.
   d. The administrator may define the minimum free space on the volume which recordings cannot be written to.

e. Video shall be written to the volume in a First-In-First-Out (FIFO) method to volumes marked as “Regular Storage”, “Archive Only” or “Backup Only”. When the volume has reached its maximum allowed space the oldest day of recordings is deleted in order to free space for new recordings.
f. In the event multiple volumes are marked as “Regular Storage” and associated to the same camera, new video will be written to the next “Regular Storage” volume when the current “Regular Storage” volume reaches the maximum allowed space.

6. The VMS shall allow the administrator to define archive storage volumes. The VMS shall move video from a ‘Regular Storage” volume to the Archive storage volume on an administrator-defined schedule. A single or multiple archive storage volumes may be configured for the server.
   a. The user shall be able to specify the location of the archive storage volume. An archive volume can be defined as any drive letter and folder path on the server’s direct attached, mapped or iSCSI storage or any UNC path. This allows for defining a volume as C:\Video\ or \\StorageServer\Video.
   b. Multiple archive storage volumes can be defined for each recording server.
   c. The user shall be able to specify the number of days to keep archived recordings for before deletion from the archive storage volume. This can be separately specified for each archive storage volume defined.
   d. The user shall be able to specify the minimum free space on the archive storage volume which recordings cannot be written to.
   e. The administrator shall be able to associate an “Archive Only” volume to a single or multiple “Regular Storage” volume. Each “Regular Storage” volume will automatically move the oldest video to the associated “Archive Only” volume in order to free space for new recordings. Each “Regular Storage” volume can be configured with an independent schedule with the following parameters:
      i. The administrator shall be able to define the maximum number of days to store video for before being moved to the associated archive storage volume.
      ii. The administrator shall be able to define the number of days between archiving events.
      iii. The administrator shall be able to define the time of day for the archive event to begin.

7. The VMS shall allow the administrator to define backup storage volumes. The VMS shall copy video from a ‘Regular Storage” volume to the Backup storage volume on an administrator-defined schedule. A single or multiple backup storage volumes may be configured for the server.
   a. The user shall be able to specify the location of the backup storage volume. A backup volume can be defined as any drive letter and folder path on the server’s direct attached, mapped or iSCSI storage or any UNC path. This allows for defining a volume as C:\Video\ or \\StorageServer\Video.
   b. Multiple backup storage volumes can be defined for each recording server.
   c. The user shall be able to specify the number of days to keep backup recordings for before deletion from the backup storage volume. This can be separately specified for each backup storage volume defined.
   d. The user shall be able to specify the minimum free space on the backup storage volume which recordings cannot be written to.
   e. The administrator shall be able to associate a “Backup Only” volume to a single or multiple “Regular Storage” volume. Each “Regular Storage” volume will automatically copy the oldest video to the associated “Backup Only” volume in order maintain a duplicate set of files of the recorded video. Each “Regular Storage” volume can be configured with an independent schedule with the following parameters:

i. The administrator shall be able to define the maximum number of days to store video for before being copied to the associated backup storage volume.
ii. The administrator shall be able to define the number of days between backup events.
iii. The administrator shall be able to define the time of day for the backup event to begin.

8. The VMS shall provide the following configurable individual camera parameters for all cameras:
   a. Enabled. If disabled no recording will take place regardless if recording is enabled elsewhere in the system (e.g., schedule).
   b. Name.
   c. Video Size which sets the capture resolution (e.g., 640x480).
   d. Compression. Selectable from MJPEG, MPEG-4 or H.264.
   e. Video Quality sets the compression level used for the chosen compression type.
   f. Time Stamp Overlay imposes the date and time in the lower right corner of the video input.
   g. Camera Name Overlay imposes the camera name in the upper left corner of the video input.
   h. Analog cameras can be defined as color or black & white.
   i. Scheduled Recording FPS sets the video recording frame rate for scheduled, continuous recording.
   j. External Alarm FPS sets the video frame recording rate for external alarm events.
   k. Motion Detection FPS sets the video recording frame rate for motion detection events.
   l. The Camera adjustments button provides control of various parameters of any directly connected analog cameras. The signal adjustments include Brightness, Contrast, Hue, Saturation, Sharpness, Gamma, White Balance, Backlight Compensation and a Defaults reset setting.

9. The VMS shall provide automated, e-mail notification to one or more recipients when certain alarm events occur on a per camera basis. The VMS provides control of the following parameters upon which an e-mail may be sent:
   a. Event type which triggers e-mail notification. Configurable event types shall include Sync Loss (loss of video signal), Camera Sync Regained, External Alarm, and Motion Detection. Single or multiple events can trigger an e-mail notification.
   b. E-mail notifications can optionally include a JPEG still image from the associated camera. The administration can configure a delay period which specifies the number of seconds before the event occurs to capture a snapshot image.
   c. E-mail subject and recipient list. Multiple recipients' addresses may be specified.
   d. Notification limits shall be configurable specifying the maximum number of emails which can be sent for an individual event and the minimum time between events.

10. IP Camera configurations shall be configured specifically for each IP camera. Configuration options shall include:
   a. Camera manufacturer and model. Used to specify the communication driver for the IP camera or encoder.
   b. Camera address which can be specified as an IP address or Hostname.
   c. Camera ID used to specify the camera number when using a multi port encoder.
   d. Communication port numbers such as HTTP or RTSP port
   e. Camera username and password.
   f. Compression type (MJPEG, MPEG4 or H.264). Compression type is dependent on the camera manufacturer and model chosen.

g. The VMS shall provide the ability to record the original video stream from the IP camera/encoder or recompress the video (transcode) to any supported format (MJPEG/MPEG4/H.264)

11. The VMS shall provide a Generic (universal) driver for IP cameras and encoders not available in the supported camera list.
    a. The generic driver shall be able to pull individual JPEG snapshots at a configured interval via HTTP protocol.
    b. The generic driver shall be able to pull a standard Motion JPEG stream via HTTP protocol.
    c. The generic driver shall be able to pull a standard MPEG4 stream via RTSP over HTTP protocol.
    d. The generic driver shall be able to pull a standard MPEG4 or H.264 stream via RTSP/UDP.
    e. An Image Path parameter allows the administrator to specify the URL location of the JPEG snapshot, Motion JPEG stream or RTSP stream.

12. The VMS shall provide configuration support for Axis Communications cameras HTTP based event notification.
    a. The VMS shall provide user configuration of Axis Communications on-camera event alerts including Motion Events, Audio Events, Camera Tampering Events and On-Camera I/O Events.
    b. Motion Recording or Alarm Recording can be enabled for the duration of the event.
    c. An external script may be selected to be executed on event.

13. The VMS shall include a recording schedule planner that allows the setting of a recording schedule. Multiple schedules may be configured and each camera may have a unique recording plan within the schedule.
    a. The VMS shall allow for the configuration of multiple schedules.
    b. The VMS shall allow for a schedule to be run on a specific date, run on all weekdays, run on all weekends or to run every day.
    c. The VMS shall allow the administrator to clone a multi-camera schedule to reduce configuration time.
    d. The VMS shall allow for configuration of a unique recording plan for each camera within the schedule. The recording plan shall specify what types of recording should occur for each camera in a 24 (twenty four) hour period.
        1. Scheduled recording, motion recording, alarm recording and pre-alarm recording shall be configurable recording types within the recording plan.
    e. Each camera's recording plan shall be displayed graphically on a time line. Unique colors will represent the different recording types to allow for easy configuration and identification of recording type(s) running at a given time.
    f. The VMS shall allow for configuration of scheduled, alarm, motion and pre-alarm recording separately or allow combinations of those recording types to occur at the same time.
    g. Camera recording plans shall allow the administrator to configure recording times down to 1 (one) minute increments.
    h. The VMS shall allow the administrator to "copy and paste" individual camera recording plans to other camera to reduce configuration time.

E. Client Configuration

Client tiled view layout and map configuration is controlled through the System Configuration tool. Client configuration can be setup as a local configuration where the configuration is stored on a specific workstation or it can be

configured on a Config Server, where it is stored centrally and accessible from any network connected workstation.

1. The Client Configuration tool shall allow for the setup of users and groups that may access the client configuration. The users and groups must have a corresponding user/group setup on the VMS servers the video is sourced from.
   a. The Client Configuration tool shall allow for the creation of a new user / group. AD/LDAP shall be supported to allow importing of users and groups existing elsewhere on the network.
   b. A clone function shall be available to clone user / group configuration in order to limit redundant configuration steps.
   c. The Client Configuration tool shall support automatic start the client application normally or in full screen mode, sequence mode or both. This shall be configurable by user / group.

2. The Client Configuration tool shall allow the administrator to configure a hierarchical organization to contain view layouts and maps within. The hierarchy may consist of Zones and Sites used to organize individual or multiple view layouts and maps.
   a. The Zone shall be able to contain within it, other “Zone” folders as well as Sites.
   b. Sites shall be able to contain View Layouts and Maps.
   c. The VMS shall have no software imposed limit to the number of Zones and Sites which can be configured.
   d. Each Zone and Site shall have a customizable name, allowing for easy identification of what the structure represents.
   e. Each Zone and Site shall have individual user and group access rights. Users or groups of users who are not permissioned to view a Site or Zone shall not see the Site, Zone or any other Sites and Zone contained within a non-permissioned Zone.

3. The Client Configuration tool shall allow the administrator to add multiple VMS Recording Servers to the client configuration. Tiled view layouts and maps can be populated with cameras from a single or multiple recording servers.

4. The Client Configuration tool shall allow the configuration of unlimited tiled view layouts for the display of live video. Tiled view layouts can be configured per user or group. Up to 100 cameras can be auto setup for viewing on a target display in configurable grid arrangements.
   a. View layouts shall have no software imposed limitation on the number of cameras which can be viewed per target monitor.
   b. 4 x 3 or 16 x 9 (widescreen) or 9 x 16 target displays shall be supported
   c. 4 x 3 or 16 x 9 (widescreen) or 9 x 16 (Corridor View) video feeds shall be supported within the display. A mix of 4 x 3, 16 x 9 and 9 x 16 video tiles shall be configurable in a single view layout.
   d. Video feeds shall be added to a view layout by drag-and-drop of the selected camera to the ‘drawing surface’, which represents the target monitor.
   e. The video tiles shall be easily stretched, shrunk or moved by a snap-to-grip functionality. Layouts shall optionally be drawn free form without a snap-to-grid function.
   f. View layouts can be optionally added to a sequence with a configurable dwell time (in seconds).

5. The Client Configuration tool shall allow for the setup of map based display of video. Unlimited site maps can be configured per user or group.
   a. The Client Configuration tool shall support the import of unlimited JPEG or BMP files as maps.
   b. The Client Configuration tool shall support unlimited cameras per map.

c. Maps can be hyperlinked. Maps may be hyperlinked to unlimited levels.
d. The Client Configuration tool shall support drag-and-drop based configuration of maps, so that any other map as well as cameras can be positioned easily on the target map.
e. Separate icons shall be used to represent fixed and PTZ cameras for easy identification by system users.
f. A snapshot from the target camera shall be displayed on mouseover for easy identification of camera position and field-of-view
g. Each camera can be configured with a cone representing the camera's field-of-view. Cone angle, width and length may be controlled.

6. The Client Configuration tool shall allow the administrator to set which live viewing elements will be accessible to the user. The administrator shall be able to enable or disable the display of live view layouts, maps, Sites/Zones or servers & cameras from the VMS client user.

F. Live View Capabilities

The primary VMS Video Client application shall provide a comprehensive set of features for the monitoring of video. These features shall include:

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1. The VMS shall provide simultaneous recording, live view, playback and export of video.

2. The system shall be capable of displaying any number of live cameras concurrently per monitor. Video can be displayed on multiple monitors by opening multiple instances of the VMS Video Client. There shall be no software imposed limitation on the number of client applications open simultaneously.
   a. The VMS shall provide unlimited, customized viewing layouts per user.
   b. The VMS shall have the ability to display view layouts organized in a hierarchy of Zone and Site folders.
   c. VMS Video Client shall support widescreen or standard displays in both 4 x 3, 16 x 9 and 9 x 16 aspect ratios.
   d. The system shall support 16 x 9 aspect ratio cameras, 4 x 3 aspect ratio camera and 9 x 16 aspect ratio camera sources.
   e. The VMS shall be capable of displaying tiled video views in full screen mode and filling the entire screen.
   f. The VMS shall be capable of displaying a single camera full screen when the user double clicks the associated video tile.
   g. VMS Video Client shall provide full screen on demand or automatically on startup of the client.
   h. VMS Video Client shall allow the operator to toggle the title bar display on tiled view layouts.
   i. Provide custom display size for each camera individually.
   j. Allow changing view layouts via "dragging and dropping".
   k. VMS Video Client shall limit access to view cameras user by user.
   l. VMS Video Client shall provide adjustable frame rates individually by camera.
   m. VMS Video Client shall provide color indicators showing the real time status of motion detection, events and recording status on camera title bar display or as a colored border around the video tile.
   n. The user shall be able to change view layouts by clicking the desired administrator-configured view layout in the tree-view. The user shall be able to enter sequence mode where the VMS Video Client automatically switches between view layouts at preconfigured dwell times.

3. The VMS Video Client shall provide control of Pan-Tilt-Zoom (PTZ) cameras via on screen buttons, a virtual joystick or an attached USB joystick.
   a. VMS Video Client shall provide control of PTZ speed.

b. VMS Video Client shall allow enable/disable of automated PTZ tours.
c. VMS Video Client shall provide manual control of camera Iris, Focus, Auto Iris and Auto Focus.
d. VMS Video Client shall provide access to view any PTZ preset location if authorized.
e. VMS Video Client shall provide access to set PTZ preset location if authorized.

4. The system shall include "quick review" which buffers video from all cameras for instant replay. Quick review shall allow access to video from 30 seconds to 10 minutes back per camera. Quick review shall be accessible from tiled video displays and maps.

5. The VMS Video Client shall provide access to a mapping interface.
   a. Maps can be displayed full screen on demand.
   b. VMS Video Client shall provide controls to toggle the display of map hyperlink and camera labels.
   c. VMS Video Client shall provide controls to adjust the zoom level of the map.
   d. VMS Video Client shall provide a live video pop up window when a user hovers the mouse over a camera icon.
   e. VMS Video Client shall provide a pop up window with live video and PTZ controls when a user double clicks the camera icon.
   f. VMS Video Client shall display preconfigured field-of-view cones representing the cameras position and field-of-view.
   g. Field-of-view cones shall change color indicating motion events, external alarm events, camera status, and recording status.
   h. The user shall be able to navigate to multiple maps by double clicking a map icon located on the current map or by clicking on the desired map in a tree-view.
   i. The VMS Video Client shall have the ability to display maps organized in a hierarchy of Zone and Site folders.

6. The system shall provide functionality for the system operator to record cameras of interest as their own video feed in the VMS Video Client. This 'QuickTrack' functionality shall allow the user to drag and drop any accessible camera to a designated view area panel for recording. This function shall allow for easy review of tracking suspects or objects of interest across multiple cameras.

G. Recorded Video Playback and Search

The primary VMS Video Client application shall provide a comprehensive set of search tools for the investigation of security events.

1. The VMS Video Client shall provide single camera playback that includes:
   a. Playback clips from any camera on any server.
   b. Search by date/time.
   c. Video clips are color coded to indicate motion, event or scheduled recording.
   d. Video clips can be filtered by recording type. Users can specify to view only motion, external alarm or scheduled recordings, or any combination of those types.
   e. Playback controls shall include play, pause, rewind, fast-forward, frame advance, frame reverse, next clip and previous clip.
   f. VMS Video Client shall provide adjustable playback of up to 400% of original speed.
   g. VMS Video Client shall provide export to CD/DVD directly from client.
   h. VMS Video Client shall allow for export of clips to thumb drive or any location on disk.
   i. VMS Video Client shall allow taking of a snapshot that may be digitally zoomed, saved, printed, etc within the VMS Video Client.
   j. Snapshot shall include "smooth zoom" feature to significantly reduce pixilation introduced by digital zooming.

k. Video may be exported with an optional executable player that allows for verification that no tampering or modification has occurred on the exported video clips.

2. The VMS Video Client shall provide a Video Queue which allows for central access of "bookmarked" video clips.
   a. VMS Video Client shall allow multiple clips to be added to the video queue.
   b. VMS Video Client shall allow for unique text descriptions of each video clip.
   c. VMS Video Client shall allow for export of all video clips in the queue to CD/DVD directly in the VMS Video Client interface.
   d. VMS Video Client shall allow for export of all video clips in the queue to thumb drive or any location on disk.

3. The VMS Video Client shall provide "SmartSearch" which allows the user to search for video recordings with motion in a specified area of the cameras field-of-view. Using "Smart Search" the system will then identify any motion in the prerecorded video that is within the highlighted area.
   a. A single or multiple motion zones may be defined for searching.
   b. Clips shall become instantly available for playback while the search is on-going.
   c. User may specify a date/time range.
   d. User shall be able to set low, medium or high levels of motion to be detected.

4. The VMS Video Client shall support multi-camera playback that includes:
   a. Playback video from up to sixteen (16) cameras simultaneously.
   b. VMS Video Client shall support playback of cameras from a single or multiple recording servers.
   c. VMS Video Client shall provide a color coded bar graph showing when and what types of recordings are available from each camera.
   d. VMS Video Client shall provide standard playback controls including play, pause, rewind, fast-forward, frame advance, frame reverse, next clip and previous clip.
   e. VMS Video Client shall provide adjustable playback of up to 400% of original speed.
   f. VMS Video Client shall provide export to CD/DVD directly from client.
   g. VMS Video Client shall allow taking of a snapshot that may be digitally zoomed, saved, printed, etc.
   h. Recordings may be exported with an optional executable player that allows for verification that no tampering has occurred during the copy and export process.
      a. The VMS Video Player shall have the ability to playback between one (1) and sixteen (16) exported video clips simultaneously.

H. Pan-Tilt-Zoom Controls (PTZ)

1. The VMS shall provide the ability to control one (1) or more PTZ cameras using either analog or IP protocols. The following control protocols are supported at the time this specification was published:

ANALOG Protocol:

a. American Dynamics ASCII Continuous
b. American Dynamics Make/Break
c. Canon VCC-4
d. Kalatel
e. Immervision Panomorph lens
f. Panasonic WV-CS850 Conventional
g. Panasonic WV-CS850 New
h. Pelco ASCII

i. Pelco D
j. Pelco P
k. Philips Biphase
l. RVision
m. SAE
n. Samsung
o. Sensormatic
p. Sony VISCA EV1-D30/D31
q. Ultrak K6 (Diamond)
r. VCL
s. Vicon

IP Protocol:

t. ACTi
u. Axis Communications
v. Bosch BiCom
w. Bosch OSRD
x. Immervision Panomorph lens
y. Panasonic IP
z. Sony P5 IP
aa. Sony VISCA IP
bb. Toshiba IK-WB IP
cc. Toshiba IK-WB21A IP

2. The VMS shall be able to digitally Pan Tilt and Zoom any fixed camera using the same PTZ controls used for mechanical PTZ cameras.

3. The VMS shall be capable of automatically returning a PTZ camera to its specified Home position after a configurable period of inactivity.

4. The VMS shall be capable of controlling multiple user access to a single PTZ camera by a configurable user or group priority level (reference section D3). In the event a user attempts to control a PTZ camera when an equal or higher priority user is currently controlling the camera an "Arbitration Timeout" setting shall allow the administrator to specify the number of seconds VMS waits before relinquishing control to the second user.

5. The VMS software shall be capable of configuring preset tours for Pan Tilt and Zoom capable cameras. The PTZ Preset Tour shall automate camera movement between two or more preset locations. The VMS software shall be capable of configuring an individual PTZ tour for each PTZ capable camera. The PTZ Tour configuration options shall include:
   a. Up to 100 preset locations.
   b. Configuration of a dwell time between preset locations. The dwell time is the time the camera spends on a preset location before moving to the next location specified in the tour. Each preset location can have an individually configured dwell time.
   c. Enabled automatically or disabled on VMS startup.

6. The VMS shall be capable of automatically stopping a preset tour when a user attempts to control the camera.

7. The VMS shall be capable of automatically restarting the tour after a configurable period of inactivity.

8. The VMS shall provide an "Automated Attendant" feature. This allows programming of fixed cameras that detect motion to direct a PTZ camera to move and focus on a preset

location. This flexibility provides security coverage in multiple locations with multiple views. Parameters include:

a. The system can give “high priority” status to important locations so the view is maintained despite activity in lower priority areas.
b. Provide 10 (ten) motion zone priority levels.
c. Adjustable Hold Time prior to responding to a lower priority alarm.
d. Adjustable Dwell Time before cycling to a motion alarm with the same priority.
e. Zone Cycling which, when motion detection is detected in multiple zones with the same priority level, will alternate between the alarmed presets.

I. Motion Detection/External Alarms Capabilities

The VMS Recording Server and System Configuration tools shall provide a comprehensive set of tools for handling security alarms. The following features shall be available:

1. Motion detection shall provide multiple, configurable detection windows in the field-of-view.

2. The VMS shall allow the user to set the zones (areas) that the video motion detection engine should analyze for movement. The VMS shall provide control of the following parameters:
   a. Select Zone identifies a zone to add actions to.
   b. New Zone adds a new zone to be analyzed via the mouse.
   c. Erase Zone removes a selected single zone.
   d. Selected Zone sets the PTZ auto-attendant priority level for the selected zone.
   e. Actions button shall control display, add and remove actions for the PTZ auto-attendant.
   f. OK closes the window and saves the changes.
   g. Cancel closes the window while discarding any changes.

3. Motion detection shall be programmable with variable sensitivity levels.

4. External alarms shall trigger alarm recording. External alarm sources available include but are not limited to:
   a. Alarms from supported Video Analytic Systems.
   b. Alarms from supported Access Control Systems.
   c. Alarms from I/O devices. *[contact Salient Systems for list of supported devices]*
   d. Alarms from supported IP Cameras and Encoders.

5. The VMS shall allow the administrator the ability to program settings which control the software motion detection and external alarm recording behavior of the VMS. The VMS shall provide control of the following parameters:
   a. Pre-alarm/Pre-motion(s) shall set the number of seconds to capture video prior to the start of a video motion or external alarm event. Pre-alarm recording is selected in 5 second increments and is programmable from 0 seconds to 120 seconds prior to the alarm event.
   b. The VMS shall provide separate configurable post alarm or post motion event recording times. The post motion and post alarm settings are selected in 1 second increments and is programmable from 0 to 120 seconds after the motion or alarm event. The VMS shall provide a configurable Motion Sensitivity setting which selects the sensitivity level of the motion detection engine for the selected camera. The sensitivity scale is from 0 to 100 with a default of 80. Lowering this value shall decrease the sensitivity of the motion detection while increasing the value makes the motion detection more sensitive to change due to movement.

6. The VMS shall provide tools for the automatic control of a PTZ camera on motion or alarm event.
    a. On motion detection 1 or more PTZ preset positions may be shown across 1 or more cameras.
    b. Each motion window shall have an individual list of PTZ movements to control on event.
    c. Each motion window may control multiple separate PTZ cameras.
    d. There shall be no software imposed limit on the number of preset positions that can be controlled on a motion event.
    e. Each motion window may be prioritized so that in the event multiple windows trigger simultaneously, the highest priority window's associated actions take place. The priority level shall be selectable between 1 and 10. Lower values shall correspond to lower priority levels.
    f. The administrator shall be able to select whether Motion Zone actions take place only on the motion detection recording schedule or all the time.
    g. On PTZ capable cameras the camera may be directed to a preset position on alarm event prior to alarm recording.

J. Input/Output Devices

The VMS shall provide tools for the configuration of various IP and / or USB connected IO devices which can trigger alarm recording. The following features shall be available:

1. The VMS shall provide individual connection options for IP alarm I/O devices. There shall be no software imposed limit to the number of IP connected IO devices. The following parameters may be controlled:
    a. Device Model allows selection of the specific device model.
    b. Address (Hostname/IP) provides the IP address or hostname for the selected device.
    c. Username provides the username that the server will use to contact the device.
    d. Timeout controls how long, in seconds, the VMS should wait for a response to an initial HTTP request.
    e. Retries controls how many times the VMS should attempt to connect to the IP camera before declaring it unreachable.

2. The VMS shall provide control of recording actions when the state of the associated input changes. Each input on the associated device may have its own configurable recording actions. The following features shall be available:
    a. Each input can trigger recording on a single or multiple cameras.
    b. Multiple inputs can trigger recording on the same or different cameras.
    c. Alarm event triggers can occur when an input is closed or open, based on administrator configuration.

3. The VMS shall provide automatic control of the outputs associated with the I/O device. The following features shall be available:
    a. The output may be set to close or open on event.
    b. Events that can trigger output control shall be camera Sync Loss (signal loss), Motion Detection or External Alarm. Any combination of those shall be programmable.
    c. It shall be possible for the administrator to associate events from multiple cameras for automatic triggering of the output.
    d. When multiple events and/or multiple cameras are selected to trigger a single output any selected event on any selected camera shall trigger the output.

K. Audio Recording

The VMS shall be capable of recording audio with video through the use of VMS manufacturer supported audio capture adaptors (check with manufacturer for currently supported devices). Additionally the VMS shall be capable of capturing audio directly from supported IP cameras. The following features shall be available:

1. The VMS shall allow an audio stream to be assigned to an analog or IP video channel. The following parameters may be controlled:
   a. Enable Audio attaches an audio stream to a selected video source.
   b. Audio Source specifies which audio device to use.
   c. Channel allows assigning of either right or left audio channel if Split Channels audio mode is selected. This feature enables a single stereo audio input to provide two separate channels when using the appropriate adapter.

2. The VMS shall allow independent control of each audio capture adaptor device properties. The following parameters may be controlled
   a. Capture Quality is selectable from low, medium and high.
   b. Channel Mode selects the operation mode of the audio input from Mono, Stereo and Split Channels.

3. The VMS shall capture audio form supported IP cameras and encoders.
   a. The VMS shall capture audio synchronized with the video when recorded with MPEG4 or H.264 video streams.
   b. The supported audio format shall be G.711 μ-Law.
   c. The supported capture protocol shall be RTSP over HTTP or RTSP over UDP.

L. Alarm Video Monitoring

The VMS shall be capable of displaying video only when an alarm condition is present during user defined time periods through the VMS Alarm Client. In addition, a history will be maintained of the one hundred (100) most recent camera alarms. The video for any of these stored alarms may be recalled quickly and then displayed in a side-by-side display with live video from the associated camera.

1. The VMS Alarm Client shall display video from associated cameras on an external alarm event and/or motion detection event.

2. The VMS Alarm Client shall display a normally blank quad view. Video shall be displayed in the first available empty quadrant on event.

3. Multiple cameras may be associated with the VMS Alarm Client for monitoring. There shall be no software imposed limit to the number of cameras which can be monitored.

4. The VMS Alarm Client shall maintain a history list of the last 100 alarm or motion events. Quick recall of recent alarms shall be possible via a double click on any event in the Alarm Event list to open a new alarm review window that displays both the recorded alarm video and the live video from the camera. PTZ controls are displayed for live PTZ cameras.

5. Cameras from a single or multiple recording servers may be monitored simultaneously in the VMS Alarm Client.

6. Each camera or group of cameras from a single or multiple servers may be monitored on a schedule. The schedule can define when to perform monitoring of alarm events and/or motion events on the associated cameras. Schedules can be configured graphically with

different colors representing alarm and motion events on a timeline. Multiple schedules may operate simultaneously.

7. There shall be no software imposed limit on the number of cameras which can be monitored by a single instance of the VMS Alarm Client. There shall be no software imposed limit on the number of VMS Alarm Client which can operate simultaneously on a single workstation.

8. The VMS shall maintain a log of the last 500 alarm events.

M. Pop Up Event Notification

The VMS shall be capable of displaying video popup windows on external alarm or motion detection event using the VMS SpotLight application. The VMS SpotLight application shall be usable as a stand-alone client application or in conjunction with other VMS client applications to add video popup and audio alerts on event.

1. The VMS SpotLight application shall display video from associated cameras on an external alarm event and/or motion detection event.

2. The VMS SpotLight application shall run in the Windows System Tray, and not be otherwise visible or use desktop space until an external alarm event and/or motion detection event occurs.

3. Multiple cameras may be associated with the VMS SpotLight application for monitoring. There shall be no software imposed limit to the number of cameras which can be monitored.

4. Cameras from a single or multiple recording servers may be monitored simultaneously in the VMS Alarm Client.

5. Multiple monitors shall be supported and the VMS SpotLight application shall be configurable so the user can select which monitor and corner of the screen to display video popup windows in.

6. Individual sound clips (WAV files) can be configured for single or multiple cameras to play when an external alarm and/or motion detection event occurs. Each camera configured for monitoring can have a different sound clip associated to it, or no sound at all.

7. The VMS SpotLight application shall display on top of any open window on the monitor/corner of the screen configured to be used by the client. The action of displaying on top of other windows shall not take over keyboard focus from other applications the user may type in at the time of a popup event.

8. The VMS SpotLight application shall be configurable so each camera can popup in a user configurable corner of the screen or full screen and on any combination of monitors connected to the computer, up to 8 simultaneously.

9. The VMS SpotLight application shall have a text based alerts mode optionally available to the user. In text alert mode, the user will see text alerts describing the camera, associated recording server and event type on an event in place of video. The user will be able to click the text alert to display video of the event.

N. Remote Web Video Monitoring

1. The VMS shall allow authorized users to remotely view live video, playback recorded video and export video via Microsoft Internet Explorer, Mozilla FireFox and Google Chrome.

2. The VMS shall provide its own web server software fully integrated and not require a 3rd party web server such as Microsoft IIS or Apache be used for the web client functionality. This shall provide a higher level of security and easier configuration as compared to integrating with a 3rd party web server application.

3. There shall be no software imposed limitation on the number of simultaneous connections to the Web Client.

4. Log-in and authentication is required when connecting to the system.

5. The VMS Web Client shall provide single camera playback that includes:
   a. Search by date/time.
   b. Video clips are color coded to indicate motion, event or scheduled recording.
   c. Video clips can be filtered by recording type. Users can specify to view only motion, external alarm or scheduled recordings, or any combination of those types.
   d. Standard playback controls shall include play, pause, rewind, fast-forward, frame advance, frame reverse and a scrub bar to control the playback position.
   e. The playback window size can be scaled by user controllable buttons to a larger or smaller size.
   f. Shall provide adjustable playback speed.
   g. Shall allow for export of clips to thumb drive or any location on disk.
   h. Shall allow taking of a snapshot that may be to thumb drive or any location on disk.

6. The VMS Web Client shall provide extensive live viewing functionality to include:
   a. Switch viewing among four (4) live camera layouts (single camera, quad view, 9 camera 3x3, 16 camera 4x4).
   b. The user shall be able to customize the live view layouts independently of any other users. The layouts shall be customized by dragging-and-dropping of cameras the user has permission to access to the desired viewing tile.
   c. A “Quick Review” function shall be included allowing the user to instantly replay video from between 30 seconds and up to 10 minutes prior to the live video.
   d. The live view layout size can be scaled by user controllable buttons to a larger or smaller size. PTZ capable cameras shall be indicated as such by a dome camera icon in the video tiles title bar.

7. The VMS Web Client shall provide Pan Tilt and Zoom camera controls that include:
   a. On click of a PTZ capable camera the PTZ controls shall be displayed.
   b. PTZ camera movement can be controlled by control buttons (Up, Down, Left, Right, Up Right, Up Left, Down Right, Down Left, Zoom in & out).
   c. PTZ preset positions can be set or shown by the user (provided they have been granted permission to access the preset positions).
   d. PTZ camera speed can be controlled.

O. Mobile Device Video Monitoring

1. The VMS shall be compatible with client viewing applications available for Android, iPhone and iPad platforms.

2. The VMS mobile client shall support viewing of live video via multiple, customizable view layouts.

a. The VMS mobile client shall support displaying view layouts in both portrait and landscape viewing modes.

3. The VMS mobile client shall support playback of recorded video.

    a. VMS recording server, camera, date & time of the recording and recording type (motion, scheduled and alarm) shall be searchable criteria
    b. The VMS mobile client shall provide a scrub bar control to provide a means of quickly moving through the recorded clips.
    c. The iPhone / iPad based VMS mobile client shall support fast forward, skip to beginning/end of clip, pause and play controls for playback of recordings

4. The VMS mobile client shall support Dynamic Resolution Scaling, which requires the VMS recording server to transmit only the resolution necessary to display on the mobile device, reducing the bandwidth consumed for live display of video.

5. The VMS mobile client shall support Pan Tilt and Zoom camera control.
    a. The VMS mobile client shall provide PTZ control buttons including move up, down, left, right, up left, up right, down left, down right, zoom in & out.
    b. The VMS mobile client shall support showing preset positions preconfigured on the VMS recording server.

P. Video Proxy

1. The VMS Video Proxy shall be a Windows server service which can be a single point of Web Client connection requests for video from to any of multiple recording servers.
2. The VMS Video Proxy shall allow Web Client users to access video feeds recording to multiple separate VMS recording servers in a single web based interface.
3. The VMS Video proxy shall have no software imposed limitation on the number of users or VMS recording servers which can be configured and access from a single Video proxy instance.
4. The VMS Video proxy shall allow for configuration of CompleteView server users, groups and users & groups imported form Active Directory.
5. The VMS Video Proxy shall allow for per-user customization options, allowing for custom web interface branding for each user. Customizable web interface elements shall be:
    i. Page title
    ii. Header text and logo
    iii. Error message
    iv. Display of recording server detail.
    v. Display name of recording servers.
6. The VMS Video Proxy shall allow for Android and iOS (iPhone / iPad) client connection in addition to Web Client based connections.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine area to receive devices and notify any adverse conditions affecting installation or subsequent operation.

B. Do not begin installation until unacceptable conditions are corrected.

3.2 PREPARATION

A. Protect devices from damage during construction.

3.3 INSTALLATION

A. Install devices in accordance with manufacturer's instruction at locations indicated on the floor drawing plans.

B. Perform installation with qualified service personnel.

C. Install devices in accordance with the National Electrical Code or applicable local codes.

D. Ensure selected location is secure and offers protection from accidental damage.

3.4 FIELD QUALITY CONTROL

A. Test snugness of mounting screws of all installed equipment.

B. Test proper operation of all VMS devices.

C. Determine and report all problems to the manufacturer's customer service department.

3.5 ADJUSTING

A. Make proper adjustment to video system devices for correct operation in accordance with manufacturer's instructions.

3.6 DEMONSTRATION

A. Demonstrate at final inspection that the VMS is functioning properly.

EXHIBIT B - POWERPRO R SPECIFICATIONS

SALIENT SYSTEMS

Simple.Scalable.Security

PowerPro
PowerPro-R

Salient Systems hybrid NVR's are industry leading, value oriented digital video surveillance systems. Power-built for the rigors of continuous duty operation using advanced components, the 4U rack-mountable PowerPro and PowerPro-R (RAID) deliver the reliability and processing power required by mission critical video surveillance.

The PowerPro and the PowerPro-R are hybrid NVR's featuring Intel Core I7-2600 processors 8GB DDR3 SDRAM memory and 32 channel direct connect analog camera support. Increased storage capacity ranging from 1TB up to 15TB make the PowerPro and PowerPro-R simply the best choice for high performance, low cost video management systems.

Features

- Record, playback, live view, and archive video
- Hybrid NVR for analog and IP cameras
- 32 Channel direct connect analog support
- New Gen II capture technology
- Front accessible HDD tray for hot-swap
- Locking front panel - prevent unauthorized access
- Sliding rail kit for 4 post rack included

Tech Specs at a Glance

CPU	Intel Core i7-2600 Processor 8MB Cache, 3.40 Ghz
Memory	8GB DDR3 SDRAM
Storage	Seagate SV Series 1TB or 3TB SATA, 7200 RPM, 64MB Cache
Power	SeaSonic S12II 620 Bronze 620W ATX12V
Windows OS	Windows 7 Professional 64 Bit

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TECHNICAL SPECIFICATION

PowerPro
PowerPro-R

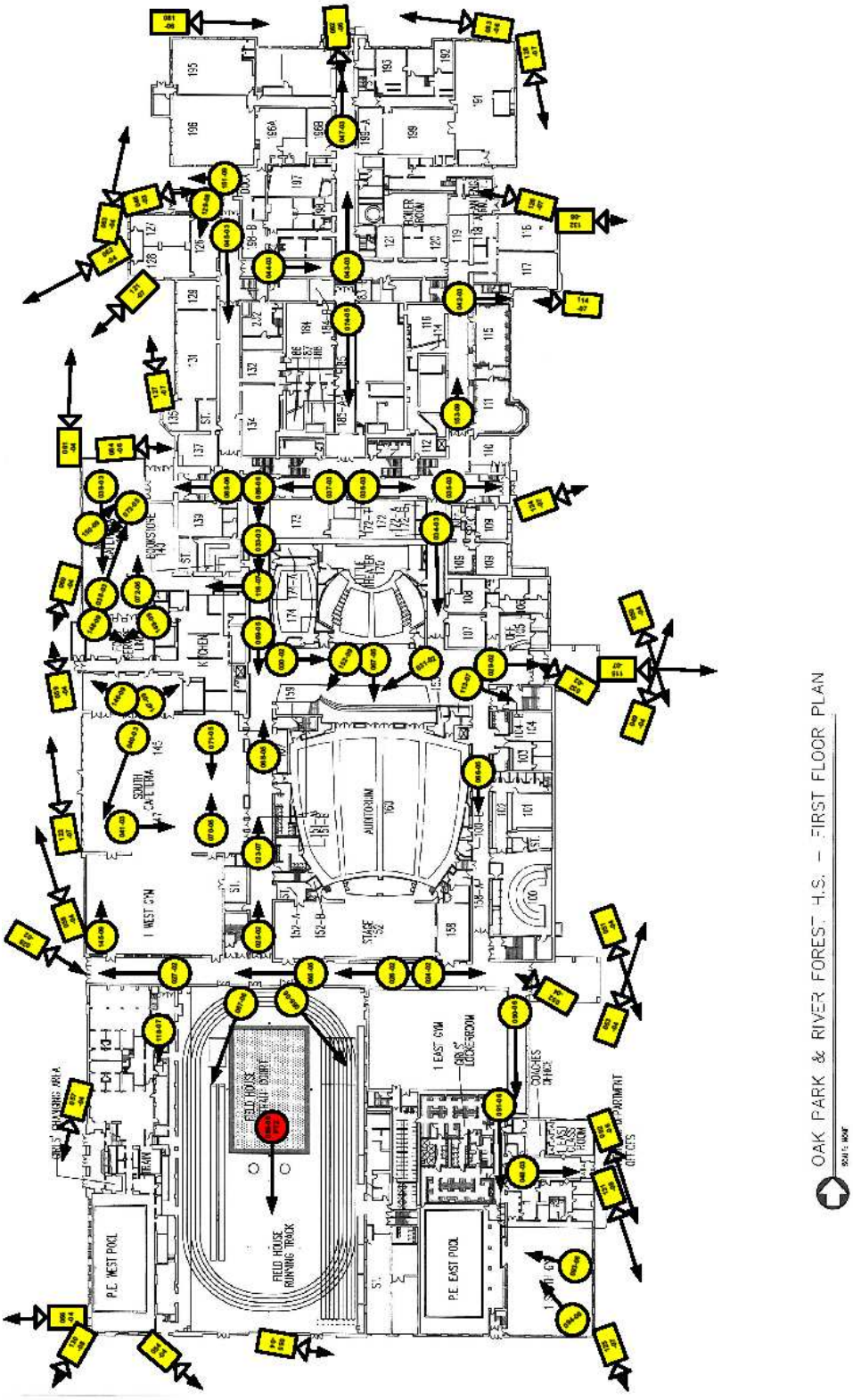
Item	Description
Processor	Intel Core I7-2600 Processor 8MB Cache, 3.40 Ghz
Motherboard	Intel BOXDZ77BH55K LGA 1155 Intel Z77 HDMI, DP, SATA 6Gb/s USB 3.0 ATX
Chipset	Z77 chipset
Memory	Crucia 8GB (2 x 4GB) 240-Pin DDR3 SDRAM DDR3 1600 (PC3 12800) Desktop Memory Model CT2KIT51264BD160B
DVD	External USB attached DVD-RW (optional accessory)
Network controller	Intel 82579V Gigabit Ethernet Controller
RAID controller	PowerPro-R only: 3ware Internal 9750-8i SATA/SAS 6Gb/s PCI-Express 2.0 w/ 512MB onboard memory Controller Card, Single
I/O ports	Front: 2 USB 2.0, Rear: 5 Port Audio s/PDIF, IEEE 1394a Port, eSata Port, 4 USB 3.0 ports, 4 USB 2.0 Ports
Hard Drive (OS)	500GB 7200 RPM 16 MB Buffer 6GB/S SATA 3.5 inch Barracuda ES
Hard Drive (video)	1TB - ST1000NM0011 - 1TB ES Constellation Series Enterprise Drive SATA 6Gb/s 64 MB Cache 2TB - ST32000645NS - 2TB ES.2 Constellation Series Enterprise Drive Sata 6Gb/s 64MB Cache 3TB -ST33000650NS - 3TB ES.2 Constellation Series Enterprise Drive SATA 6Gb/s 64MB Cache
Graphics Board	SAPPHIRE Radeon HD 5450 1GB 64-bit DDR3 PCI Express 2.1 x16 HDCP Ready Low Profile Ready Video Card
Chassis Features	
Form Factor	4U Rack Mountable
Dimensions	20.5" W x 16.9" D x 6.9" H
Drive Bays	5
Expansion Slots	3 - Full Height PCIe 2.0 x 1 slots 2 - Full Height PCI slots 2 - Full Height PCIe 3.0 x 16 slots
Operating Environment	0° to 50° C (32° to 122° F)

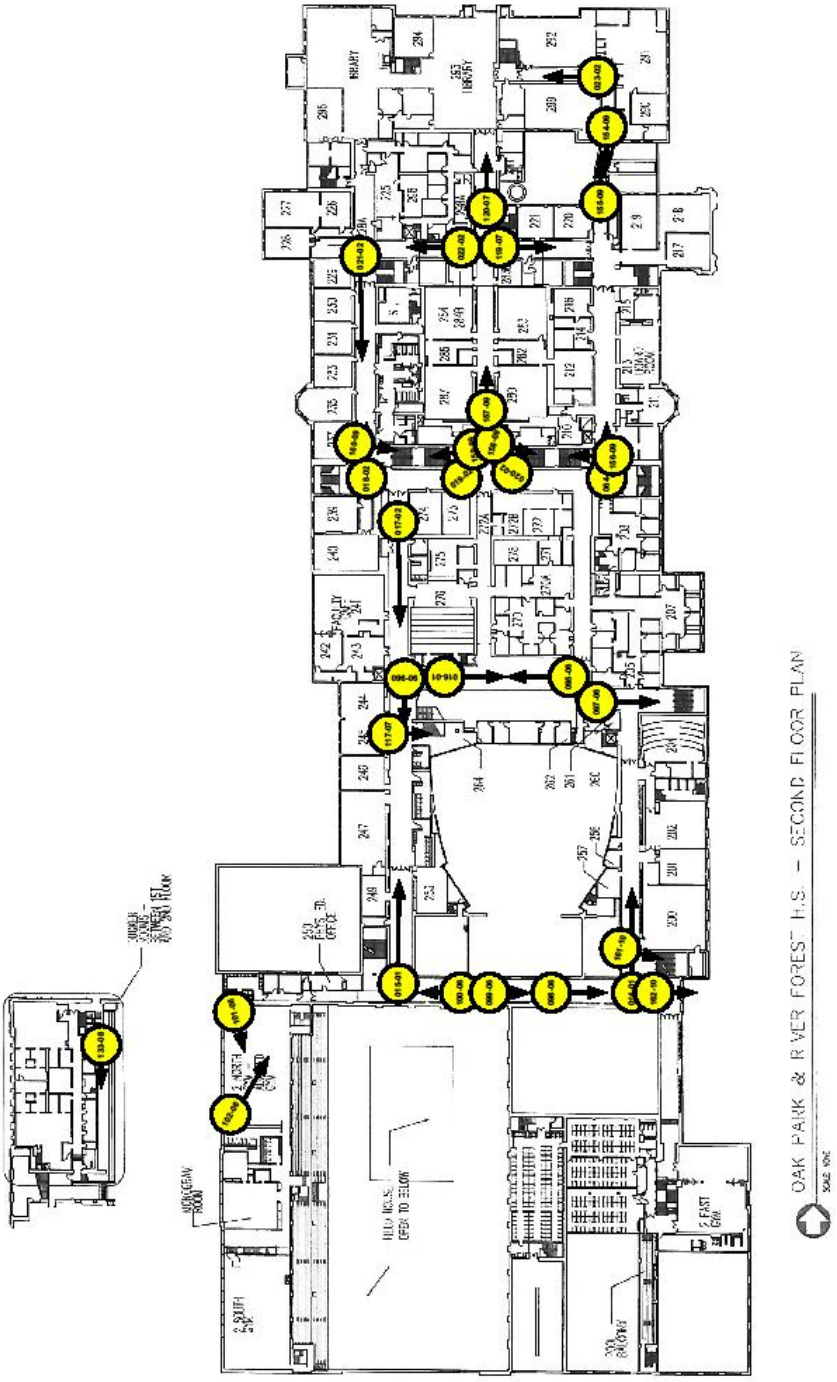
HOW TO ORDER

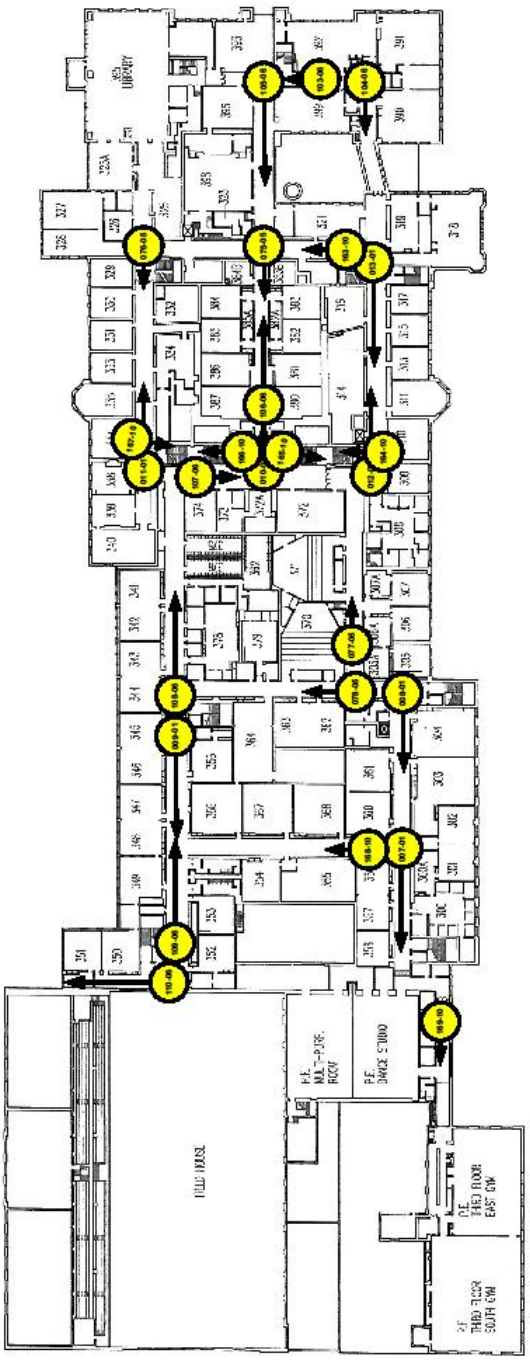
Purchase: orders@salientsys.com

Pricing: sales@salientsys.com

EXHIBIT C - CAMERA LAYOUT




OAK PARK & RIVER FOREST H.S. – SECOND FLOOR PLAN



OAK PARK & RIVER FOREST H.S. – THIRD FLOOR PLAN

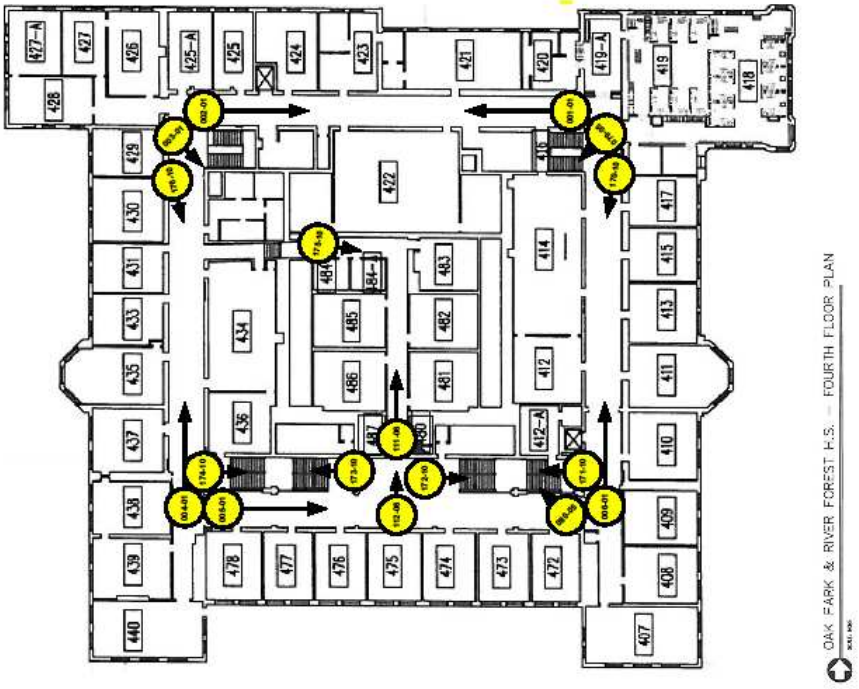

OAK PARK & RIVER FOREST H.S. — FOURTH FLOOR PLAN

EXHIBIT D - CERTIFICATE OF ELIGIBILITY TO PROPOSE

_____ (the "Contractor"), pursuant to Section 33E-1 et seq. of the Illinois Criminal Code of 1961 as amended, hereby certifies that neither (he, she, it) nor any of (his, her, its) partners, officers, or owners of (his, her, its) business has been convicted in the past five (5) years of the offense of bid-rigging under Section 33E-3 of the Illinois Criminal Code of 1961 as amended, that neither (he, she, it) nor any of (his, her, its) partners, offices or owners of (his, her, its) business has ever been convicted of the offense of bid-rotating under Section 33E-4 of the Illinois Criminal Code of 1961 as amended, that neither (he, she, it) nor any of (his, her, its) partners, officers, or owners of (his, her, its) business has been convicted in the past five (5) years of the offense of offering or providing any kickback under Section 33E-7 of the Illinois Criminal Code of 1961 as amended, and that neither (he, she, it) nor any of (his, her, its) partners, offices or owners of (his, her, its) business has ever been convicted of the offense of bribery under Section 33E-8 of the Illinois Criminal Code of 1961 as amended.

_____
Name of Company

_____
By (Name and Title)

_____
Date

EXHIBIT E - PROJECT QUALIFICATION FORM

Per The Oak Park and River Forest High School Board of Education, a responsible vendor is defined by meeting the following criteria and is able to submit evidence of such compliance. By signing this required form, the undersigned agrees that said vendor is responsible as defined below.

PREVAILING WAGE

The contractor shall comply with the present Prevailing Wage Act (820 ILCS 130) which provides that no less than the prevailing rate of wages, as founded by the Department of Labor, shall be paid to all laborers, workmen and mechanics performing work on this contract. The most current list of prevailing wages can be obtained without charge by writing the Conciliation Mediation Service, Illinois Department of Labor, 705 Stratton Office Building, Springfield, Illinois 62706.

SEXUAL HARRASSMENT

Each vendor certifies that he has complied with the requirement of 2-105 of the Illinois Human Rights Act (775ILLs5/2-105)-1257) with respect to sexual harassment policies. The terms of that law, as applicable, are hereby incorporated into this contract.

DRUG FREE WORKPLACE

The vendor or contractor, having 25 employees or more, does hereby certify pursuant to Section 3 of the Illinois Drug-Free Workplace Act (30ILCS580/3) that he shall provide a drug-free workplace for all employees engaged in the performance of work under the contract by complying with the requirements of the Illinois Drug-Free Workplace Act and, further certifies that he is not ineligible for award of this contract by reason of debarment for a violation of the Illinois Drug-Free Workplace Act.

NON-DISCRIMINATION AFFIRMATION

Vendors must assure that all persons employed by the vendor, and all applicants for such employment, will not be discriminated against because of their race, religion, nationality, gender, disability, physical characteristics or sexual orientation. Vendor must also comply with all rules and regulations of the Illinois Department of Human Rights, Illinois Human Rights Commission and the Equal Employment Opportunity Commission.

STRUCTURAL WORK ACT

Vendor shall comply with all pertinent provisions of the Structural Work Act, (Ill.Rev.Stat., ch. 48, pars. 60-69).

CONFLICT OF INTEREST

By signing below, vendor certifies that they are in accordance with the School Code, and the Public Officer Prohibited Practice Act, 50 ILCS 105/0.01 et seq., no Board of Education member or District employee shall be directly or indirectly involved or own an interest in any contract, work, or business of the District, or in the sale of any article by or to the District.

Signed: _____Name (printed):_____

Title: _____ Company Name: _____

Address: _____

Telephone Number: _____Date: _____

EXHIBIT F - CONTRACTOR'S INFORMATION SHEET

Name of Company Preparing Proposal:_____

Street Address: _____

City, State, Zip: _____

Telephone Number: _____ Fax Number: _____

Name of Person Submitting Proposal: _____

Chicago Area Office

Contact Person: _____

Phone Number: _____

Street Address: _____

City, State, Zip: _____

The cost of any maintenance agreement during the warranty period must be included in the contract price.

I do hereby affirm that I am duly authorized as a representative of the stated corporation to legally offer as stated. The offer as stated is guaranteed to remain in effect until _____, 2013.

Signed: _____

Date: _____

EXHIBIT G - References

1. **Reference Name:** Relationship:
   Title:
   Company Name:
   City, State:
   Phone:
   e-Mail:
   Fax:

2. **Reference Name:** Relationship:
   Title:
   Company Name:
   City, State:
   Phone:
   e-Mail:
   Fax:

3. **Reference Name:** Relationship:
   Title:
   Company Name:
   City, State:
   Phone:
   e-Mail:
   Fax:

4. **Reference Name:** Relationship:
   Title:
   Company Name:
   City, State:
   Phone:
   e-Mail:
   Fax:

5. **Reference Name:** Relationship:
   Title:
   Company Name:
   City, State:
   Phone:
   e-Mail:
   Fax:

EXHIBIT H - PROPOSAL

Oak Park and River Forest High School
SALIENT VIDEO MANAGEMENT SYSTEM
Oak Park, Illinois

The undersigned Contractor, in compliance with your notice to Contractor for the equipment at Oak Park and River Forest High School in Oak Park, Illinois, having examined specifications and related documents, and site of the proposed project, hereby proposes to furnish the Salient Video Management System as described in the specifications. These prices are to cover the specified equipment, delivery charges and service charges required to satisfy the warranty.

Work is not to commence before July 1, 2013 and is to be complete by August 9, 2013

Total Project cost as stated in RFP specifications

$_____

Optional maintenance agreement cost for 2nd year $_____

Respectfully submitted,

_____ _____
Company Name Telephone Number

_____
Authorized Signature

_____
Business Address

_____
Date