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Thursday, January 25, 2018

David A. Sandloop
Procurement Specialist III
2501 James Madison Boulevard
Virginia Beach, VA 23456

RE: Proposal for Correctional Center Master Control Upgrade (Project 3-523)

Dear Members of the Selection Committee:

Axis Global Enterprises, Inc. DBA ASI Security respectfully submits our detailed proposal to the City of Virginia Beach and the Virginia Beach Sheriff's Office (VBSO). We have assembled a team of the best SWAM Virginia-based companies to provide the Sheriff's Office with an unparalleled solution. Our team has installed and maintained the current master control system for the City of Virginia Beach Correctional Center for around the past 15 years. No other company has the in-depth onsite knowledge and can offer a more cost-effective solution that guarantees zero down time and a smooth transition from the current to new state-of-the-art systems. Axis Global Enterprises, Inc. is a local Virginia Beach based DBE/SWAM/MBE/SDVOSB company and is experienced and ready to perform today.

Our team is primed and ready to work closely with the VBSO to upgrade the Integrated Security Control System and Master Control Room for the City of Virginia Beach Correctional Center. Through careful planning, design and execution we will deliver a state-of-the-art, fully integrated, future-proof, non-proprietary solution with the highest level of security and safety demanded by the VBSO. We will leverage our diligence, security culture, extensive experience and trusted network of service partners to deliver a solution that fits the needs of the Virginia Beach Sheriff's Office.

Our fully-engineered, custom-built solution represents the best value to the City of Virginia Beach and Virginia Beach Sheriff's Office and will provide multiple benefits, including:

- ✓ Enhanced access to Critical Inmate Movement information and enhanced Deputy Safety
- ✓ Non-proprietary solutions which enhance your Operations and Control while Reducing Cost
- ✓ Future-Proof Technology that will adapt to your changing needs over time
- ✓ With the approval of the VBSO, the post award planning study will be submitted to the Virginia Department of Corrections and Virginia Board of Corrections with the objective of obtaining approval for reimbursement of up to 25 percent of the value of upgraded work.

We welcome the opportunity to build a partnership with the Virginia Beach Sheriff's Office Team. Through an efficient and professional process, we are ready to support the VBSO in their highly-critical security responsibilities and overall mission of providing for the Public Safety of the Citizens of Virginia Beach, the officers and staff of the VBSO and the population of the correctional center. We look forward to delivering a reliable, non-proprietary, future-proof solution designed and engineered to complement and enhance the security posture while simultaneously helping to improve safety and cost-efficiencies.

Sincerely,


Ross D. Vierra
President / CEO
Axis Global Enterprises, Inc. dba ASI Security
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Class A General Contractor / DCJS #11-8792 / SDVOSB / DBE SWaM MBE / SBA 8(a)

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Correctional Center Master Control Upgrade Plan

Axis Global Enterprises, Inc. dba ASI Security (ASI Security) is a true Systems Integrator—a team comprised of hand-selected, qualified and proven individuals, ready and able to provide the comprehensive solution required by the City of Virginia Beach for the Correctional Center Master Control Upgrade. Our team is individually and collectively committed to providing an unparalleled solution that will not only meet the current and future needs of the Virginia Beach Sheriff’s Office, but exceed them. We will provide a system that gives the Sheriff’s Office a solid foundation on which future technology can be expanded upon.

We have thoroughly reviewed the existing Security System and Master Control Room and will provide an optimized, forward-thinking system which will meet the current needs while subsequently allowing for future requirements and growth. Our proposed solution is a state-of-the-art Integrated Control System. It is Non-Proprietary, easy to maintain and will provide for a Safe and Secure Facility.

AXIS GLOBAL ENTERPRISES, INC DBA ASI SECURITY — PROJECT TEAM	
COMPANY	KEY PROJECT PERSONNEL
Axis Global Enterprises, Inc (<i>proposing firm</i>)	Ross Vierra, CEO/President Hank Koebler, VP Integrated Systems Dale Baker, Project Manager
ESITECH, Inc.	Jeffrey Power, President/Senior Hardware Engineer David Sizemore, Chief Technology Officer Glenn Rudolph, Senior Project Manager
RRMM Architects, PC	Mathew Astrin, Principal/Senior Project Manager Brian Wolf, Project Architect Jason Sturniolo, BIM/3D Scanning
Technical Consultant	Dennis Free, Public Safety Consultants

Dennis E. Free, Public Safety Consultants, has been retained as our Technical Consultant for the duration of the project. He will serve as a liaison between the Virginia Beach Sheriff’s Office and our team, advising us on best practices to maximize efficiency while minimizing disruption to facility operations. Having served as both Chief Deputy and Undersheriff for the Virginia Beach Sheriff’s Office and having extensive knowledge of the Correctional Center, Dennis will be an invaluable resource for this project.

OUR UNDERSTANDING OF YOUR EXISTING SYSTEM

Our understanding of the existing system is unmatched by any competitor. To bring the best value to this project, we have partnered with ESITECH, Inc. (ESITECH)—the existing security control system manufacturer. This gives us the in-depth knowledge and understanding of the security systems which no other team can provide.

The original Security Systems Integrator for the Virginia Beach Correctional Center, ESITECH, has intimate knowledge of the buildings and its current security systems. The system was cutting-edge technology in 2004 when the new Jail was turned over to the City—however, this system is now antiquated, with several sub-systems either obsolete or nearing obsolescence. The existing Security Control System is comprised of the following sub-systems:

1. Touchscreen Control Workstations on 10Gb 3-COM Fiber/Copper Network
2. Programmable Controller (PLC) based Door Locking and Axillary Control System
3. Intercom/Paging System
4. Video Management System
5. Card Access Control System

1. Touchscreen Control Workstations on 10Gb 3-COM Fiber/Copper Network			
Locations	Building C - CC1-4 (Master Control) Building C - 2A-F Building C - 3A-F	Building B - CC2.1 Building B - CC2.2 Building B - CC2.3	Building A - B1 Building A - B2 Building A - B3
Issues	<ul style="list-style-type: none"> • Current Security Software will not run on Windows 7/10 machines 		
2. Programmable Controller (PLC) based Door Locking and Axillary Control System			
Current GE 90-30 PLC Controller Locations	Building C: CC1-4 (Master Control) Building C: Booking Building C: 2A-F	Building C: 3A-F Building A: CC1.1A Building B: CC2.1	Building B: CC2.2 Building B: CC2.3
Issues	<ul style="list-style-type: none"> • CPUs are designated as End-of-Life (EOL) by GE 		
3. Intercom/Paging System			
Locations	Head Ends are located in Master Control (E) Security Room		
Issues	<ul style="list-style-type: none"> • Current Telecor T3 Analog System • Limited Multi-channel capability results in blocked communications in some areas • Analog legacy bus network prone to failure 		
4. Video Management System (VMS)			
Locations	Head Ends are located in Master Control (E) Security Room		
Issues	<ul style="list-style-type: none"> • Current VICON Analog Matrix System • Hybrid VICON DVR System (recently replaced with Digital NVR system and encoders) • Analog Cameras • Analog Matrix System is obsolete with new parts no longer available 		
5. Card Access Control System			
Locations	Head Ends are located in Master Control (E) Security Room		
Issues	<ul style="list-style-type: none"> • Current Infographics Sapphire System • Infographics Purchased by GE Security • Discontinued product with no new parts available 		

* See Master Control Upgrade Plan Diagrams at the end of this section for more information

NEW INTEGRATED CONTROL SYSTEM (ICS)

Our proposed Integrated Control System (ICS) will meet and exceed all current requirements while subsequently enabling Future Expansion as the Virginia Beach Sheriff's Office operations evolve over time.

Future-Proof Technology

- **Open Architecture** (non-proprietary software / operating) on ALL components of the New, Fully-Integrated Control System (Camera Systems, Intercoms, Paging Speakers, Card Access Readers, Electric Cell Door Controls and optional Jail Management System).

- **Built-In Network Reserve** with an included Growth Capacity of at least 20% and Unlimited Future Expansion capabilities.
- **Anyone can work on this System.** By providing a Non-Proprietary System, the Virginia Beach Sheriff's Office has the ability to make additions, upgrades and changes down the road and may select any vendor/integrator for work in the future (though we are confident we will earn, maintain and build their trust through this project).

NEW MASTER CONTROL ROOM RENOVATION

Our proposed remodel will improve the conditions of the security staff, enabling them to effectively and efficiently operate the day-to-day activities of the facility. Our design provides enhanced Functionality and Staff Comfort, while simultaneously maintaining the critical security of the inmate population and facility staff. Our design includes new furnishings, fixtures and equipment to improve ergonomics for staff occupancy 24 hours a day, 7 days a week, 365 days a year.

Improved Efficiency

- **Improved Workflow** — New, ergonomically-enhanced Workstations and improved layout will result in improved organization, increased order and a more efficient workflow.
- **Less Effort with more Precision** — Interactive Touchscreen technology will give staff greater visibility and control while simultaneously reducing operator error and data entry.
- **Ease of Use** — The process of Data Retrieval is made easier and more accessible, giving staff more time to focus on operating the day-to-day activities of the facility.

Improved Functionality

- **Expanded Range of Operations** — Our plan for the Master Control Room allows for an Expanded Range of Operations at each workstation, thereby enabling staff to effectively operate the day-to-day activities of the facility.
- **Better, Stronger, Faster and Simpler** — Higher-powered system with easier interface allows for maximized ease-of-use.
- **Reduced Time on Task** — Our new Layout and Design plan allows for enhanced workflow and function, staff movement and accessibility, thereby reducing the time needed to efficiently and effectively perform each task.

Improved Staff Comfort

- **Improve Overall Well-Being** — By providing a better physical working environment (remodeled control room, ergonomically-improved furniture, better lighting and better acoustics), staff will be more comfortable, thus enabling them to respond better, with greater insight and awareness, which in turn will improve their physical, physiological and psychological well-being.
- **Reduced Stress** — The improved work environment and ease-of-use will produce a better work life while simultaneously reducing the risk for potential life-threatening errors.
- **Improved Physical Comfort** — Our plan is designed to strengthen and improve operator ability, thereby enabling staff to perform assigned duties in a more enjoyable office setting.

Improved Ergonomics

- **Improved Performance with Minimized Human Error** — The Master Control Room renovation includes NEW: workstations and workstation layout; Controls and Displays; Screens and Cameras; Monitors; Alarms and Warnings; and Lighting. This comprehensive system will improve the operators' workflow, decision-making processes and response success.

- **Improve Productivity** — Our re-designed Master Control Room includes more efficient workstations for security staff: reduced contrast between foreground and background; repositioned/remodeled workstations; neutral color scheme; and lighting adjustments. This allows for improved posture, reduced fatigue, fewer motions and improved heights and reaches.
- **Human Machine Interface (HMI)** — Incorporating current best practices and guidelines, our proposed solution will improve the way staff processes and responds to information and events, improve safety procedures, improve overall facility operations and increase productivity.

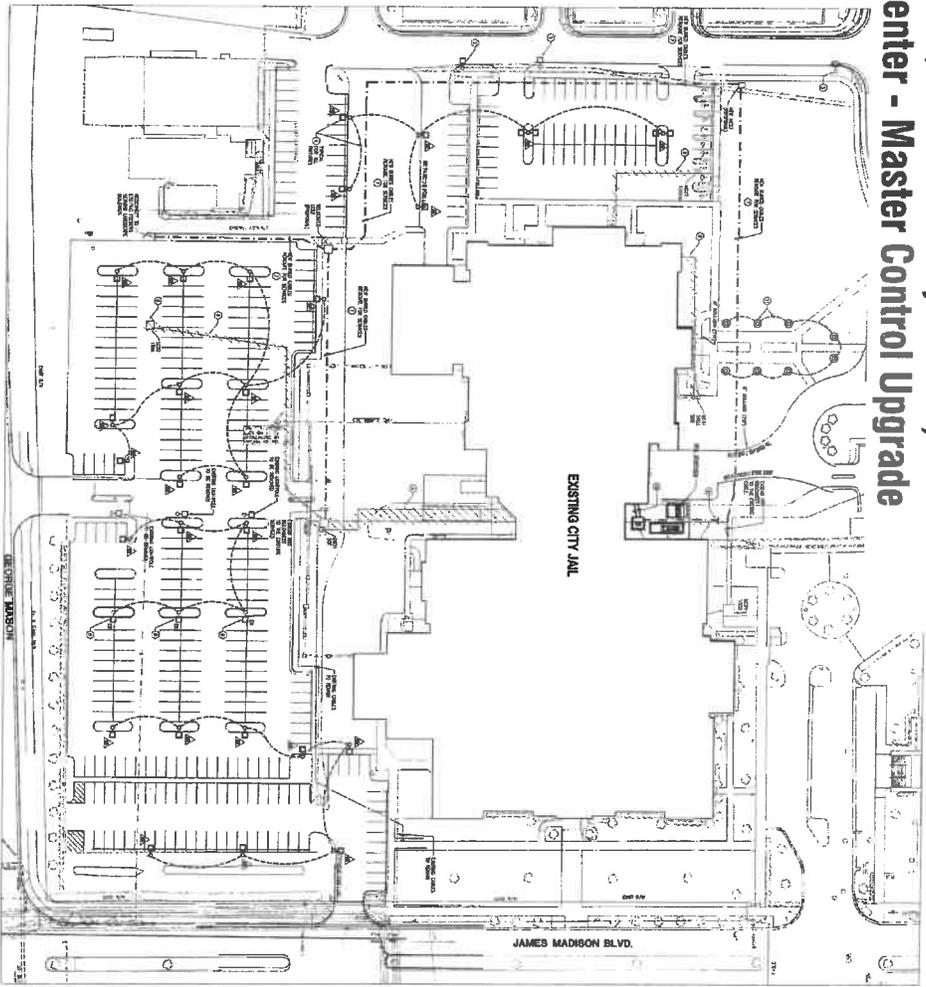
DESIGN, ENGINEERING AND CONSTRUCTION SERVICES IN FULL COMPLIANCE

ASI Security will ensure all Design, Engineering and Construction Services fully comply with the building program, design features, project description, scope of services and the terms and conditions of the full RFP. We fully acknowledge and accept the following:

ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

- A. We have examined and carefully studied the Contract Documents (including the Exhibits) listed in Article 8 and the other related data identified in the Request for Proposals.
- B. We have visited the Site, have become familiar with and are satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. We are familiar with and are satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Not Used
- E. We are aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- F. We have correlated the information known to us, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- G. We have given Owner written notice of all conflicts, errors, ambiguities or discrepancies that we have discovered in the Contract Documents and the written resolution thereof by Owner is acceptable.
- H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

City of Virginia Beach (PPEA/RFP for Project 3-523)
Correctional Center - Master Control Upgrade



Overall Reference Existing Site Plan

Proposed Preliminary Design Concept



January 25, 2018



City of Virginia Beach (PPEA/RFP for Project 3-523) Correctional Center - Master Control Upgrade

Main Equipment Room B186

- Replace all Telear Security Intercom Controllers with Harding Instruments DXL IP based Intercom System. Existing cabling will remain.
- Replace all security control PLC CPUs and communication devices with new GE RX3I CPUs & Communication Devices. Redundant controllers.
- Replace Access Control Equipment with Avigilon Access Control System.
- Replace Video Management System with Avigilon Advanced Control Center (ACC)™ Enterprise.
- Interface VMS, Access Control, Utility Control with new PLC System

CC2.1 Control Upgrade
Replace existing Touchscreen Workstations (1) with new Touchscreen Control Station.

Workstations consisting of:
 1. Dell Precision Class Workstation
 2. ELO 24" Touchscreen Monitors
 3. (2) Dell 24" LED Video Monitors
 4. ESTECH Security Software (Wondershare 2017)
 5. Existing Administrative Control Stations (Masters) will be replaced with Harding IP Units.

Booking Control Upgrade
Replace existing Touchscreen Workstations (1) with new Touchscreen Control Station.

Workstations consisting of:
 1. Dell Precision Class Workstation
 2. ELO 24" Touchscreen Monitors
 3. (2) Dell 24" LED Video Monitors
 4. ESTECH Security Software (Wondershare 2017)
 5. Existing Administrative Control Stations (Masters) will be replaced with Harding IP Units.

Booking Desk
Replace all Telear Security Intercom Controllers with Harding Instruments DXL IP based Intercom System. Existing cabling will remain.

Replace all security control PLC CPUs and communication devices with new GE RX3I CPUs and Communication Devices.

Interface Utility Control with new PLC System

REC-1A1N ROOM B176
Replace all Telear Security Intercom Controllers with Harding Instruments DXL IP based Intercom System. Existing cabling will remain.

Replace all security control PLC CPUs and communication devices with new GE RX3I CPUs and Communication Devices.

Replace Access Control Equipment with Avigilon Access Control System.

Replace Video Management System with Avigilon Advanced Control Center (ACC)™ Enterprise.

R1/O1A3 EXISTING SECURITY JUNCTION BOX IN EXISTING POWER AND COMMUNICATIONS ROOM.
Expansion Racks, I/O Modules and Cabling are current and not replaced.

REC-1B1 ROOM B115
Replace all Telear Security Intercom Controllers with Harding Instruments DXL IP based Intercom System. Existing cabling will remain.

Replace all security control PLC CPUs and communication devices with new GE RX3I CPUs and Communication Devices.

Replace Access Control Equipment with Avigilon Access Control System.

Replace Video Management System with Avigilon Advanced Control Center (ACC)™ Enterprise.

R1/O1A3 EXISTING SECURITY JUNCTION BOX IN EXISTING POWER AND COMMUNICATIONS ROOM.
Expansion Racks, I/O Modules and Cabling are current and not replaced.

FACILITY WIDE UPGRADES
 - Replace 889 Intercom stations.
 - Replace 317 paging speakers.
 - Replace 355 analog cameras with IP cameras.
 - Replace all cabling for cameras.
 - Replace 60 card access readers.

Master Control Upgrade
Replace existing Touchscreen Workstations (6) with new Touchscreen Control Stations.

Workstations consisting of:
 1. Dell Precision Class Workstation
 2. ELO 24" Touchscreen Monitors
 3. (2) Dell 24" LED Video Monitors
 4. ESTECH Security Software (Wondershare 2017)
 5. Existing Administrative Control Stations (Masters) will be replaced with Harding IP Units.

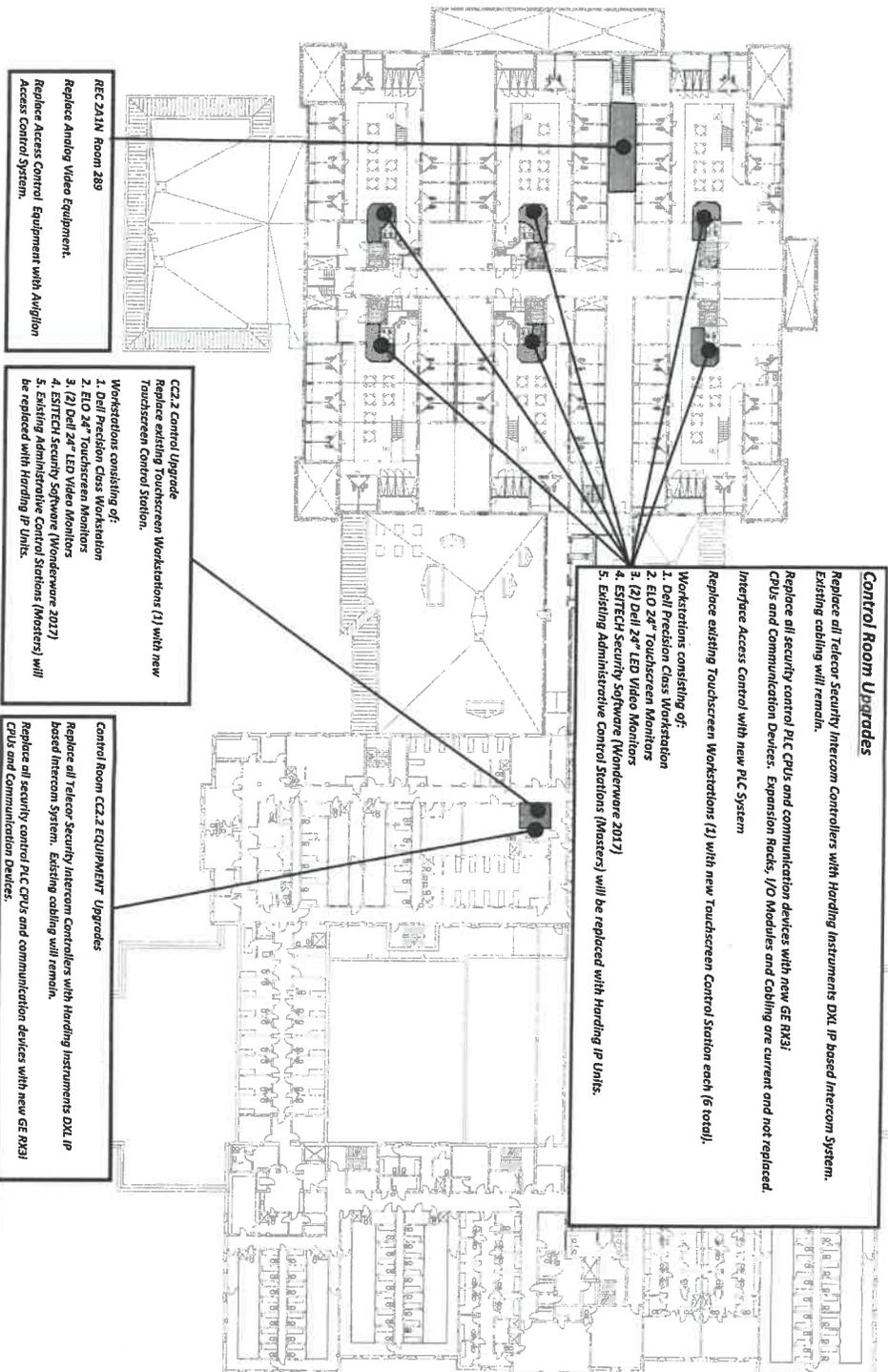
Additional Equipment:
 (8) 50" LED wall mount monitors
 (1) 90" LED wall mount monitor

Overall Reference Floor Plan - First Level (Existing)

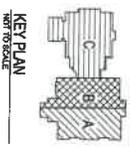
Proposed Preliminary Design Concept



City of Virginia Beach (PPEA/RFP for Project 3-523) Correctional Center - Master Control Upgrade



Overall Reference Floor Plan - Second Level (Existing) Proposed Preliminary Design Concept

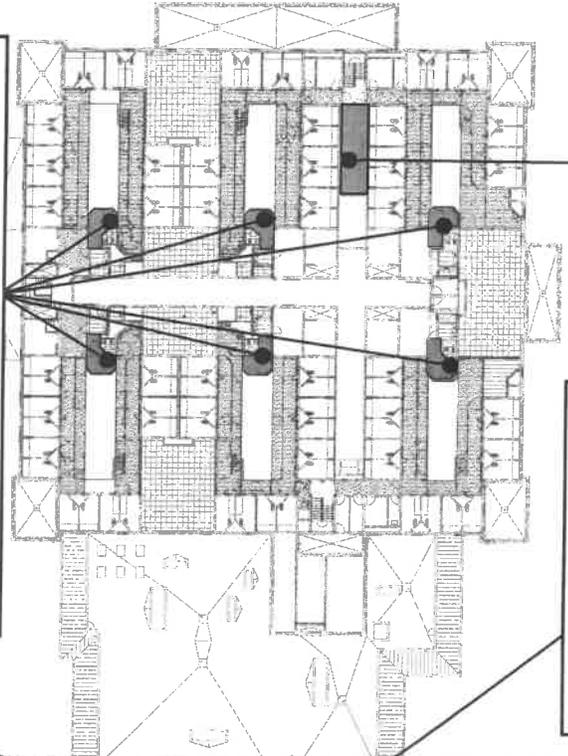


City of Virginia Beach (PPEA/RFP for Project 3-523) Correctional Center - Master Control Upgrade

REC 3A1N Room 389

Replace Analog Video Equipment.
Replace Access Control Equipment with Avigilon Access Control System.

CC2.3 Control Upgrade
Replace existing Touchscreen Workstations (2) with new Touchscreen Control Station.
Workstations consisting of:
1. Dell Precision Class Workstation
2. ELO 24" Touchscreen Monitors
3. (2) Dell 24" LED Video Monitors
4. ESTECH Security Software (Wonderware 2017)
5. Existing Administrative Control Stations (Masters) will be replaced with Harding IP Units.



Control Room Upgrades

Replace all Telexor Security Intercom Controllers with Harding Instruments DXL IP based Intercom System. Existing cabling will remain.

Replace all security control PLC CPUs and communication devices with new GE R3A1 CPUs and Communication Devices.

Replace existing Touchscreen Workstations (2) with new Touchscreen Control Station each (6 total).

Workstations consisting of:

1. Dell Precision Class Workstation
2. ELO 24" Touchscreen Monitors
3. (2) Dell 24" LED Video Monitors
4. ESTECH Security Software (Wonderware 2017)
5. Existing Administrative Control Stations (Masters) will be replaced with Harding IP Units.

R/03A1 EXISTING SECURITY JUNCTION BOX IN EXISTING POWER AND COMMUNICATIONS ROOM. Expansion Racks, I/O Modules and Cabling are current and not replaced.

R/03A2 EXISTING SECURITY JUNCTION BOX IN EXISTING POWER AND COMMUNICATIONS ROOM. Expansion Racks, I/O Modules and Cabling are current and not replaced.

EQUIPMENT CC2.3

Replace all Telexor Security Intercom Controllers with Harding Instruments DXL IP based Intercom System. Existing cabling will remain.

Replace all security control PLC CPUs and communication devices with new GE R3A1 CPUs and Communication Devices.

Overall Reference Floor Plan - Third Level (Existing)

Proposed Preliminary Design Concept



January 25, 2018

04

Integrated Control System

ASI Security will provide you with a new, Fully-Integrated Control System (ICS). This system is touchscreen-based with mouse back-up, and has sufficient Programmable Logic Control (PLC) and Input/Output (I/O) capacity to allow for Future Expansion. Our solution includes the following items, which will be discussed in greater detail on the following pages.

CAMERA SYSTEM

- Replace existing Analog Camera System with fully-integrated Internet Protocol (IP) Camera System.
- Additional camera coverage will be determined by needs of the Sheriff
- New camera system meets the current American Correctional Act (ACA) and Prison Rape Elimination Act (PREA) standards.
- We will replace 555 cameras.

INTERCOMS

- We will replace 889 intercoms.

CARD ACCESS READERS

- We will replace 60 card access readers.

ELECTRIC CELL DOOR CONTROLS

- We will replace/upgrade the existing Electronic Cell Door Controls, with control capacity for 715 interior electric cell door controls.
- At the Exterior of the Facility, we will replace:
 - (4) exterior door controls
 - (2) barrier arm controls
 - (2) roll gates controls
 - (2) Sallyport door controls

PAGING SPEAKERS

- We will replace 317 paging speakers.

IP Video Camera Solution

Our team will replace the existing Analog Camera System with a fully-integrated Internet Protocol (IP) camera system. The new IP Camera system meets all current American Correctional Association (ACA) and Prison Rape Elimination Act (PREA) standards. We will work with the Virginia Beach Sheriff's Office to meet any and all needs for additional camera coverage.

EXISTING SYSTEM - THE PROBLEM

The existing Analog System, which utilizes Matrix Video Switching, is no longer the chosen method of CCTV or Security Surveillance solutions, largely due to the following known issues:

- Limited interface capabilities, especially in regards to Event and Alarm Video Call-Up
- Only allows for one (1) single camera view per workstation
- Major issues related to Data Retrieval and Response Times
- Difficult, complex search method and screen refresh
- Matrix viewing of multiple cameras is workstation specific and not globally available

NEW SYSTEM - THE SOLUTION

To resolve the issues, we will install a fully-integrated Touchscreen Control system and Video Management system which allows the user to view up to six (6) Live Camera feeds per event.

Example: When Security Staff answers an intercom call, they will not only *hear* the caller, but also *see* the caller—through the live feed originating from the caller's location, along with a secondary feed from the camera placed on the opposite side of the desired door. In addition to these two (2) live camera feeds, the security staff has the ability to simultaneously view live feeds from two (2) additional cameras which cover the approaches to the door. This provides the security staff with complete situational awareness, thus improving the overall security of both the personnel and the population.

SUMMARY OF WORK

Replace Existing Video Management Software with Avigilon Advanced Control Center (ACC)[™] Enterprise. This solution meets all current ACA and PREA Standards and is being successfully utilized in many other correctional facilities nationwide. Our team will replace the outdated system with the New Enterprise Camera Solution as follows:

- We will combine the existing fiber trunk with new POE switches (located in existing spaces) with UPS and Fiber Interconnect.
- We will re-purpose existing Conduit and install new conduit that meets the Virginia Department of Corrections (VDOC) requirements in secure areas.
- We will ensure All Open Run Cabling has plenum jacket.

** See Avigilon Advanced Control Center Product literature at the end of this section for more information*

AVIGILON



Enterprise

Supports an unlimited number of cameras and servers. Includes advanced features to make it a powerful, open platform for large-scale surveillance needs.

Our new Fully-Integrated Touchscreen Control IP Video Camera System includes the following features and capabilities.

FULLY-INTEGRATED VIDEO MANAGEMENT SYSTEM WITH IP CAMERAS	
FEATURES	CAPABILITIES
Six (6) Unique Camera Data Stream Per Event	Intercom Operation Example: <ul style="list-style-type: none"> • When an Intercom call is answered: <ul style="list-style-type: none"> • Operator receives instant Audio Communication • Operator receives instant Visual communication via the Live Feed generated from the caller's location • Operator receives an additional Live Feed, generated from the opposite side of the door from which the call is initiated. • As required, 2 additional feeds can be viewed for approaches to the door, allowing complete situational awareness and enhanced visual security.
Advanced Searchability	<ul style="list-style-type: none"> • Thumbnail Searches of Changes in Large Region Views • Individual Camera Log Searches as well as Multiple • Alarm Event Searches • Access Control Event Searches • Bookmark and Subsequent Retrieval • Bookmark Archival • Chain of Custody
Plug and Play	<ul style="list-style-type: none"> • Open Architecture compatibility with leading Camera Manufacturers • Windows and Virtual Environment applications • Server/Storage Management across multiple devices • Mobile Platform Capability <ul style="list-style-type: none"> • Video viewable on Mobile Devices • Applications for Video Clipping and Forwarding
Server Management	<ul style="list-style-type: none"> • Redundant Virtual Servers • Health Monitoring and Failover • UPS monitoring and power shedding • Application Specific Virtualization
Management of New IP=Based POE-Powered Cameras	<ul style="list-style-type: none"> • Remote firmware and Analytics updating • Housings as required for areas of use (i.e. anti-ligature and vandal-resistant cameras) • Utilization of Latest Generation CCD's • H.264 Compression • Remote Alarm triggering • Motion Recording
Monitor Management	<ul style="list-style-type: none"> • Local Work Station Control of Video for Viewing • Shared keyboard for Video and Touch Screen Controls • Camera selection to Workstations for Virtual Tours • HD x 24 hour operation

IP CAMERA MODELS TO BE USED FOR THIS PROJECT - AXIS COMMUNICATIONS

PRODUCT	FEATURES
Model: Axis Q8414-LVS # of Units: 300* Install Areas: Cells and other areas requiring anti-ligature installations	<ul style="list-style-type: none"> • Anti-ligature corner camera • Stainless steel • Impact resistant • Easy and safe to clean • Built-in invisible IR LED illumination
Model: Axis P3225-LVE Mk II # of Units: 255* *Note: Units are for "Basis of Design" Install Areas: Specific area needs may require different mounts and form factors	<ul style="list-style-type: none"> • HDTV 1080p video quality • Outdoor-ready and IK10-rated • Remote zoom and focus • WDR – Forensic Capture • Optimized IR illumination • Axis' Zipstream technology

* Final count to be determined during Planning Study

** See IP Camera Models Product literature at the end of this section for more information

SWITCHES, RACKS AND UPS SYSTEMS

Summary of Work: Replace existing Analog Cable Camera Network with new IP Rack-Mounted POE Switches on the existing Fiber Cable Backbone. All Switches are Fiber Interconnected with UPS backup. Mini Rack design will be placed in existing Control Areas. **720 POE Port Capacity / 120 Fiber Ports**

Switches: Adtran Model 1534P / Fully Managed Solution

- 4-Gigabit Ethernet ports and four SFP optical ports
- Two standard 1 Gbps SFP ports and two enhanced 2.5 Gbps SFP ports
- 802.3af (PoE), 802.3at (PoE+) and Legacy PoE
- 370W total power budget
- Non-blocking, up to 62 Gbps switching capacity
- Line rate Layer 2 and Layer 3 Lite capabilities
- Desktop security audit
- DHCP network forensics
- 802.1Q VLANs, Private VLANs and VLAN assignment via 802.1x
- Advanced QoS with support for 802.1p and DiffServ prioritization with four queues per egress port
- Automate actions with Port Scheduler and TCL scripting
- VoIP ready with LLDP/ LLDP-MED and voice VLANs
- Business-class security with RADIUS, TACACS+, 802.1x and port security
- Wi-Fi access controller for centralized management of NetVanta Wireless Access Points (WAPs)
- Cable and SFP diagnostics provides easy to use troubleshooting tools for copper and fiber cable
- Familiar CLI and Web GUI
- Next business day advance replacement
- Limited lifetime warranty
- Optimized for iSCSI Storage Area Networks (SANs) deployments

UPS: Xtreme Power T91 Series 200VA/1930

- 2 Strings of Extended Runtime Battery Packs
- SNMP/Web Cards for monitoring
- 1 Hour backup at designed load
- Power Down Protocol

Procure 3 Year Support

- 1 Hour Response into Technical Support
- Next Business Day Replacement
- Access to Software Upgrades and Patches

SERVER AND STORAGE SOLUTION

Summary of Work: Video Management and Access Control to be a PIVOT 3 Solution with a capacity of **1.12 Petabyte**. This allows for ninety (90) days of Video Storage with a Frame Rate of 15 fps x 100% Motion-Based Recording x H.264 Compression. Virtual Management allows for Server needs and extreme Storage Efficiency. The server is redundant with Failover for Applications.

- Hyper Converged Infrastructure
 - Patented Erasure Coding
 - Enhanced Operating Environment reduces computer resources and allows support for more Applications
 - NVMe PCIe Flash
 - Distributed Scale-Out Architecture
 - Advance QoS Engine
 - Flexible Form Factors to allow for usable space requirements
 - 4 Watch Nodes (Application) +1 for Fail Over
 - 4 Data Watch Nodes
- Windows Server 2012 x64 Embedded 4 Licenses
- VMWare for Virtual Solution
- Dell Hardware
- Vstac OS7
- 2x10GB 2x1GB Network Interface
- 3 Year Warranty
- Factory Personnel Installation
- Pivot 3 Professional Implementation Services



PIVOT3

Pivot3 improves the simplicity and economics of the enterprise datacenter with next-generation hyperconvergence. By combining storage, compute, networking and virtualization on commodity hardware, Pivot3's software-defined platforms let IT run multiple, mixed workloads on a single infrastructure while guaranteeing performance to the applications that matter most.

Pivot3's agile infrastructure extends performance, scale and efficiency across more of the datacenter so enterprises can keep pace with the demands of modern business. With over 2,000 customers in 54 countries and over 18,000 hyperconverged deployments in multiple industries such as healthcare, government, transportation, security, entertainment, education, gaming and retail, Pivot3 is redefining HCI with smarter infrastructure solutions.

** See Pivot3 Product literature at the end of this section for more information*

AXIS Q8414-LVS Network Camera

Corner mount in stainless steel and anti-grip

AXIS Q8414-LVS offers a vandal-resistant stainless steel casing and built-in invisible IR LED illumination for high quality indoor video surveillance even in complete darkness. It supports Lightfinder making it extremely sensitive to low light. The water-resistant casing is easy and safe to clean with a water hose, soapy water or other multi-purpose cleaning agent. It supports both IP66- and NEMA 4X-rating. The corner-mount camera has no ligature points and is ideal for video surveillance of small rooms in premises such as correctional facilities, interview rooms and elevators. AXIS Q8414-LVS features audio analytics that can be used to trigger an alarm.

- > **Anti-ligature corner camera in stainless steel**
- > **Impact resistant IK10+ 50 joule rating**
- > **Easy and safe to clean**
- > **Built-in invisible IR LED illumination (940 nm)**



AXIS Q8414-LVS Network Camera

Models	AXIS Q8414-LVS Network Camera Metal AXIS Q8414-LVS Network Camera White
Camera	
Image sensor	1/3" progressive scan RGB CMOS
Lens	Vari-focal, 2.5-6 mm, F1.2 Horizontal field of view: 105°-49° Vertical field of view: 79°-37° Remote focus and zoom, P-Iris control
Day and night	Automatically removable infrared-cut filter
Minimum illumination	Color: 0.1 lux at F1.2 B/W: 0.02 lux at F1.2 0 lux with IR illumination on
Shutter time	1/24500 s to 2 s
Camera angle adjustment	Tilt 10°, Rotation 340°
Video	
Video compression	H.264 (MPEG-4 Part 10/AVC) Baseline and Main profile Motion JPEG
Resolutions	1280 x 960 (approx. 1.3 MP) ^a to 160 x 90
Frame rate	Up to 30/25 fps (60/50 Hz) in all resolutions
Video streaming	Multiple, individually configurable streams in H.264 and Motion JPEG Controllable frame rate and bandwidth VBR/CBR H.264
Pan/Tilt/Zoom	Digital PTZ
Image settings	Compression, color, brightness, sharpness, contrast, white balance, exposure control, exposure zones, WDR – dynamic contrast, fine tuning of behavior at low light, rotation: 0°, 90°, 180°, 270°, including Corridor Format, text and image overlay, three privacy masks, mirroring of images
Audio	
Audio streaming	Two-way
Audio compression	AAC-LC 8/16 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz Configurable bit rate
Audio input/output	External microphone input or line input, line output, built-in microphone (can be disabled)
Network	
Security	Password protection, IP address filtering, HTTPS ^b encryption, IEEE 802.1X ^b network access control, digest authentication, user access log, centralized certificate management
Supported protocols	IPv4/v6, HTTP, HTTPS ^b , SSL/TLS ^b , QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP TM , SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, SFTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS, SSH
System integration	
Application Programming Interface	Open API for software integration, including VAPIX [®] and AXIS Camera Application Platform; specifications at www.axis.com AXIS Video Hosting System (AVHS) with One-Click Connection ONVIF [®] Profile S and ONVIF [®] Profile G, specification at www.onvif.org
Analytics	AXIS Video Motion Detection 4, active tampering alarm, audio detection Support for AXIS Camera Application Platform enabling installation of third-party applications, see www.axis.com/acap
Event triggers	Analytics, external input, edge storage events
Event actions	Day/night mode, overlay text, video recording to edge storage, pre- and post-alarm video buffering, external output activation, send SNMP trap, play audio clip File upload via FTP, SFTP, HTTP, HTTPS network share and email

	Notification via email, HTTP, HTTPS and TCP
Data streaming	Event data
Built-in installation aids	Remote zoom, remote focus, pixel counter, adjustable IR illumination
General	
Casing	Polycarbonate dome and IR window, IP66- and NEMA 4X-rated, IK10+ 50 joules impact-resistant stainless steel casing. For repainting instructions and impact on warranty, contact your Axis partner Metal: Color: Brushed stainless steel White: Color: White NCS S 1002-B
Sustainability	PVC free
Memory	256 MB RAM, 128 MB Flash
Power	Power over Ethernet IEEE 802.3af/802.3at Type 1 Class 2 Max. 6.2 W (limited IR) Power over Ethernet IEEE 802.3af/802.3at Type 1 Class 3 Max. 8.7 W (full IR)
Connectors	RJ45 10BASE-T/100BASE-TX PoE Terminal block for 1 alarm input and 1 output 3.5 mm mic/line in, 3.5 mm line out
IR illumination	Power-efficient, Long-life and invisible 940 nm IR LED. Adjustable intensity. Range of reach up to 10 m (33 ft) depending on scene
Storage	Support for SD/SDHC/SDXC card Support for SD card encryption Support for recording to network-attached storage (NAS) For SD card and NAS recommendations see www.axis.com
Operating conditions	0 °C to 50 °C (32 °F to 122 °F) Humidity 10-100% RH (condensing)
Storage conditions	-40 °C to 65 °C (-40 °F to 149 °F)
Approvals	EN 55022 Class B, EN 61000-6-1, EN 61000-6-2, EN 55024, FCC Part 15 Subpart B Class B, ICES-003 Class B, VCCI Class B, RCM AS/NZS CISPR 22 Class B, KCC KN-22 Class B, KN-24, IEC/EN/UL 60950-1, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-64, IEC 60068-2-78, IEC/EN 60529 IP66, NEMA 250 Type 4X, IEC/EN 62262 IK10+, EN 62471
Dimensions	165 x 255 x 215 mm (6 1/2 x 10 1/16 x 8 7/16 in)
Weight	3.45 kg (7.61 lb)
Included accessories	Installation Guide, Windows decoder 1-user license, AVHS Authentication key, Resistorx 20 bit, Connector kit, Washers, Mounting tool for RJ45
Optional accessories	AXIS Q8414-LVS Smoked dome, AXIS Q8414-LVS IR Window B, I/O Audio Cable 5 m (16 ft), AXIS T8640 Ethernet over Coax Adaptor PoE+ (requires AXIS T8642 Mounting Kit A), AXIS Door Switch A For more accessories, see www.axis.com
Video management software	AXIS Companion, AXIS Camera Station, video management software from Axis' Application Development Partners available on www.axis.com/techsup/software
Languages	English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Traditional Chinese
Warranty	Axis 3-year warranty and AXIS Extended Warranty option, see www.axis.com/warranty

- a. 1400x1050 (1.4MP) scaled resolution available via VAPIX[®]
b. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (www.openssl.org), and cryptographic software written by Eric Young (ey@cryptsoft.com).

Environmental responsibility:

www.axis.com/environmental-responsibility

AXIS P3225-LVE Mk II Network Camera

Streamlined, outdoor-ready HDTV 1080p fixed dome for any light conditions

AXIS P3225-LVE Mk II is a streamlined, outdoor-ready fixed dome that provides HDTV 1080p video. It features a varifocal lens and remote zoom and focus, which eliminates the need for hands-on fine tuning. Equipped with WDR – Forensic Capture to handle scenes with strong variations in light, Lightfinder technology for exceptional light sensitivity, as well as built-in IR illumination with OptimizedIR, this versatile camera provides outstanding video quality in any light conditions. It supports Axis Zipstream technology that significantly reduces bandwidth and storage requirements. The vandal-resistant AXIS P3225-LVE Mk II is IK10 rated.

- > **HDTV 1080p video quality**
- > **Outdoor ready and IK10 rated**
- > **Lightfinder and WDR – Forensic Capture**
- > **OptimizedIR illumination**
- > **Axis Zipstream**



AXIS P3225-LVE Mk II Network Camera

Camera

Image sensor	Progressive scan RGB CMOS 1/3"
Lens	Varifocal, 3.0–10.5 mm, F1.4 Horizontal field of view: 92°–34° Vertical field of view: 50°–20° Remote focus and zoom, P-Iris control, IR corrected
Day and night	Automatically removable infrared-cut filter
Minimum illumination	HDTV 1080p 25/30 fps with WDR – forensic capture and Lightfinder: Color: 0.16 lux at 50 IRE, F1.4 B/W: 0.03 lux at 50 IRE, F1.4, 0 lux with IR illumination on HDTV 1080p 50/60 fps: Color: 0.32 lux at 50 IRE, F1.4 B/W: 0.06 lux at 50 IRE, F1.4, 0 lux with IR illumination on
Shutter time	1/66500 s to 1 s
Camera angle adjustment	Pan ±180°, tilt -35 to +75°, rotation ±95°

Video

Video compression	H.264 Baseline, Main and High Profile (MPEG-4 Part 10/AVC) Motion JPEG
Resolution	1920x1080 to 160x90
Frame rate	With WDR: 25/30 fps with power line frequency 50/60 Hz Without WDR: 50/60 fps with power line frequency 50/60 Hz
Video streaming	Multiple, individually configurable streams in H.264 and Motion JPEG Axis Zipstream technology in H.264 Controllable frame rate and bandwidth VBR/MBR H.264
Multi-view streaming	2 individually cropped out view areas
Pan/Tilt/Zoom	Digital PTZ, preset positions
Image settings	Compression, Color, Brightness, Sharpness, Contrast, Local contrast, White balance, Exposure control (including automatic gain control), Exposure zones, Fine tuning of behavior at low light, WDR – forensic capture: Up to 120 dB depending on scene, Text and image overlay, Mirroring of images, Privacy masks Rotation: 0°, 90°, 180°, 270°, including Corridor Format

Network

Security	Password protection, IP address filtering, HTTPS ^a encryption, IEEE 802.1X ^a network access control, Digest authentication, User access log, Centralized Certificate Management
Supported protocols	IPv4/v6, HTTP, HTTPS ^a , SSL/TLS ^a , QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP TM , SNMP v1/v2c/v3(MIB-II), DNS, DynDNS, NTP, RTSP, RTP, SRTP, SFTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS, SSH, LLDP

System Integration

Application Programming Interface	Open API for software integration, including VAPIX [®] and AXIS Camera Application Platform; specifications at www.axis.com AXIS Video Hosting System (AVHS) with One-Click Connection ONVIF Profile S and ONVIF Profile G, specification at www.onvif.org
Analytics	Included AXIS Video Motion Detection, active tampering alarm Supported AXIS Motion Guard, AXIS Fence Guard, AXIS Loitering Guard, AXIS Perimeter Defender AXIS Digital Autotracking, AXIS People Counter, AXIS Tailgating Detector, AXIS Direction Detector, AXIS Occupancy Estimator, AXIS Random Inspection, AXIS Queue Monitor Support for AXIS Camera Application Platform enabling installation of third-party applications, see www.axis.com/acap
Event triggers	Analytics, edge storage events, virtual inputs through API
Event actions	Record video: SD card and network share Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email Pre- and post-alarm video or image buffering for recording or upload

Notification: email, HTTP, HTTPS, TCP and SNMP trap
Overlay text

Data streaming	Event data
Built-in installation aids	Remote zoom, remote focus, pixel counter, optimized IR with adjustable IR illumination intensity

General

Casing	IP66- and NEMA 4X-rated, IK10 impact-resistant casing with hard-coated dome and dehumidifying membrane Encapsulated electronics and captive screws Color: white NCS S 1002-B For repainting instructions of skin cover or casing and impact on warranty, contact your Axis partner.
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Sustainability	PVC free
Memory	512 MB RAM, 256 MB Flash
Power	Power over Ethernet IEEE 802.3af/802.3at Type 1 Class 3, max 10.8 W, typical 7.3 W
Connectors	RJ45 10BASE-T/100BASE-TX PoE

IR illumination	Optimized IR with power-efficient, long-life 850 nm IR LEDs with adjustable illumination intensity. Range of reach 30 m (100 ft) or more depending on scene
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Storage	Support for microSD/microSDHC/microSDXC card Support for SD card encryption Support for recording to network-attached storage (NAS) For SD card and NAS recommendations see www.axis.com
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Operating conditions	-40 °C to 50 °C (-40 °F to 122 °F) Start-up: -30 °C to 50 °C (-22 °F to 122 °F) Maximum temperature (intermittent): 55 °C (131 °F) Humidity 10 to 100% RH (condensing)
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Storage conditions	-40 °C to 65 °C (-40 °F to 149 °F)
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Approvals	EMC EN 55022 Class B, EN 61000-6-1, EN 61000-6-2, EN 55024, EN 50121-4, IEC 62236-4, FCC Part 15 Subpart B Class A and B, ICES-003 Class B, VCCI Class B, RCM AS/NZS CISPR 22 Class B, KCC KN22 Class B, KN24 Safety IEC/EN/UL 60950-1, IEC/EN/UL 60950-22, IEC/EN 62471 Environment IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14 IEC 60068-2-6 (vibration), IEC 60068-2-27 (shock), IEC 60068-2-30, IEC 60068-2-78, IEC/EN 60529 IP66, NEMA 250 Type 4X, IEC/EN 62262 IK10
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Dimensions	Height: 104 mm (4 1/16 in) ø 149 mm (5 7/8 in)
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Weight	800 g (1.8 lb)
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Included accessories	Installation Guide, Windows decoder 1–user license, mounting bracket, cable gasket, Resistorx [®] T20 L-key, drill template, connector guard Weathershield
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Optional accessories	AXIS ACI Conduit Bracket A, AXIS ACI Conduit Adapters, AXIS T94M01L Recessed Mount Kit, AXIS T94T01D Pendant Kit including weather shield, AXIS Mounts, Smoked dome For more accessories, see www.axis.com
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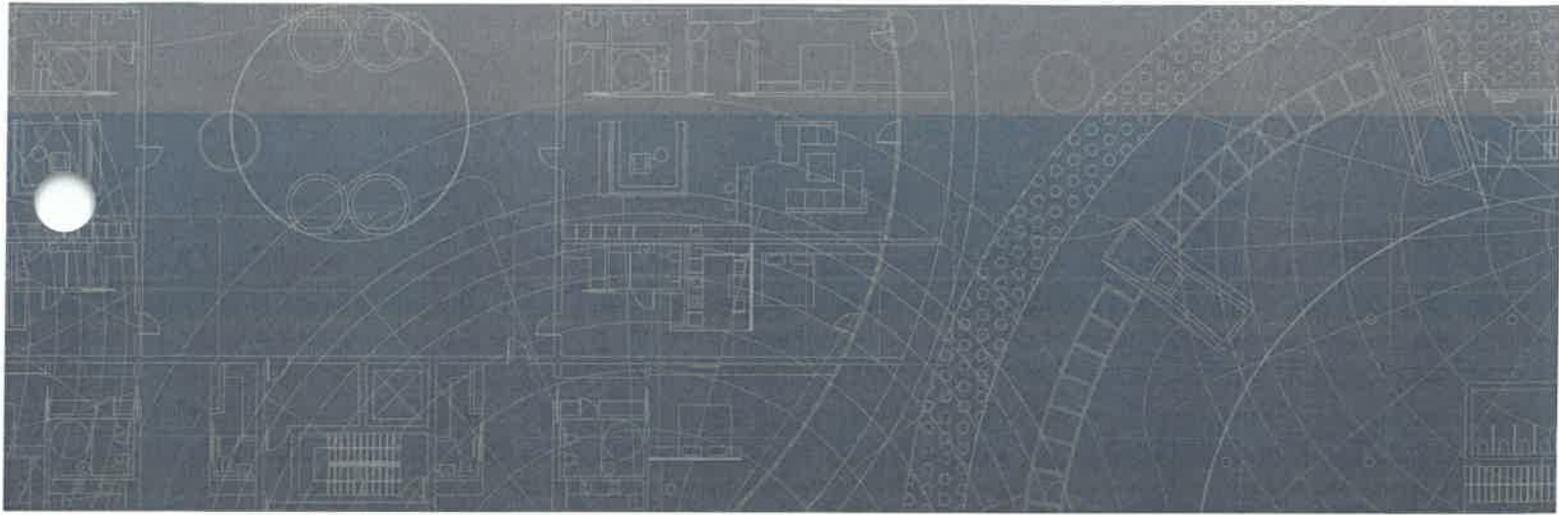
Video management software	AXIS Companion, AXIS Camera Station, Video management software from Axis' Application Development Partners available on www.axis.com/vms
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Languages	English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Traditional Chinese
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Warranty	Axis 3-year warranty and AXIS Extended Warranty option, see www.axis.com/warranty
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a. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (www.openssl.org), and cryptographic software written by Eric Young (ey@cryptsoft.com).

Environmental responsibility:
www.axis.com/environmental-responsibility



Transforming the data center with the simplicity, economics, and performance of Hyperconverged Infrastructure and Dynamic Quality of Service

SMARTER INFRASTRUCTURE SOLUTIONS



94%

USABLE CAPACITY

99.9999%

AVAILABILITY

2x

VIRTUAL MACHINES

85%+

IOPS MAINTAINED EVEN DURING DEGRADED MODES

<8%

HCI OPERATING OVERHEAD

33x

STORAGE PERFORMANCE

2x

PERFORMANCE OVER OTHER HCI ARCHITECTURES

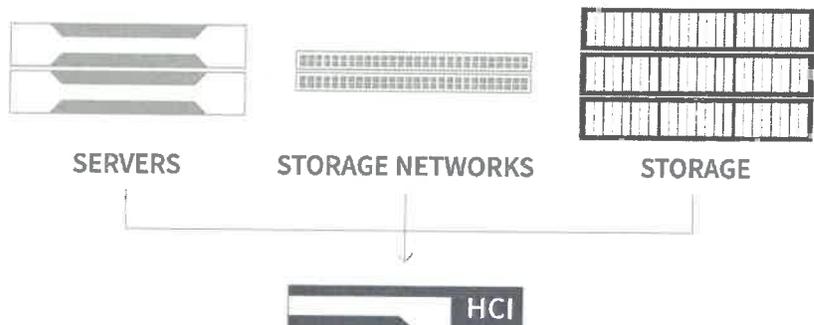
UNLOCKING THE POTENTIAL OF THE SOFTWARE-DEFINED DATA CENTER

In today's digital world, IT leaders are striving to master a software-defined approach to business that enables faster application deployment and meets ever increasing end-user expectations for always-on data availability and instant access to information. Traditional data center infrastructure is expensive, inefficient and difficult to manage, forcing IT to look for more agile, scalable, and cost-effective solutions that drive innovation and align with the demands of business.

Pivot3 was founded on the idea that the traditional data center could be radically simplified by unifying storage, compute, networking and virtualization resources into a powerful, easy-to-deploy solution that reduces costs, IT complexity, and organizational risk. As a pioneer and innovator of hyperconverged infrastructure (HCI), Pivot3 continues to redefine IT infrastructure solutions through the combination of software-defined storage, flexible scale-out and flash architectures, and a Dynamic Quality of Service (QoS) engine so organizations of all sizes can realize the potential of the software-defined data center.

Today, Pivot3 has thousands of customers around the world deploying more than 16,000 hyperconverged infrastructures in multiple industries such as healthcare, financial services, government, transportation, video surveillance, entertainment, education, gaming and retail.

Pivot3 Hyperconverged Infrastructure





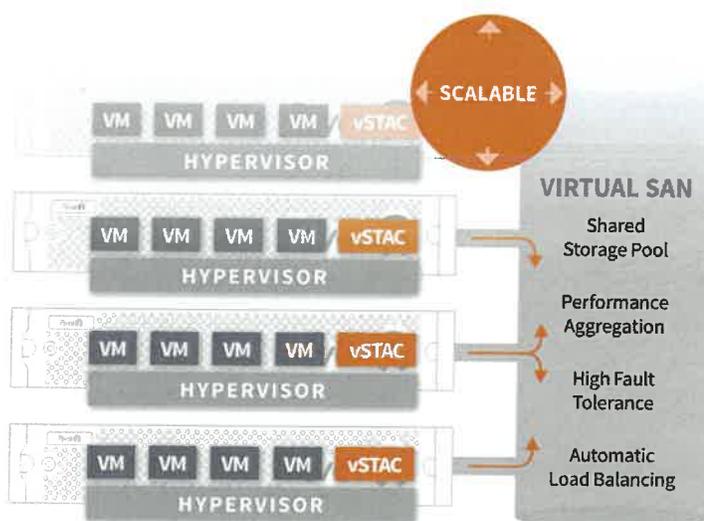
PIVOT3 IS DIFFERENT.

Most HCI solutions are limited to basic data protection schemes that impact capacity utilization and system performance which keeps customers from realizing all the benefits of hyperconvergence.

Pivot3's smarter infrastructure for the software-defined data center offers patented erasure coding, distributed scale-out architecture, and a Dynamic QoS engine to **maximize resource utilization, deliver high availability that performs, and prioritize performance and data protection to the applications that matter most to your business.**

No other hyperconverged solution can offer this combination of efficiency, protection and performance.

Pivot3 Distributed Scale-Out Architecture



WHAT MAKES OUR INFRASTRUCTURE SMARTER?

SCALAR ERASURE CODING

Patented erasure coding technology delivers the highest storage utilization and data protection in the industry.

DISTRIBUTED SCALE-OUT ARCHITECTURE

Unique architecture unifies resources from each node in the hyperconverged cluster to deliver performance at scale.

EFFICIENT OPERATING ENVIRONMENT

Optimized to use a fraction of compute resources to run and bypasses the hypervisor to support more applications.

DYNAMIC QoS

Policy-based quality of service engine ensures predictable, guaranteed performance and protection for applications based on business priority.

SIMPLIFIED MANAGEMENT

Based on VMware vSphere, management is made easy via a vCenter Plug-in for single-pane-of-glass management of HCI and flash arrays from one console.

FLEXIBLE DEPLOYMENT OPTIONS

Multiple platforms and form factors available for HCI deployment and seamless integration of existing servers, storage and applications.

DEPLOY SOLUTIONS TO FIT ANY NEED

Pivot3 provides a wide range of hyperconverged and flash storage solutions depending on customer need.

Our innovation is in our software platform, which is designed to run on a variety of hardware options.

We package our solutions either as preconfigured appliances or as software-only that can be installed on the customer's hardware platform of choice.

FLEXIBLE DEPLOYMENT OPTIONS

HCI NODES

Rack HCI Systems

All-Flash Performance optimized

Hybrid Capacity optimized

Data Capacity only

Blade HCI Systems

Dell M1000 and FX2

Cisco UCS Mini

Inclusive Features

- All HCI node systems come with all vSTAC software features included
- Due to our architecture, we are the only HCI vendor that can deploy on blades

FLASH STORAGE ARRAYS

All-Flash Arrays

N5-1500

N5-6000

Hybrid Arrays

N5-200

N5-300

N5-500

N5-1000

Inclusive Features

- Dynamic QoS
- Service levels
- Dynamic data path
- Prioritized active cache
- Data reduction
- Data protection (snapshot and replication)
- Application integration

MAXIMUM RESOURCE UTILIZATION

HCI nodes deliver maximum resource utilization and high availability that performs via unified compute and storage within our patented vSTAC operating environment with flexible deployment options.

DYNAMIC QoS

Flash storage arrays deliver predictable performance and better economics through an innovative architecture that leverages PCIe flash and Dynamic QoS, which governs performance targets, I/O prioritization and data placement and protection, allowing you to meet SLAs.

SOFTWARE-ONLY

HCI Software

vSTAC OS

Inclusive Features

- 94% storage capacity efficiency at scale
- Patented Erasure Coding
- Six 9s availability
- 85%+ IOPS available in event of drives or node offline
- Consumes less than 8% percent of system resources

COMBINED HCI AND FLASH STORAGE

vSTAC SLX Systems

SLX 50

SLX 100

SLX 200

Inclusive Features

- Hyperconverged infrastructure integrated with shared flash storage
- Converged management console
- Dynamic QoS
- Flexible scaling options
- Configurations can be customized to meet customer requirements for compute, memory, storage, and networking

BETTER ROI WITH vSTAC OS

Pivot3's lean operating environment consumes less than 8% of system resources, leaving more available for VMs and applications. And highly-efficient capacity utilization improves as it scales, up to 94% in certain cases.

SUPPORT THE FULL SPECTRUM OF DATA CENTER NEEDS

With the simplicity and economics of HCI and the predictable performance of flash and Dynamic QoS, businesses can now confidently support a full spectrum of applications, including mission-critical, with low-latency shared flash acceleration and granular, automated performance management.

MULTIPLE APPLICATIONS

At Pivot3, we understand that IT needs to deploy infrastructure to support multiple solutions and use cases to meet specific business initiatives and needs. This requires a validated and optimized infrastructure that works seamlessly with other software and hardware vendors in any environment.

DATA CENTER
CONSOLIDATION



SERVER
VIRTUALIZATION



VIRTUAL DESKTOP
INFRASTRUCTURE



REMOTE AND
BRANCH OFFICE



BUSINESS CONTINUITY/
DISASTER RECOVERY



ENTERPRISE
APPLICATIONS



VIDEO
SURVEILLANCE



ONE HCI SOLUTION

Pivot3

Today, IT organizations need to consolidate multiple application workloads onto a common infrastructure to reduce capital and operating expenses. In the move towards HCI, however, many businesses are hesitant to run multiple mixed workloads on these systems because they are unable to guarantee performance to important applications.

Pivot3's patented technology and Dynamic QoS redefine HCI, giving customers the confidence to deploy multiple mixed-application workloads on hyperconverged infrastructure with the benefits of guaranteed performance and data protection, simplified deployment and improved economics. With Pivot3, customers are able to grow into a hyperconverged environment at their own pace with simple and scalable modular IT building blocks that provide a flexible 'mix and match' architecture of HCI, compute, storage and PCIe acceleration, all governed by the Dynamic QoS engine.



vmware
READY



Pivot3's VMware-validated solutions are based on VMware ESXi and easily integrate with VMware's end-user computing, cloud management, and advanced software-defined data center offerings. Dynamic QoS is also tightly integrated with VMware Virtual Volumes for simple, granular VM-level management of performance and data protection.

Lenovo.

CISCO

DELL

Pivot3 gives customers the flexibility to choose their preferred server manufacturers. All nodes can be mixed and matched with Pivot3 systems and come preconfigured with your choice of networking, storage, CPU, memory, GPU and OS build.



For more information about hyperconverged solutions
from Pivot3, please email sales@pivot3.com or call:

North America: +1 512 807 2666
Latin America: +52 1 (55) 54384656
Europe: +44 (0) 330 024 1160
Middle East: +971 4 450 4200
South Korea: +82 (0) 2 6007 2155
APAC: +65 6747 1515

To learn more about Pivot3, visit Pivot3.com.

Pivot 

The Pivot3 logo consists of the word 'Pivot' in a clean, sans-serif font, followed by a stylized number '3' enclosed within a circle. The '3' is white and the circle is dark, matching the overall branding.

Avigilon Control Center™ 6 Software



ACC™ software is easy-to-use video management software that optimizes the way security professionals manage and interact with high-definition video. It efficiently captures and stores high-definition video, while intelligently managing bandwidth and storage using our patented High Definition Stream Management (HDSM)™ technology. ACC 6 software combines an intuitive interface with an advanced search function called Avigilon Appearance Search™ video analytics technology. Avigilon Appearance Search technology is a sophisticated search engine for video data that enables users to quickly locate a specific person or vehicle of interest across an entire site.



RECORDING NVR PLATFORMS PURPOSE-BUILT FOR ACC

ACC software is pre-installed and configured on HD Video Appliances, HD Network Video Recorders (NVRs), HD NVR Workstations, ACC Edge Solution (ES) HD Recorders, ACC ES Analytics Appliances and the H4 ES camera line. It also works as a stand-alone software, to meet the needs of a wide variety of installations.



SELF-LEARNING VIDEO ANALYTICS

ACC video management software enables analytics events and alarms to be viewed and searched through an intuitive user interface. Real-time events and forensic capabilities detect and notify scene changes and rules violations.

AVIGILON APPEARANCE SEARCH TECHNOLOGY

Avigilon Appearance Search video analytics technology is a sophisticated search engine for video data. It sorts through hours of footage with ease, to quickly locate people and vehicles of interest across an entire site. Using Avigilon Appearance Search technology can dramatically improve incident response time and enhance forensic investigations by allowing operators to build robust video evidence and create a powerful narrative of events.



Advanced Control Center Features

HDSM Technology
Efficiently compresses and preserves image quality while intelligently managing HD image transmission throughout the Avigilon system — sending only the requested portions of captured images to operator workstations.

HDSM SmartCodec™ Support
Avigilon HDSM SmartCodec technology automatically optimizes compression levels for regions in a scene, to maximize bandwidth while still maintaining image quality.

Avigilon Appearance Search Technology
Allows you to quickly search recorded video to find instances of a person or vehicle across the entire site from all Avigilon cameras with self-learning analytics.

Intelligent Search
Powerful search tools enable you to quickly search recorded video for motion, the presence of classified objects (people or vehicles), background changes in the scene (thumbnail search), and for events.

Simple Camera and Server Installation
Plug-and-play capabilities for NVRs and cameras that automatically identify themselves on the network, without manual configuration or searching — eliminating complex network configuration.

Alarm Escalation
Allows the creation of complete end-to-end workflows for the monitoring, assignment, and acknowledgement of alarms.

ACC Mobile
Provides push alarm notifications, access to live and recorded video, and integrated audio talkdown from Android and iOS mobile devices.

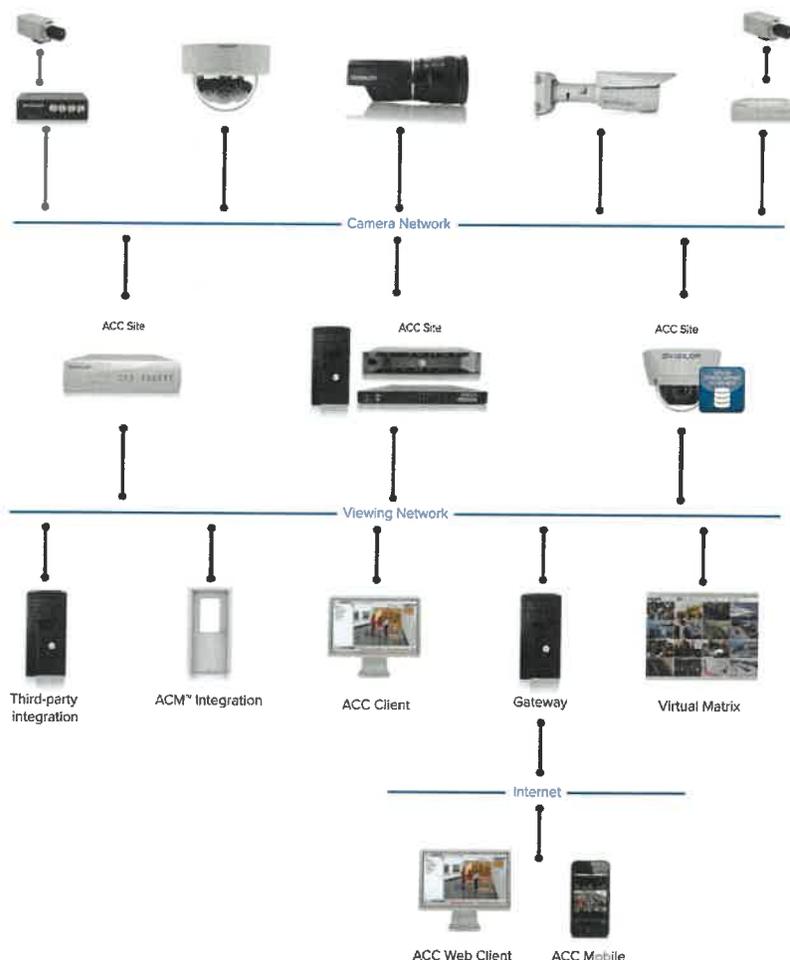
Detailed Management, Monitoring, and Reporting of System Status and Security
Detailed logs of storage, network, and overall system status to ensure the highest possible system uptime for critical applications.

POS Transaction Engine
Link HD surveillance footage (viewed instantly) with transaction data to address compliance requirements and reduce shrinkage and theft.

Scalable Integration with Legacy Systems
Distributed architecture features a .NET-based API that can easily be integrated with other systems, such as access control and building management.

ONVIF ONVIF® Profile S Conformant VMS
ONVIF profile S conformance ensures interoperability between IP based ONVIF security devices regardless of manufacturer.

System Architecture



Core, Standard & Enterprise

To create a system most suited for your surveillance needs, the Avigilon Control Center software is offered in three editions: Core, Standard and Enterprise. The Enterprise edition includes more advanced features for a sophisticated solution, whereas the Standard edition is used for more focused needs or for those looking to transition to HD surveillance in a cost-effective way. ACC Core is an entry-level version of our award-winning software that delivers advanced high definition surveillance capabilities, ease of use, and superior image quality to smaller implementations. No matter what the size of your installation, you can customize a solution that is right for you.



SYSTEM	CORE	STANDARD	ENTERPRISE
Number of cameras per server	24	48	300+
Number of cameras per site	24	48	10 000+
Number of servers per site	1	1	100+
Number of client licenses per server	2	5	Unlimited
High Definition Stream Management (HDSM)	Yes	Yes	Yes
HDSM SmartCodec Support	Yes	Yes	Yes

DEVICE SUPPORT	CORE	STANDARD	ENTERPRISE
Automatic device discovery	Yes	Yes	Yes
Third-party IP cameras & encoders	Yes	Yes	Yes
HD Pro cameras	No	No	Yes
H4 HD cameras with self-learning video analytics	Yes	Yes	Yes
HD cameras with self-learning video analytics	Yes	Yes	Yes
HD Micro Dome, HD Multisensor, HD Panoramic, HD PTZ, H4 Fisheye, H4 SL cameras	Yes	Yes	Yes
ONVIF compliant cameras & encoders	Yes	Yes	Yes
Avigilon encoders	Yes	Yes	Yes
H.264 support	Yes	Yes	Yes
MPEG4 support	Yes	Yes	Yes
MJPEG support	Yes	Yes	Yes
JPEG2000 support	Yes	Yes	Yes

CLIENT	CORE	STANDARD	ENTERPRISE
Powerful, easy-to-use client interface	Yes	Yes	Yes
Self-learning video analytics overlay	Yes	Yes	Yes
Joystick support	Yes	Yes	Yes
ACC Mobile / HTML5 Web Client / Gateway	Yes	Yes	Yes
Saved views	No	Yes	Yes
Maps	No	Yes	Yes
Web pages	No	Yes	Yes
Windows user authentication	No	No	Yes
Editable Site View	Yes	Yes	Yes
Intelligent Virtual Matrix	No	No	Yes
Collaborative Investigations	No	No	Yes
Multi-camera export	Yes	Yes	Yes
Live export	Yes	Yes	Yes
Hourly configurable recording schedule	Yes	Yes	Yes

Correctional Center Master Control Upgrade Solution

SEARCHING	CORE	STANDARD	ENTERPRISE
Avigilon Appearance Search Technology	No	No	Yes
Intelligent motion search	Yes	Yes	Yes
Thumbnail search	Yes	Yes	Yes
Event search	Yes	Yes	Yes
POS transaction search	No	Yes	Yes
Alarm search	No	No	Yes
License plate event search	No	No	Yes

ADD-ON MODULES AND INTEGRATIONS	CORE	STANDARD	ENTERPRISE
Point of Sale Transaction Engine	No	Yes	Yes
Avigilon developed and supported integrations	No	Yes*	Yes
3rd party system integrations	No	Yes	Yes

*CommScope IPtch, RS2 AccessIL, DDS Aimadeus 5 and DSX only

ADDITIONAL FEATURES	CORE	STANDARD	ENTERPRISE
E-Mail event notification (motion & system event)	Yes	Yes	Yes
Central station notifications	No	Yes	Yes
Digital input email trigger	No	Yes	Yes
Manual digital output trigger	No	Yes	Yes
Audio recording	No	Yes	Yes
Audio output	No	Yes	Yes
Rule triggers	No	21	Unlimited
Self-learning video analytics event configuration	No	Yes	Yes
Redundant recording	No	No	Yes
Fallover connections	No	No	Yes
Alarm escalation	No	No	Yes
Scheduled and one-time video archive	No	No	Yes
License Plate Recognition	No	No	Yes

For the most current list of integrations and add-ons supported by Avigilon Control Center software, please visit avigilon.com

**Correctional Center Master
Control Upgrade Solution**

System Requirements

NOTE: For all Windows versions, it is recommended that the latest Microsoft service pack is deployed. NVR recording throughput and retention times can vary according to the number of cameras, camera resolution, estimated percent of motion, continuous recording settings and predefined retention period. For full server performance, choose an Avigilon Certified Solution option.

AVIGILON CONTROL CENTER CLIENT

AVIGILON CERTIFIED SOLUTIONS	DISPLAY MODEL NUMBER	KEY FEATURES
2 Monitor Professional High Performance Remote Monitoring Workstation	HD-RMWS3-2MN	<ul style="list-style-type: none"> • Preloaded with Avigilon Control Center (ACC) client software. • Supports high resolution monitors. • Includes the adapters and accessories for quick deployment. • Avigilon warranty and support included.
4 Monitor Professional High Performance Remote Monitoring Workstation	HD-RMWS3-4MN	
SOFTWARE SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows 7 (32-bit or 64-bit), Windows 8.1 (32-bit or 64-bit) or Windows 10 (32-bit or 64-bit) Microsoft .NET 4.6.2	Windows 10 (64-bit) Microsoft .NET 4.6.2
Processor	Intel® dual-core CPU (2.0 GHz)	Intel Core™ i5 (Quad-core, 3.3 GHz)
System RAM	4 GB DDR3	8 GB DDR4
Video Card	PCI Express, DirectX 10.0 compliant with 256 MB RAM	NVIDIA Quadro K620
Network Interface	1 Gbps	1 Gbps
Hard Disk Space	500 MB	500 MB

AVIGILON CONTROL CENTER SERVER

AVIGILON CERTIFIED SOLUTIONS	DISPLAY MODEL NUMBER	KEY FEATURES
HD NVR Premium	HD-NVR3-PRM-32TB / HD-NVR3-PRM-48TB / HD-NVR3-PRM-56TB / HD-NVR3-PRM-84TB	<ul style="list-style-type: none"> • Optimized for video surveillance applications in a 24/7/365 environment • ACC Server software is preinstalled, configured and enhanced for optimal system compatibility • Certified for the Avigilon surveillance environment - ACC software, LPR, Mobile Gateway, Analytics, HDSM and 1-30MP cameras • High throughputs of up to 1670 Mbps • Documented network architecture for a wide variety of applications • Avigilon enhanced warranty and premium support included • Access to Avigilon System Design Tool (SDT) to calculate storage requirements
HD NVR Standard	HD-NVR3-STD-16TB / HD-NVR3-STD-24TB	
HD NVR Value	HD-NVR3-VAL-3TB / HD-NVR3-VAL-12TB / HD-NVR3-VAL-18TB	
SOFTWARE SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows Server 2012, Windows Server 2012 R2, Windows 7 (64-bit), Windows 8.1 (64-bit) or Windows 10 (64-bit)	Windows Server 2012 R2
Processor	x86 64 bit dual-core (1.9 GHz)	Intel Xeon® E5 v3 (6 cores, 1.9GHz)
System RAM	4 GB DDR3	16 GB DDR4
Network Interface	1 Gbps	4 x 1 Gbps
Hard Drives	SATA-II 7200 RPM Enterprise Class Hard Drives	SATA-III 7200 RPM Enterprise Class Hard Drives

AVIGILON CONTROL CENTER SERVER WORKSTATION

AVIGILON CERTIFIED SOLUTIONS	DISPLAY MODEL NUMBER	KEY FEATURES
HD Video Appliance	VMA-AS1-8P2 / VMA-AS1-8P4 VMA-AS1-16P06 / VMA-AS1-16P09 / VMA-AS1-16P12 VMA-AS1-24P09 / VMA-AS1-24P12	<ul style="list-style-type: none"> • Preloaded and configured with Avigilon Control Center (ACC) video management software • High-performance recording capacity • Throughputs of up to 336 Mbps • Avigilon warranty and support included • Access to Avigilon System Design Tool (SDT) to calculate storage requirements
ACC ES HD Recorder	VMA-RPO-4P2 / VMA-RPO-4P4	
ACC ES Analytics Appliance	VMA-RPA-4P2 / VMA-RPA-4P4	
HD NVR Workstation	HD-NVRWS3-8TB	
SOFTWARE SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows Server 2012, Windows Server 2012 R2, Windows 7 (64-bit), Windows 8.1 (64-bit) or Windows 10 (64-bit)	Windows 10 (64-bit)
Processor	Intel Quad-core CPU (2.0 GHz)	Intel Core i5 (Quad-core, 3.3 GHz)
System RAM	4 GB DDR3	8 GB DDR4
Network Interface	1 Gbps	1 Gbps
Video Card	PCI Express, DirectX 10.0 compliant with 256 MB RAM	NVIDIA Quadro K620
Hard Drives	SATA-II 7200 RPM Hard Drives	SATA-III 7200 RPM Hard Drives

AVIGILON APPEARANCE SEARCH TECHNOLOGY

Avigilon Appearance Search technology requires the ACC Analytics Service to be installed on the same computer as the ACC Server software, and must meet the listed system requirements:

AVIGILON CERTIFIED SOLUTIONS	DISPLAY MODEL NUMBER	KEY FEATURES
Analytics Kit for Avigilon Appearance Search Software	HD-NVR3-ANK1-1	<ul style="list-style-type: none"> Tested and verified to provide enough processing power to run Avigilon Appearance Search feature.
SOFTWARE SYSTEM REQUIREMENTS		
NVIDIA CUDA Compute Capability	5.0 or above	
GPU Memory	4 GB or above	

AVIGILON CONTROL CENTER GATEWAY

Avigilon Control Center Gateway can be installed on the same computer as the ACC Server software, but for optimal performance results it is recommended that the Gateway be installed separately. The Gateway can handle up to 36 concurrent video streams if installed on a computer with the listed requirements (with recommended specs).

SOFTWARE SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows Server 2012, Windows Server 2012 R2, Windows 7 (64-bit), Windows 8.1 (64-bit) or Windows 10 (64-bit) Microsoft .NET 4.6.2	Windows 10 (64-bit) Microsoft .NET 4.6.2
Processor	Intel quad-core CPU (2.0 GHz)	Intel Core i5 (Quad-core, 3.3 GHz)
System RAM	4 GB DDR3	8 GB DDR4
Hard Disk Space	500 MB	500 MB

AVIGILON CONTROL CENTER WEB CLIENT

Avigilon Control Center Web Client can be accessed from the listed web browsers.

Web Browsers	Internet Explorer version 9.0 or later Chrome version 20 or later	Firefox version 15 or later Safari version 9.0 or later

AVIGILON CONTROL CENTER MOBILE 2.X

Avigilon Control Center Mobile (ACC Mobile) version 2.x is currently only available for the listed device platforms.

Platforms	Android version 4.x or 5.x	iPad with iOS 7, 8 or 9 iPhone with iOS 7, 8 or 9 iPod Touch with iOS 7, 8 or 9

AVIGILON CONTROL CENTER MOBILE 3.X PREVIEW

ACC Mobile version 3.x is currently only available for the listed device platforms and requires the ACC Web Endpoint software. The ACC Web Endpoint software comes pre-installed on ACC ES HD Recorder and ACC ES Analytics Appliance. For NVR systems and HD Video Appliances, it should be installed on the same server as the ACC Server software.

Platforms	Android version 5.0 or later	iPad with iOS 9 or later iPhone with iOS 9 or later iPod Touch with iOS 9 or later
Processor	n/a	64-bit (Apple A7 or later)

AVIGILON CONTROL CENTER LPR PLUGIN

Avigilon Control Center LPR Plugin is supported on the listed operating systems.

Operating System	Windows 7 only

Intercom and Paging System

EXISTING SYSTEM - THE PROBLEM

The existing intercommunication and paging system is based on Telecor’s T3 system. It is a single-channel Analog System with limited 4-channel analog audio between Master Control and the Admin/Core areas of Building C. This architecture limits communication between the workstations and field devices and often results in blocked or “busy” connections. The interface to the Touchscreen Control System is carried out via a single serial communications bus, which often causes system delays or complete system failures if that one connection goes down.

NEW SYSTEM - THE SOLUTION

To resolve this issue, we will replace the antiquated Telecor T3 System with a new IP-based Harding Instruments (Harding) DXL system. This robust system combines industry standard Ethernet communications for a multi-channel digital audio bus and Ethernet communications to the IP master stations.

This new system architecture makes “call blocking” virtually impossible. The DXL system is compatible with standard call-stations and speakers, thus eliminating the need to replace the field devices and cabling. ESITECH has worked with Harding to create an interface board that uses the Telecor station connectors. This allows the existing stations and speakers to be reconnected in a simple “plug and play” method, thereby reducing downtime and wiring errors.

Individual level adjustments and digital filters help balance a system and compensate for varying room acoustics. This allows for programmable high amplitude and frequency tuning to trigger an alarm event or **SCREAM ALERT**. The parameters of the event are fully programmable for delay and duration.

Summary of Work: Replace all Telecor Security Intercom Controllers with Harding Instruments DXL IP-based Intercom System. Existing cabling, intercom stations and speakers will remain. Existing Administrative Control Stations (Masters) will be replaced with Harding IP Units.

INTERCOM AND PAGING SYSTEMS — DESIGNATED UPGRADE LOCATIONS

LOCATION	ITEM(S) TO BE REPLACED
Building C - Master Control	(2) DXL Exchanges supporting (175) Wall Stations and (40) Paging Zones
Building C - Booking	(1) DXL Exchange supporting (50) Wall Stations and (10) paging zones
Building C - 2A-F	(6 Total Units) Each Unit to receive (1) DXL Exchange supporting (50) wall stations and (10) Paging Zones
Building C - 3A-F	(6 Total Units) Each Unit to receive (1) DXL Exchange supporting (50) wall stations and (10) Paging Zones
Building A - CC1.1	(2) DXL Exchanges supporting (200) Wall Stations and (20) Paging Zones
Building B - CC2.1	(2) DXL Exchanges supporting (175) Wall Stations and (40) Paging Zones
Building B - CC2.2	(1 Total Unit) (1) DXL Exchange supporting (125) Wall Stations and (30) paging zones
Building B - CC2.3	(1 Total Unit) (1) DXL Exchange supporting (100) Wall Stations and (30) paging zones
All Control Locations	New Master Phones will be provided at all (20) control locations

HARDING INSTRUMENTS MICROCOMM DXL SYSTEM

Harding Instruments is an engineering development and manufacturing firm that produces advanced electronic systems and devices for the worldwide market. Their MicroComm DXI and DXL digital intercom systems are employed in prisons and high security facilities across North America.



The MicroComm DXL digital intercom system is specifically designed to meet the rigorous demands of correctional, industrial, and high security applications. Proven performance and reliability in a large number of facilities throughout North America makes MicroComm the number one choice of design professionals, system contractors, and facility owners.

MicroComm digital technology provides a high level of performance and a large feature set at a competitive price. A flexible, distributed architecture reduces wiring and minimizes the cost of installation. MicroComm systems are ideally suited for adding functionality and flexibility when retrofitting relay switched intercom systems.

Clear, crisp and intelligible communications are coupled with functions such as audio level alarm detection and discrete audio monitoring to provide a powerful communications system. A software-based configuration ensures that a MicroComm system is flexible enough to meet future operational needs.

Rugged construction, fault tolerant design, and comprehensive diagnostics make a MicroComm system easy to install and maintain. Modular construction simplifies the coordination of phased construction and facility renovations.

** See MicroComm DXL Product Literature at the end of this section for additional information*



MicroComm

DIGITAL INTERCOM SYSTEMS



MicroComm DXL digital intercom systems are specifically designed to meet the rigorous demands of correctional, industrial, and high security applications. Proven performance and reliability in a large number of facilities throughout North America makes MicroComm the number one choice of design professionals, system contractors, and facility owners.

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Rugged construction, fault tolerant design, and comprehensive diagnostics make a MicroComm system easy to install and maintain. Modular construction simplifies the coordination of phased construction and facility renovations.

Key Benefits

Clear, crisp audio is the hallmark of a MicroComm system. Excellent speech quality reduces operator stress and minimizes safety concerns. Individual level adjustments and digital filters help to balance a system and compensate for varying room acoustics.

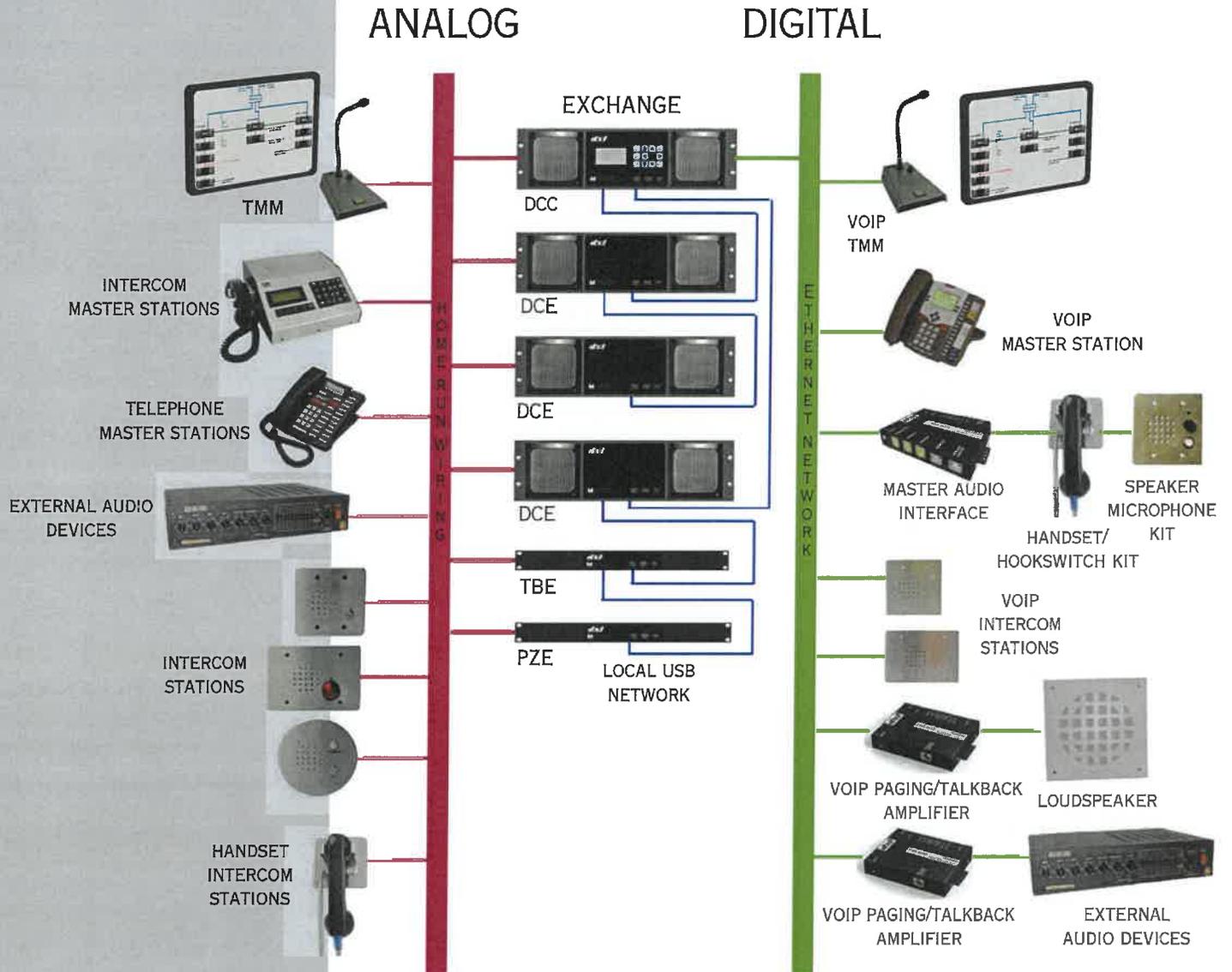
MicroComm systems are reliable and require low maintenance. Digital switching eliminates the use of relays and their corresponding reliability issues. MicroComm systems are software configurable, making implementation of changes or additions straight forward. Extensive diagnostics provide you with the tools to quickly identify a problem. The overall result is a system with low ongoing maintenance costs.

A single pair of wires multiplex audio and switch closure information from a station. The reduced number of cables means lower installation costs. Fiber optic trunking allows the system to be distributed across several buildings without copper wire connections providing protection from potential lightning damage.

Configuration software allows the system operation to be changed for different times of the week and different times of the day. Modular construction provide the option to easily expand the system at a future date.

MICROCOMM DXL

MicroCommDXL digital intercom system has been designed to be cost effective for applications in facilities that range from small jails to large distributed complexes with thousands of intercom stations and dozens of master stations.



DXL SYSTEM CAPACITIES

	PER DCC/DCE	PER EXCHANGE	PER SYSTEM
ANALOG MASTERS	2	10	480
VOIP MASTER STATIONS	13	13	624
ANALOG INTERCOM STATIONS	32	160	7,680
VOIP INTERCOM STATIONS	200	200	9,600
FULL DUPLEX HANDSETS	16	80	3,840
ANALOG AUDIO LINE INPUTS/OUTPUTS	34	170	8,160
VOIP AUDIO LINE INPUTS/OUTPUTS	13	213	10,224

*NOTE: STATED CAPACITIES ARE THE MAXIMUMS FOR EACH TYPE. DEVICE CAPACITIES ARE MUTUALLY EXCLUSIVE.



MicroComm DXL

DXL System Data Sheet

Description

The MicroComm DXL digital intercom system is designed to be cost effective for applications with widely distributed architectures and those of a smaller scale. It is also ideally suited for adding functionality and flexibility when retrofitting relay switched intercom systems. A comprehensive feature set gives the MicroComm DXL the power to handle projects with the most demanding requirements, and like all MicroComm family members, it incorporates digital audio technology and provides a high performance, rugged, and reliable communication solution.

Two basic building blocks form the backbone of the system. Digital Communication Controllers (DCC) are the master component of each exchange and can be interconnected to form larger systems. They incorporate the exchange processor, control software, configuration data, and network ports as well as the intercom station, master station, and audio interface boards. Digital Communication Expanders (DCE) and Talk Back Expanders (TBE) are used to increase the capacity of each exchange. Up to four DCE and/or TBE expander units can be connected to each DCC controller.

The MicroComm DXL is compatible with the same set of intercom stations, master stations, and call devices as the rest of the MicroComm family. The wide and growing variety of standard stations and specialty stations is therefore available for your use, regardless of which MicroComm system you choose.

A key feature of the MicroComm DXL is the DXL Administrator Software. This Windows Explorer style user interface runs on a standard PC and provides system configuration, logging, and diagnostic functions. With its easy to follow tree structure, simple to understand data entry dialogs, copy and paste device creation feature, and built-in device libraries, a MicroComm DXL is easy and quick to program.

FEATURES

System Architecture

- Simple, modular system architecture
- Digital audio trunks and signal processing
- Each exchange can function independently
- Exchanges can be networked to form large systems
- Unrestricted communications within each exchange
- Twenty-six channel audio trunk interconnects exchanges
- Supports MicroComm family master stations
- Full touch screen and graphic panel master control
- Telephone sets provide administrative master functions
- Supports MicroComm family intercom stations
- Supports generic 25 volt intercom stations
- Supports MicroComm Discrete Input/Output modules
- 64 x 128 pixel graphics display



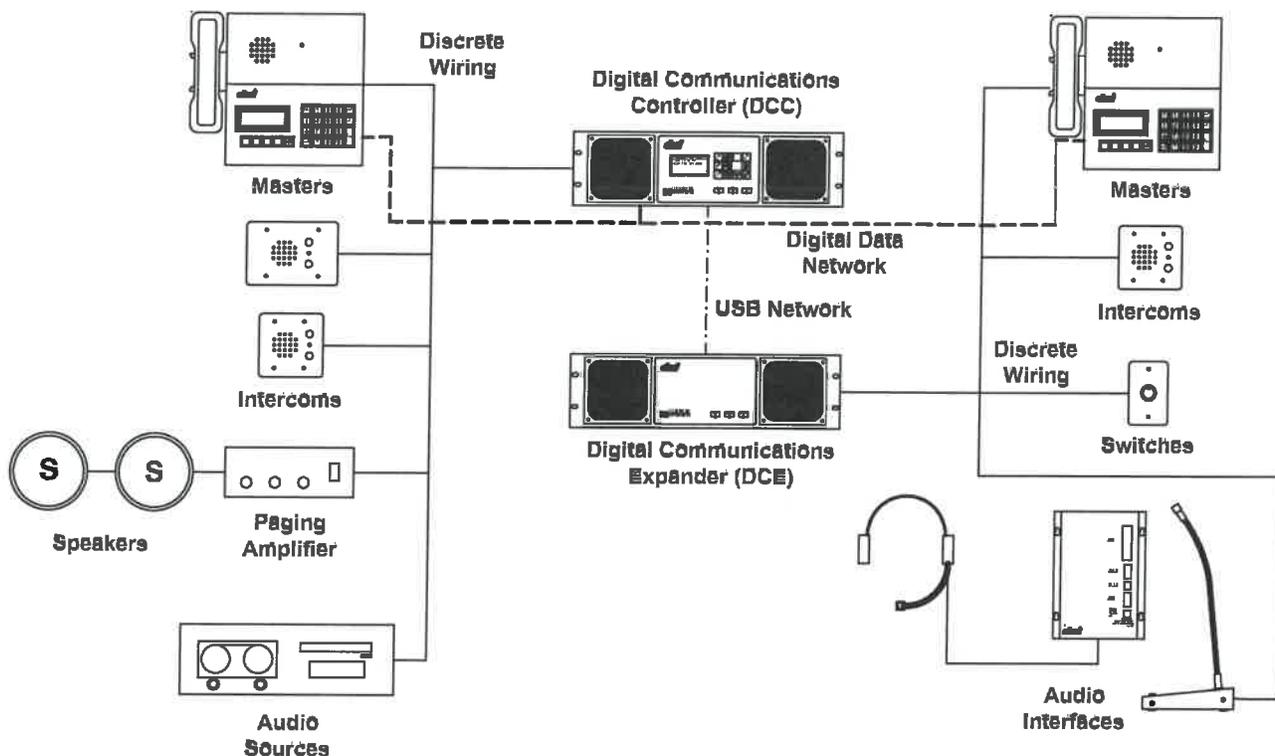
- Eleven button keypad with menu driven interface
- Built-in monitoring and self-test routines

Operating Features

- Paging and program distribution to audio outputs and stations
- Audio Level Alarm threshold detection
- Sequential and group audio listen-in monitoring
- Hands free and press-to-talk operator control
- Multiple priority levels for each category
- Individual audio control for each channel
- Master groups for parallel operator control
- Six program distribution channels in each exchange
- Six system wide program distribution channels
- Flexible operational tone signaling
- Time clock and event controlled tone signaling
- Tones and messages recorded as WAV audio files
- Master station and visiting booth call recording
- Unit unmanned and time out call forwarding
- Call and program switch enabling/disabling
- Flexible display master menu architecture
- CCTV switcher and visiting booth support

DXL Administrator Software Features

- Windows Explorer style configuration



DXL Exchange

- Operates on standard PC or laptop computer
- Loads and validates configuration files
- Functions both on-line and off-line
- Provides configuration, logging, and diagnostics
- Devices displayed in both tabular and window formats
- Device library included for standard devices
- Add new devices with copy and paste commands
- Remote system access available via modem
- Manages the entire system through a single port
- Manages system security features

Specifications

General	
Audio band width	300-3,500 Hz
Audio Signal Processing	Digital
Audio Switching System	Digital Time Space Switching
Control Network	Ethernet and USB
I/O Network	LonWorks

Identification Numbers (up to 5 digits)	99999
DCC/DCE Capacity	
Intercom Stations (half duplex)	32
Master Stations	2
Audio line inputs	2
Audio line outputs	2
Exchange Capacity	
Intercom Stations (half duplex)	160
Master Stations	10
Audio line inputs	10
Audio line outputs	10
System Capacity	
Exchanges	32
Intercom Stations (half duplex)	5120
Audio Line Inputs	320
Audio Line Outputs	320

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Represented by:

Access Control System

EXISTING SYSTEM - THE PROBLEM

The existing Infographics Sapphire Access Control System is well beyond its original life expectancy (it has been discontinued) and no longer supported by any manufacturer. In 2009, United Technologies (UTC) purchased GE Security and subsequently discontinued the entire Infographics product line. Spare parts are no longer available. Factory support is no longer available.

NEW SYSTEM - THE SOLUTION

Our team will replace the Current Infographics Sapphire Access Control System with **Avigilon Enterprise Access Control System**. We will work with the Virginia Beach Sheriff's Office to meet any and all needs for card access control of facility access (based on discussions during the post-award planning study).

AVIGILON ENTERPRISE ACCESS CONTROL SYSTEM

The Avigilon Access Control System will be fully-integrated into the ESITECH Touchscreen Control System. The Avigilon Access Control Manager (ACM) system is an IT-friendly Physical Access Control System (PACS) designed for enterprise-class installations. This particular system is complete and is specifically designed to keep you focused on securing your people, property and assets, while maximizing efficiency in time management by helping you respond to alerts immediately from any location.

AVIGILON



This ACM system:

- Is a cloud-based solution that can integrate with existing IT/HR systems, minimizing the need for duplicate data entry.
- Includes a full set of standard features to help you maximize your time while safeguarding your information.

Avigilon Access Control Features:

- **Future-Proof Technology** with Open, Non-Proprietary Architecture and a Built-In Network Reserve
- No thick client software needed to install on PC's – 100% Web-Based
- No Software Support FEES or recurring costs
- Linux-Based Server
- LDAP Integration with Active Directory Database - saves time
- Avigilon Tech support will talk with end users directly – 24/7 tech support

Open Access Control: This ACM system integrates with open-field hardware from Mercury Security for locations which require a transition from proprietary to open architecture access control. Our approach is to replace the non-sustainable components with a supported platform while re-using the existing, viable components.

SUMMARY OF WORK

- Replace Existing Infographics Sapphire Access Control System with Avigilon Enterprise Access Control System
- ESITECH and Avigilon have previously integrated their Corrections Controls systems at multiple Correctional Facilities throughout the United States.
- Our team will replace the outmoded system with the new Avigilon Access Control System Solution as follows:
 - Replace all existing card readers

- Update and transfer existing customer data base to new Avigilon System
- Combine the existing fiber trunk with new POE switches (located in existing spaces) with UPS and Fiber Interconnect.
- Re-purpose existing Conduit and install new conduit that meets VDOC requirements in secure areas.
- All open run Cabling will have plenum jacket.
- Replace all existing card readers with HID SE Multiclass Card readers which support a variety of high frequency ISO 15693, ISO 14443A/B and low frequency 125kHz credential technologies. Existing credentials can be reused, however, moving forward new technology cards can be utilized with no hardware upgrades.
- Badging Software Module included.

** See Avigilon Access Control Product Literature at the end of this section*

Avigilon Access Control Manager (ACM) Systems

The Access Control Manager (ACM) system is an IT-friendly Physical Access Control System (PACS) from Avigilon for enterprise-class installations. It's a complete system that is designed to keep your focus on securing your people, property and assets, and maximizing your time by helping you respond immediately to alerts wherever you are. The ACM™ system is a browser-based solution that can integrate with existing IT/HR systems, minimizing the need for duplicate data entry. It comes with a full set of standard features that not only help to maximize your time, but will reliably safeguard your information

Accessible from anywhere

Our 100% browser-based ACM solution is accessible from any location (via the internet) using any device with a browser, anytime, and allows the system to be managed by multiple operators simultaneously. Whether using ACM Enterprise or Virtual system, all changes are automatically synchronized across the entire access system, displaying only the most up-to-date information.

Integrations

Avigilon provides all-in-one solutions to support your most critical business activities. By combining video management, wireless locking and visitor management into a powerful access management solution, security teams can assess and respond with optimum situational awareness, keeping your facility running efficiently and with a higher level of security.

Avigilon key to open access control

The ACM system integrates with open-field hardware from Mercury Security for businesses that need to move from proprietary and, in some situations, unsupported hardware to a supported access control system. Replace your existing system with a supported platform that preserves a large portion of the existing system investment. ACM provides enterprise-class capability without the enterprise overhead

Video Integration

The ACM system integrates with Avigilon ACC video platform to provide video linked events within the ACM system so you can have video to support activity on the Access system such as valid card reads, forced door events, door prop alarms etc.

ALSO:

No thick client software needed to install on PC's – 100% Browser Based

No Software support fee charges or recurring costs

Linux Based Server

LDAP Integration with Active Directory Database - saves time

Avigilon Tech support will talk with end users directly – 24/7 tech support

Portability- able to access the software from any device anywhere



Enterprise Access Control System

Avigilon Access Control Manager (ACM)[™] Systems

The Access Control Manager (ACM) system is an IT-friendly Physical Access Control System (PACS) from Avigilon for enterprise-class installations. It's a complete system that is designed to keep your focus on securing your people, property and assets, and maximizing your time by helping you respond immediately to alerts wherever you are. The ACM system is a browser-based solution that can integrate with existing IT/HR systems, minimizing the need for duplicate data entry. It comes with a full set of standard features that not only help to maximize your time, but will reliably safeguard your information.

Five reasons to deploy an ACM enterprise system

1. Manage enterprise access and events on your terms and with the devices you use everyday
2. Capitalize on company investment into existing hardware and software
3. Integrate enterprise HR and Identity and Access Management (IAM) information to connect physical security systems together
4. Map enterprise roles to physical access to enforce policy restrictions
5. Connect critical alarm events by combining the ACM system with Avigilon Control Center (ACC)[™] software to display visual verifications

Secure, Linux operating system

The ACM system helps companies stay ahead of network security issues by deploying an access system that provides exceptional protection at every turn. Using an open-source Linux platform provides an extra layer of security against network vulnerabilities. This can decrease system maintenance and eliminate the cost of operating system licenses and upgrade fees.

Physical and logical security convergence

The ACM system approaches identity management in a unique way. Our system synchronizes core security information across peer-to-peer networks in real time, ensuring all operators see the most up-to-date information. This core technology, along with automatic redundant failover solutions, increases system uptime and protects valuable data, allowing IT departments more time to focus on other operational tasks.



Performance-Driven Features

- 100% browser-based PACS
- Access, video and intrusion event and alarm management
- Open architecture (Open LDAP and Open-field hardware)
- Hot standby-auto failover (System failover redundancy)
- Global anti-passback
- Global linkages and actions
- Global synchronization of access information
- Role-based authorizations and policy enforcement
- Collaborations (Data exchange between the ACM system and other databases)
- Graphical maps and floor plans
- Digital video integration
- Wireless lock integration
- Intrusion panel integration
- Mustering (emergency tracking and reporting)

All the PACS, Without the Pain

Accessible from anywhere

Our 100% browser-based ACM solution is accessible from any location (via the internet) using any device with a browser, anytime, and allows the system to be managed by multiple operators simultaneously. Whether using ACM Enterprise or Virtual system, all changes are automatically synchronized across the entire access system, displaying only the most up-to-date information.



Powerful features that are included

The ACM system includes powerful features that are typically only offered as licensable options by other manufacturers.

- 50 concurrent client connections
- Mustering (occupancy/emergency tracker and locator)
- Video Integration to ACC software

Integrations

Avigilon provides all-in-one solutions to support your most critical business activities. By combining video management, wireless locking and visitor management into a powerful access management solution, security teams can assess and respond with optimum situational awareness, keeping your facility running efficiently and with a higher level of security.



Event correlation and alarm monitoring

Connecting access events with ACC software and other compatible 3rd party video management systems so security teams can visually act and respond to critical alarm events. This provides a visual verification of unauthorized activities in and around your facility.

Emergency response and occupancy

The ACM system helps to protect your people, property and assets with a built-in emergency tracker and locator system called "mustering". Mustering dynamically tracks and records personnel location by area using an interactive graphical map and dashboard view. Whether you're tracking occupancy levels or assembling personnel in an emergency, the ACM system provides you with a real-time view of your facility, keeping personnel safe.



Advanced reporting — use all available information

The ACM system saves you valuable time when it comes to audit trail searching and reporting. Using an enhanced reporting engine, it provides the operator with the ability to search on user-defined fields, so security teams can assess and act on critical user-created data.

Powerful Enterprise Solution

A successful enterprise access control solution should allow you to focus on securing your people, property and assets without consuming your time with system management. Every aspect of the ACM system is designed to keep you focused externally, freeing up more operational time by providing the information you need to improve safety and resolve incidents. The ACM system interface keeps most system operations at your fingertips. Its user-friendly navigation allows you to manage and effectively report and act on critical security events.

Alarm management and video interface

Visual context for alarm events



Personnel locator and occupancy tracker

Enhance the safety of key personnel



Intrusion event monitoring and control

Correlate alarms with system actions



Reporting

Track and record relevant activities



Advantages for Avigilon

Key System Advantages:

- Avigilon provides a complete, open, easy-to-use, end-to-end Security System Solution – including a powerful browser-based access control solution, Video Management Software, NVR/Servers, Workstations, and all-in-one HD Appliances, the broadest range of megapixel cameras that range from 1MP to 30MP, and self-learning Adaptive Analytic Cameras from 1MP to 16MP.
- Maximum clarity with minimum bandwidth - Our High-Definition Stream Management (HDSM) technology preserves complete image integrity through visually lossless compression, while intelligently managing bandwidth and storage.
- A system that's smart, intuitive and easy to use - Find scene changes, missing objects and events with Avigilon Control Center - the industry's quickest high-definition video search. We give you full control over surveillance video playback, allowing you to quickly retrieve evidence and speed up response times and investigations.
- Smarter analytics technology, built on HD - With a backbone built on sharper HD video, Avigilon offers a smarter analytics solution that is unparalleled in the industry. Through the use of high definition video analytics, pattern-based analytics algorithms and teach by example capabilities, Avigilon is leading the industry in providing preventative protection through superior self-learning video analytics technology.
- Superior prevention, superior image detail, pre and post-incident protection - The combination of instant and accurate object detection and classification alerts, with the identification performance of high definition video, provides users with an unmatched level of protection to keep both personnel and assets safe. Avigilon analytics, paired with our 1 – 3 MP high definition cameras, provide unmatched perimeter protection, while our high resolution HD Pro cameras (4 – 7K, based on horizontal resolution) provide the coverage and detail needed for identification and verification of irrefutable evidence.
- Unparalleled image detail. Unrivaled value - Reduce your costs with an Avigilon high-definition surveillance system. No annual software licensing fees. Free 24/7 technical support. Replace countless VGA cameras with one Avigilon high-definition camera. And reduce training time with our easy-to-use system.
- Don't miss a thing...Always-on technology - Securing multi-site areas with guards is expensive, and security personnel can't be everywhere all the time. Avigilon's analytics solutions can monitor an area 24/7/365 - and will not look the wrong way or even blink. Get peace of mind with your existing system, knowing you're covered all the time, any time.

- Avigilon Access Control Manager - When it comes to ensuring safety, preparing for emergencies and protecting your people and assets, time is of the essence. Physical Access Control Systems (PACS) are critical in ensuring safety, yet traditional PACS are often manual, expensive and time consuming to use and learn. Avigilon Access Control Manager puts time back on your side by allowing you to protect your assets and personnel anytime, from anywhere, with ease. The result is a more effective security deployment with a lower total cost of ownership.
- Time to respond faster...Respond to alerts anytime, from anywhere - Avigilon Access Control Manager is browser-based and can be accessed anytime, from anywhere with an internet connection, including mobile devices. Whether it's terminating employee access, putting a facility into lockdown or responding to a security breach, ACM gives you the power to respond within seconds. The end result is peace of mind and complete safety, around the clock.
- Be prepared all the time...Digital mustering for emergency planning - Time to ensure employees have evacuated in an emergency should take no longer than the evacuation itself. ACM's mustering functionality uses information generated from the swiping of access cards to get real insight into everyone's location at all times. This allows you to act quickly and deploy first responders to the scene immediately by providing visibility into the number of personnel moving in and out of designated emergency areas.

For more detailed information on our award-winning, easy-to-use, open, end-to-end security solution please contact me to schedule a product demonstration.

TRUSTED SECURITY SOLUTIONS™



AVIGILON

AVIGILON CONTROL CENTER (ACC) FEATURES

- Distributed network platform with enterprise-class reliability that efficiently captures, manages and stores HD video while intelligently managing bandwidth and storage.
- Open platform - ONVIF Profile S conformant
- Advanced open integrations through an SDK
- Self-learning Video Analytics - no initial setup and continuous learning of the scene providing real-time events and forensic capabilities that detect and notify scene changes and rule violations.
- Appearance Search including vehicles, people and facial – Works with Avigilon analytic cameras to generate, record and classify video meta-data for advanced effective searches.
- HDSM patented bandwidth management – Efficiently compresses and preserves image quality while intelligently managing HD image transmission throughout the Avigilon system. HDSM sends only the requested portions of captured images to an operator's workstation.
- Intelligent video search – powerful search tools that enable users to search recorded video for motion, classified objects (people/vehicles), background changes and events.
- Advanced alarm and rule management - easy to configure alarms and rules utilizing analytics to alert staff of incidents.
- Alarm Escalation – complete end-to-end workflow for monitoring, assignment and acknowledgement of alarms.
- Extremely fast and efficient video searches
- Proprietary database – no SQL dependencies
- Easy to use platform
- Automatic firmware updates to Avigilon cameras – never have to worry if your cameras are running the latest firmware.
- Made in America – majority of products are made in Plano, TX
- No fee for technical support - support is available 24/7/365
- No reoccurring software license fees or software maintenance fees
- Free onsite and online trainings and tutorials
- Dell server and storage hardware and support (Avigilon Branded) – Avigilon is one of Dell's largest OEM Partners
- Smart Codec technology – advanced bandwidth management that automatically optimizes compression levels for regions in a scene to minimize bandwidth while still maintaining image quality - can save 50% - 60%+ on storage requirements.
- Avigilon Presence Detector – utilizes impulse radar with self-learning analytics that accurately detect the presence of a person even if they have stopped moving or are hidden. It detects presence through blankets, cardboard, wood and drywall.
- ACC mobile platform for Android and IOS devices
- POS transaction engine
- Three license editions including Core, Standard and Enterprise
- Avigilon LPR Plugin utilizes to capture and store vehicle license plates
- Advanced integration with central station alarm monitoring systems

Fully-Integrated Master Control System

The current system is based on twenty-two (22) stand-alone security workstations that must be managed and maintained individually. This type of architecture causes increased administrative and maintenance costs, as each station's hardware and software must be handled separately. System reporting is cumbersome and limited, as actions and events are only stored locally (on each individual workstation) and face the possibility of loss if the station fails.

Our plan includes upgrading the Integrated Touchscreen Control System with a new redundant client/server based Integrated Touchscreen Control System which provides full automation/integration to all sub-systems and new high-powered workstations with High Definition (HD) Touchscreen and Video Monitors. This system architecture encompasses centralized system and user management for security and administrative personnel and features a centralized event and action database for system-wide reports which are fully customizable by the user.

In accordance with the specifications of the RFP, our team will design, fabricate and implement technology and operational upgrades to the existing electronic security systems and control operations at the Virginia Beach Correctional Center.

MASTER CONTROL ROOM INTEGRATION

In addition to the security system upgrades, the existing Master Control Room at the facility will be redesigned and outfitted with new control consoles that will provide enhanced ergonomics and a more efficient workspace for the system operators.

The Re-Design and Renovations to the Master Control Room Include:

- Addition of two (2) Touchscreen Control Stations to the area. This new configuration will expand the operation from the current number of four (4) workstations to a total of six (6).
- Each workstation located in the renovated Master Control Room will be equipped with:
 - (1) New Dell Precision Class PC;
 - (1) new ELO 24" Touchscreen Monitor; and
 - (2) new 24" LED Video Monitors.
- Each of the additional sixteen (16) existing Touchscreen Control Workstations located outside of the Master Control Room will also be equipped with:
 - (1) New Dell Precision Class PC;
 - (1) new ELO 24" Touchscreen Monitor; and
 - (2) new 24" LED Video Monitors.
- The latest version of ESITECH Security Software—including **Wonderware 2017**, will be loaded onto each of the **twenty-two (22) Workstation PC's**.
- Each workstation will be equipped with a new IP Administrative Master IC Station.

One significant component of the technology upgrade to the security operations at the facility. At the heart of the upgraded operation is replacement of the existing security control PLC (Programmable Logic Controller) CPUs and communication devices.

We will outfit each of the existing head end equipment locations noted below with New GE RX3i CPUs and Communication Devices. The existing Expansion Racks, I/O Modules and Cabling are of the most current technology and as such, are not being replaced under this proposal. The locations designated for the PLC upgrades are:

CONTROL ROOM PLCs — DESIGNATED UPGRADE LOCATIONS

LOCATION	ITEM(S) TO BE REPLACED
Building C - Master Control	Redundant Controllers
Building C - Booking	1 Unit
Building C - 2A-F	6 Units
Building C - 3A-F	6 Units
Building A - CC1.1	1 Unit
Building B - CC2.1	1 Unit
Building B - CC2.2	1 Unit
Building B - CC2.3	1 Unit

VIDEO MANAGEMENT SYSTEM INTEGRATION

The existing Video Management System (VMS) will receive a technology upgrade and head end equipment replacement. The upgraded VMS operation is based on the latest Operating Platform and Software designed by Avigilon. The new VMS operation will be fully integrated with the other security subsystems being upgraded. It will also operate on a standalone basis, particularly when it comes to how recorded video is accessed and reviewed with the client viewer software. The Avigilon VMS is a user-friendly interface and will allow the users to quickly adapt to the new platform.

INTERCOM AND PAGING SYSTEM INTEGRATION

To integrate with the Master Control System, the existing Telecor Paging and Intercom head end equipment will be replaced with a new Harding Instruments DXL IP-based Intercom System. All existing intercom stations and paging speakers will be replaced.

Per the RFP, the existing cable plant will be used in support of the new field devices. As mentioned above, all of the existing Administrative Control Stations (Masters) will be replaced with Harding IP Units. The existing Telecor head end locations designated for the upgrades and their associated number of paging zones are as follows:

INTERCOM SYSTEM — DESIGNATED UPGRADE LOCATIONS

LOCATION	ITEM(S) TO BE REPLACED
Building C - Master Control	(2) DXL Exchanges supporting 175 Wall Stations and 40 Paging Zones
Building C - Booking	(1) DXL Exchange supporting 50 Wall Stations and 10 paging zones
Building C - 2A-F	(6 Units) Each Unit to receive (1) DXL Exchange supporting 50 wall stations and 10 Paging Zones
Building C - 3A-F	(6 Units) Each Unit to receive (1) DXL Exchange supporting 50 wall stations and 10 Paging Zones
Building A - CC1.1	(2) DXL Exchanges supporting 200 Wall Stations and 20 Paging Zones
Building B - CC2.1	(2) DXL Exchanges supporting 175 Wall Stations and 40 Paging Zones
Building B - CC2.2	(1) DXL Exchange supporting 125 Wall Stations and 30 paging zones
Building B - CC2.3	(1) DXL Exchange supporting 100 Wall Stations and 30 paging zones

INSTALLATION SCHEDULE

With respect to the installation and retrofit process, the first item on the agenda for this element of the project will be to meet with the operating staff to discuss and finalize logistics, phasing plans and scheduling of escorts for our staff to accomplish the work.

Once an implementation plan is agreed upon and in place—if preferred, our team will perform a facility-wide investigation of locks and position switches. We will attempt to ascertain if there are any current operational irregularities or defects in the field devices not slated to be replaced. At this point, if defects are found, they will be verified by our team and the maintenance staff, and we will work with the City of Virginia Beach Correctional Center to develop a solution.

Our team will then move on to the task of replacing the systems and devices on a per area basis. Upon completion of an area, the new operating system will be brought on line, tested and made ready for turnover. This will include user training on the new Touchscreen Operating System is provided. Until such a time as the retrofit work in all areas within the entire facility is complete, the existing security system will remain operational and running on a concurrent basis with the upgraded operations. Once we have completed upgrading all areas, a facility-wide testing and final commissioning process will take place with the Using Agency in observance.

Our proposal assumes that the UPS and 120 volt power is provided by a generator set, and is sufficient and readily available for the new systems we will install.

CONTROL ROOM PROGRAMMABLE LOGIC CONTROLLER (PLC) EXISTING SYSTEM - THE PROBLEM

The existing PLC system is based on GE's 90-30 PLC system with a mixture of 10Mb Ethernet and Proprietary GENIUS bus communications between nodes (equipment rooms). There are currently eighteen (18) individual PLC nodes spread throughout buildings A, B & C. Though still produced by GE, the 90-30 CPU system has been designated as End-of-Life (EOL). The 90-30 I/O Modules are still considered active and updated and have not been designated EOL. The existing Control Components consisting of terminal and fuse blocks, relays and power supplies are manufactured by Phoenix Contact. These are current products and do not require replacement.

CONTROL ROOM PROGRAMMABLE LOGIC CONTROLLER (PLC) NEW SYSTEM - THE SOLUTION

To resolve the issues, we will upgrade the 90-30 CPU and associated racks to the new GE RX3i platform. This platform allows the existing 90-30 I/O modules, existing control components and existing cables to be re-used, resulting in a significant reduction in cost and a significant reduction in downtime during system upgrades. Additionally, the new RX3i platform allows us to re-use the existing PLC program (modified for modern functions and upgrades), thus enabling Faster, more Effective System Development and Deployment. By integrating the new RX3i platform, we can upgrade your entire PLC network to the most Robust, Non-Proprietary, 100Gb Ethernet standard.

Summary of Work: Replace Control Programmable Logic Controllers (PLCs)—all Master Control Room PLC CPUs and communication devices with new GE RX3i CPUs and Communication Devices. Expansion Racks, I/O Modules and Cabling are current and not replaced under this proposal.

GE PACSYSTEMS RX3i PLATFORM

The PACSystems* RX3i controller provides the foundation for Industrial Internet connectivity. It is a powerful, modular Programmable Automation Controller with a focus on high availability. The RX3i features a single control engine and a universal programming environment to provide application portability across multiple hardware platforms. With integrated critical control platforms, logic, motion, HMI, process control and high availability based on GE Reflective Memory technology, RX3i increases system performance and flexibility.



* See the GE PACSystems RX3i Product Literature at the end of this section for additional information



PACSystems RX3i Controller

The PACSystems* RX3i controller is an incredibly powerful Programmable Automation Controller (PAC) in the innovative PACSystems family. The RX3i features a single control engine and a universal programming environment to provide application portability across multiple hardware platforms and deliver a true convergence of control.

With integrated critical control platforms, logic, motion, HMI, process control and high availability based on our Reflective Memory technology, the RX3i provides the performance and flexibility to give you an advantage. No matter the challenges your applications bring, PACSystems RX3i lets you take control.

PACSystems RX3i Benefits:

The innovative technology of the PACSystems RX3i enables users to:

- Address major engineering and business issues, such as higher productivity and tighter cost control
- Boost the overall performance of their automation systems
- Reduce engineering and commissioning costs
- Easily integrate new technology into installed base systems
- Significantly decrease concerns regarding short- and long-term migration and platform longevity

PACSystems RX3i Features:

- High-speed processor and patented technology for faster throughput without information bottlenecks
- Dual backplane bus support per module slot:
 - High-speed, PCI-based for fast throughput of new advanced I/O
 - Serial backplane for easy migration of existing Series 90-30 I/O
- Multiple CPU offerings meeting various performance criteria up to and including an Intel® 1 GHz CPU for advanced programming and performance with 64 Mbytes memory
- Memory for ladder logic documentation and machine documentation (Word, Excel, PDF, CAD and other files) in the controller to reduce downtime and improve troubleshooting
- Open communications support including Ethernet, GENIUS*, Profibus™, HART, DeviceNet™ and serial

- Supports high density discrete I/O, universal analog (TC, RTD, Strain Gauge, Voltage and Current configurable per channel), isolated analog, high-density analog, high-speed counter, and motion modules
- Expanded I/O offering with extended features for faster processing, advanced diagnostics and a variety of configurable interrupts
- Hot insertion for both new and migrated modules

High Performance Control on One Platform:

The PACSystems RX3i provides logic, motion, HMI, and process control with open communications protocols.

- PACMotion modules can control up to 40 high speed axes in one rack
- PACSystems High Availability solution offers true dual redundancy data synchronization and bumpless transfer
- The Control Memory Xchange offers amazing data transfer at a rate of 2.12 Gbaud

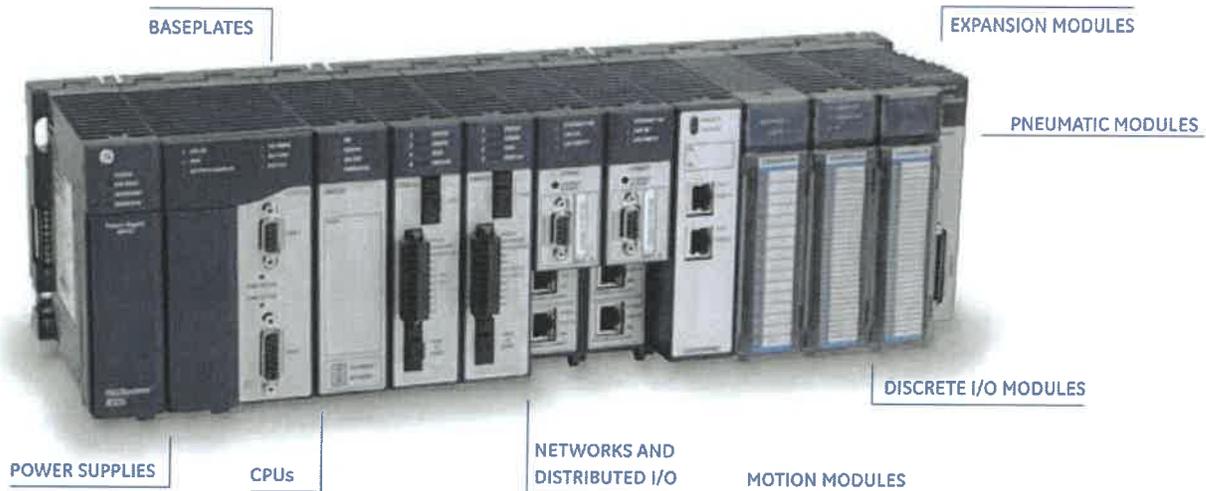
Universal Development Environment:

The common software platform across all GE controllers, award-winning Proficy* Machine Edition* software provides the universal engineering development environment for programming, configuration and diagnostics for the entire PACSystems family.

- Programming tools such as tag-based programming, a library of reusable code and a test edit mode for improved online troubleshooting
- User-friendly environment that can increase design flexibility and improve engineering efficiency and productivity



PACSystems RX3i



CPUs

The CMU310 is a High Availability redundant CPU that is configured using the MaxON software. The CMU310 has the same functionality as the CPU310. Synchronization of the CMU310s is via an Ethernet link.

Baseplates

The RX3i Universal baseplates support hot swap capability to reduce downtime. Expansion bases are available in 5 and 10 slot versions to maximize flexibility.

Universal Bases Power Supplies

The RX3i power supply modules simply snap in just like I/O, and they work with any model CPU. Each version provides auto-ranging so there is no need to set jumpers for different incoming power levels, and they are current limiting so a direct short will shut the power supply down to avoid damage to the hardware.

Discrete I/O Modules

Input modules provide the interface between the PLC and external input devices such as proximity sensors, push buttons, switches, and BCD thumbwheels. Output modules provide the interface between the PLC and external output devices such as contactors, interposing relays, BCD displays and indicator lamps.

Analog I/O Modules

GE offers easy-to-use analog modules and HART analog modules for control processes such as flow, temperature and pressure.

Specialty Modules:

The RX3i features a wide range of Specialty Modules to address specific application requirements. These modules include:

- Millivolt and Strain Gage I/O
- Thermocouple I/O
- RTD I/O
- Resistive I/O
- Temperature Control
- Power Transducer

Networks and Distributed I/O Systems

The RX3i features a variety of communications options for distributed control and/or I/O. Choose from Ethernet EGD, Profibus-DP, Genius and DeviceNet. These communication modules are easy to install and quick to configure.

RX3i Pneumatic Module

This output module provides 11 pneumatic outputs and five 24 VDC sourcing outputs. For each pneumatic output, the module contains an internal 3-way solenoid-actuated valve and an associated output fitting. Solenoid power is supplied from an external 24 VDC source to the "DC Outputs" connector on the front panel.

Expansion Modules for Local and Remote I/O

The RX3i supports various expansion options for local and remote I/O to optimize configurations. The RX3i can be expanded up to 8 expansion bases using local remote expansion module. The RX3i also supports Ethernet remote I/O using the RX3i Ethernet Network Interface module (IC695NKT001) Series 90-30 Ethernet Network Interface module (IC693NIU004) for more distributed I/O.

Motion Control

PACMotion

The PACMotion controller is a versatile 4-axis servo motion controller that provides the scalability and flexibility to cover a full range of motion applications from small material handling applications to complex multi-axis machines and electronic line shaft applications. PACMotion provides real-time synchronization of all axes in an RX3i rack. A separate RX3i fast logic scan enables fast deterministic event response and synchronization, and the demand driven data exchange model between the RX3i CPU and PACMotion module many significantly reduce scan time impact. The 4-axis servo motion controller is built on a high performance hardware platform, with a new enhanced motion engine, operating system, and open standard integrated programming paradigm.

PACSystems RX3i

Servo Control

Our advanced line of Digital Servo Motion (DSM) control integrated into the RX3i fosters high performance point-to-point applications. Motion Control modules can be flexibly applied to a variety of digital, analog, and stepper motion applications and support centralized, distributed or hybrid control system architectures. They are easy to program and configure and include extensive built-in diagnostics.

High Speed Counters

The High Speed Counters can be configured for a wide range of counter types (Types A, B, C, D, E, Z, and user-defined types of counters), generate Controller interrupts and Camming/PLS (Programmable Limit Switch).

Ordering Information

	Part Number	Description	Part Number	Description
CPUs	IC695CPU320†	1 GHz CPU, 64 Mbytes of memory, two serial ports	IC695CRU320†	Redundant High Availability bumpless 1 GHz CPU, 64 Mbytes of memory, two serial ports
	IC695CPU310†	300 MHz CPU, 10 Mbytes of memory, two serial ports (requires 2 slots)	IC695CMU310†	Redundant Hot Standby 300 MHz CPU, 10 Mbytes of memory, two serial ports
Baseplates	C695CHS012	Universal Backplane, 12 Universal Slots	IC695CHS016	Universal Backplane, 16 Universal Slots
Baseplates	C695CHS012	Universal Backplane, 12 Universal Slots	IC695CHS016	Universal Backplane, 16 Universal Slots
Expansion Bases	IC693CHS393	Base, Remote Expansion, 10 Slots (700 ft.)	IC694CHS398	Base, Expansion, 5 Slots
	IC694CHS392	Base, Expansion, 10 Slots	IC693CHS399	Base, Remote Expansion, 5 Slots (700 ft.)
Universal Base Power Supplies	IC695PSA140	Multipurpose Power Supply, 120/240 VAC, 125 VDC, 40 Watts	IC695PSD140	Multipurpose Power Supply, 24 VDC, 40 Watts
	IC695PSA040†	Power Supply, 120/240 VAC, 125 VDC, 40 Watts (requires 2 slots)	IC695PSD040†	Power Supply, 24 VDC, 40 Watts (requires 1 slot)
Remote Base Power Supplies	IC693PWR332	Power Supply, 12 VDC, Standard, 30 Watts (Use with Expansion Base)	IC693PWR328	Power Supply, 48 VDC, Standard, 30 Watts (Use with Expansion Base)
Expansion Power Supplies	IC694PWR321	Power Supply, 120/240 VAC, 125 VDC, Standard, 30 Watts (Use with Expansion Base)	IC693ACC341	Redundant Power Supply Base with 0.5 meter cable to connect to Power Supply Adapter Module (Use with Expansion Base)
	IC694PWR330	Power Supply, 120/240 VAC, 125 VDC, High Capacity, 30 Watts (Use with Expansion Base)	IC693ACC350	Redundant Power Supply Adapter (RPSA) Module; replaces power supply on expansion base and connects to a Redundant Power Supply Base. (Use with Expansion Base)
	IC694PWR331	Power Supply, 24 VDC, High Capacity, 30 Watts (Use with Expansion Base)		
Discrete Input Modules	IC694MDL230	120 VAC Isolated Input (8 Points)	IC694MDL634	24 VDC Input, Neg/Pos Logic (8 Points)
	IC694MDL231	240 VAC Isolated Input (8 Points)	IC694MDL645	24 VDC Input, Neg/Pos Logic (16 Points)
	IC694MDL240	120 VAC Input (16 Points)	IC694MDL646	24 VDC Input, Neg/Pos Logic, 1 msec Filter (16 Points)
	IC694MDL241	24 VAC/VDC Input (16 Points)	IC694MDL654	5/12 VDC (TTL) Input, Neg/Pos Logic, (32 Points)
	IC694MDL250	120 VAC Isolated Input (16 Points)	IC694MDL655	24 VDC Input, Neg/Pos Logic, 1 ms, (32 Points)
	IC694MDL260	120 VAC Input (32 Points)**	IC694MDL660	24 VDC Input (32 Points)**
	IC694MDL632	125 VDC Input (8 Points)	IC694ACC300	Input Simulator Module (8 Points)
	IC694MDL310	120 VAC Output, 0.5 Amp (12 Points)	IC694MDL740	12/24 VDC Output, 0.5 Amp, Positive Logic (16 Points)
	IC694MDL330	120/240 VAC Output, 1 Amp (8 Points)	IC694MDL741	12/24 VDC Output, 0.5 Amp, Negative Logic (16 Points)
	IC694MDL340	120 VAC Output, 0.5 Amp (16 Points)	IC694MDL742	12/24 VDC Output, 1 Amp, Positive Logic (16 Points), Fused
Discrete Output Modules	IC694MDL350	120/240 VAC Output, 2 Amp (16 Points)	IC694MDL752	5/12/24 VDC (TTL) Output, Negative Logic, (32 Points)
	IC694MDL390	120/240 VAC Isolated Output, 2 Amp (5 Points)	IC694MDL753	12/24 VDC Output, Positive Logic (32 Points)
	IC694MDL732	12/24 VDC Output, 0.5 Amp, Positive Logic (8 Points)	IC694MDL754	12/24 VDC Output w/ ESCR, 0.75 Amp (32 Points)**
	IC694MDL734	125 VDC Output (6 Points)		
	IC694MDL930	Relay Output, Isolated, 4 Amp (8 Points)	IC694MDL940	Relay Output, 2 Amp (16 Points)
	IC694MDL931	Relay Output, 8 Amp Form B/C contacts, isolated in 2 Groups of 4 (8 Points)	IC694MDL916	Relay Output, 4 Amp (16 Points)
Analog Input Modules	IC694ALG220	Analog Input, Voltage/Current, (4 Channels)	IC695ALG628†**	Analog Input with HART Communications, Voltage/Current, Configurable, (8 Channels)
	IC694ALG221	Analog Input, Current, (4 Channels)	IC695ALG626†**	Analog Input with HART Communications, Voltage/Current, Configurable, (16 Channels)
	IC694ALG222	Analog Input, Voltage (16 Single ended /8 Differential Channels)	IC695ALG106†**	Isolated Analog input module, configurable for voltage and current (6 Channels)
	IC694ALG223	Analog Input, Current, (16 Single Channels)	IC695ALG112†**	Isolated Analog input module, configurable for voltage and current (12 Channels)
	IC695ALG600†**	Analog Input, Universal, Voltage/Current/RTD/TC/Strain Gauge, (8 Channels)	IC695ALG508†**	Isolated RTD and resistance input channels. Supports 2, 3, 4 wire RTD or Resistance, (8 Channels)
	IC695ALG608†**	Analog Input, Voltage/Current, Configurable, (8 Channels)	IC695ALG306†**	Isolated Thermocouple Input, Supports type J, K, T, E, R, S, B, N, or C and Voltage: ±150 mV or ±50 mV, (6 Channels)
	IC695ALG616†**	Analog Input, Voltage/Current, Configurable, (16 Channels)	IC695ALG312†**	Isolated Thermocouple Input, Supports type J, K, T, E, R, S, B, N, or C and Voltage: ±150mV or ±50mV, (12 Channels)
			IC695ALG704†**	Analog Output, Voltage/Current, (4 Channels)
Analog Output Modules	IC694ALG390	Analog Output, 2 Channels, Voltage	IC695ALG708†**	Analog Output, Voltage/Current, (4 Channels)
	IC694ALG391	Analog Output, Current (2 Channels)	IC695ALG728†**	Analog Output with HART Communications, Voltage/Current, (8 Channels)
	IC694ALG392	Analog Output, Voltage or Current (8 Channels)		
	IC695ALG808†**	Isolated Analog Output module, voltage/current, (8 Channels)		
Mixed Analog Modules	IC694ALG442	Analog Combo Module (4IN/2OUT)		
Temperature Control	IC693TCM302	(8) T/C, (1) RTD and (8) 24 VDC Output	IC693TCM303	Extended Range, (8) T/C, (1) RTD and (8) 24 VDC Output Modules
Serial Communications	IC695CMM002**	Two Isolated Serial Ports. Supports Modbus Master/Slave, Serial Read/Write, DNP 3.0 Master/Slave and Custom protocols.	IC695CMM004**	Four Isolated Serial Ports. Supports Modbus Master/Slave, Serial Read Write, DNP 3.0 Master/Slave and Custom protocols.
Motion Control	IC695PMM335**	PAC Motion Controller, 4 Axes Digital Servo (Fiber Optic Interface to Amplifiers)	IC694DSM314	Digital Servo Motion Controller, 1-2 Axis of Digital Servo or 1-4 Axis Analog Servo
	IC693APU305	I/O Processor Module	IC694DSM324	Digital Servo Motion Controller, 4 Axis (Fiber Optic Interface to Amplifiers)
	IC694APU300	High Speed Counter (HSC)	IC695HSC308†**	High Speed Counter, 1.5 KHz (8 counters)
	IC695HSC301†**	High Speed Counter 1.5 KHz (4 counters)		

PACSystems RX3i

Power Transducer Modules	IC693PTM100	120/240 VAC, 1 Point, 0.5 meter Interface cable	IC693PTM101	120/240 VAC, 1 Point, 1.0 meter Interface cable
Pneumatic Module	IC693MDL760	RX3i Solenoid Module		
Networks and Distributed I/O Systems	IC694BEM331	Genius Bus Controller (Supports I/O and Datagrams)	IC695ETM001†	Ethernet Module, 10/100 base T/TX ports (requires 1 slot)
	IC694DNM200†	DeviceNet Master Module	IC695CMX128†	Control Memory Xchange Module 128Megbytes of user shared memory
	IC695PBM300†	Profibus Master Module	IC695RMX128†	RX3i Redundant Memory Xchange synchronization module for RX3i High Availability redundant controllers.
	IC695PBS301†	Profibus Slave Module		
Expansion Modules	IC695LRE001†	Local Expansion Module (requires no universal slots)	IC693NIU004	Ethernet Remote I/O interface for IC694CHSxxx Expansion Racks
	IC695NKT001	Ethernet Remote I/O Expansion Kit		
Terminal Blocks	IC694TBB032	High Density Terminal Block Box Style (36 Terminals)	IC694TBS032	High Density Terminal Block Spring Style (36 Terminals)
	IC695FTB1B032	PACMotion Fiber I/O terminal block with screw terminal headers	IC695FTB1S032	PACMotion Fiber I/O terminal block with spring clip terminal headers
	Part Number	Description	Part Number	Description
Accessories	IC693ACC302	High Capacity Battery Pack (mounts externally)	IC693CBL312	Rack to Rack Expansion Cable, 0.15 Meters, Shielded
	IC693CBL300	Rack to Rack Expansion Cable, 1 Meter	IC693CBL313	Rack to Rack Expansion Cable, 8 Meters
	IC693CBL301	Rack to Rack Expansion Cable, 2 Meters	IC693CBL314	Rack to Rack Expansion Cable, 15 Meters, Shielded
	IC693CBL302	Rack to Rack Expansion Cable, 15 Meters	IC694ACC310	Blank Filler Module
	IC694TBB132	High Density 32 Point Terminal Block Box Style with Extended Shroud for Large Wiring Bundles	IC694TBS132	High Density 32 Point Terminal Block Spring Style with Extended Shroud for Large Wiring Bundles
	IC695ACC600	RX3i Cold Junction Compensation Kits for Universal Analog Input Module	IC698ACC701	Lithium Battery pack that installs in CPU
	IC690ACC901	Mini-Converter Kit with cable	IC690ACC903	RS-485 Port Isolator
	IC693ACC307	I/O Bus Terminator Plug	IC693ACC311	Terminal Blocks, 20 terminals
	VMICBL-000-FS-0xx	Fiber optic cable for CMX and RMX where 0xx distinguishes different lengths		
	Programming and Troubleshooting Tools	IC646MPP001	Logic Developer - PLC Professional	

Availability varies per module, please check with your GE representative for release dates and availability.
†Compatible with IC695CHS 012/016 base only.

**Requires either Box Style (IC694TBB032 or IC694TBB132) or Spring Clamp (IC694TBS032 or IC694TBS132) high density terminal block.

Training

GE offers a wide range of training options that equip you and your staff with the product knowledge you need to maintain, configure and troubleshoot your systems—decreasing downtime and increasing throughput. Our world-class technical training increases productivity and ensures proper product utilization.

About GE Intelligent Platforms

GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Home and Business Solutions. For more information, visit www.ge-ip.com.

GE Intelligent Platforms Contact Information

Americas: 1 800 433 2682 or 1 434 978 5100

Global regional phone numbers are listed by location on our web site at www.ge-ip.com/contact

www.ge-ip.com



Master Control Room Renovation

Often referred to as the “nerve center”, we recognize the Master Control Room to be a mission critical space that must remain fully accessible and operational 24 hours a day, 7 days a week, 365 days a year.

To meet the needs of the City of Virginia Beach and the Virginia Beach Correctional Center, we have brought **RRMM Architects, PC** (RRMM) onto the team to lead the architectural design and commissioning efforts on this project. Our proposed remodel of the Master Control Room will improve the work conditions of security staff, enabling them to effectively and efficiently operate the day-to-day activities of your facility. Our design provides enhanced Functionality and Staff Comfort, while simultaneously maintaining the critical security of the population and Security Personnel. Our design includes new furnishings, fixtures and equipment to improve ergonomics for staff occupancy 24 hours a day, 7 days a week, 365 days a year.

OVERALL PROJECT UNDERSTANDING AND PROPOSED DESIGN PROCESS

As per the RFP, the City will require an initial programming/planning study be conducted during the early stages of the design process, thus ensuring all critical program and space needs are identified and thoroughly addressed, prior to moving forward with developing a final design concept and related scope of work. We propose to conduct the study through a series of staff interviews, and will work closely with the actual users and operators of the Master Control Room, thus ensuring we identify critical program and space needs from their perspective.

Upon completion of the planning study, we will immediately move forward to further refine our original proposed design concept layout. This will allow us to capture all known program needs and achieve the best design solution possible, which will enable the staff and operators to work effectively with their daily monitoring and controlling movement of prisoners and staff, life safety and security systems, and communications throughout the main security envelope.

Upon the City’s final approval of our schematic and design development submittal packages, we will immediately move forward with completing the final Working Drawings, which will include progress submissions to the department and staff for review, along with final submission to all required permitting agencies for their final approval as well.

OUR PROPOSED DESIGN SOLUTION

We recognize the final design solution will be determined after the completion of the required programming/planning study, however, based on the program criteria outlined in the RFP, the following list represents the City’s basic project goals and objectives for transforming the current space into a new state-of-the-art Master Control Room:

- Completely renovate the existing Master Control Room
- Remove and replace all existing furniture, furnishings and equipment
- Provide six (6) new state-of-the-art workstations (with [3] 24” LED touchscreens per station)
- Provide new state-of-the-art wall mounted LED security monitors
- Provide new controllable LED lighting for overall room and task lighting at each workstation
- Provide new suspended acoustical ceiling panel and grid system (better sound control)
- Provide new carpet tile flooring over existing access floor system
- Provide new wall and base finishes (including protective wainscot panel system)

OUR PROPOSED DESIGN PACKAGE INCLUDES THE FOLLOWING ENHANCEMENTS

- Improved Master Control Systems (state-of-the-art technology, monitors and screens)
- Improved LED Lighting Features (controllable/dimmable room and task lighting)
- Improved Human-Machine Interface (optimum lines of site and staff-to-staff interaction)

- Improved Sound Control Features (acoustical workstation panels, ceilings and carpet)
- Improved Work Flow and Room Circulation (ideal plan layout, better staff interaction)
- Improved Workstations (ideal ergonomic design, adjustable counters, more reachability)
- Improved Environmental Features (new low VOC interior finishes & furniture systems)

We will complete the work in a series of Phases, which will be executed in strict adherence to a Project Schedule. Work will include:

INTERIOR FINISHES

- **Wall Finishes** - Patch / Repair / Refinish / Paint All Surfaces
- **Base Finishes** - Replace All existing Wall Base Trim
- **Ceiling Finishes** - Patch / Repair / Refinish / Paint All Surfaces
- **Flooring** - Replace All existing Floor Finishes
- **Lighting** - Replace All existing Lights with New LED Fixtures

MASTER CONTROL ROOM WORKSTATION UPGRADE

Summary of Work: Replace four (4) existing Touchscreen Workstations with six (6) new Touchscreen Control Workstations consisting of:

- Dell Precision Class Workstation
- ELO 24" Touchscreen Monitors
- (2) Dell 24" LED Video Monitors
- ESITECH Security Software (Wonderware 2017)

SUB-MASTER CONTROL ROOM (AND BOOKING) WORKSTATION UPGRADE

Summary of Work: Replace sixteen (16) existing Touchscreen Workstations with new Touchscreen Control Workstations consisting of:

- Dell Precision Class Workstation
- ELO 24" Touchscreen Monitors
- (2) Dell 24" LED Video Monitors
- ESITECH Security Software (Wonderware 2017)

We are confident our proposed design concept of the Master Control Room will provide a plan layout that will significantly improve the work conditions of the security staff, enabling them to effectively and efficiently operate the day-to-day activities of the facility. Furthermore, our proposed design concept provides enhanced Functionality and Staff Comfort, while simultaneously maintaining the critical security of the population and Security Personnel.

Our design concept not only addresses many of the typical challenges that come with renovating an existing space, but also proves that an existing master control room can be successfully designed and transformed into a new state-of-the-art facility to meet all critical program, function and environmental needs.

BENEFITS OF OUR PROPOSED DESIGN

Our redesigned Master Control Room is designed to enhance the way the security staff interacts with the machines and the room, based on their working behavior and capabilities. Correctional Facility Staff are subject to an environment that often causes health problems. Our proposed renovations will combat these issues by providing an environment that will help:

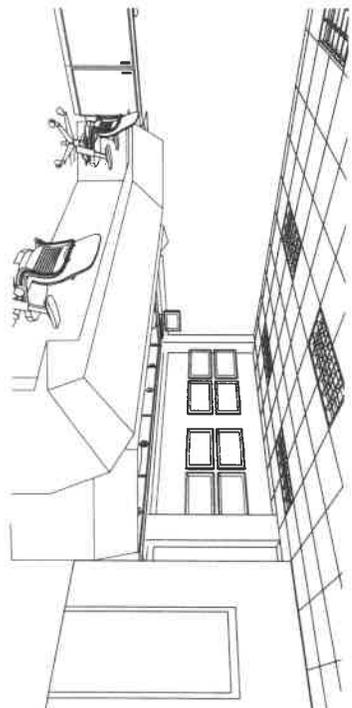
- **Improve Performance** — Our redesigned Master Control Room will greatly improve ergonomics for

the end user. By “fitting the job to the person”, the new environment will support positive performance while subsequently reducing human error.

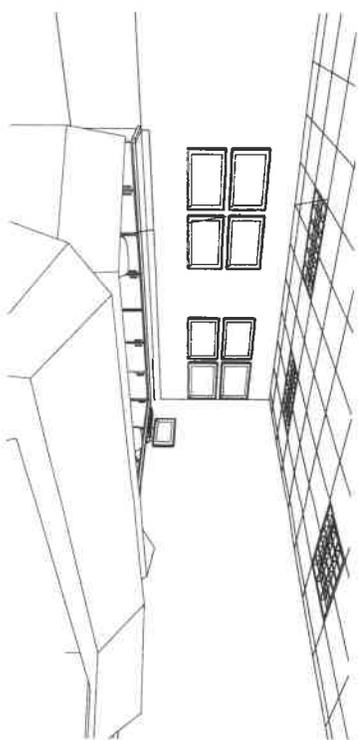
- **Improve Safety** — By fitting the space to the operator, our proposed renovation will help decrease OSHA and work-related injuries (Carpal Tunnel, finger strains, etc)
- **Improve Health** — Combat the Physical, Psychological and Sociological impacts of operators working long hours in control centers

The following images (pages 56—70) illustrate our plan to renovate the Master Control Room at the Virginia Beach Correctional Center.

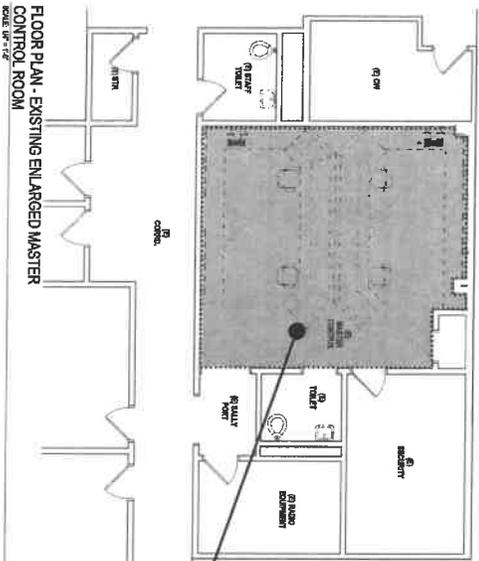
**City of Virginia Beach (PPEA/RFP for Project 3-523)
 Correctional Center - Master Control Upgrade**



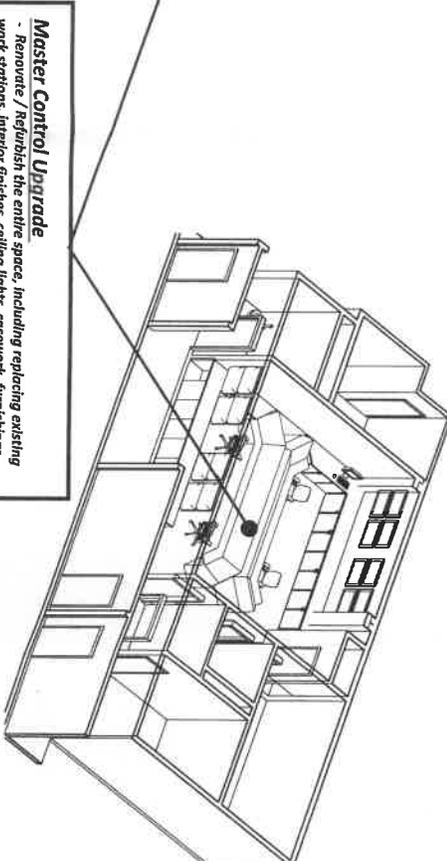
3D VIEW #1 - EXISTING
 SCALE



3D VIEW #2 - EXISTING
 SCALE



FLOOR PLAN - EXISTING ENLARGED MASTER CONTROL ROOM
 SCALE 1/8" = 1'-0"



Master Control Upgrade
 - Renovate / Refinish the entire space, including replacing existing work stations, interior finishes, ceiling lights, casework, furnishings, along with other existing materials that are associated with the new master control upgrade work, as outlined in the RFP.

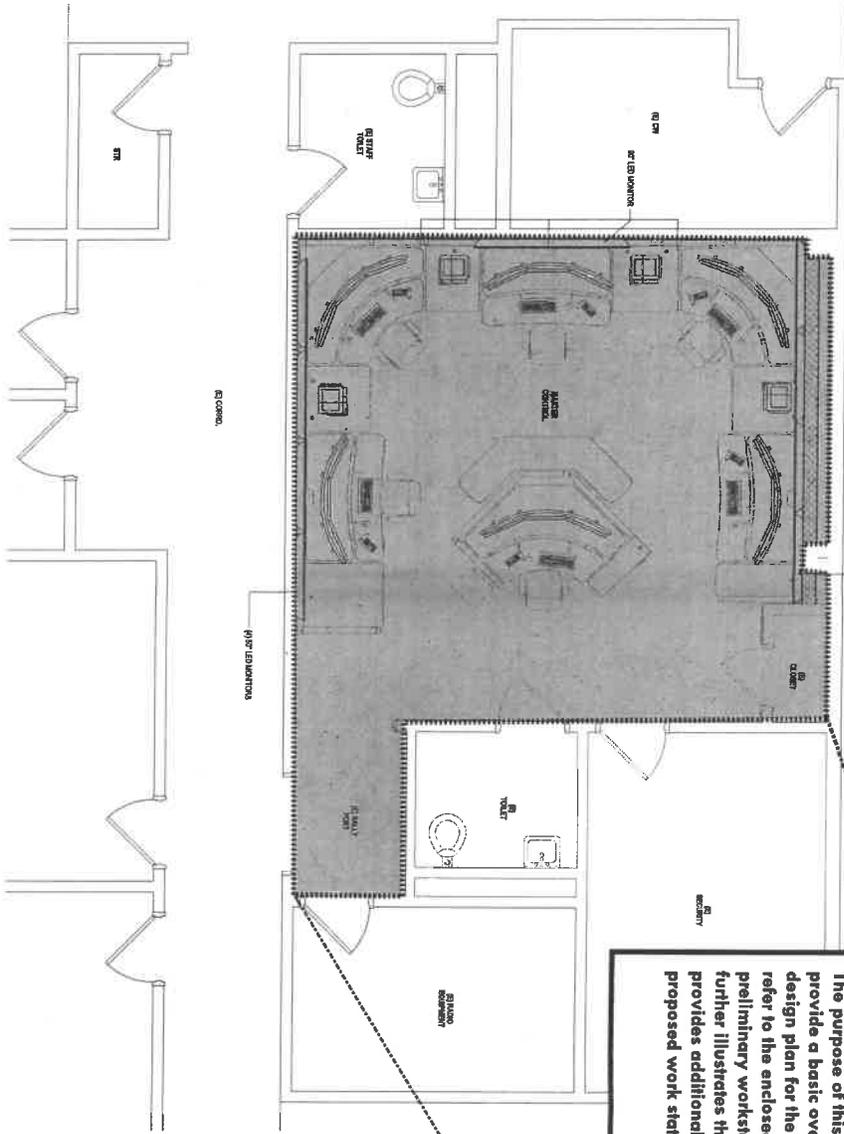
Master Control Room: Reference Illustrations - Existing Layout

Proposed Preliminary Design Concept

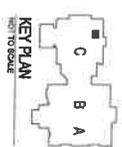
**City of Virginia Beach (PPEA/RFP for Project 3-523)
 Correctional Center - Master Control Upgrade**

Master Control Room - Renovations

The purpose of this enlarged floor plan sheet is to provide a basic overview of the proposed concept design plan for the Master Control Room. Please refer to the enclosed 3D color renderings and preliminary workstation design drawings, which further illustrates the proposed design concept and provides additional detailed information about the proposed work station systems.



FIRST FLOOR - NEW WORK ENLARGED MASTER CONTROL ROOM
 SCALE: 1/8" = 1'-0"

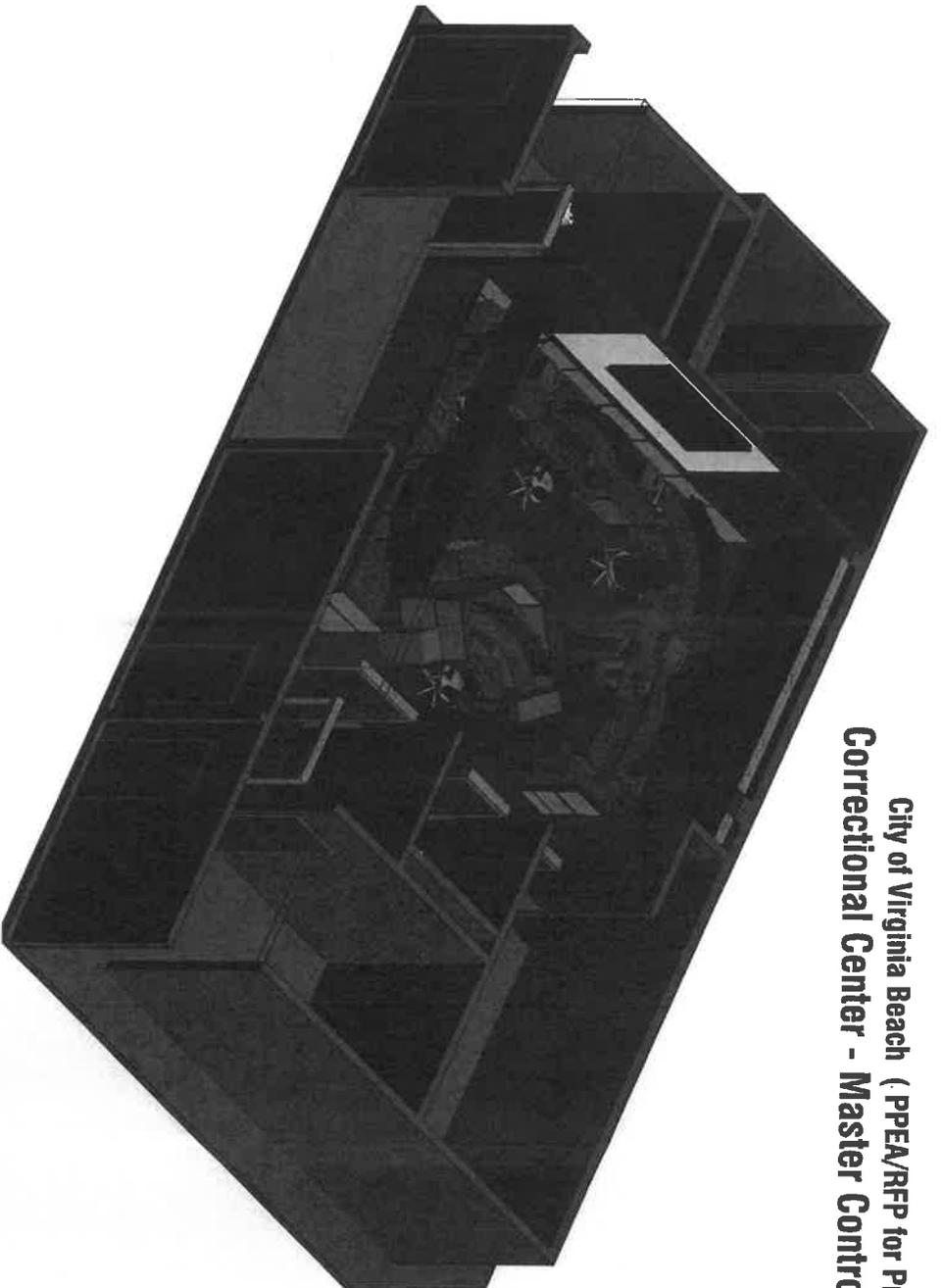


Master Control Room: Enlarged Plan - Proposed Concept Layout
Proposed Preliminary Design Concept

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**City of Virginia Beach (PPEA/RFP for Project 3-523)
Correctional Center - Master Control Upgrade**



MASTER CONTROL ROOM VIEWS

Proposed Preliminary Design Concept



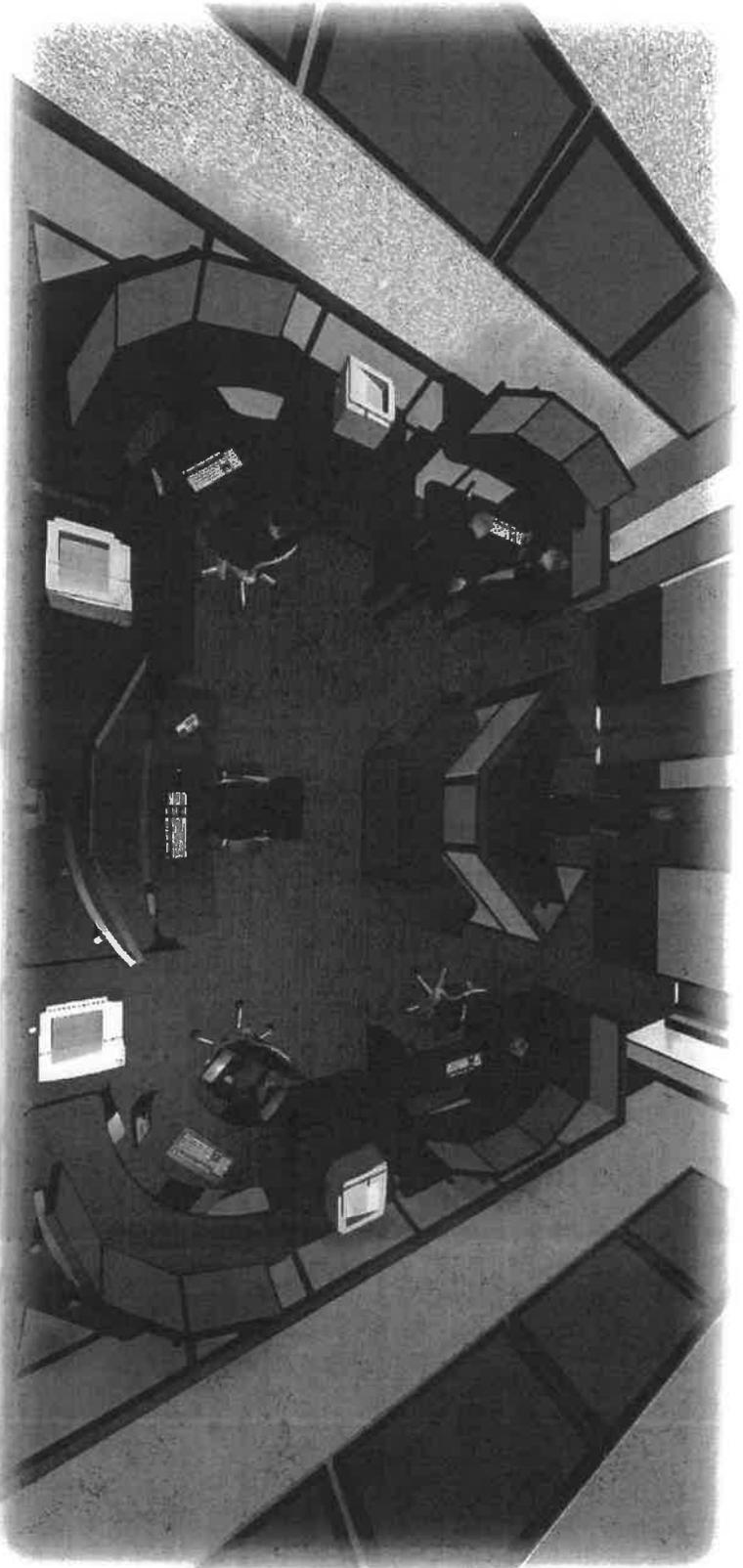
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**City of Virginia Beach (PPEA/RFP for Project 3-523)
Correctional Center - Master Control Upgrade**



Master Control Room - Floor Plan Layout (3D View)

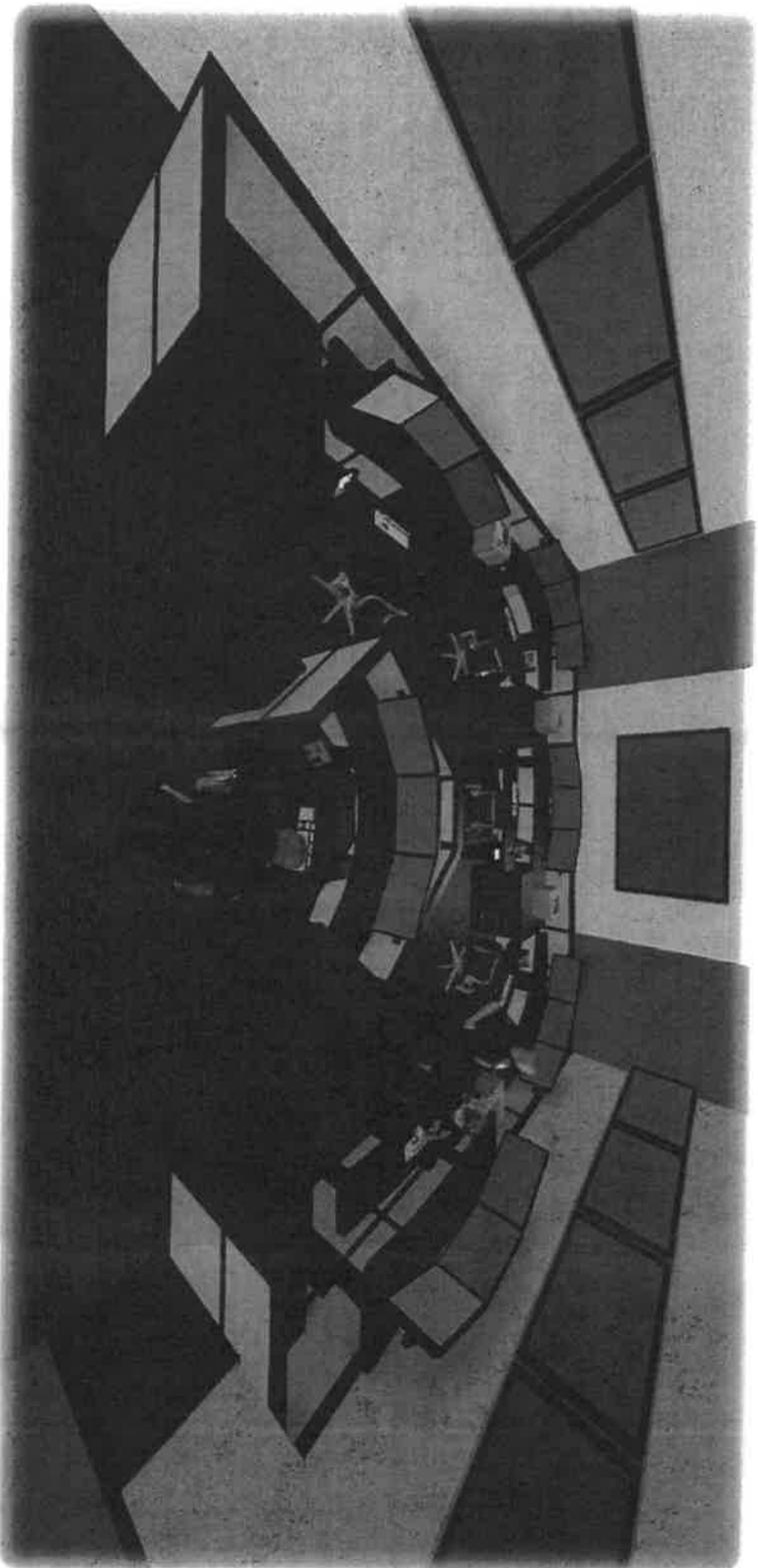
Proposed Preliminary Design Concept



January 25, 2018

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**City of Virginia Beach (PPEA/RFP for Project 3-523)
Correctional Center - Master Control Upgrade**



Master Control Room - Floor Plan Layout (3D View)

Proposed Preliminary Design Concept



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City of Virginia Beach (PPEA/RFP for Project 3-523)
Correctional Center - Master Control Upgrade



Master Control Room - 3D View

Proposed Preliminary Design Concept



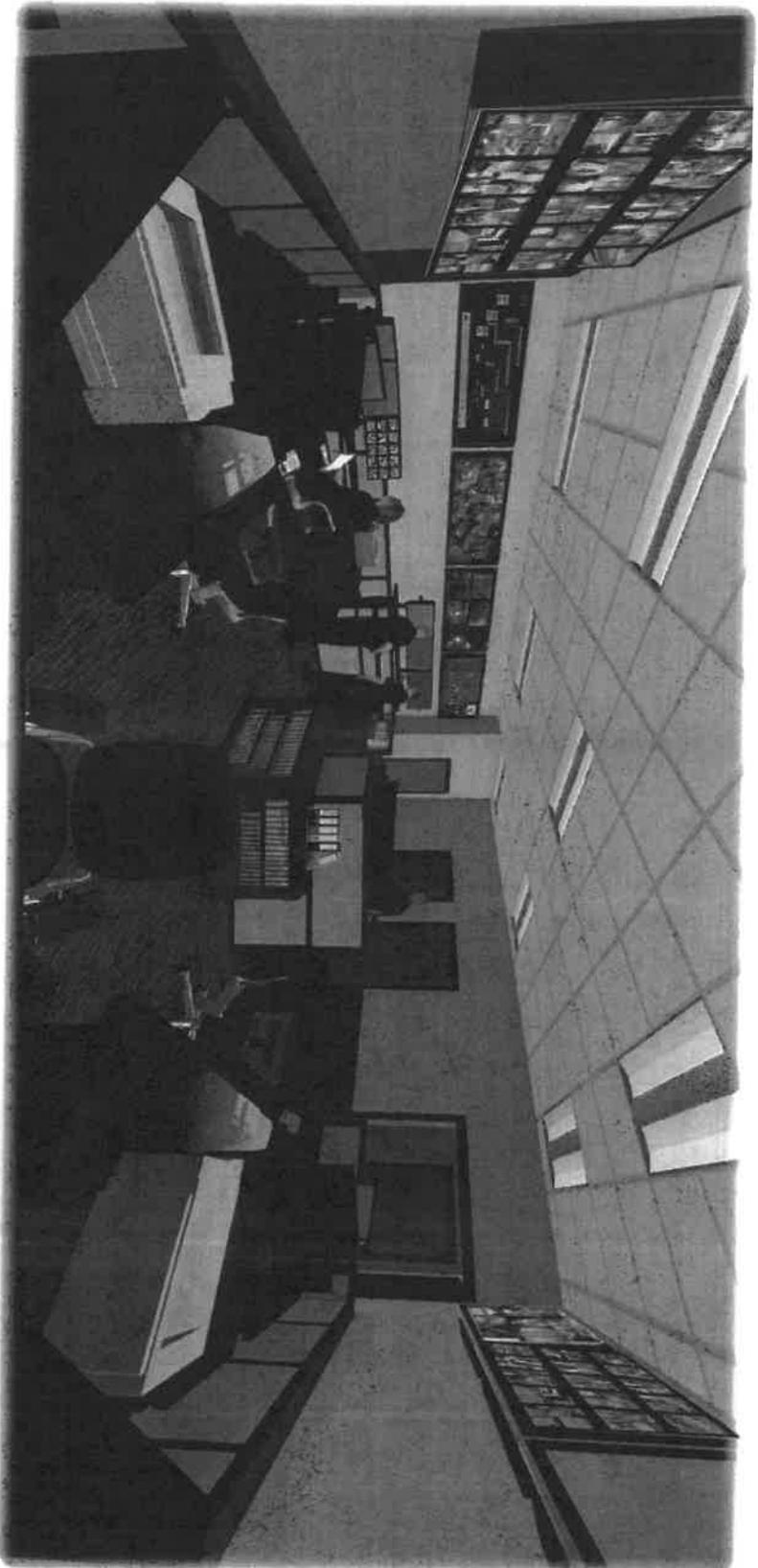
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**City of Virginia Beach (PPEA/RFP for Project 3-523)
Correctional Center - Master Control Upgrade**



Master Control Room - 3D View

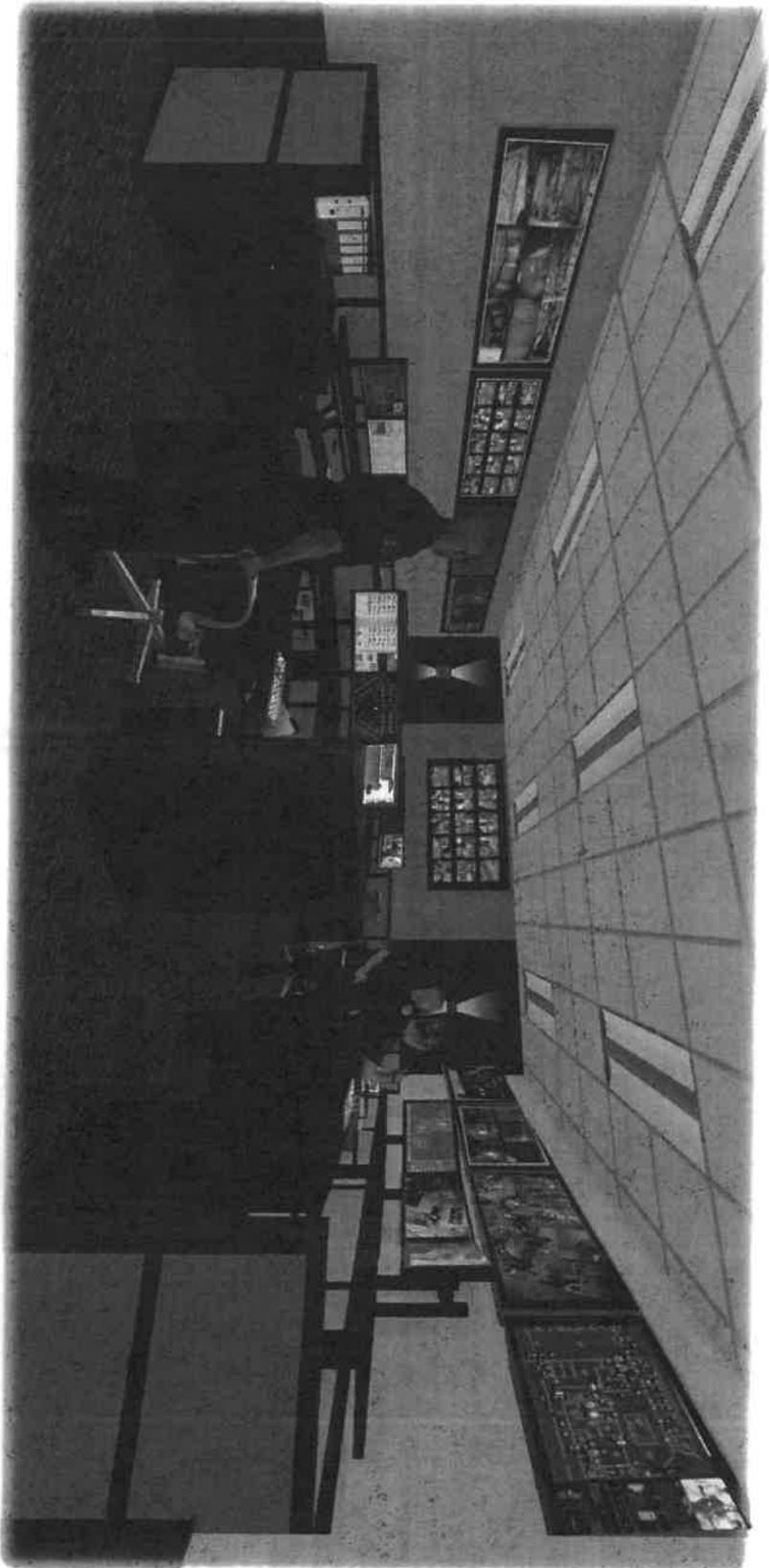
Proposed Preliminary Design Concept



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**City of Virginia Beach (PPEA/RFP for Project 3-523)
Correctional Center - Master Control Upgrade**



Master Control Room - 3D View

Proposed Preliminary Design Concept



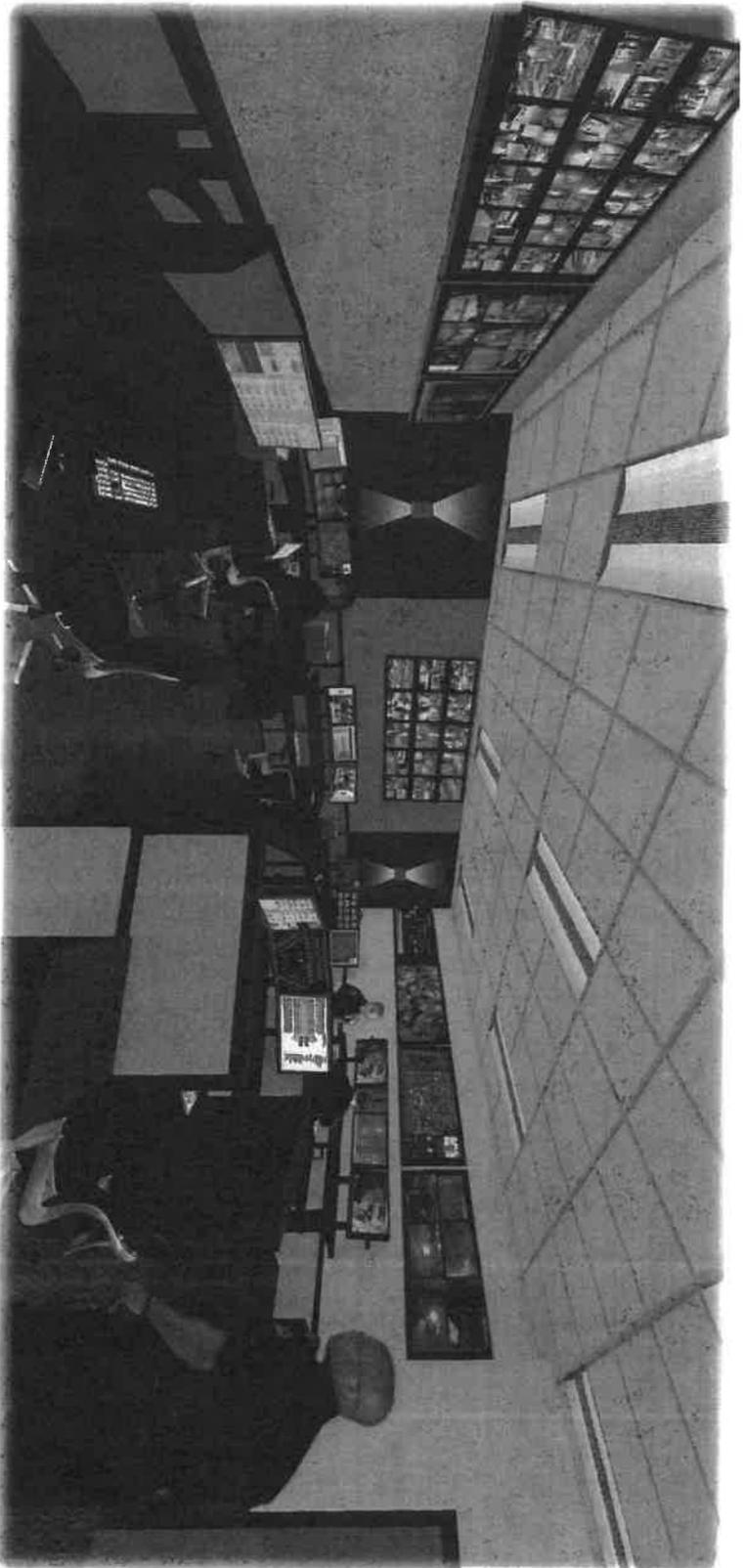
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ENTERPRISES**
CONSTRUCTION | SECURITY | TECHNOLOGY



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City of Virginia Beach (PPEA/RFP for Project 3-523)
Correctional Center - Master Control Upgrade



Master Control Room - 3D View

Proposed Preliminary Design Concept



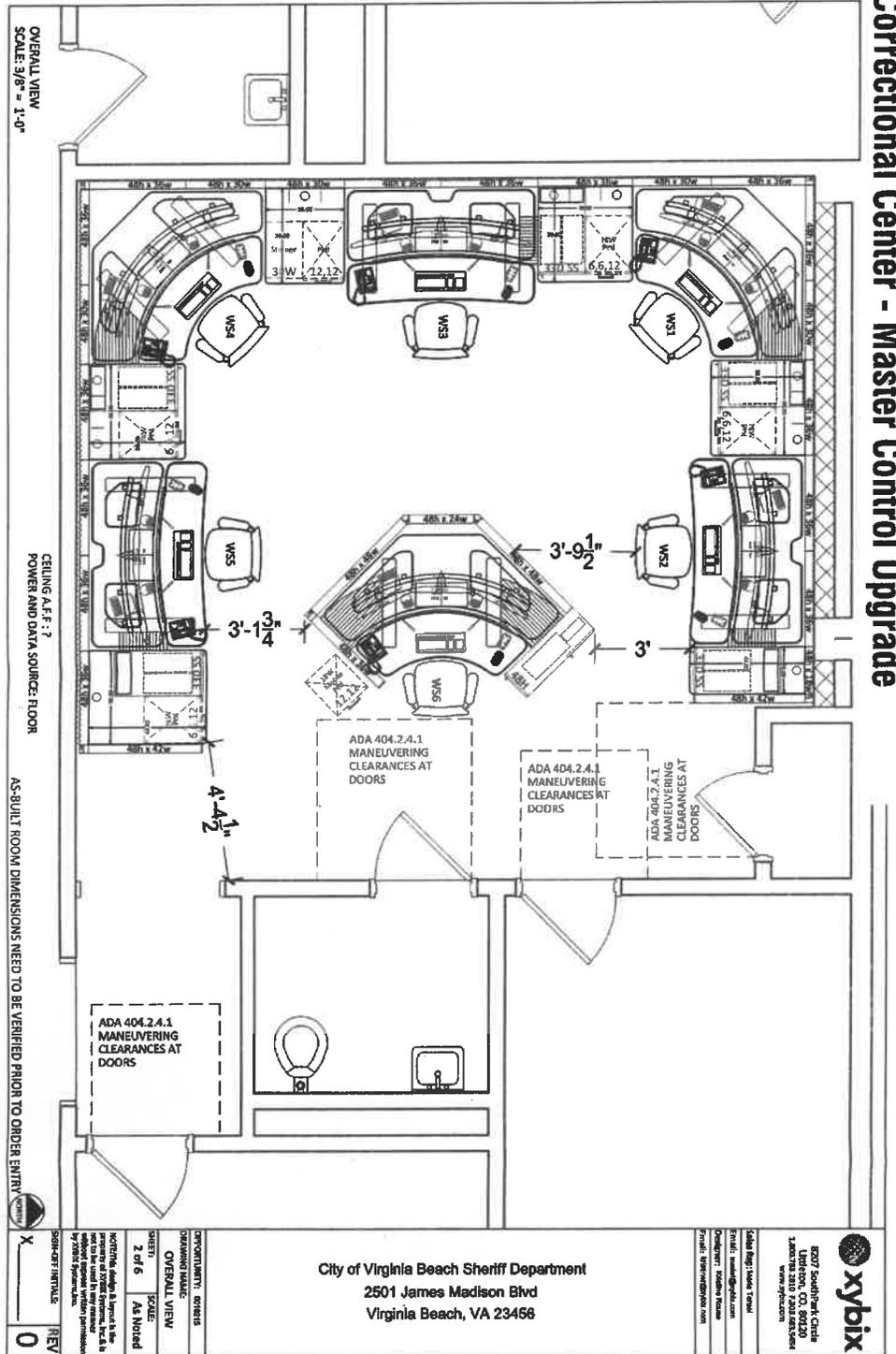
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**City of Virginia Beach (PPEA/RFP for Project 3-523)
Correctional Center - Master Control Upgrade**



Master Control Room - Workstation System Layout (2D View)
Proposed Preliminary Design Concept

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(CONSTRUCTION, SECURITY, TECHNOLOGY)
January 25, 2018

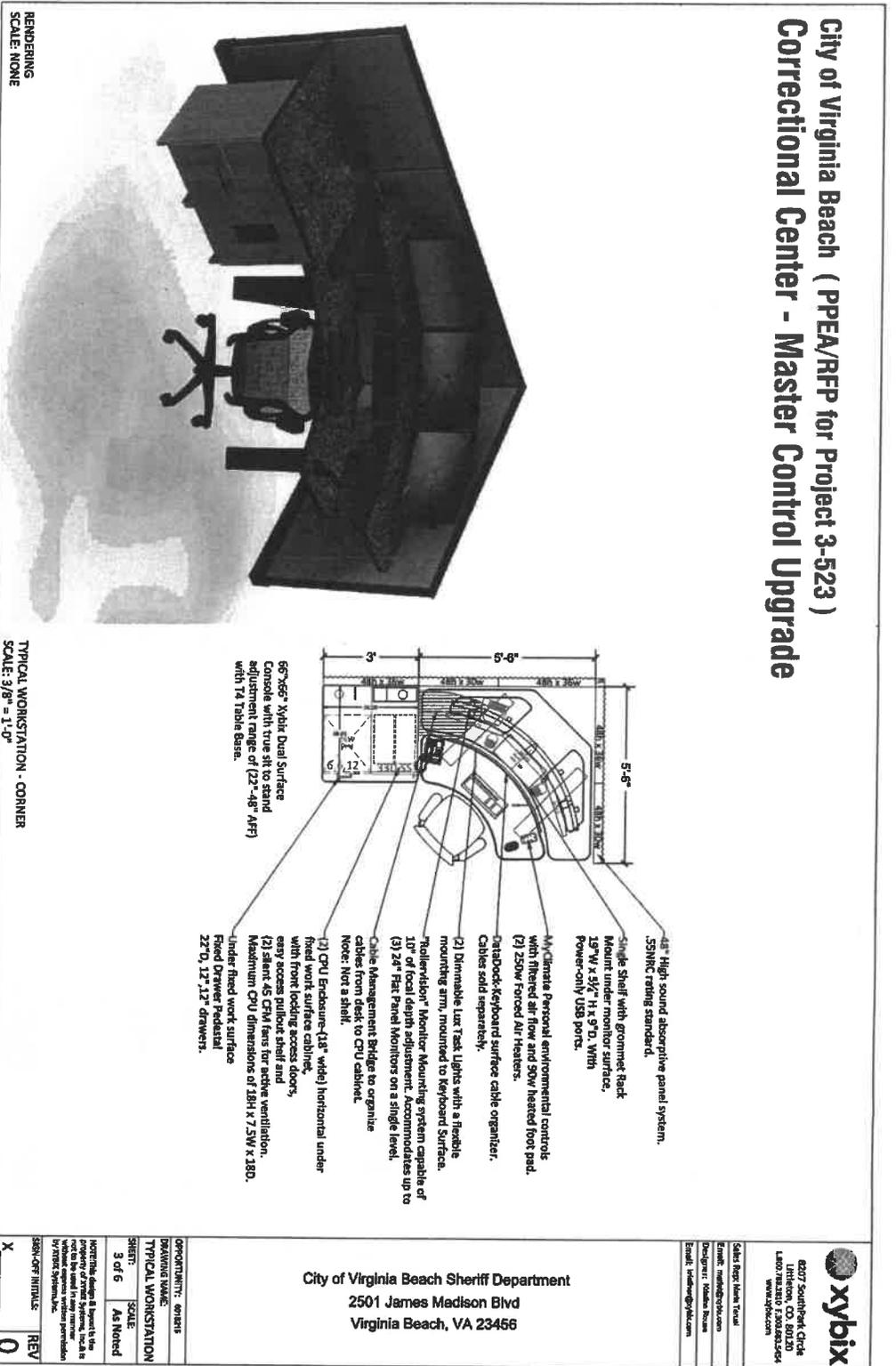
City of Virginia Beach Sheriff Department
2501 James Madison Blvd
Virginia Beach, VA 23456

xybix
2007 Southpark Circle
Suite 200
Virginia Beach, VA 23462
www.xybix.com

Global Rep: Mike Taylor
Email: mta@xybix.com
Designer: Andrew Roman
Project: Correctional Center

OPPORTUNITY: 02/15	DATE: 01/25/18
DRAWING NAME: OVERALL VIEW	SCALE: As Noted
SHEET: 2 of 6	NOTES: This drawing is subject to the terms and conditions of the contract. It is not to be used for any other purpose without the written permission of the designer.
REVISIONS:	DATE:
0	

City of Virginia Beach (PPEA/RFP for Project 3-523) Correctional Center - Master Control Upgrade



RENDERING
SCALE: NONE

TYPICAL WORKSTATION - CORNER
SCALE: 3/8" = 1'-0"

Master Control Room: Typical Workstation - Corner Unit Proposed Preliminary Design Concept

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January 25, 2018

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City of Virginia Beach Sheriff Department
2501 James Madison Blvd
Virginia Beach, VA 23456

xybix
8037 Southpark Circle
Lithonia, GA 30028
404.764.8200 | 304.882.2464
www.xybix.com
Email: info@xybix.com

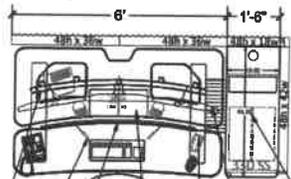
Sales Rep: Mark Truitt
Email: mtr@xybix.com
Designer: Nolan Baum
Email: nbaum@xybix.com

OPPORTUNITY: GREAT	REVISIONS:
DATE:	
BY:	
DESCRIPTION:	
TYPICAL WORKSTATION	
SHEET:	
3 of 6	
SCALE:	
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DATE:	
BY:	
DESCRIPTION:	

City of Virginia Beach (PPEA/RFP for Project 3-523) Correctional Center - Master Control Upgrade



RENDERING
SCALE: NONE



72" x 44" Xybiz Dual Surface Console with
true sit-to-stand adjustment range of
(22" - 48" AFF) with T4 Table Base.

TYPICAL WORKSTATION - STRAIGHT
SCALE: 3/8" = 1'-0"

- (2) CPU Enclosure (19" wide) horizontal under fixed work surface cabinet, with front locking access doors, easy access pullout shelf and (2) silent 45 CFM fans for active ventilation. Maximum CPU dimensions of 18H x 7.5W x 2BD.
- Cable Management Brackets to organize cable from desk to CPU cabinet. Note: Use a shelf.
- 4-in-1 chairs personal environmental controls with filtered air flow and 50W heated foot pad.
- (2) 250W Forced Air Heaters.
- Single Shelf with grommet
- Rack Mount under monitor surface, 19"W x 5 1/2" H x 9"D, with Power-only USB ports.
- DataDock-keyboard surface cable organizer. Cables sold separately.
- (2) Dimmable Lux Task Lights with a flexible mounting arm, mounted to Keyboard Surface.
- "Mellieson" Monitor Mounting system capable of 10" of focal depth adjustment. Accommodates up to (2) 24" Flat Panel Monitors on a single level.

City of Virginia Beach Sheriff Department
2501 James Madison Blvd
Virginia Beach, VA 23456

1007 Southpark Circle
Littleton, CO 80120
1.800.762.2311 FAX 303.948.8444
www.xybiz.com

Sales Rep: Steve Tavel
Email: stavel@xybiz.com
Designer: Mikea Rosen
Email: mrosen@xybiz.com

OPERATOR:	axvstis				
DRAWING NAME:	TYPICAL WORKSTATION				
SHEET:	4 of 6				
SCALE:	As Noted				
NOTES:	NOT TO SCALE. All dimensions are subject to change without notice. All dimensions are in inches unless otherwise specified.				
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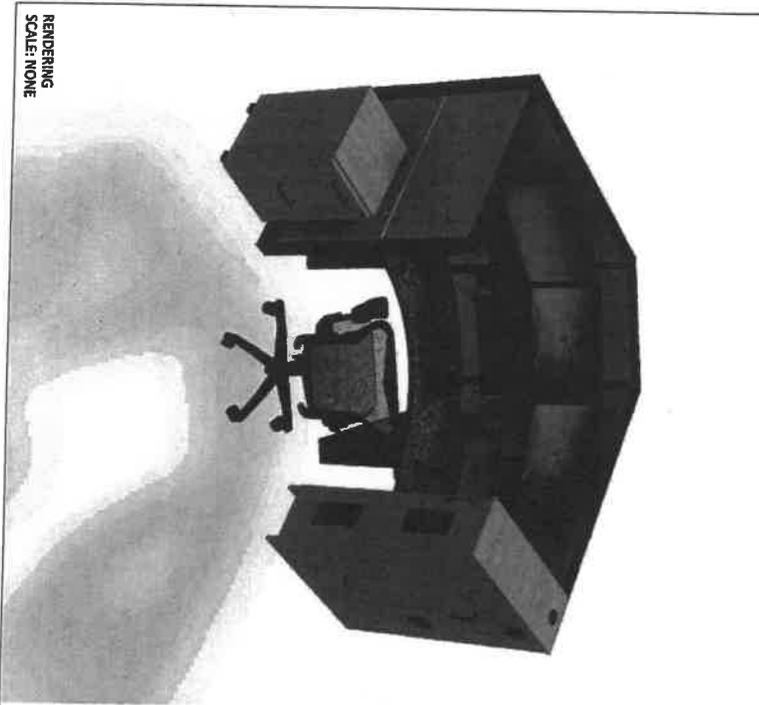
Master Control Room: Typical Workstation - Straight Proposed Preliminary Design Concept

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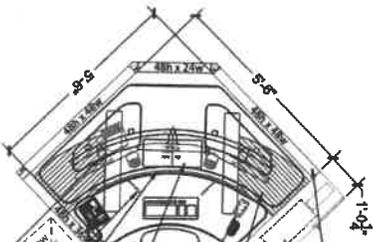
January 25, 2018

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City of Virginia Beach (PPEA/RFP for Project 3-523) Correctional Center - Master Control Upgrade



RENDERING
SCALE: NONE



TYPICAL WORKSTATION - SUPERVISOR
SCALE: 3/8" = 1'-0"

65" x 65" Myle Dual Surface Console with true sit to stand adjustment; range of 22" - 48" AFFJ with fixable Base.

- 14" High sound absorptive panel system, .55NRC rating standard.
- (2) CPU Enclosure, vertical 48" Tech Tower with front and side locking access doors, (2) fixed shelves and (2) silent 45 CFM fans for active ventilation. Maximum CPU dimensions of 18H x 7.5W x 18D.
- Cable Management bridge to organize cables from desk to CPU cabinet. Note: Not a shelf.
- MM-Climate Personal environmental controls with filtered air flow and 50W heated foot pad.
- (2) 250W Forced Air Heaters.
- Single Shelf with grommet.
- Rack Mount under monitor surface, 19"W x 5 1/2" H x 9"D, With Power-only USB ports.
- Desktop-keyboard surface cable organizer. Cables sold separately.
- (2) Dimmable Lux Test Lights with a flexible mounting arm, mounted to keyboard surface.
- Mobile Drawer Pedestal 18"D, 12" 12" drawers.
- Tollenderson® Monitor Mounting system capable of 10" of focal depth adjustment. Accommodates up to (3) 24" Flat Panel Monitors on a single level.



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 Norfolk, VA 23502
 1-800-838-2222
 www.xybix.com
 Email: sales@xybix.com
 Design: sales@xybix.com
 Email: sales@xybix.com

City of Virginia Beach Sheriff Department
 2501 James Madison Blvd
 Virginia Beach, VA 23456

PROJECT NAME:	Correctional Center - Master Control Upgrade						
DRAWING NAME:	TYPICAL WORKSTATION						
SHEET:	5 of 6						
SCALE:	As Noted						
DATE:	January 25, 2018						
REVISIONS:	<table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> <tr> <td>0</td> <td>Initial Release</td> <td>01/25/18</td> </tr> </table>	NO.	DESCRIPTION	DATE	0	Initial Release	01/25/18
NO.	DESCRIPTION	DATE					
0	Initial Release	01/25/18					

Master Control Room: Typical Workstation - Supervisor Proposed Preliminary Design Concept



 CORPORATION | SECURITY | TECHNOLOGY


 January 25, 2018 **18**

Completion of Project Ahead of Schedule

Axis Global Enterprises, Inc. understands the critical importance of completing this project on or ahead of schedule. To help ensure the security of the population and security personnel while optimizing efficiency and functionality, we will obtain Substantial Completion in **706 Calendar Days**, thus providing a fully completed project approximately one (1) month ahead of the required completion (Note: Attached project schedule outlines 541 working days).

To successfully accomplish this mission, we propose the following Project Schedule (see **pages 72—84** for comprehensive graphic timeline). This Schedule is based on one shift in one area at a time. During the post award planning study it is our intent to work with the Virginia Beach Sheriff's Office and determine how we can significantly reduce the duration of the overall project by identifying locations where we can work multiple shifts or add resources.

** Following the Planning Study and shift negotiations, we may be able to further reduce the number of days proposed in this project schedule.*

PHASE #	DESCRIPTION	KEY ITEMS
PHASE 1	Kick Off	<ul style="list-style-type: none"> Project Award Kickoff Meetings
PHASE 2	Investigation, Pre-Programming and Material Procurement	<ul style="list-style-type: none"> Planning Study and Design All Building Code Reviews and Approvals Permits and Permitting Requirements Lead Time for Long-Lead Time Materials and Equipment
PHASE 3	Programming	<ul style="list-style-type: none"> System Programming Factory Testing Owner Meeting and Approval
PHASE 4	Field Inspection	<ul style="list-style-type: none"> Existing System Mapping Verification of As-Built System Schedules Inspection, Testing and Reporting
PHASE 5	Construction / Execution	<ul style="list-style-type: none"> Master Control Room Renovation Converting IP Intercom Systems Integrating Intercom with CCTV and ACS Upgrading Paging Speakers Installing new IP Cameras
PHASE 6	Testing	<ul style="list-style-type: none"> Facility-wide Testing System Commissioning
PHASE 7	Training	<ul style="list-style-type: none"> Prepare Operations & Maintenance Manuals Training Sessions Conducted
PHASE 8	Project Close-Out	<ul style="list-style-type: none"> Complete and Deliver As-Builts Complete and deliver Warranty Documentation Demobilization

REQUEST FOR PROPOSAL

City of Virginia Beach

ISSUING OFFICE:
PURCHASING DIVISION
2388 LIBERTY WAY
VIRGINIA BEACH, VA 23456
TELEPHONE: (757) 385-4438 FAX: (757) 385-5601

DATE: November 7, 2017

Attention of Offeror is Directed To Section
2.2-4367 - 2.2-4377 of Virginia Public
Procurement Act (VPPA) (Ethics In Public
Contracting)

PLEASE FILL IN COMPANY NAME &
ADDRESS IN THE SPACES PROVIDED
BELOW:

Axis Global Enterprises, Inc. dba ASI Security
1439 N. Great Neck Road, Suite 100
Virginia Beach, VA 23454

RETURN THIS COPY

THIS IS NOT AN ORDER

ITEM NO. PPEA #3-523
CLOSING DATE December 12, 2017
CLOSING TIME 3:00 P.M.
PROCUREMENT OFFICER D. Sandloop

THE CITY OF VIRGINIA BEACH RESERVES THE RIGHT TO ACCEPT OR REJECT ANY AND ALL PROPOSALS IN WHOLE OR IN PART AND WAIVE ANY INFORMALITIES IN THE COMPETITIVE NEGOTIATION PROCESS. FURTHER, THE CITY RESERVES THE RIGHT TO ENTER INTO ANY CONTRACT DEEMED TO BE IN THE BEST INTEREST OF THE CITY.

DESCRIPTION OF REQUEST FOR PROPOSAL

THIS DOCUMENT CONSTITUTES A REQUEST FOR SEALED PROPOSALS FROM QUALIFIED INDIVIDUALS AND/OR ORGANIZATIONS TO PROVIDE: CONSTRUCTION OF THE CITY'S CORRECTIONAL CENTER MASTER CONTROL SYSTEM UPGRADES. THE NEW SYSTEM WILL BE A FULLY-INTEGRATED CONTROL SYSTEM (ICS) WHICH INCLUDES TOUCHSCREEN CONTROL, DOOR CONTROL, INTERCOM, CARD ACCESS, UTILITY CONTROLS, AND CLOSED CIRCUIT TV (CCTV) SYSTEM.

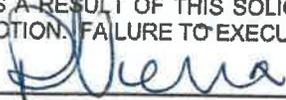
A PRE-PROPOSAL/QUESTION AND ANSWER SESSION WILL BE HOLD ON NOVEMBER 16, 2017 AT 10 AM AT 2388 LIBERTY WAY VIRGINIA BEACH, VIRGINIA 23456. A SITE VISIT WILL FOLLOW THE MEETING.

The Virginia Beach City Council has adopted a 10% goal for minority participation in City Contracts.

ACKNOWLEDGE RECEIPT OF ADDENDUM: #1 RV #2 RV #3 RV #4 RV (Please Initial)

IN COMPLIANCE WITH THIS SOLICITATION AND TO ALL THE CONDITIONS IMPOSED HEREIN, THE UNDERSIGNED AGREES TO EXECUTE THE CONTRACT AS A RESULT OF THIS SOLICITATION. AN AGENT AUTHORIZED TO BIND THE COMPANY SHALL SIGN THE FOLLOWING SECTION: FAILURE TO EXECUTE THIS PORTION MAY RESULT IN PROPOSAL REJECTION.

AUTHORIZED AGENT/SIGNATURE



TELEPHONE: (757) 857-4777

TYPE OR PRINT NAME: Ross D. Vierra

DATE: 01.25.2018

ENCLOSURE

ANTICOLLUSION/NONDISCRIMINATION/DRUG-FREE WORKPLACE CLAUSE

ANTICOLLUSION CLAUSE:

IN THE PREPARATION AND SUBMISSION OF THIS BID, SAID OFFEROR DID NOT EITHER DIRECTLY OR INDIRECTLY ENTER INTO ANY COMBINATION OR ARRANGEMENT WITH ANY PERSON, FIRM OR CORPORATION, OR ENTER INTO ANY AGREEMENT, PARTICIPATE IN ANY COLLUSION, OR OTHERWISE TAKE ANY ACTION IN THE RESTRAINT OF FREE, COMPETITIVE BIDDING IN VIOLATION OF THE SHERMAN ACT (15 U.S.C. SECTION 1), SECTIONS 59.1-9.1 THROUGH 59.1-9.17 OR SECTIONS 59.1-68.8 THROUGH 59.1-68.8 OF THE CODE OF VIRGINIA.

THE UNDERSIGNED OFFEROR HEREBY CERTIFIES THAT THIS AGREEMENT, OR ANY CLAIMS RESULTING THERE FROM, IS NOT THE RESULT OF, OR AFFECTED BY, ANY ACT OF COLLUSION WITH, OR ANY ACT OF, ANOTHER PERSON OR PERSONS, FIRM OR CORPORATION ENGAGED IN THE SAME LINE OF BUSINESS OR COMMERCE, AND, THAT NO PERSON ACTING FOR, OR EMPLOYED BY, THE CITY OF VIRGINIA BEACH HAS AN INTEREST IN, OR IS CONCERNED WITH, THIS BID; AND, THAT NO PERSON OR PERSONS, FIRM OR CORPORATION OTHER THAN THE UNDERSIGNED, HAVE, OR ARE, INTERESTED IN THIS BID.

DRUG-FREE WORKPLACE:

DURING THE PERFORMANCE OF THIS CONTRACT, THE CONTRACTOR AGREES TO (I) PROVIDE A DRUG-FREE WORKPLACE FOR THE CONTRACTOR'S EMPLOYEES; (II) POST IN CONSPICUOUS PLACES, AVAILABLE TO EMPLOYEES AND APPLICANTS FOR EMPLOYMENT, A STATEMENT NOTIFYING EMPLOYEES THAT THE UNLAWFUL MANUFACTURE, SALE, DISTRIBUTION, DISPENSATION, POSSESSION, OR USE OF A CONTROLLED SUBSTANCE OR MARIJUANA IS PROHIBITED IN THE CONTRACTOR'S WORKPLACE AND SPECIFYING THE ACTIONS THAT WILL BE TAKEN AGAINST EMPLOYEES FOR VIOLATIONS OF SUCH PROHIBITION; (III) STATE IN ALL SOLICITATIONS OR ADVERTISEMENTS FOR EMPLOYEES PLACED BY OR ON BEHALF OF THE CONTRACTOR THAT THE CONTRACTOR MAINTAINS A DRUG-FREE WORKPLACE; AND (IV) INCLUDE THE PROVISIONS OF THE FOREGOING SECTIONS I, II, AND III IN EVERY SUBCONTRACT OR PURCHASE ORDER OF OVER \$10,000, SO THAT THE PROVISIONS WILL BE BINDING UPON EACH SUBCONTRACTOR OR VENDOR.

FOR THE PURPOSE OF THIS SECTION, "DRUG-FREE WORKPLACE" MEANS A SITE FOR THE PERFORMANCE OR WORK DONE IN CONNECTION WITH A SPECIFIC CONTRACT AWARDED TO A CONTRACTOR IN ACCORDANCE WITH THIS CHAPTER, THE EMPLOYEES OF WHOM ARE PROHIBITED FROM ENGAGING IN THE UNLAWFUL MANUFACTURE, SALE, DISTRIBUTION, DISPENSATION, POSSESSION OR USE OF ANY CONTROLLED SUBSTANCE OR MARIJUANA DURING THE PERFORMANCE OF THE CONTRACT.

NONDISCRIMINATION CLAUSE:

1. EMPLOYMENT DISCRIMINATION BY OFFEROR SHALL BE PROHIBITED.
2. DURING THE PERFORMANCE OF THIS CONTRACT, THE SUCCESSFUL OFFEROR SHALL AGREE AS FOLLOWS:
 - A. THE OFFEROR, WILL NOT DISCRIMINATE AGAINST ANY EMPLOYEE OR APPLICANT FOR EMPLOYMENT BECAUSE OF RACE, RELIGION, COLOR, SEX, NATIONAL ORIGIN, AGE, DISABILITY, OR ANY OTHER BASIS PROHIBITED BY STATE LAW RELATING TO DISCRIMINATION IN EMPLOYMENT, EXCEPT WHERE THERE IS A BONA FIDE OCCUPATIONAL QUALIFICATION/CONSIDERATION REASONABLY NECESSARY TO THE NORMAL OPERATION OF THE OFFEROR. THE OFFEROR AGREES TO POST IN CONSPICUOUS PLACES, AVAILABLE TO EMPLOYEES AND APPLICANTS FOR EMPLOYMENT, NOTICES SETTING FORTH THE PROVISIONS OF THIS NONDISCRIMINATION CLAUSE
 - B. THE OFFEROR, IN ALL SOLICITATIONS OR ADVERTISEMENTS FOR EMPLOYEES PLACED ON BEHALF OF THE OFFEROR, WILL STATE THAT SUCH OFFEROR IS AN EQUAL OPPORTUNITY EMPLOYER.
 - C. NOTICES, ADVERTISEMENTS, AND SOLICITATIONS PLACED IN ACCORDANCE WITH FEDERAL LAW, RULE OR REGULATION SHALL BE DEEMED SUFFICIENT FOR THE PURPOSE OF MEETING THE REQUIREMENTS OF THIS SECTION.
 - D. OFFEROR WILL INCLUDE THE PROVISIONS OF THE FOREGOING SECTIONS A, B, AND C IN EVERY SUBCONTRACT OR PURCHASE ORDER OF OVER \$10,000, SO THAT THE PROVISIONS WILL BE BINDING UPON EACH SUBCONTRACTOR OR VENDOR.

Name and Address of Offeror:

Axis Global Enterprises, Inc. dba ASI Security

1439 N. Great Neck Road, Suite 100

Virginia Beach, VA 23454

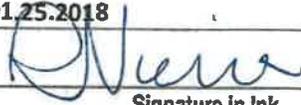
E-mail Address: rvierra@axisge.com

Telephone Number: (757) 857-4777

Fax Phone Number: (757) 857-1595

FIN/SSN #: 271096865

Date: 01.25.2018

By: 

Signature in Ink

Ross D. Vierra

Printed Name

President / CEO

Title

Is your firm a "minority" business? Yes No If yes, please indicate the "minority" classification bellow:

African American Hispanic American American Indian Eskimo Asian American Aleut

Other; Please Explain: _____

Is your firm Woman Owned? Yes No

Is your firm a Small Business? Yes No

Is your firm Service Disabled Veteran Owned? Yes No



City of Virginia Beach

Vbgov.com

Finance/Purchasing
PHONE: (757) 385-4438
FAX: (757) 385-5601

Municipal Center
Kempsville Building
2388 Liberty Way
Virginia Beach, VA 23456

Date: December 4, 2017

To: All Offerors

Re: **ADDENDUM #1 – PPEA Proposal #3-523: DETAILED PROPOSALS FOR UPGRADE TO THE CITY'S CORRECTIONAL CENTER'S MASTER CONTROL SYSTEM**

Dear Sir or Madam:

Please be advised the above referenced PPEA Proposal Item is hereby amended, clarified, and/or changed as follows:

1. "As-Built" electrical drawings (66 pdf files) are now available for review. The drawings comprise all three parts (A, B, & C) of the Correctional Center and show power, lighting, and communications at the time of installation. To receive these drawings via –email contact:

Steven Allen at Public Works Facilities Design & Construction Division sdallen@vbgov.com

These provisions shall become part of the Proposal package and Offeror shall acknowledge receipt of the addendum by signing in the space provided below and returning this page with the Proposal submittal. All other terms and conditions and specifications of the PPEA Proposal shall remain the same.

Signature: _____

(Offeror)

Sincerely,

David A. Sandloop

David A. Sandloop, CPPB
Procurement Specialist

cc: PPEA Proposal File #3-523



City of Virginia Beach

Vbgov.com

Finance/Purchasing
PHONE: (757) 385-4438
FAX: (757) 385-5601

Municipal Center
Kempsville Building
2388 Liberty Way
Virginia Beach, VA 23456

Date: December 8, 2017

To: All Offerors

Re: **ADDENDUM #2 -- PPEA Proposal #3-523: DETAILED PROPOSALS FOR UPGRADE TO THE CITY'S CORRECTIONAL CENTER'S MASTER CONTROL SYSTEM**

Dear Sir or Madam:

Please be advised the above referenced PPEA Proposal Item is hereby amended, clarified, and/or changed as follows:

1. The closing date and time for the subject solicitation shall be moved to January 4, 2018 at 3:00 P.M.
2. Please note that an Original and Eight (8) copies of both the Detailed/Technical Proposal and the Financial Proposal are required from each Offeror.
3. For clarification, on Page 9 in "Instructions for Proposals" the Technical Proposal is limited to 25 pages excluding charts, diagrams, etc.
4. There is no 3rd item for the Technical Proposal (Page 9). There are only 2 items.
5. The "City of Virginia Beach Request for Proposal Form" noted on Page 11 of the solicitation is hereto attached.
6. Various questions have been presented to the City and they, along with the answers, are hereto attached.

These provisions shall become part of the Proposal package and Offeror shall acknowledge receipt of the addendum by signing in the space provided below and returning this page with the Proposal submittal. All other terms and conditions and specifications of the PPEA Proposal shall remain the same.

Signature: _____

(Offeror)

Sincerely,

David A. Sandloop

David A. Sandloop, CPPB
Procurement Specialist

cc: PPEA Proposal File #3-523



City of Virginia Beach

Vbgov.com

Finance/Purchasing
PHONE: (757) 385-4438
FAX: (757) 385-5601

Municipal Center
Kempsville Building
2388 Liberty Way
Virginia Beach, VA 23456

Date: December 29, 2017

To: All Offerors

Re: **ADDENDUM #3 – PPEA Proposal #3-523: DETAILED PROPOSALS FOR UPGRADE TO THE CITY'S CORRECTIONAL CENTER'S MASTER CONTROL SYSTEM**

Dear Sir or Madam:

Please be advised the above referenced PPEA Proposal Item is hereby amended, clarified, and/or changed as follows:

1. The closing date and time for the subject solicitation shall be moved to January 18, 2018 at 3:00 P.M.
2. The Audio Monitoring System (Scream Alert) may be included as an option to the Proposal.

These provisions shall become part of the Proposal package and Offeror shall acknowledge receipt of the addendum by signing in the space provided below and returning this page with the Proposal submittal. All other terms and conditions and specifications of the PPEA Proposal shall remain the same.

Signature: _____

(Offeror)

Sincerely,

David A. Sandloop

David A. Sandloop, CPPB
Procurement Specialist

cc: PPEA Proposal File #3-523



City of Virginia Beach

Vbgov.com

Finance/Purchasing
PHONE: (757) 385-4438
FAX: (757) 385-5601

Municipal Center
Kempsville Building
2388 Liberty Way
Virginia Beach, VA 23456

Date: January 17, 2018

To: All Offerors

Re: **ADDENDUM #4 – PPEA Proposal #3-523: DETAILED PROPOSALS FOR UPGRADE TO THE CITY'S CORRECTIONAL CENTER'S MASTER CONTROL SYSTEM**

Dear Sir or Madam:

Please be advised the above referenced PPEA Proposal Item is hereby amended, clarified, and/or changed as follows:

1. The closing date and time for the subject solicitation shall be moved to January 25, 2018 at 3:00 P.M.
2. Please see the attached documents referring to an outstanding question involving the PLC-Programmable Logic Control System.

These provisions shall become part of the Proposal package and Offeror shall acknowledge receipt of the addendum by signing in the space provided below and returning this page with the Proposal submittal. All other terms and conditions and specifications of the PPEA Proposal shall remain the same.

Signature: _____

(Offeror)

Sincerely,

David A. Sandloop

David A. Sandloop, CPPB
Procurement Specialist

cc: PPEA Proposal File #3-523