



April 15, 2015

Doug Carey
Facilities Manager
Lewis County
Department Of Central Services
Facilities Division
351 NW North Street
Chehalis, Washington 98532

Subject: Proposal for Lewis County Jail Camera System Upgrade
Reference: Revised Proposal (40 New Cameras)

Dear Doug,

This constitutes Justice Systems' revised proposal, based on last week's camera survey, for 40 new cameras – a quantity of 31 more than originally proposed. Additionally, it revises our original proposal as follows:

- Camera survey removed (performed as separate work order).
- 1080p cameras now included as the base proposal.
- Network switch added to accommodate the additional cameras.
- Option provided to raise recording resolution (of all 142 cameras) from 720p to 1080p. Unlike before, recording would be continuous at 15 fps. Previously, the 1080p recorded at 7 fps and bumped to 30 fps on motion.
- Relocating Control 1 secondary position to Control 2.
- Removing the Control 2 station as shown on original proposal.
- Removing the Administration review stations as requested.

This proposal provides a revised scope and schedule for the project, incorporating the added cameras. Our team is very eager to get started and hopes for expedited review and approval.

Revised Scope

Justice Systems proposes products from Vicon Industries, which have reliably served the jail for many years (but now need replacement), as well as Hewlett Packard for networking. Vicon equipment is warranted for three (3) years from the date of purchase, while Hewlett Packard network switches carry a lifetime warranty. Other quality of service clarifications follow.

Cameras. All cameras (see Cut Sheets A & F) shall provide 1080p resolution (1920 x 1080 pixels) and dual-streaming up to 30 frames per second (fps) – meaning the jail can view live at 30 fps, but record at a lower speed to save storage. Up to 10 clients can view live streaming simultaneously and are ONVIF compliant. They are true day/night (turn black and white under low light). Fixed cameras have 3-9 mm, auto-iris lenses that remotely auto-focus and have motorized lenses to remotely adjust the field-of-view. PTZ cameras have 30x optical zoom, auto-iris lenses.

Raceway. Unless noted otherwise, conduit will be ¾-inch minimum, electro metallic tubing (EMT or “thin wall”). Outdoors and in unescorted inmate areas (dayrooms and rec yards) under 10 feet, rigid galvanized steel will be used. Justice System maintains a crew specifically for raceway and cabling work and is situated to self-perform without the need to go find an outside electrician.

New Cabling (Category 6). We will install Category 6 network cable to new cameras, terminated on new rack-mounted patch panels. If the County has no preferred brand, we will use West Penn cable and Ortronics patch panels and plugs (see Cut Sheets B and C).

Network Performance. Per calculations, network bandwidth of 350 Mbps is needed for the 1080p system. We are providing 1000Mbps segments for the NVRs, control stations, and administrative stations – as well as all the cameras. See Cut Sheet M. HP Procurve are enterprise-grade switches that accommodate the bandwidth needed for video networks. They also power-over-Ethernet (PoE) to the cameras and some other system components.

Existing Cabling (IP to Coaxial Conversion). For existing camera locations, we will continue to utilize the existing coaxial cabling, but will convert the cabling medium to digital (IP Ethernet). The Altronix units we are using (see Cut Sheets D & E) are rated for 300 meters (984 feet) of RG-59 and provide a bandwidth of 100 Mbps. Since MiniMax has losses 50% greater than RG-59, the conversion will accommodate 700 feet of MiniMax. Given that we are splitting the closets, we would be surprised if any of the existing runs exceed 700 feet.

Recording Parameters. Recording system shall have a minimum 60-day recording storage capacity, with integral back up storage – RAID-5, meaning that one disk can fail without losing data (two failures will lose data). Solid state storage is not an option for the video (by any manufacturer), nor recommended. System will record all video 24/7 at 720p resolution and 15 frames per second. This results in three (3) NVRs with a total usable storage capacity of 152 TB. See Cut Sheet K for the NVRs.

- Option 1 – Raise recording resolution from 720p to 1080p at 15 fps for 60 days. This will require a fourth NVR with usable storage of 38 TB, and raise the total storage to 190 TB. This option is itemized separately on the Proposal Form.

Camera Relocations. Justice Systems will relocate five (5) cameras, as designated in the Sheriff’s PowerPoint (C-32, C-34, C-67, C-71, and C-78). We will extend conduits and cables from their existing outlet boxes to the new camera locations. These will remain as coaxial cable and will have a splice within the existing boxes.

Touchscreen Integration. Justice Systems will integrate the new system to the existing PLC ASCII unit and host protocol using a Moxa Ethernet to Serial converter to access these streams over the network. We will further modify the code to translate existing analog quadrants to tile locations on the new digital screens. We will retain all door-to-camera and alarm-to-camera associations. We will maintain the manual quadrant call-up functions on the touchscreens. In short, we will fully mimic the existing touchscreen integration within the new system. Unlike other contractors, we have PLC and HMI programming capability and can modify the touchscreens and PLCs to work with the new system.

Privacy Masking. Selected cameras have capability to have a portion of the view “masked” (blacked out) to provide privacy areas for shower and toilet areas – both on the live and recorded views. See attached excerpt from the operations manual for the cameras for more information on privacy masking.

Software Maintenance Fees. This server/storage solution carries no annual fees for software upgrades or ongoing support. That eliminates a large annuity that Lewis County could pay over the life of this system with another manufacturer or proposal – other than Justice Systems and Vicon.

Compensation

The attached proposal form provides Justice Systems’ lump sum price and unit prices for the Lewis County Jail Camera Upgrade project.

Base Proposal - 1080p Cameras / 720p Recording **\$495,580**

- 1080p cameras (142 cameras)
- Two (2) NVRs for 60 days at 15 fps at **720p** with RAID-5 for 111 cameras (114TB)
- One (1) NVRs for 60 days at 15 fps at **720p** with RAID-5 for 31 cameras (38 TB)
- Three (3) VMDCs and 10 monitors

Option 1 - 1080 Recording (Additive Alternate) **\$24,660**

- One (1) NVRs for 60 days at 15 fps at **1080p** with RAID-5 (38 TB)

Specific Inclusions

The above prices include:

- As-built shop drawings of the completed work
- Electrical permit for inspection (if required)
- Prevailing wages
- Liability and errors/omissions insurance
- Software upgrades and ongoing software support (no fees) (labor to install upgrades is additional)

Justice Systems warrants the work in this scope for a period of one (1) year from the date of substantial completion. For products with extended warranty, Justice Systems will facilitate the return and shipping of any failed components over this period, but after one year will require additional labor to diagnose and replace failed components (even though those parts will be covered).

Exclusions

The above prices do not include the following exclusions:

- Camera survey for new cameras (performed as separate work order)
- Fiber optic cable to Booking Closet (by Lewis County)
- Replacement CCTV keypads at control rooms
- Spare parts
- Disposal
- Performance and payment bond
- Sales tax.

Schedule and Approach

Justice Systems will deliver a substantially complete project (less final training and closeout documents) within 14 weeks. Two (2) weeks later we will achieve final completion. See the attached project schedule.

The approach that Justice Systems has refined emphasizes reduced disruption to jail operations and involvement of the user agency (Sheriff) to avoid surprises. Our on-site work will begin with raceway and cabling for new cameras within three (3) weeks of notice to proceed.

“Cutover.” In order to have the old and new camera systems running together, we temporarily mount and interconnect the new equipment, without yet disturbing the old equipment or disabling the old cameras. Using the new cameras, we can test switching of both systems from the same touchscreen.

Once we have trained operators on the new system, we offer a decision point to the Sheriff whether to proceed with camera cutovers (“Cutover Go / No Go” on the schedule). Assuming they are comfortable that the new system is ready, we begin. This involves the Sheriff in this decision, and gives Facilities the assurance that they are operational ready for the cutover process.

For each existing camera, the process will take about two hours:

- The old camera is removed, along with any old housings. At this point, the camera goes black on the old system.
- The new IP dome camera and IP converter are installed in its place. In general, these are surface mounted. In some cases an extension box must be mounted adjacent to the camera.
- The camera is discovered on the network and displayed on the new monitors. Then its view is adjusted and focused. Note: This presents the Sheriff an opportunity to change the view (at this time only). Otherwise, the old view is replicated.
- The icons will have already been added to Citect touchscreens and door associations made. Touchscreen integration will be tested to ensure these are correct.

When all the new cameras are replaced and on the new system, the old monitors and equipment may be demolished. Then the new equipment will be permanently mounted.

This proposal expires April 30, 2015.

Justice Systems looks forward to your review and approval of this work.

Sincerely,

Paul Allyn, P.E.
President, Justice Systems Corporation
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Kent, WA 98032
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D: 425.654.0707
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PROPOSAL SUMMARY SHEET

Name of Proposer: Justice Systems Corporation

Address: 19428 66th Ave S, Suite Q-109

City, State, ZIP: Kent, WA 98032

Telephone: P: 253.236.4817 / F: 253.236.8091

UBI or Contractor License # Electrical JUSTISC995J5 /
General Contractor JUSTISC985BT

Name of authorized representative of the above named company: Paul Allyn

Title: President

Signature: _____

Camera Replacement Project Total Cost \$ 495,580

Option 1 Added Cost \$ 24,660

Unit Pricing

<u>Item</u>	<u>Cut Sheets</u>	<u>Qty. Required</u>	<u>Price per Unit</u>	<u>Ext. Price</u>
1 Camera survey and pre-installation submittals	N/A	-	\$ 11,760.00	\$ -
2 New camera - 1080p fixed dome including camera, cable, conduit	A, B & C	40	\$ 4,150.00	\$ 166,000
3 Relocate & replace existing camera - 1080p fixed dome including IP converter and coaxial cable/ conduit extension	A, D & E	11	\$ 2,800.00	\$ 30,800
4 Replace existing camera in place - 1080p fixed dome including IP converter	A, D & E	90	\$ 1,900.00	\$ 171,000
5 Replace existing camera in place - 1080p PTZ outdoor dome including IP converter	F, D & E	1	\$ 3,880.00	\$ 3,880
6 Control station monitor array including VMDC computer, four (4) monitors - integrated to touchscreens & ViconNet	G, H & I	2	\$ 5,000.00	\$ 10,000

7	Control station monitor array including VMDC computer, two (2) monitors - integrated to touchscreens & ViconNet	G, H & I	1	\$ 3,000.00	\$ 3,000
8	Administrative workstation including VRS computer, one (1) monitor & ViconNet	J, H & I	-	\$ 3,335.00	\$ -
9	Network video recorder (NVR) 57 TB internal RAID-5 storage (one Nucleus per system as well)	K & L	2	\$ 30,000.00	\$ 60,000
10	Network video recorder (NVR) 38 TB internal RAID-5 storage	K & L	1	\$ 24,660.00	\$ 24,660
11	Full-depth 19-inch equipment rack		1	\$ 2,300.00	\$ 2,300
12	Network switch, 48-port, 10/100/1000, PoE+ (Note 1)	M	4	\$ 5,400.00	\$ 21,600
13	Closeout submittals (as-builts, etc.)	N/A	1	\$ 2,340.00	\$ 2,340

Options

Opt 1	Network video recorder (NVR) 38 TB internal RAID-5 storage (Note 2)	K	1	\$ 24,660.00	\$ 24,660
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Notes

- 1 Additional switch necessary for 31 added cameras
- 2 Additional NVR raises recording resolution from 720p to 1080p