



*City of San Carlos*

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## *Security Camera Assessment and Installation Project C2203*

*Attention: Amy Newby | City of San Carlos  
Parks and Recreation Director*

*Date: September 9<sup>th</sup>, 2022*



*Danny Haddad*

*Regional Sales Director*

*dhaddad@edgeworthsecurity.com*

**Edgeworth Security, LLC.**

1048 Serpentine Lane #302

Pleasanton, CA 94566

t: +1 (925) 577-2856

[www.edgeworthsecurity.com](http://www.edgeworthsecurity.com)



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## ***Section A – Cover Page (above) & Cover Letter***

09/2/2022

Attention: Amy Newby and City of San Carlos,

RE: City of San Carlos Security Camera Assessment and Installation Project C2203

On behalf of Edgeworth Security, LLC, I am pleased to submit our Statement of Qualifications and Proposal to be considered for collaboration with the City of San Carlos on the Security Camera Assessment and Installation Project C2203. We have reviewed all documents within the RFP packet including the RFI responses.

Edgeworth Security (EWS) has designed and completed hundreds of video surveillance projects throughout California for many cities, school districts and other municipalities over the past 26 years that are similar in scope and size to this project. We take Video Surveillance, safety and security very seriously and look forward to assisting the City of San Carlos in strengthening their security posture.

To tell you a little about EWS (DBA VAS Security Systems), we have been in business for over 26 years and have a long history of experience and relationships with many local cities. Edgeworth technicians are certified and qualified to install and program the Cloud-Based solution Ava VMS, cameras, components and software that we are proposing. Ava is owned and operated by Motorola which is our #1 go to brand including Avigilon and OpenPath also owned by Motorola. We selected this solution for the City of San Carlos since it is one of the most reliable and cost-effective cloud solutions out there and meets all the requirements of this RFP. We have included LPR cameras and coverage for all parks and garage, corp yard did not require LPR. Plans reflect where the LPR cameras are recommended to be installed. We also included a multisensory camera at the top of Arguello Park that will be used for overview and LPR. We included 2 multisensor cameras for Highland Park Tennis Courts and new Ava cameras at the Youth Center including an LPR camera. A 1 Year SLA Maintenance Plan was also included as part of the proposal as per attached SLA document. We included all the appropriate software, hardware and labor as requested to make this proposal a complete turn-key system install.

Edgeworth takes great pride in customer service and will work hard to ensure all demands of the City of San Carlos are met and a successful project takes place. Delivering a world-class customer experience is what we are all about as we strongly believe in the basic principle that a satisfied customer is a customer for life.

We hope to work with the City of San Carlos on this project and want to thank you for your time in advance. We look forward to your response and hopefully working together!

Respectfully,

Danny W. Haddad / Regional Sales Director  
E: [dhaddad@edgeworthsecurity.com](mailto:dhaddad@edgeworthsecurity.com)  
T: +1 925-577-2856

*Edgeworth Security, LLC.*

*City of San Carlos/ Security Camera Assessment and Installation Project C2203/ September 1st, 2022*



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## ***Section B – Statement of Qualifications***

### ***1) Information/Background of the Firm***

See attached

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Product Spec Sheets





EDGEWORTH

New World.  
New Problems.  
New Solutions.

## Making Spaces Safer Through

# PEOPLE + PROCESSES + TECHNOLOGY

Edgeworth Security is full-service security consulting firm, specializing in security system integration, and remote guarding. Edgeworth Security takes a proactive stance on crime prevention and asset protection by applying artificial intelligence and military grade analytics to security services. We innovatively combine people, processes and technology to actively secure your personnel, assets, and property.

## Key Advisors & Staff.



Thomas Tull  
CEO of Tulco



Michael Hayden  
Former Director of NSA & Former Director of CIA



Mike Vickers  
Under Secretary of Defense for Intelligence



Ken Young  
CEO of Edgeworth Security

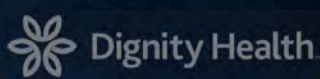


Matt Devost  
Vice President of Tulco



Pete Naschak  
Senior Navy SEAL (ret), VP of Strategy

## Featured Clients.



## Our Services.



Security Consulting



Security Systems Integration



Executive Protection



Remote Guarding



Cyber Intelligence Solutions



## Combining 20+ Years of Experience with State of the Art Technology

Edgeworth Security was founded to transform the security industry and combines experienced security professionals with tested, proven processes and state of the art technology, to provide clients with more effective and more cost-efficient solutions.



Founded in 1995, VAS Security Systems, Inc, now Edgeworth Integration, is a leading expert and integrator in the security industry. Backed by this 20+ years of experience designing and implementing award winning security systems for clients in a variety of industries, Edgeworth is incorporating artificial intelligence, machine learning and robust analytics to provide proactive and revolutionary security solutions.

### Medical Centers

- Alta Health Care Systems
- Cedar-Sinai Medical Facilities
- Garfield Medical Center Hospital
- Beverly Hills Medical Center
- Community Memorial Hospital
- Gateway Hospital Medical Center
- California Medical Center Hospital

### Hotel Properties

- Beverly Wilshire Hotel Beverly Hills
- Four Seasons Beverly Hills
- Hilton Waterfront Huntington Beach
- Holiday Inn Woodland Hills/Warner Center
- Hotel Oceana Santa Monica
- Inn By The Harbor Santa Barbara
- Ramada Plaza West Hollywood
- Sheraton Gateway Hotel LAX

### Education

- Burbank Unified School District
- CSUCI (Cal State University Channel Islands)
- City of Beverly Hills Hawthorne Elementary School
- Burbank High School
- CSUN (Cal State University Northridge)
- Culver City Middle School

### Commercial

- Mercial Property Management Companies
- Center Enterprises Apartment Management
- Elkins Group Property Management Company
- Management Prentiss Properties Ltd.
- Statewide Enterprises Inc.
- M.David Paul Real Estate Services

### Government/ Law

- Air Force One Exhibit
- City of Beverly Hills Police Department
- City of Rancho Cucamonga
- Long Beach Department of Corrections
- City of Commerce
- City of West Hollywood/City Hall

### Entertainment

- Luminent Fiber Optics Manufacturing Plant
- Precision Dynamics Medical Manufacturing Plant
- Strand Lighting Production Manufacturing Plant
- Technicolor DVD Manufacturing Plant in Guadalajara Mexico (Including Clean Rooms)
- Celite Mining Company Lompoc

# Additional Services

## Remote Guarding.



Remote Guarding solutions provide comprehensive security through the combination of high-definition cameras, artificial intelligence, digital line barriers, access control systems, and 24/7 live monitoring by our highly trained security agents to protect assets, property and people. Remote Guarding becomes a force multiplier of security, improving effectiveness and eliminating or reducing the need for on-site guards, while providing our clients considerable savings.

## Remote Patrol.



Live agents conduct systemized, dedicated smart technology patrols to inspect premises, monitor critical assets, validate compliance, or conduct custom client requirements, replacing physical guard duties and providing both a more secure and cost-effective solution.

## Remote Escort.



Utilizing live video and audio notifications our agents can monitor, greet, provide instruction, and follow progress of employees, visitors, or contractors working on the premises. This can ensure both company security and the safety of your employees.

## Remote Reception.



Our agents greet and provide employee, visitor, and contractor controlled access per company protocols, removing the need for an in-person receptionist/concierge. Procedures are fully customizable with a focus on customer-service.

## Remote Alarm.



Strategic technology placement allows our agents to observe for unauthorized activities and threats, and respond/verify alarms. Agents then initiate proper notifications and deterrence actions.

## Remote Geo-Fence.



Using customized video analytics, our agents recognize and respond to client specified, custom alarms developed for the site's specific needs and threat profile.

## Remote GPS Tracking.



Using specialized GPS enabled tracking systems, our remote agents will monitor and report on any high value assets that are removed from a preprogrammed Geo-Fenced area. Once activated, the remote agents will follow predetermined protocols to locate, track, and recover the asset.



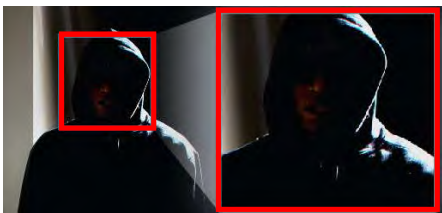
## State-of-the-Art Technology.

- ✓ High Definition and High Frame Rate Cameras
- ✓ Self-Learning Analytics / Artificial Intelligence
- ✓ Wide-Range Clarity and Optical Zoom
- ✓ Scalable
- ✓ Remote Focus & Zoom



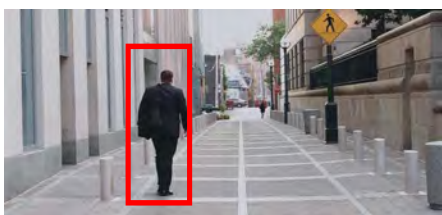
### Proprietary Facial Image Recognition

Our secure facial authentication works with access control to replace badging and eliminate “tailgating”. Facial authentication differentiates between known and unknown people granting access where appropriate and alerting our agents when access is denied.



### Unusual Activity Detection

Our smart technology can detect unusual activity and alert our security agents to potential security concerns. The technology can differentiate between objects, people, animals and other intrusions to drastically reduce false alarms. When unusual activity is detected, our agents investigate further, running the incident through the appropriate process.



### Self-Learning Analytics/Artificial Intelligence

Edgeworth's industry leading self-learning video analytics technology provides preventative protection. Pattern-based analytics algorithms continuously improve and enhance security effectiveness.



### Easy to Use Software

Powerful surveillance software doesn't have to be difficult to use. Our software makes finding images and videos easy, is scalable, allows for remote viewing from any device and works intuitively.



### Image Clarity

Our cameras create high-resolution footage for clear image detail without compromising on bandwidth. High definition cameras cover larger areas reducing the number of cameras required. Cameras are able to capture accurate footage in all conditions, day or night.



**Goal:** Create a more effective security system that leverages existing infrastructure along with new technology and equipment to enhance campus security while strictly adhering to all prescribed requirements and timeline.

**Solution:** Designed and installed a security systems integration featuring video surveillance cameras, access control and intrusion systems, and emergency stanchions along with two command and control centers to improve the effectiveness of campus security.

**Project Overview:**

- 25-acre campus with over a dozen buildings and parking garages

- Installed video surveillance cameras and access control systems

- Installed intrusion system including emergency call stations

- Integrated two command and control centers with the on-campus sheriff's station

- Successfully navigated all requirements and third-party inspections to complete the project on-time with perfect reports and no liquidated damages

**Details:**

VAS Security, now Edgeworth Integration, designed and implemented a custom security systems integration to provide the Los Angeles Trade Technical College with more effective protection for their property, students and staff.

Prior to Edgeworth's security installation and integration, LATTC employed someone who was responsible for physically locking up the buildings at night, but they were inconsistent, and areas that were left open became subject to vandalism and theft. Edgeworth installed access control systems and implemented schedules for the doors so they locked automatically at night. This eliminated the issues caused by opportunistic individuals wandering into the buildings after hours.

The LATTC bookstore was also a frequent target for theft and was losing approximately \$50-80K a semester. Edgeworth installed thirty video surveillance cameras throughout the store, which led to a significant decline in book theft.

As part of the project, Edgeworth also installed emergency call stations across campus and linked them to nearby video surveillance cameras. When emergency calls were made, campus police could pivot the cameras to focus on the activity at the call station in real-time and deploy voice down communication as needed to deter criminal activity.

Edgeworth also designed two command and control centers that integrated all of the information coming from the cameras, access control, intrusion, and emergency systems into the on-campus sheriff's station so they could monitor the system.

In addition to the technical scope of work, there were also a number of requirements regarding workforce, milestones, and third-party inspections associated with the project. Edgeworth worked diligently to meet and surpass those guidelines and was commended for the quality of work and the professional manner in which we navigated those requirements by the construction management company overseeing the project.

\*The LATTC project was completed by VAS Security, which is now Edgeworth Integration.



CALIFORNIA STATE UNIVERSITY  
**FULLERTON**

**Goal:** Create a comprehensive security system for a large college campus

**Solution:** Developed security systems plan, installed and maintained equipment

**Project Overview:**

- Campus is the size of a small city

- Over 45,000 people on property

- 100+ Buildings as well as several satellite campuses throughout Orange County, California

- Built dispatch center for campus police department

- Installed thousands of devices including biometric readers, card readers, cameras, and intrusion systems

- Installed cameras across compound with failover redundant emergency systems, including two back-up control rooms

**Details:**

The open nature of academic campuses creates a unique set of security challenges. Edgeworth created and implemented a security systems integration that provided comprehensive coverage for over 100 buildings across the campus.

With over 45,000 people on the property, including staff, students and visitors, it is necessary for this campus to have an on-property police department. Edgeworth helped build the dispatch center for the campus police department, and developed two back-up control rooms for redundancy in case of a catastrophic event.

This comprehensive integration included thousands of security devices including biometric readers, card readers, cameras, and intrusion systems. The campus is now equipped to handle security threats that range from day-to-day disturbances to severe threats.



**Goal:** Solve the unique security challenges of a movie studio/post-production company for Technicolor's studios, film labs, and distribution centers

**Solution:** Created a security systems integration that tightly protects not just the people and physical property, but also the intellectual property

**Project Overview:**

Security strategy for the protection of pre-release footage, DVDs/Blu-Rays of still in-theatre movies, and other intellectual property

Installed hundreds of cameras

Installed intrusion devices and card readers

**Details:**

As one of the largest post-production studios in the world, Technicolor needed a comprehensive security solution to protect very sensitive intellectual property including footage of movies not yet released.

Edgeworth's security systems integration for Technicolor won the 2009 ASIS (American Society of Industrial Security) Security Innovations Awards in recognition of our use of innovative technology.



**Goal:** Provide more effective security while reducing the cost of live guards

**Solution:** Security Systems Integration and Remote Guarding

**Project Overview:**

Provided Remote Guarding for 3 large properties in different cities

Installed over 100 cameras and all infrastructure (Cabling, trenching, access control, and audio voice-down capabilities)

Achieved cost savings of \$1,708,200 annually

**Details:**

The client was employing several physical guards that were not able to effectively monitor the large properties. By replacing physical guards with more effective Remote Guarding, significant savings were achieved while also improving security effectiveness.

After identifying the client's specific needs, installation of high-resolution cameras, triggers, and Remote Guarding from a guard center was implemented. This provided comprehensive coverage of the client's properties, reduced liability from physical guards, and ultimately resulted in a cost savings of \$1.7 million.





**Goal:** Create an effective security system for an industrial supply company

**Solution:** Installed camera systems for distribution centers

**Project Overview:**

Fortune 500 company with thousands of employees  
US, Mexico and Panama installation  
Installed of several hundred cameras

**Details:**

This industrial supply company serves more than 3 million customers worldwide, and has an array of industrial equipment, maintenance supplies, tools and parts housed in their distribution centers.

Edgeworth deployed a comprehensive system of cameras to better safeguard inventory, employees, and protect against outside theft/threats at their distribution centers in the U.S., Mexico and Panama.

FORTUNE 100  
CONSUMER  
Packaged Goods

**Goal:** Provide a cost-conscious security integration solution for a Fortune 100 consumer packaged goods company

**Solution:** Maintain (including preventative maintenance) and enhance existing infrastructure

**Project Overview:**

Fortune 100 Consumer Packaged Goods Company  
Large, multiple acre compound with various buildings  
Installed new video and access control systems

**Details:**

The most cost-effective solution for this client was to extend the lifespan of existing infrastructure and security systems. To help enhance security, Edgeworth installed new video and access control systems, and provided ongoing preventative maintenance for existing systems.

By growing their security systems and implementing necessary upgrades, Edgeworth was able to integrate current technology with legacy systems to meet the client's evolving security needs.



# CONTRACTORS STATE LICENSE BOARD

Pursuant to Chapter 9 of Division 3 of the Business and Professions Code  
and the Rules and Regulations of the Contractors State License Board,  
the Registrar of Contractors does hereby issue this license to:

**EDGEWORTH INTEGRATION LLC**

**License Number 1034768**

to engage in the business or act in the capacity of a contractor in the following classifications:

**C-7 - LOW VOLTAGE SYSTEMS  
C10 - ELECTRICAL**

Witness my hand and seal this day,

January 12, 2018

**Issued January 11, 2018**

Kevin J. Albanese, Board Chair

David R. Fogt, Registrar of Contractors

This license is the property of the Registrar of Contractors,  
is not transferable, and shall be returned to the Registrar  
upon demand when suspended, revoked, or invalidated  
for any reason. It becomes void if not renewed.





## Executive Summary

Edgeworth Integration, LLC was founded to transform the security industry and combines experienced security professionals with tested, proven processes and state of the art technology to provide clients with more effective and more cost-efficient solutions.

Founded in 1995, VAS Security Systems, Inc., now Edgeworth Integration LLC, is a leading expert and integrator in the security industry. Backed by this 25+ years of experience designing and implementing award winning security systems for clients in a variety of industries, Edgeworth is incorporating artificial intelligence, machine learning, and robust analytics to provide proactive and revolutionary security solutions.

We have been working in the Bay Area for over 26 years. In addition to video, access, and CCTV integration, we offer 24/7 live audio and video monitoring services at our central station and corporate headquarters. Some of our clients include Livermore Valley Joint USD, San Jose USD, Lammersville USD, Fairfield-Suisun USD, and San Mateo-Foster City USD.

Edgeworth and VAS have had ZERO BBE complaints, ZERO work related injuries, ZERO lawsuits & has never been unable to complete a project successfully and in a timely manner in 26 years & counting. VAS Technician's & staff have over 100 years of combined knowledge and experience in the security industry. VAS maintains a service department that is staffed by full time technicians, tech support & customer service staff.

### *Our Services:*

- Video Security/IP Cameras
- Access Control
- Intercom/Telephone Entry
- Alarm/Intrusion Systems
- \* Video Monitoring/Virtual Guard Services
- \* Security Integration
- \* Data Centric Security
- \* Commercial Audio/Video

### *Our Bonding Capacity & Insurance Coverage:*

**Bonding Capacity:**.....\$20,000,000.00

#### **Insurance:**

Personal and ADV Injury.....\$2,000,000.00

General Aggregate.....\$5,000,000.00

Products-Comp/Op Agg.....\$3,000,000.00

Rental.....\$100,000.00

**Commercial General Liability Auto Coverage:**.....\$1,000,000.00



## PARTIAL CLIENT LIST

CCTV/IP Video, Access Control, Intrusion, Integration, Design, Data Centric Security, Installation & More!

Alhambra Police Department/Jail  
City of West Hollywood/City Hall  
City of Beverly Hills/ City Hall  
Culver City Maintenance Yards

### Government/Law Enforcement

SSF Police Department  
FDA Oakland CA  
City of Vacaville PD/City Hall

City of Beverly Hills Jail Facilities  
Long Beach Department of Corrections  
City of Beverly Hills Police Department  
State of CA Department of Corrections

San Mateo-Foster City School District  
Burbank Unified School District  
PSI Testing Services  
JF University(campus wide)

### Educational Institutions

CSUF/CSUN (University)  
L.A Pierce College  
I.T.T. Technical Institute  
Santa Clara; Sacramento

City of Beverly Hills El Rodeo Elementary Sch.  
South Pasadena School District  
Cal. State University Channel Islands)  
National University(campus wide)

O'Connor Hospital San Jose  
Beverly Hills Medical Center  
Southern California Orthopedic Institute  
California Medical Center Hospital

### Medical Centers & Hospitals

Fountain Valley Hospital  
Tarzana Treatment Center  
Valley Presbyterian Hospital

Cedars Sinai Medical Center  
Olive View Hospital/Credit Union  
Valley Eye & Laser Medical Center  
Pacific Alliance Medical Center

Celite Mining Company Lompoc  
Deluxe Digital  
Precision Dynamics Medical

### Industrial Manufacturing Plants

ARB Enterprises  
Luminent Fiber Optics

Strand Lighting Production  
Precision Plastic  
Technicolor Corporate

Baskin Robbins 31 Flavors  
Lamps Plus Corp. & Nat'l. Dst.  
Deluxe Video Distribution Warehouse  
Cash it Quick (Check Cashing Chain)

### Commercial Businesses & Warehouses

Costco/Price Clubs

Sebastian International & IZON  
Anheuser Busch Distribution Centers (SoCal)  
Grainger Tool Etc. Distribution (50+ locations)  
Shaw Segraves & Asc. (Investigative- Security Firm)

### Hotel Properties

Four Seasons Hotel Beverly Wilshire Beverly Hills  
Four Seasons Hotel Santa Barbara Biltmore Santa Barbara  
Hotel Oceana Santa Monica

Double Tree Hotel Santa Monica  
Ritz-Carlton Huntington Hotel & Spa (Pasadena)  
Ritz-Carlton Dana Point

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## ***Section B – Statement of Qualifications: 2) Experience***

### **City of Mountain House 251 East Main Street Mountain House, CA 95391**

Doug Louie: 209-480-7395 [dlouie@sjgov.org](mailto:dlouie@sjgov.org)Citywide

Avigilon/Motorola Video Surveillance System for entire city, utility plans and parks  
(Project/Contract Value \$750,000)

### **City of San Ramon and PD**

Capt Cary Goldberg: 925-973-2763 [cgoldberg@sanramon.ca.gov](mailto:cgoldberg@sanramon.ca.gov)

Avigilon/Motorola Video Surveillance System for entire city intersections and PD  
(Project/Contract Value \$450,000)

### **San Mateo Union HS District 650 N. Delaware Street, San Mateo, CA 94401**

Mikael Estrada Greystone West: 707-732-1828 [Mikael@greystonewest.com](mailto:Mikael@greystonewest.com)

Campus-wide Motorola/Avigilon Project w/GuidePost & Greystone(  
Projects/Contract Value \$1,450,000)

### **Town of Colma- 1190 El Camino Real Colma, CA 94014**

Patrick Yu: 650-757-8892 [pyu@colma.ca.gov](mailto:pyu@colma.ca.gov)

Avigilon/Motorola Video Surveillance and Access Control System for PD & Town Hall  
(Project/Contract Value \$330,000)

### **Fairfield-Suisun Unified School District, Fairfield CA**

Francis Urmaza (707) 399-1200 [FrancisU@fsusd.org](mailto:FrancisU@fsusd.org)Campus-wide

Avigilon/Motorola Video Surveillance System for 40+ schools  
(Projects/Contract Value \$1,200,000)

**APPENDIX A**  
**Proposer Checklist**  
**Security Camera Project**

	<b>SECTION</b>	<b>Initial:</b>	<b>Comments/Notes:</b>
A.	COVER PAGE	DH	Submitted as requested
B.	STATEMENT OF QUALIFICATIONS	DH	Submitted as requested
C.	SCOPE OF SERVICES MATRIX (APPENDIX B)	DH	Submitted as requested
D.	PROJECT IMPLEMENTATION PLAN	DH	Plan and Schedule attached.
E.	PROPOSAL PRICING PAGE (APPENDIX C)	DH	Pricing and BOM included

## Appendix B – Functionality Matrix

Item #	Description	Mandatory, Desired, Optional	Response Yes, No, Future, Partial	Vendor Comment/Solution - Response Codes "F" and "P" require a written response describing how and when the specification will be met.
<b>A. CAMERA SPECIFICATIONS</b>				
A-1	Cameras must be day/night capable; full color		Y	
A-2	Cameras must allow sufficient resolution so that the operator can identify faces (digital 4.0 megapixel or higher IP-based cameras)		Y	
A-3	Cameras must be weatherproof if mounted at an exterior location		Y	
A-4	Motion activated recording		Y	
A-5	Camera system must store video for 90 days		Y	
A-6	Cameras must be at least two years from the end of sale date. If cameras have an end of sale date, proposer must state the date.		Y	
A-7	Privacy blurring of exported video		Y	
A-8	Mobile app for camera viewing		Y	
A-9	Ability to add license plate recognition and facial recognition features		Y	
<b>B. QUESTIONS</b>				
B-1	Does the system allow cloud services be utilized for archiving purposes?		Y	
B-2	Does the Video Management System support the existing Avigilon or Meraki cameras?		Y	
B-3	Does the system require the installation of a server, port forwarding or open firewall ports to enable remote access or storage?		N	Youth Center will have a Cloud connecting server, all other sites will not. This will allow all cameras to work on the same Ava VMS since AVA and Avigilon are both owned by Motorola.
B-4	Is video downloadable in MP4 or other standard formats?		Y	
B-5	What bandwidth does the system utilize?		50KBPS per camera	
B-6	Does system enable control of user permissions associated with live and archival video access?		Y	
B-7	Does the system provide analytics (including usage and up-time data)?		Y	
B-8	Is there an automatic footage upload if the camera is moved, hit with an object or the image is blurred?		Y	
B-9	Does the system provide additional tamper resistant protections?		Y	
B-10	Does the system automatically provide notifications if it goes offline?		Y	
B-11	Does the system possess a self-contained power supply backup?		Y	As long as ther switches they cameras are connected to have a connected UPS, the cameras are power backed up.
B-12	Does the system utilize any unencrypted protocols (e.g., RTSP streams), or make any unencrypted connections?		Y	
B-13	Does the system support two-factor authentication (2FA)?		Y	
B-14	Is the video encrypted during transfer?		Y	
B-15	Is stored video encrypted? If so, how?		Y	
B-16	Can you audit who has accessed live and stored video footage, or where they've done it?		Y	
B-17	Do cameras require inbound connections to stream video?		Y	You would need to be logged into the AVA Aware/VMS or have an external link to live stream. but you can use RTSP streams as well if needed.

**Appendix B – Functionality Matrix**

Item #	Description	Mandatory, Desired, Optional	Response	Vendor Comment/Solution - Response Codes "F" and "P" require a written response describing how and when the specification will be met.
			Yes, No, Future, Partial	
C. INSTALLATION REQUIREMENTS				
C-1	All cabling will be concealed above a drop ceiling in existing cable trays or wire straps. If cable trays or wire straps are not present, contractor will be required to provide cable support.		Y	
C-2	Any cable unable to be concealed will be installed in Electrical Metallic Tubing conduit unless otherwise specified		Y	
C-3	All exterior connections will use NEMA approved watertight fittings and tubing		Y	
C-4	Contractor will terminate and commission all equipment		Y	
C-5	Contractor will perform a Contractor Verification Test (CVT) immediately upon completion of each facility. Both the contractor and City of San Carlos representative will witness this test		Y	Final walk with City rep will take place and prove of functioning system.
C-6	The Vendor will be responsible for obtaining all required permits, agreements, licenses, and insurance.		Y	
C-7	The Vendor may employ subcontractors to perform certain portions of its responsibilities; however, the Vendor shall not subcontract any portion of its installation responsibilities without first obtaining express written permission from the CITY OF SAN CARLOS. If the CITY OF SAN CARLOS consents to such subcontract(s), the Vendor shall be fully responsible to the CITY OF SAN CARLOS for all acts and omissions of the subcontractor(s).		Y	
C-8	The Contractor shall prepare detailed plans for the installation. These plans shall become the property of the CITY OF SAN CARLOS.		Y	Preliminary schedule attached to proposal.
C-9	Provide a secure mounting rack for system installation.		Y	
D. NETWORK REQUIREMENTS				
D-1	Provide Network connectivity for the camera system.		Y/N	We will include all network/switch equipment at Parks and Garage. Corp Yard has existing network as explained on job walk. City would need to provide internet and or modem for Parks and Garage. If needed, Edgeworth can provide the modem and or the SIM cards for parks and garage as a CO.
D-2	Provide remote access to the proposed solution.		Y	



## APPENDIX C

### Cost Proposal Pricing Page

This Cost Proposal Pricing Page must itemize the cost to the City for all services to perform the Scope of Services outlined in Section III of the RFP and itemized in Appendix B. A narrative may be attached to clarify any pricing data submitted (e.g. hourly rates).

#### SECURITY CAMERA DESIGN, INSTALLATION, VIDEO RETENTION, TECHNICAL SUPPORT COSTS

			Comments/Notes:
A.	SECURITY CAMERA HARDWARE	\$93,508.30	
B.	ADDITIONAL COSTS	\$13,600.00	Project managements, training and programing.
C.	INSTALLATION	\$99,735.00	
D.	NETWORK COSTS	\$13,690.00	Internet or SIM cards excluded. To be provided by City, unless requested from Edgeworth.
E.	VIDEO RETENTION/STORAGE (Including technical support, years 1-5)	\$74,524.00	This is for 5 years Cloud services for 90-days of storage and a 160TB Cloud Connect server for Youth Center.
E.	Other: \$148,515.40	\$148,515.40	Requested add-ons: LPR, Tennis Court cameras at Highland Park, Upper Parking Lot 360 camera at Arguello Park, New Cameras at Youth Center, 1 Year SLA.
G.			
	<b>Total Initial Project Cost</b>	<b>\$443,572.70</b>	



Quote Prepared For	
Contact:	Amy Newby
Company:	City of San Carlos
Address:	City of San Carlos
Phone:	650-802-4131
Email:	anewby@cityofsancarlos.org

Quote Prepared By	
Contact:	Danny Haddad
Company:	Edgeworth Security
Address:	1000 Commerce Dr. Suite 200 Pittsburgh, PA 15275
Phone:	(510) 737-0464
Email:	dhaddad@edgeworthsecurity.com

Product Details		
Qty	Product Name	Description
5	Ava Aware License 5 years	AWA-CLD-5Y Ava Aware License 5 years
5	Ava Cloud Storage License 5 years - 60 Day	AWA-CLD-STR-5Y
1	Ava Quad Black - 20MP - 30 days*	QUAD-20MP-30 Ava Quad Black - 20MP - 30 days
3	Ava 360 White - 9MP - 30 days*	360-W-30 Ava 360 White - 9MP - 30 days
1	Ava Dome White - 5MP - 30 days*	Dome-W-5MP-30 Ava Dome White - 5MP - 30 days
1	AVA Quad Pole bracket*	Quad Pole bracket ACQ-POL-MNT
1	AVA ACC-CON-A34-W/B*	ACC-CON-A34-W/B Conduit adapter 3/4" White
1	AVA ACC-PEN-CAP-W*	ACC-PEN-CAP-W Pendant mounting cap white
3	AVA Corner bracket white*	ACC-CRN-BRA-W Corner bracket white
1	Ava Quad Wall mount bracket*	ACQ-WAL-MNT Quad Wall mount bracket
3	AVA Mounting arm white*	ACC-MNT-ARM-W Mounting arm white
3	AVA ACC-PEN-CAP-W*	ACC-PEN-CAP-W Pendant mounting cap white
1	AVA Mounting arm white*	ACC-MNT-ARM-W Mounting arm white
4	Ubiquiti GigaBeam*	airMAX AC 60 GHz/5 GHz Radio with 1+ Gbps Throughput

4	Ubiquiti Networks*	POwer converter
4	Ubiquiti ETH-SP-G2*	Ethernet Surge Protector Gen2
4	UB-AM*	Ubiquiti Universal Antenna Mount
1	Altronix Netway - P*	AX-PMK1 POLE MOUNT KIT OUT P/S MODELS
3	Altronix Netway*	NETWAY4EWPX 4 Port PoE+ Hardened Switch
6	7AH Battery*	Battery backup for switches
9	Lot Hardware - Video*	Lot Hardware: Cable, Connectors, & Miscellaneous Mounting Hardware
3	Lot Hardware - Electrical*	Lot Hardware: Cable, Connectors, & Miscellaneous Mounting Hardware
9	Labor - Video	<p>Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <ol style="list-style-type: none"> <li>1) Run cable infrastructure to equipment listed above.</li> <li>2) Install equipment Listed Above.</li> <li>3) Program system</li> <li>4) Focus and Adjust cameras</li> <li>5) Perform training</li> </ol>
1	Labor - Flat Rate	100' trench for parking lot pole mount camera
3	Labor - Electrical	<p>Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <ol style="list-style-type: none"> <li>1) Run 120VAC infrastructure</li> <li>2) Install equipment</li> <li>3) Connect power and test</li> </ol>
4	Labor - Wireless	<p>Scope of Work - Wireless Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <ol style="list-style-type: none"> <li>1) Run cable infrastructure</li> <li>2) Install equipment</li> <li>3) program system</li> <li>4) Adjust and test antenna signals</li> </ol>
1	Professional Services	On-site support for programming, troubleshooting, and training.
1	Project Management	On and off site project management.
1	Shipping	Shipping & Handling Costs. This does not include expedited shipping.
1	Equipment	Boom lift



Quote #: 00003230

	Rental	
1	General Administration	DIR and certified payroll reporting and contingency



## City of San Carlos- Corp Yard BOM

Quote Prepared For	
Contact:	Amy Newby
Company:	City of San Carlos
Address:	City of San Carlos
Phone:	650-802-4131
Email:	anewby@cityofsancarlos.org

Quote Prepared By	
Contact:	Danny Haddad
Company:	Edgeworth Security
Address:	1000 Commerce Dr. Suite 200 Pittsburgh, PA 15275
Phone:	(510) 737-0464
Email:	dhaddad@edgeworthsecurity.com

Product Details		
Qty	Product Name	Description
4	Ava Aware License 5 years	AWA-CLD-5Y Ava Aware License 5 years
4	Ava Cloud Storage License 5 years - 60 Day	AWA-CLD-STR-5Y
4	Ava Quad Black - 20MP - 30 days*	QUAD-20MP-30 Ava Quad Black - 20MP - 30 days
4	Ava Quad Wall mount bracket*	ACQ-WAL-MNT Quad Wall mount bracket
3	AVA Quad Corner bracket*	ACQ-CRN-MNT Quad Corner bracket
1	AVA Quad Pole bracket*	Quad Pole bracket ACQ-POL-MNT
4	Lot Hardware - Video*	Lot Hardware: Cable, Connectors, & Miscellaneous Mounting Hardware
4	Labor - Video	Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.  1) Run cable infrastructure to equipment listed above. 2) Install equipment Listed Above. 3) Program system 4) Focus and Adjust cameras 5) Perform training
1	Labor - Flat Rate	40' trench for parking lot pole mount camera
1	Professional Services	On-site support for programming, troubleshooting, and training.
1	Project Management	On and off site project management.



Quote #: 00003227

1	Shipping	Shipping & Handling Costs. This does not include expedited shipping.
1	Equipment Rental	Scissor lift rental
1	General Administration	DIR and certified payroll reporting and contingency.



Quote Prepared For	
Contact:	Amy Newby
Company:	City of San Carlos
Address:	City of San Carlos
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Email:	anewby@cityofsancarlos.org

Quote Prepared By	
Contact:	Danny Haddad
Company:	Edgeworth Security
Address:	1000 Commerce Dr. Suite 200 Pittsburgh, PA 15275
Phone:	(510) 737-0464
Email:	dhaddad@edgeworthsecurity.com

Product Details		
Qty	Product Name	Description
15	Ava Aware License 5 years	AWA-CLD-5Y Ava Aware License 5 years
15	Ava Cloud Storage License 5 years - 60 Day	AWA-CLD-STR-5Y
10	Ava 360 White - 9MP - 30 days*	360-W-30 Ava 360 White - 9MP - 30 days
5	Ava Dome White - 5MP - 30 days*	Dome-W-5MP-30 Ava Dome White - 5MP - 30 days
6	AVA ACC-PEN-CAP-W*	ACC-PEN-CAP-W Pendant mounting cap white
8	AVA ACC-PEN-CAP-W*	ACC-PEN-CAP-W Pendant mounting cap white
6	AVA ACCQ-PEN-PIP*	ACCQ-PEN-PIP Pendant pipe 40cm
6	AVA ACCQ-PEN-HEA*	ACCQ-PEN-HEA
9	AVA Mounting arm white*	ACC-MNT-ARM-W Mounting arm white
1	AVA Corner bracket white*	ACC-CRN-BRA-W Corner bracket white
2	Altronix Netway*	NETWAY8EWPX 8 Port PoE+ Hardened Switch
4	7AH Battery*	Battery backup for switches
15	Lot Hardware - Video*	Lot Hardware: Conduit, Cable, Connectors, & Miscellaneous Mounting Hardware
2	Lot Hardware - Electrical*	Lot Hardware: Cable, Connectors, & Miscellaneous Mounting Hardware
15	Labor - Video	Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.

		1) Run cable infrastructure to equipment listed above. 2) Install equipment Listed Above. 3) Program system 4) Focus and Adjust cameras 5) Perform training
1	Labor - Flat Rate	Coring for riser IDF's
2	Labor - Electrical	Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.  1) Run 120VAC infrastructure 2) Install equipment 3) Connect power and test
1	Professional Services	On-site support for programming, troubleshooting, and training.
1	Project Management	On and off site project management.
1	Shipping	Shipping & Handling Costs. This does not include expedited shipping.
1	Equipment Rental	Scissor lift rental
1	General Administration	DIR and certified payroll reporting and contingency





Quote Prepared For	
Contact:	Amy Newby
Company:	City of San Carlos
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Contact:	Danny Haddad
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Phone:	(510) 737-0464
Email:	dhaddad@edgeworthsecurity.com

Product Details		
Qty	Product Name	Description
9	Ava Aware License 5 years	AWA-CLD-5Y Ava Aware License 5 years
9	Ava Cloud Storage License 5 years - 60 Day	AWA-CLD-STR-5Y
4	Ava Quad Black - 20MP - 30 days*	QUAD-20MP-30 Ava Quad Black - 20MP - 30 days
3	Ava 360 White - 9MP - 30 days*	360-W-30 Ava 360 White - 9MP - 30 days
2	Ava Dome White - 5MP - 30 days*	Dome-W-5MP-30 Ava Dome White - 5MP - 30 days
4	AVA Mounting arm white*	ACC-MNT-ARM-W Mounting arm white
4	AVA Quad Pole bracket*	Quad Pole bracket ACQ-POL-MNT
3	AVA ACC-PEN-CAP-W*	ACC-PEN-CAP-W Pendant mounting cap white
3	AVA Corner bracket white*	ACC-CRN-BRA-W Corner bracket white
4	Ava Quad Wall mount bracket*	ACQ-WAL-MNT Quad Wall mount bracket
8	UBNT NBE-5AC-GEN2-US*	5GHz NanoBeam ac Gen2 19dBi US
8	Ubiquiti ETH-SP-G2*	Ethernet Surge Protector Gen2
8	Ubiquiti Networks*	Power converter
1	Ubiquiti AM-9M13-120*	airMAX Sector 900 MHz, 120°, 13 dBi Antenna

1	Ubiquiti RocketM5 - AMO-5G10 10dBi*	Ubiquiti RocketM5 airMAX Outdoor BaseStation 5GHz PtP / PtMP, The Rocket is a Ubiquiti Networks airMAX BaseStation that supports speeds of up to 150+ Mbps real TCP/IP throughput. It is ideal for deployment in Point-to-Point (PtP) bridging or Point-to-MultiPoint (PtMP) airMAX applications.
7	Ubiquiti GigaBeam*	airMAX AC 60 GHz/5 GHz Radio with 1+ Gbps Throughput
8	UB-AM*	Ubiquiti Universal Antenna Mount
6	Altronix Netway*	NETWAY4EWPX 4 Port PoE+ Hardened Switch
4	Altronix Netway - P*	AX-PMK1 POLE MOUNT KIT OUT P/S MODELS
12	7AH Battery*	
8	Labor - Wireless	<p>Scope of Work - Wireless Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <ol style="list-style-type: none"> <li>1) Run cable infrastructure</li> <li>2) Install equipment</li> <li>3) program system</li> <li>4) Adjust and test antenna signals</li> </ol>
1	Labor - Electrical	<p>Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <ol style="list-style-type: none"> <li>1) Run 120VAC infrastructure</li> <li>2) Install equipment</li> <li>3) Connect power and test</li> </ol>
17	Labor - Video	<p>Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <ol style="list-style-type: none"> <li>1) Run cable infrastructure to equipment listed above.</li> <li>2) Install equipment Listed Above.</li> <li>3) Program system</li> <li>4) Focus and Adjust cameras</li> <li>5) Perform training</li> </ol>
1	Labor - Flat Rate	120' trench for parking lot pole mount camera
1	Lot Hardware - Electrical*	Lot Hardware: Cable, Connectors, & Miscellaneous Mounting Hardware
17	Lot Hardware - Video*	Lot Hardware: Conduit, Cable, Connectors, & Miscellaneous Mounting Hardware
1	Professional Services	On-site support for programming, troubleshooting, and training.
1	Project Management	On and off site project management.



Quote #: 00003234

1	Shipping	Shipping & Handling Costs. This does not include expedited shipping.
1	Equipment Rental	Articulating Boom lift rental (one week)
1	General Administration	DIR and certified payroll reporting and contingency



## City of San Carlos- "Other Costs" Arguello Park for Upper Parkign Lot BOM

Quote Prepared For	
Contact:	Amy Newby
Company:	City of San Carlos
Address:	City of San Carlos
Phone:	650-802-4131
Email:	anewby@cityofsancarlos.org

Quote Prepared By	
Contact:	Danny Haddad
Company:	Edgeworth Security
Address:	1000 Commerce Dr. Suite 200 Pittsburgh, PA 15275
Phone:	(510) 737-0464
Email:	dhaddad@edgeworthsecurity.com

Product Details		
Qty	Product Name	Description
1	Ava Aware License 5 years	AWA-CLD-5Y Ava Aware License 5 years
1	Ava Cloud Storage License 5 years - 60 Day	AWA-CLD-STR-5Y
1	Ava Quad Black - 20MP - 30 days*	QUAD-20MP-30 Ava Quad Black - 20MP - 30 days
1	AVA Quad Pole bracket*	Quad Pole bracket ACQ-POL-MNT
1	Ava Quad Wall mount bracket*	ACQ-WAL-MNT Quad Wall mount bracket
1	Security Pole*	8-12' Tall x 4.0" OD x 11ga Thick, Square Straight Steel, (Painted black)
1	Lot Hardware - Access Control*	Security Pole anchors and accessories. -Cages -Concrete & accessories -Anchor/bolt kits -Mixer rental
1	Lot Hardware - Video*	Lot Hardware: Conduit, Cable, Connectors, & Miscellaneous Mounting Hardware
1	Labor - Video	Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.  1) Run cable infrastructure to equipment listed above. 2) Install equipment Listed Above. 3) Program system 4) Focus and Adjust cameras 5) Perform training
1	Labor - Flat Rate	100' trench for parking lot pole mount camera
1	Professional	On-site support for programming, troubleshooting, and training.



Quote #: 00003231

	Services	
1	Project Management	On and off site project management.
1	Shipping	Shipping & Handling Costs. This does not include expedited shipping.
1	Equipment Rental	Trencher
1	General Administration	DIR and certified payroll reporting.



## City of San Carlos- "Other Costs" 2 X Tennis Court Cameras BOM

Quote Prepared For	
Contact:	Amy Newby
Company:	City of San Carlos
Address:	City of San Carlos
Phone:	650-802-4131
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Quote Prepared By	
Contact:	Danny Haddad
Company:	Edgeworth Security
Address:	1000 Commerce Dr. Suite 200 Pittsburgh, PA 15275
Phone:	(510) 737-0464
Email:	dhaddad@edgeworthsecurity.com

Product Details		
Qty	Product Name	Description
2	Ava Aware License 5 years	AWA-CLD-5Y Ava Aware License 5 years
2	Ava Cloud Storage License 5 years - 60 Day	AWA-CLD-STR-5Y-60
2	Ava Quad Black - 20MP - 30 days*	QUAD-20MP-30 Ava Quad Black - 20MP - 30 days
2	AVA Mounting arm white*	ACC-MNT-ARM-W Mounting arm white
2	AVA Quad Pole bracket*	Quad Pole bracket ACQ-POL-MNT
2	AVA ACC-PEN-CAP-W*	ACC-PEN-CAP-W Pendant mounting cap white
2	Ava Quad Wall mount bracket*	ACQ-WAL-MNT Quad Wall mount bracket
4	Ubiquiti ETH-SP-G2*	Ethernet Surge Protector Gen2
4	Ubiquiti Networks*	Power converter
4	Ubiquiti GigaBeam*	airMAX AC 60 GHz/5 GHz Radio with 1+ Gbps Throughput
4	UB-AM*	Ubiquiti Universal Antenna Mount
1	Altronix Netway*	NETWAY4EWPX 4 Port PoE+ Hardened Switch
1	Altronix Netway*	NETWAY8EWPX 8 Port PoE+ Hardened Switch
2	Altronix Netway - p*	AX-PMK1 POLE MOUNT KIT OUT P/S MODELS
2	Labor - Electrical	Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.

		1) Run 120VAC infrastructure 2) Install equipment 3) Connect power and test
4	Labor - Wireless	Scope of Work - Wireless Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.  1) Run cable infrastructure 2) Install equipment 3) program system 4) Adjust and test antenna signals
6	Labor - Video	Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.  1) Run cable infrastructure to equipment listed above. 2) Install equipment Listed Above. 3) Program system 4) Focus and Adjust cameras 5) Perform training
2	Lot Hardware - Electrical*	Lot Hardware: Cable, Connectors, & Miscellaneous Mounting Hardware
6	Lot Hardware - Video*	Lot Hardware: Conduit, Cable, Connectors, & Miscellaneous Mounting Hardware
1	Professional Services	On-site support for programming, troubleshooting, and training.
1	Project Management	On and off site project management.
1	Shipping	Shipping & Handling Costs. This does not include expedited shipping.



Quote #: 00003375

## City of San Carlos- "Other Costs" LPR Cameras for Parks and Garage BOM

Quote Prepared For	
Contact:	Amy Newby
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Quote Prepared By	
Contact:	Danny Haddad
Company:	Edgeworth Security
Address:	1000 Commerce Dr. Suite 200 Pittsburgh, PA 15275
Phone:	(510) 737-0464
Email:	dhaddad@edgeworthsecurity.com

Product Details		
Qty	Product Name	Description
7	Ava Aware License 5 years	AWA-CLD-5Y Ava Aware License 5 years
6	Ava Cloud Storage License 5 years - 60 Day	AWA-CLD-STR-5Y-60
6	Ava LPR license - 5 Year	Ava LPR license - 5 Year LIC-LPR-CHAN-5Y
6	Ava Bullet Wide White - 5MP - 30 days*	Ava Bullet Wide White - 5MP - 30 days BULLET-WI-W-5MP-30
6	ACC-POL-BRA-W*	ACC-POL-BRA-W Pole bracket white
4	Ubiquiti ETH-SP-G2*	Ethernet Surge Protector Gen2
4	Ubiquiti Networks*	Power converter
4	Ubiquiti GigaBeam*	airMAX AC 60 GHz/5 GHz Radio with 1+ Gbps Throughput
4	UB-AM*	Ubiquiti Universal Antenna Mount
2	Altronix Netway*	NETWAY4EWPX 4 Port PoE+ Hardened Switch
2	Altronix Netway - P*	AX-PMK1 POLE MOUNT KIT OUT P/S MODELS
4	Labor - Wireless	<p>Scope of Work - Wireless Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <ol style="list-style-type: none"> <li>1) Run cable infrastructure</li> <li>2) Install equipment</li> <li>3) program system</li> <li>4) Adjust and test antenna signals</li> </ol>



2	Labor - Electrical	<p>Scope of Work - Video</p> <p>Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <p>1) Run 120VAC infrastructure            2) Install equipment            3) Connect power and test</p>
10	Labor - Video	<p>Scope of Work - Video</p> <p>Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <p>1) Run cable infrastructure to equipment listed above.            2) Install equipment Listed Above.            3) Program system            4) Focus and Adjust cameras            5) Perform training</p>
1	Labor - Flat Rate	<p>120' trench for Highland LPR parking lot 1 pole mount LPR camera            300' trench for Arguello Park tennis court parking lot LPR camera            Labor for Arguello Park requires saw cutting and back filling.            Material and machine rental.</p>
2	Lot Hardware - Electrical*	Lot Hardware: Cable, Connectors, & Miscellaneous Mounting Hardware
7	Lot Hardware - Video*	Lot Hardware: Conduit, Cable, Connectors, & Miscellaneous Mounting Hardware
1	Professional Services	On-site support for programming, troubleshooting, and training.
1	Project Management	On and off site project management.
1	Shipping	Shipping & Handling Costs. This does not include expedited shipping.
1	General Administration	DIR and certified payroll reporting and contingency



## City of San Carlos- "Other Costs" New Cameras for Youth Center BOM

Quote Prepared For	
Contact:	Amy Newby
Company:	City of San Carlos
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Quote Prepared By	
Contact:	Danny Haddad
Company:	Edgeworth Security
Address:	1000 Commerce Dr. Suite 200 Pittsburgh, PA 15275
Phone:	(510) 737-0464
Email:	dhaddad@edgeworthsecurity.com

Product Details		
Qty	Product Name	Description
14	Ava Aware License 5 years	AWA-CLD-5Y Ava Aware License 5 years
14	Ava Cloud Storage License 5 years - 60 Day	AWA-CLD-STR-5Y
6	Ava Quad Black - 20MP - 30 days*	QUAD-20MP-30 Ava Quad Black - 20MP - 30 days
7	Ava Dome White - 5MP - 30 days*	Dome-W-5MP-30 Ava Dome White - 5MP - 30 days
1	Ava Bullet Wide White - 5MP - 30 days*	Ava Bullet Wide White - 5MP - 30 days BULLET-WI-W-5MP-30
6	AVA Mounting arm white*	ACC-MNT-ARM-W Mounting arm white
6	AVA Quad Pole bracket*	Quad Pole bracket ACQ-POL-MNT
6	AVA Corner bracket white*	ACC-CRN-BRA-W Corner bracket white
6	Ava Quad Wall mount bracket*	ACQ-WAL-MNT Quad Wall mount bracket
5	AVA Corner bracket white*	ACC-CRN-BRA-W Corner bracket white
14	Labor - Video	<p>Scope of Work - Video Edgeworth Security will provide the above equipment, installation and/or services. The below SOW represents Edgeworth Security's proposal based on customer provided requirements and site walk.</p> <ol style="list-style-type: none"> <li>1) Run cable infrastructure to equipment listed above.</li> <li>2) Install equipment Listed Above.</li> <li>3) Program system</li> <li>4) Focus and Adjust cameras</li> </ol>

		5) Perform training
14	Lot Hardware - Video*	Lot Hardware: Conduit, Cable, Connectors, & Miscellaneous Mounting Hardware
1	Professional Services	On-site support for programming, troubleshooting, and training.
1	Project Management	On and off site project management.
1	Shipping	Shipping & Handling Costs. This does not include expedited shipping.
1	General Administration	Credit from base bid cloud connector quote



Quote #: 00003374

## City of San Carlos- "Other Costs" 1 Year SLA Maintenance Plan for all Sites BOM

Quote Prepared For	
Contact:	Amy Newby
Company:	City of San Carlos
Address:	City of San Carlos
Phone:	650-802-4131
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Quote Prepared By	
Contact:	Danny Haddad
Company:	Edgeworth Security
Address:	1000 Commerce Dr. Suite 200 Pittsburgh, PA 15275
Phone:	(510) 737-0464
Email:	dhaddad@edgeworthsecurity.com

Product Details		
Qty	Product Name	Description
8	SLA-Preventative Maintenance	<p>Standard Maintenance Provides routine maintenance and access to our call-out services, Call-out, labor and materials charges will apply unless otherwise stated.</p> <p>*Includes up to 8 trips per year, each trip includes up to 3 hours of service. Also included is quarterly Preventative maintenance to be performed during one of the 8 trips within the year.</p>
4	Annual Service Agreement	This is a yearly charge for Edgeworth to perform Quarterly Preventive Maintenance on the system(s) quoted above. Also, Edgeworth will dispatch a certified technician to diagnose any warranty or workmanship issue during the year, following the completion of the above project.
1	Preventative Maintenance	<p>Full System Inspection and Testing and correcting:</p> <ol style="list-style-type: none"> <li>1. Recorder (NVR/Server)</li> <li>2. Monitors (If applicable)</li> <li>3. Cameras</li> <li>4. Accessories</li> </ol>



## Edgeworth Service Level Agreement



### Standard Maintenance

Provides routine maintenance and access to our call-out services, Call-out, labor and materials charges will apply.

*Rate: \$400.00(1st 2-man hours including travel). \$175 /man-hour there after. (2 hour minimum)*

### Standard Plus Maintenance

Provides the benefits of Standard but also covers all new materials (excluding consumables)

*Rate: \$450.00(1st 2-man hours including travel). \$195 /man-hour there after. (2 hour minimum)*

### Comprehensive Maintenance

Provides full servicing including call-out charges, labor, supply and fitting of replacement parts for fault and general wear and tear (excluding consumables) and firmware upgrades on Edgeworth Systems.

*Rate: \$525.00 (1st 2-man hours including travel). \$215 /man-hour there after. (2 hour minimum)*

#### Note:

All levels of support include 24/7 Phone support with remote Team-viewer diagnostic/repair. Rates may vary per state.  
\*Rates are subject to change based on age and functionality of existing systems in place.

Service	✓		
	Standard	Standard Plus	Comprehensive
<b>Support 24/7</b> Telephone support from our Help Desk/Engineering/Remote Monitoring Station	Yes	Yes	Yes
<b>Availability</b> Agents available 24/7/365 * Subject to additional charges and engineer availability / remote assistance availability	Yes *	Yes *	Yes
<b>Response Levels –Intruder/CCTV/Access</b> (this could be remote or physical depending on fault) 72 Hour Service Engineering Support	Yes	Yes	Yes
<b>Response Levels –Intruder/CCTV/Access</b> (this could be remote or physical depending on fault) 48 Hour Service Engineering Support	X	Yes	Yes
<b>Response Levels –Intruder/CCTV/Access</b> (this could be remote or physical depending on fault) 24 Hour Service Engineering Support	X	X	Yes
<b>Physical and Remote Inspections</b> Number & Type of routine depends on system type & connection	Yes	Yes	Yes



<b>Adjustments</b> Minor System/Programming Adjustments during inspection	Yes	Yes	Yes
<b>Warranty</b> 12-month warranty for new equipment *(labor charges incur after 3 months)	Yes *	Yes *	Yes
<b>Security Review</b> Free Security Review	Yes	Yes	Yes
<b>Service Call /Labor Charges</b> Engineer Service Call charges included	X	X	Yes
<b>Materials</b> Replacement parts on new equipment (failure due to fault & general wear and tear)	X	Yes	Yes
<b>Free Upgrades</b> Firmware upgrades free on Edgeworth Equipment	X	Yes	Yes
<b>Maintenance</b> (PM contract required) Quarterly on-site system inspection and maintenance	Yes	Yes	Yes

## Preventative Maintenance (performed quarterly):

*\$6,400.00/QRTR - \$25,600.00 annually 4/sites. EQUIPMENT COST TBD*

### CCTV Full System Inspection and Testing

1. Check whether staff have experienced any problems with the system.
2. Carry out a visual inspection of all major components (including cabling and connections where accessible) for signs of deterioration or damage and rectify as necessary.

### Monitors (If applicable)

1. Check physical condition and cable connections.
2. Check operation of controls and adjust for best picture.

### Video / (NVR) Network Video Recording Devices (Server)

1. NVR system monitoring (checks for system errors, video loss, network connection failure, and other system alerts)
2. NVRs are well connected and configured for optimal recording experience. Configure motion based or continuous recording options. Data is recorded and stacked so that new data is never overwritten.
3. Check for software/firmware updates and update as needed.
4. Check condition and operation controls as necessary.
5. Check time / date settings and adjust accordingly

## **Cameras**

1. Cameras are well connected and are configured for maximum and optimal coverage. Angles are appropriate for your site and lens zooming is in accordance with the camera specifications.
2. Examine supporting brackets and towers for signs of corrosion and damage.
3. Check physical condition of cameras and housings for signs of deterioration due to rain, dust and dirt.
4. Check that field of view is correct.
5. Check that all camera bracket fittings and clamping bolts are tight.
6. Check that lenses are correctly focused.
7. Check operation of auto-iris lenses as appropriate.
8. Clean housing as necessary.
9. Check operation of infrared units.

## **Access Control/Intrusion Full System Inspection and Testing**

An inspection and test procedure will be undertaken at each scheduled maintenance visit consisting of checks to the following:

1. Check the number and type of readers are in accordance with the specification and any amendment.
2. Confirm that there remains adequate ventilation in the area of the CPU
3. Check warning labels are still in place.
4. Check all cables and conduit are properly supported, undamaged and showing no signs of wear.
5. Check for sound physical fixings of all equipment including loosening or corrosion of supports and fixings.
6. Check all glands, seals and connections on all external equipment.
7. Does the equipment remain free from environmental problems such as dust, vibration, electrical interference etc.
8. Does the system remain protected against unauthorized interference, e.g. password level (s).
9. Are reader timings as specified?
10. Check operation of all door hardware and readers.
11. Check function of all interfaces with alarms is satisfactory including correct triggering of alarms.
12. Check that the performance of the system(s) continues to meet the agreed specification / operational requirement according to the periodic test scheme agreed with the customer.
13. All connections checked and labelled.
14. Customer's system logbook filled in.

---

## ***Section D – Project Implementation Plan***

- 1) Below are the steps and tasks we intend to take for the Scope of Services involved with this RFP if awarded the project.
  - Our first step would be to provide all contractual paperwork necessary and required to proceed. Following the Notice to Proceed, our first step is to secure the product and provide any lead times if changed from the attached project schedule. Current, Motorola. VA have confirmed product availability. All other equipment such as switches, racks, antennas, enclosures and lot hardware, have all been carefully selected and included in this proposal as they are available within 2 weeks currently. We have carefully selected equipment that would not delay the project based on the RFP requirements and preliminary schedule we provided.
  - Our second step would be to conduct a PRECON meeting with the City of San Carlos and our designated PM and team to ensure all needs are met and the schedule accurately represents what the city is looking for timeline wise. Our assigned team would consist of an on-site PM, Project Coordinator, Lead Tech and certified Installation team to ensure a quality project takes place. We would convey all IT requirements at the Corp Yard, however the 2 parks and garage we would setup our own network as required. We will also work with the city on all requirements for the electrical portion as we have included the electrical work using DC Electric who is a vendor the city has used along with the City of Livermore, San Ramon, Tracy and many more. During the PRECON meeting we would walk the sites together with the city rep to ensure all needs are met with our design. We walked all sites with the city rep and ensure we met all needs, however if the city has room in the budget and desires to add more cameras, we can do this at that time or sooner if needed.
  - The third step would be to program all equipment in our warehouse in Pleasanton CA by our Ava certified programmer. The programmer would program all cameras and antennas including the Ava connector server replacement for the Youth Center. The same programmer would be responsible for training at the closeout of project.
  - The fourth step is to begin the installation process one site at a time. We intend to complete each site before moving to the next. As each camera is installed, we will bring the camera online to ensure it is recording. Ideally, we would like to start with the infrastructure portion first while we wait on equipment to save time and if possible. As we complete each site, we will schedule the city rep or PM to walk each site with us to ensure their standards and ours have been met and complete any punch list items if any.
  - The fifth and final step would be to provide training which we can also do sooner if requested, and all closeout documents including as-builts, user manuals, warranties and contact info in a closeout binder.
  - See attached preliminary schedule which is subject to change based on the city's requests and product availability.


































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## ***Section D – Project Implementation Plan (continued)....***


### ***Design Summary***




















The Ava Aware VMS Cloud and Camera solution we have chosen for the City of San Carlos is a solid and very reputable product and software owned by Motorola Solutions. Motorola also owns Avigilon and OpenPath for their Cloud Access Control. We have chosen this brand and product as we believe it is simply the best product out there for a cloud solution and also allows you to keep the camera system in place at the Youth Center by adding a physical server at the Youth Center for those cameras and connecting it to the Ava Cloud. The Highlands Park, Arguello Park, Corp Yard and Garage will all be with new Ava Cloud cameras which will mainly be hard wires to a switch and connect to the internet. At the parks, you will notice we are using Ubiquity antennas for a wireless mesh for the pole remote camera locations which we will tap into local power using a transformer stepdown as per code. Cameras on structures such as the snack bar or restrooms, will be hard wired and have receiving antennas. This is the type of design we have done for hundreds of other clients including city's, schools and police departments as it is reliable and stable. The network infrastructure will be supported with this proposal for all locations except the Corp Yard which we have been told has existing switches and ports we can utilize. If needed, we can include a switch for the Corp Yard at minimal cost. Internet is assumed to be in place by the city. If desired, Edgeworth can provide CradlePoint modems for the parks and garage. We can even provide SIM cards; however, the city gets a federal discount and this would be far less expensive for the city to provide the SIM cards and or internet. Options are available however the city decides to proceed with the internet.

- 2) We plan to do all parts and smarts inhouse including training, project management and service work.
  - We have included Electrical work to be completed by DC Electric located at 112 Center Ave. Pacheco, CA 94533 C10 License # 949934 DIR #1000003395 SBE #1748848. DC will provide electrical work at the 2 parks and garage as needed. Their work would only be several hours to a days work at each site.
  - As an option, we have also included our Channel Partner/Subcontractor Empower Security Contractors Corp 20906 Corsair Blvd Hayward, CA 94545 License #893633 DIR #1000048574. If we contract Empower Security, they will only install the cable infrastructure, cameras and trench work. Edgeworth would program and install all headend and network equipment as needed. The project schedule provided shows how many days for infrastructure is needed. We anticipate the work would be completed sooner then the schedule shows, however wanted to leave room for any unforeseen delays such as product delays, weather and conflicts with city schedule.

ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Mar 13, '22	
1			<b>City Of South San Carlos</b>		<b>Wed 6/8/22</b>				S	M
2			Request for Proposal		Wed 6/8/22					
3			Proposal Due		Fri 9/9/22					
4			Interview with top Firms	5 days	Mon 9/26/22	Fri 9/30/22				
5			Contract Awarded		Oct/Nov					
6			Procurement of Equipment	15 days	Tue 11/1/22	Mon 11/21/22		Edgeworth		
7			Pre-Con Meeting	1 day	Thu 11/10/22	Thu 11/10/22		Edgeworth, City of San Carlos		
8			<b>Arguello</b>	<b>6 days</b>	<b>Tue 11/22/22</b>	<b>Tue 11/29/22</b>				
9			Delivery of Equipment to Site	1 day	Tue 11/22/22	Tue 11/22/22				
10			Cable Infrastructure	1 day	Tue 11/22/22	Tue 11/22/22				
11			Install Rack/Switch	1 day	Wed 11/23/22	Wed 11/23/22	10			
12			Install Cameras/Antennas	1 day	Mon 11/28/22	Mon 11/28/22	11			
13			Focus and Adjust the Cameras		Mon 11/28/22			Edgeworth		
14			Program antennas, cameras and server	1 day	Tue 11/29/22	Tue 11/29/22	12	Edgeworth		
15			<b>Corp Yard</b>	<b>3 days</b>	<b>Wed 11/30/22</b>	<b>Fri 12/2/22</b>				
16			Delivery of Equipment to Site	1 day	Wed 11/30/22	Wed 11/30/22				
17			Cable Infrastructure	1 day	Wed 11/30/22	Wed 11/30/22				
18			Install Rack/Switch	1 day	Thu 12/1/22	Thu 12/1/22	17			
19			Install Cameras	1 day	Thu 12/1/22	Thu 12/1/22				
20			Focus and Adjust the Cameras		Thu 12/1/22			Edgeworth		
21			Program cameras and server	1 day	Fri 12/2/22	Fri 12/2/22	19	Edgeworth		
22			<b>Garage</b>	<b>5 days</b>	<b>Mon 12/5/22</b>	<b>Fri 12/9/22</b>				
23			Delivery of Equipment to Site	1 day	Mon 12/5/22	Mon 12/5/22				

Project: City of San Carlos Date: Mon 9/5/22	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			

ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Mar 13, '22	
24			Cable Infrastructure	1 day	Mon 12/5/22	Mon 12/5/22			S	M
25			Install Rack/Switch	1 day	Tue 12/6/22	Tue 12/6/22	24			
26			Install Cameras	1 day	Wed 12/7/22	Wed 12/7/22	25			
27			Focus and Adjust the Cameras	1 day	Thu 12/8/22	Thu 12/8/22	26	Edgeworth		
28			Program cameras and server	1 day	Fri 12/9/22	Fri 12/9/22	27	Edgeworth		
29			<b>Highland Park</b>	<b>5 days</b>	<b>Mon 12/12/22</b>	<b>Fri 12/16/22</b>				
30			Delivery of Equipment to Site	1 day	Mon 12/12/22	Mon 12/12/22				
31			Cable Infrastructure	1 day	Mon 12/12/22	Mon 12/12/22				
32			Install Rack/Switch	1 day	Tue 12/13/22	Tue 12/13/22	31			
33			Install Cameras/Antennas /Enclosure	1 day	Wed 12/14/22	Wed 12/14/22	32			
34			Focus and Adjust the Cameras	1 day	Thu 12/15/22	Thu 12/15/22	33	Edgeworth		
35			Program antennas, cameras and server	1 day	Fri 12/16/22	Fri 12/16/22	34	Edgeworth		
36			<b>Programing, Testing &amp; Close Outs</b>	<b>8 days</b>	<b>Mon 12/19/22</b>	<b>Wed 12/28/22</b>				
37			Delivery of IT Information to Edgeworth		Oct/Nov			City of San Carlos		
38			Program the System	1 day	Mon 12/19/22	Mon 12/19/22	35	Edgeworth		
39			Test Cameras	1 day	Tue 12/20/22	Tue 12/20/22	38	Edgeworth		
40			Quality Walk With Ownership / Punch List	1 day	Wed 12/21/22	Wed 12/21/22	39	City of San Carlos /Edgeworth		
41			Punch List Satisfied	2 days	Thu 12/22/22	Fri 12/23/22	40	Edgeworth		
42			Perform Basic Functions Training	1 day	Tue 12/27/22	Tue 12/27/22	41	City of San Carlos/ Edgeworth		
43			Close Out Documentation Delivered	1 day	Wed 12/28/22	Wed 12/28/22	42	Edgeworth		

Project: City of San Carlos Date: Mon 9/5/22	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			



VAS Security Systems, Inc.

Danny Haddad

Site: City of San Carlos

San Carlos, CA,

Survey: Arguello



**ELECTRICAL PLAN**

**REFERENCE NOTES**

1. EXISTING ELECTRICAL SERVICE (SEE SHEET FOR DETAILS)
2. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
3. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
4. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
5. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
6. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
7. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
8. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
9. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
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12. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
13. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
14. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
15. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
16. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
17. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
18. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
19. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)
20. EXISTING TELEPHONE SERVICE (SEE SHEET FOR DETAILS)

**ARGUELLO PARK**  
COMMUNITY CENTER  
**ELECTRICAL SITE PLAN**








**thoma**  
ARCHITECTS  
1000 16th Street, Suite 100  
San Francisco, CA 94103  
(415) 774-1000  
www.thomaarchitects.com

**PROJECT INFORMATION**














Project Name	Arguello Park Community Center
Client	City of San Carlos
Architect	Thoma Architects
Engineer	Thoma Architects
Contract No.	3400518
Scale	1/8" = 1'-0"
Date	10/10/18
Sheet No.	E-1














## Reporter: Danny Haddad |

## Totals by Element Type

	Element Name	Quantity
	General Multi-Sensor Device	3
	Multi-Lens Camera	2
	Fixed Camera	3
	Equipment Rack	2
	Network Switch	3
	Wireless Access Point	4
	Flex Cable Path	0

## Totals by Element Detail

Element Name				Quantity
	General Multi-Sensor Device			3
	Element Name	Element ID	Description	Quantity
	 General Multi-Sensor Device	MULTI-001		1
	 General Multi-Sensor Device	MULTI-002		1
	General Multi-Sensor Device			1
	Element Name	Element ID	Description	Quantity
	 Multi-Lens Camera	MCAM-001		1
	 Multi-Lens Camera	MCAM-002		1
	Fixed Camera			3
	Element Name	Element ID	Description	Quantity
	 Fixed Camera	FCAM-001		1
	 Fixed Camera	LPR-001		1
	Fixed Camera			1
	Element Name	Element ID	Description	Quantity
	 Equipment Rack	RACK-001		1
	 Equipment Rack	RACK-002		1
	Network Switch			3
	Element Name	Element ID	Description	Quantity

	Network Switch	NSW-002		1
	Network Switch	NSW-003		1
	Network Switch	NSW-001		1
	Wireless Access Point			4
Element Name		Element ID	Description	Quantity
	Wireless Access Point	WAP-004	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-002	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-003	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-001	5GHz NanoBeam ac Gen2 19dBi US	1
	Flex Cable Path			0
Element Name		Element ID	Description	Quantity
	Flex Cable Path	CP-002		0
	Flex Cable Path	CP-001		0
	Flex Cable Path	Trench 300'		0
	Flex Cable Path	Trench 300'		0

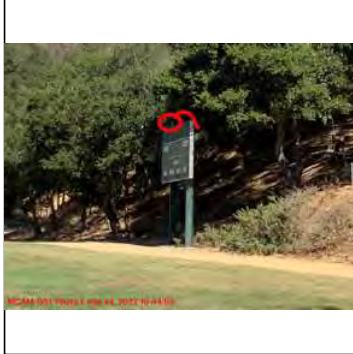


# Photo Tour

MULTI-001



MCAM-001



MULTI-003



FCAM-001



MCAM-002



LPR-001



LPR-002



WAP-002



NSW-001



NSW-001





VAS Security Systems, Inc.

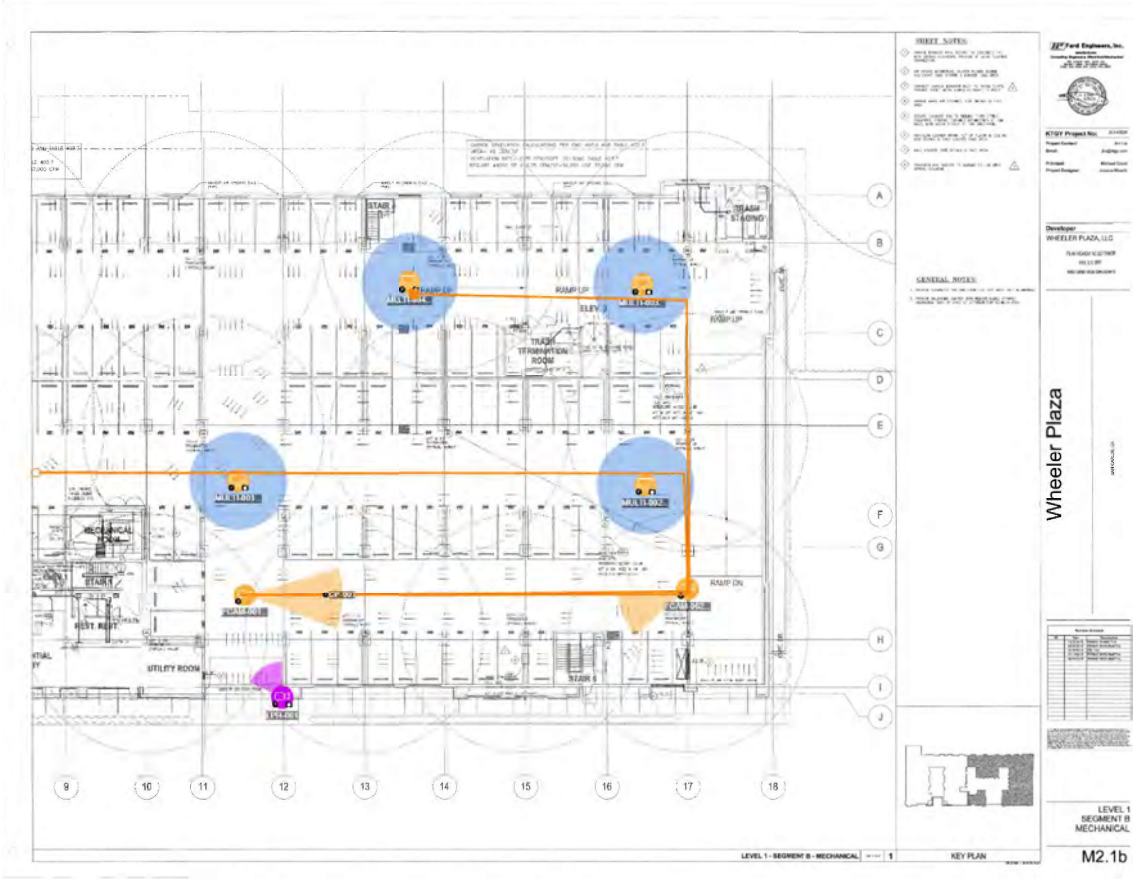
Danny Haddad

Site: City of San Carlos

San Carlos, CA,




Survey: Garage Plan Level 1 Segment B Mechanical (Duplicate)

Survey Overview














Survey Layout

## Totals by Element Type

	Element Name	Quantity
	Fixed Camera	3
	General Multi-Sensor Device	4
	Flex Cable Path	0

## Totals by Element Detail

Element Name				Quantity
	Fixed Camera			3
	Element Name	Element ID	Description	Quantity
		Fixed Camera	FCAM-001	1
		Fixed Camera	FCAM-002	1
		Fixed Camera	LPR-001	1
	General Multi-Sensor Device			4
	Element Name	Element ID	Description	Quantity
		General Multi-Sensor Device	MULTI-001	1
		General Multi-Sensor Device	MULTI-002	1
		General Multi-Sensor Device	MULTI-003	1
		General Multi-Sensor Device	MULTI-004	1
	Flex Cable Path			0
	Element Name	Element ID	Description	Quantity
		Flex Cable Path	CP-001	0

## Photo Tour

MULTI-001



MULTI-002



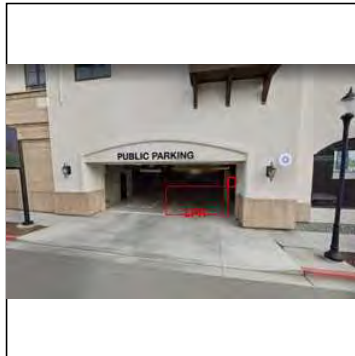
MULTI-003



MULTI-004



LPR-001





VAS Security Systems, Inc.

Danny Haddad

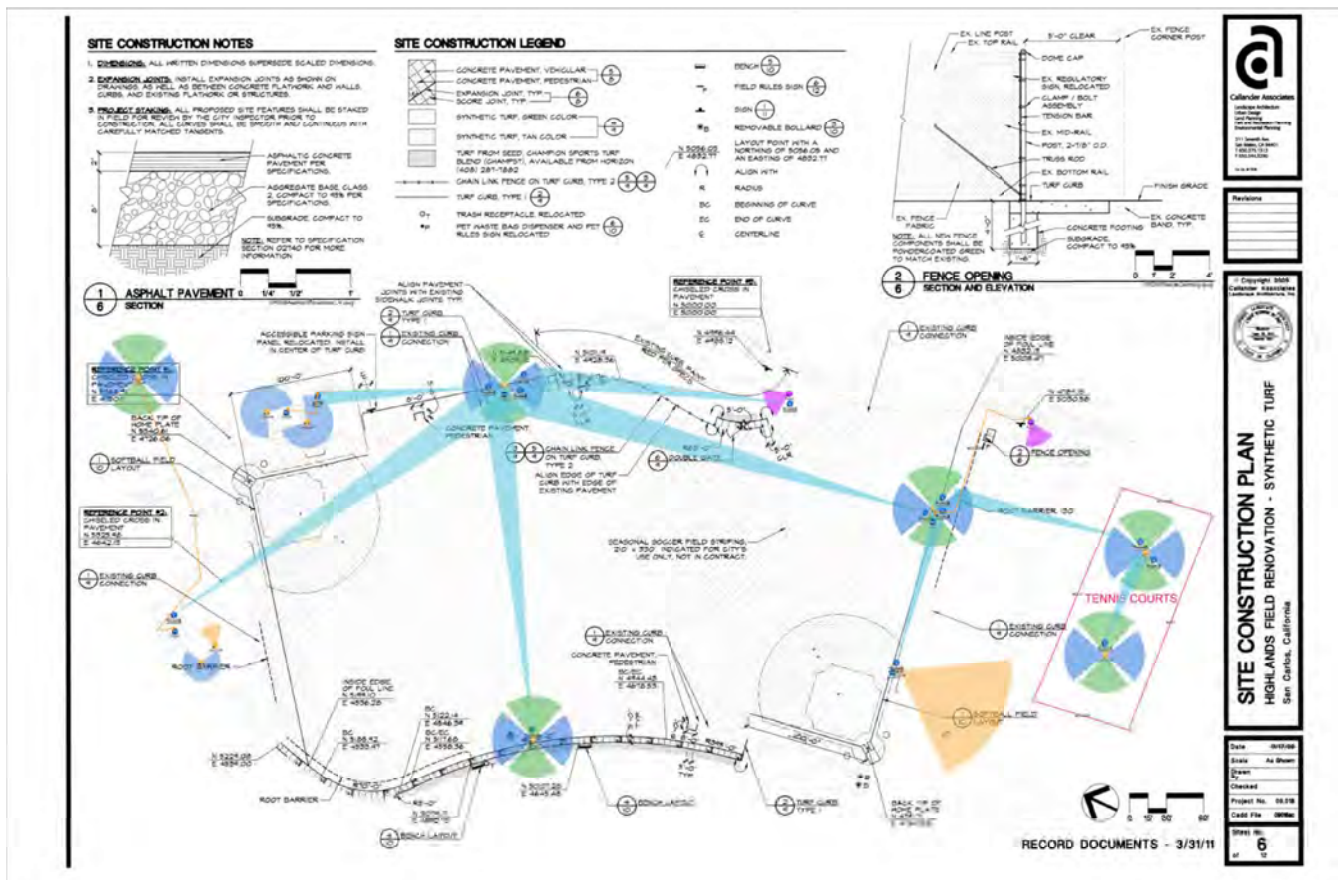
Site: City of San Carlos

San Carlos, CA,

Survey: Highlands









## Survey Overview



















## Survey Layout



## Totals by Element Type

	Element Name	Quantity
	General Multi-Sensor Device	3
	Multi-Lens Camera	6
	Fixed Camera	4
	Wireless Access Point	14
	Network Switch	6
	Flex Cable Path	0















## Totals by Element Detail

Element Name				Quantity
	General Multi-Sensor Device			3
Element Name	Element ID	Description	Quantity	
	General Multi-Sensor Device	MULTI-001	1	
	General Multi-Sensor Device	MULTI-002	1	
	General Multi-Sensor Device	MULTI-003	1	
	Multi-Lens Camera			6
Element Name	Element ID	Description	Quantity	
	Multi-Lens Camera	MCAM-001	1	
	Multi-Lens Camera	MCAM-002	1	
	Multi-Lens Camera	MCAM-003	1	
	Multi-Lens Camera	MCAM-004	1	
	Multi-Lens Camera	MCAM-005	1	
	Multi-Lens Camera	MCAM-006	1	
	Fixed Camera			4
Element Name	Element ID	Description	Quantity	
	Fixed Camera	FCAM-001	1	
	Fixed Camera	FCAM-002	1	
	Fixed Camera	LPR-002	1	
	Fixed Camera	LPR-001	1	



## Wireless Access Point


14














	Element Name	Element ID	Description	Quantity
	Wireless Access Point	WAP-004	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-005	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-006	Omni	1
	Wireless Access Point	WAP-008	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-007	Omni	1
	Wireless Access Point	WAP-002	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-003	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-001	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-009	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-010	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-011	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-012	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-013	5GHz NanoBeam ac Gen2 19dBi US	1
	Wireless Access Point	WAP-014	5GHz NanoBeam ac Gen2 19dBi US	1



## Network Switch

6

	Element Name	Element ID	Description	Quantity
	Network Switch	NSW-004		1

	Network Switch	NSW-005		1
	Network Switch	NSW-006		1
	Network Switch	NSW-001		1
	Network Switch	NSW-002		1
	Network Switch	NSW-003		1
		Flex Cable Path		0
	Element Name	Element ID	Description	Quantity
	Flex Cable Path	CP-001		0
	Flex Cable Path	CP-002		0
	Flex Cable Path	CP-003		0
	Flex Cable Path	Tennis Court		0
	Flex Cable Path	Trench to pole		0
	Flex Cable Path	Tennis Court		0
	Flex Cable Path	CP-006		0

# Photo Tour

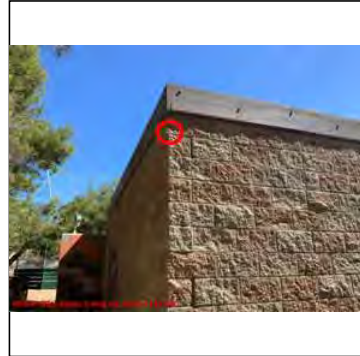
MULTI-001



MULTI-002



MULTI-003



MCAM-001



MCAM-001



MCAM-001



MCAM-002



MCAM-003



MCAM-004



FCAM-001



LPR-002



LPR-001



MCAM-005



NSW-001



NSW-002



WAP-001







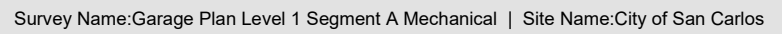
VAS Security Systems, Inc.

Danny Haddad

Site: City of San Carlos



San Carlos, CA,

Survey: Garage Plan Level 1 Segment A Mechanical






[illegible]

## Survey Layout

# Totals by Element Type

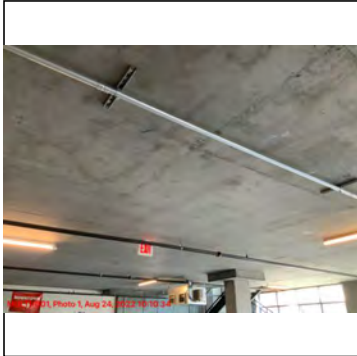
	Element Name	Quantity
	General Multi-Sensor Device	2
	Flex Cable Path	0

# Totals by Element Detail

Element Name				Quantity
	General Multi-Sensor Device			2
	Element Name	Element ID	Description	Quantity
	General Multi-Sensor Device	MULTI-001		1
	General Multi-Sensor Device	MULTI-002		1
	Flex Cable Path			0
	Element Name	Element ID	Description	Quantity
	Flex Cable Path	CP-001		0

## Photo Tour

MULTI-001



MULTI-002





VAS Security Systems, Inc.

Danny Haddad

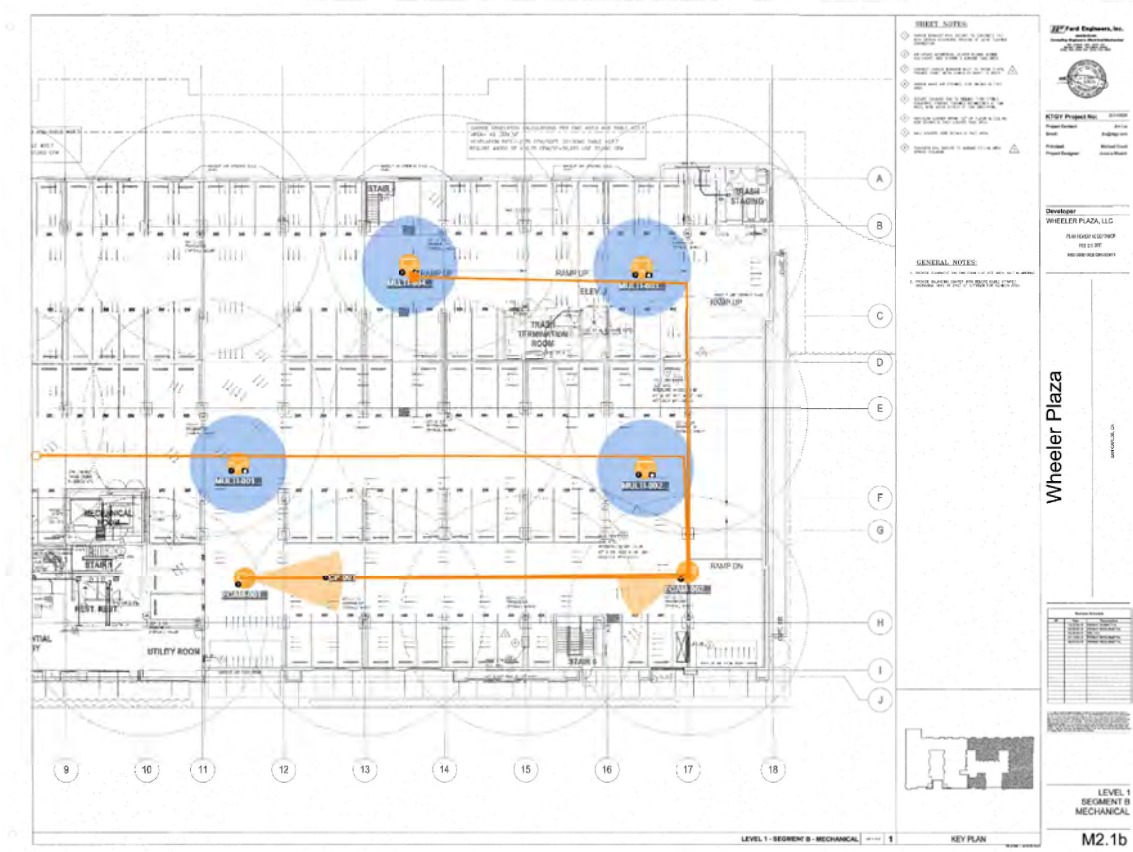
Site: City of San Carlos

San Carlos, CA,

Survey: Garage Plan Level 1 Segment B Mechanical






Survey Overview













Survey Layout



## Totals by Element Type

	Element Name	Quantity
	Fixed Camera	2
	General Multi-Sensor Device	4
	Flex Cable Path	0

## Totals by Element Detail

Element Name			Quantity
	Fixed Camera		2
Element Name	Element ID	Description	Quantity
	Fixed Camera	FCAM-001	1
	Fixed Camera	FCAM-002	1
	General Multi-Sensor Device		4
Element Name	Element ID	Description	Quantity
	General Multi-Sensor Device	MULTI-001	1
	General Multi-Sensor Device	MULTI-002	1
	General Multi-Sensor Device	MULTI-003	1
	General Multi-Sensor Device	MULTI-004	1
	Flex Cable Path		0
Element Name	Element ID	Description	Quantity
	Flex Cable Path	CP-001	0

## Photo Tour

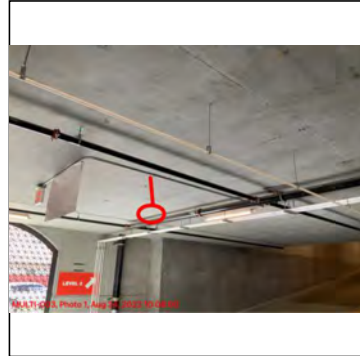
MULTI-001



MULTI-002



MULTI-003



MULTI-004





VAS Security Systems, Inc.

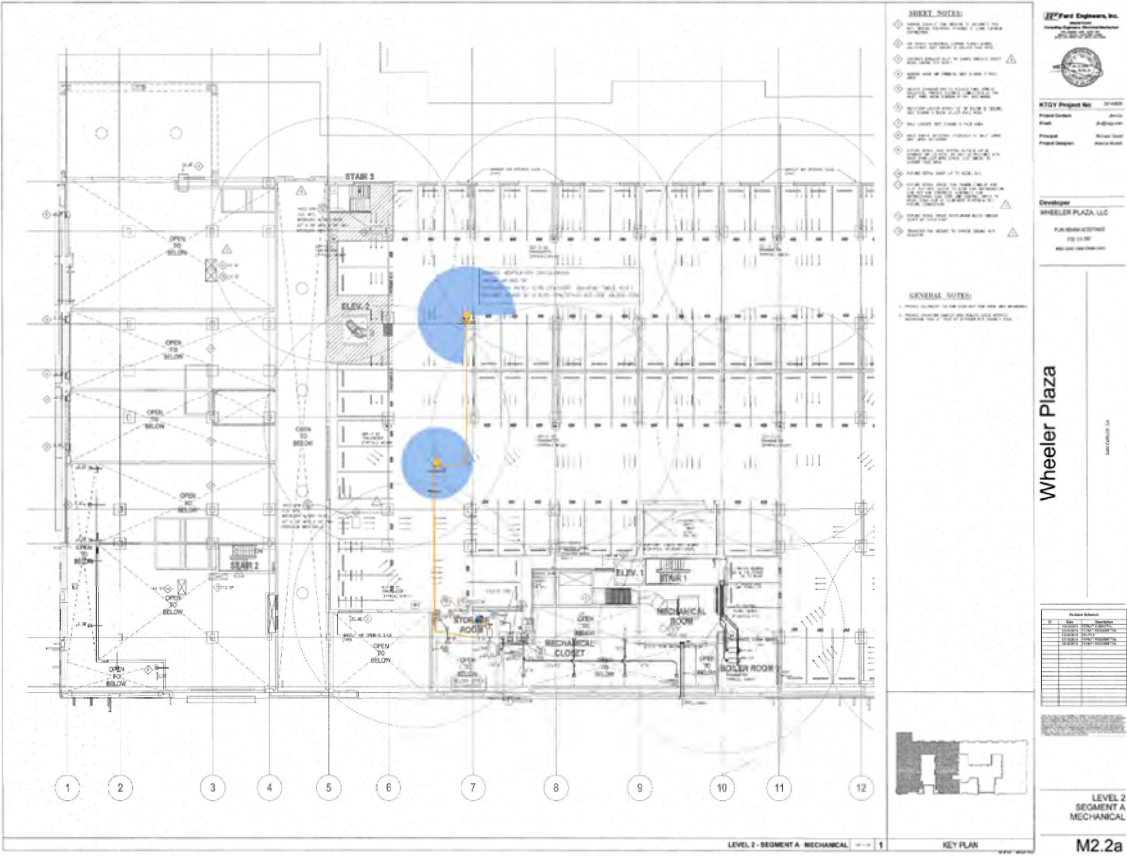
Danny Haddad

Site: City of San Carlos

San Carlos, CA,





Survey: Garage Plan Level 2 Segment A

Survey Overview












Survey Layout

## Totals by Element Type

	Element Name	Quantity
	General Multi-Sensor Device	2
	Equipment Rack	1
	Network Switch	1
	Flex Cable Path	0

## Totals by Element Detail

Element Name				Quantity
	General Multi-Sensor Device			2
Element Name	Element ID	Description	Quantity	
	General Multi-Sensor Device	MULTI-001	1	
	General Multi-Sensor Device	MULTI-002	1	
	Equipment Rack			1
Element Name	Element ID	Description	Quantity	
	Equipment Rack	RACK-001	1	
	Network Switch			1
Element Name	Element ID	Description	Quantity	
	Network Switch	NSW-001	1	
	Flex Cable Path			0
Element Name	Element ID	Description	Quantity	
	Flex Cable Path	CP-001	0	



## Photo Tour

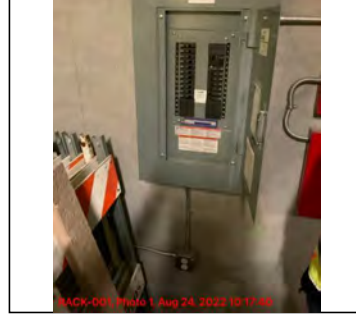
MULTI-001



MULTI-002



RACK-001



RACK-001





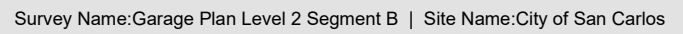
VAS Security Systems, Inc.

Danny Haddad

Site: City of San Carlos

San Carlos, CA,

Survey: Garage Plan Level 2 Segment B



**KEY PLAN**

**LEVEL 2 - SEGMENT B - MECHANICAL**




**Wheeler Plaza, LLC**

**LEVEL 2 SEGMENT B MECHANICAL**












**M2.2b**

## Survey Layout

## Totals by Element Type

	Element Name	Quantity
	General Multi-Sensor Device	2
	Fixed Camera	3
	Flex Cable Path	0

## Totals by Element Detail

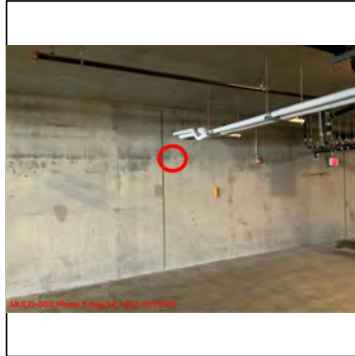
Element Name				Quantity
	General Multi-Sensor Device			2
	Element Name	Element ID	Description	Quantity
	General Multi-Sensor Device	MULTI-001		1
	General Multi-Sensor Device	MULTI-002		1
	Fixed Camera			3
	Element Name	Element ID	Description	Quantity
	Fixed Camera	FCAM-001		1
	Fixed Camera	FCAM-002		1
	Fixed Camera	FCAM-003		1
	Flex Cable Path			0
	Element Name	Element ID	Description	Quantity
	Flex Cable Path	CP-001		0
	Flex Cable Path	CP-002		0
	Flex Cable Path	CP-003		0

## Photo Tour

MULTI-001



MULTI-002



FCAM-001



FCAM-002





VAS Security Systems, Inc.

Danny Haddad

Site: City of San Carlos

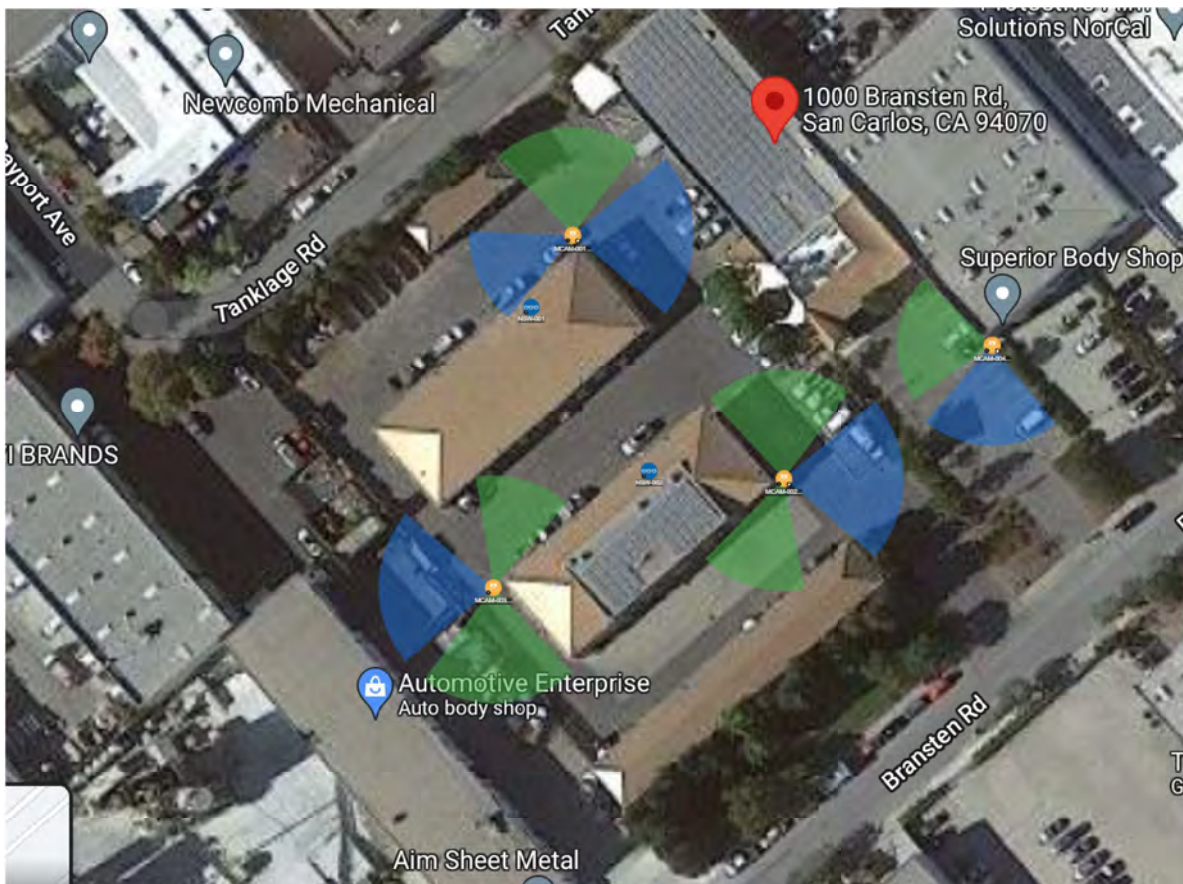
San Carlos, CA,

Survey: Corp yard







## Survey Overview











[Survey Layout](#)

## Totals by Element Type

	Element Name	Quantity
	Multi-Lens Camera	4
	Network Switch	2

## Totals by Element Detail

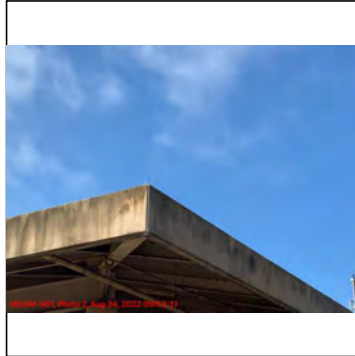
Element Name				Quantity
	Multi-Lens Camera			4
	Element Name	Element ID	Description	Quantity
		Multi-Lens Camera	MCAM-001	1
		Multi-Lens Camera	MCAM-002	1
		Multi-Lens Camera	MCAM-003	1
		Multi-Lens Camera	MCAM-004	1
	Network Switch			2
	Element Name	Element ID	Description	Quantity
		Network Switch	NSW-001	1
		Network Switch	NSW-002	1

## Photo Tour

MCAM-001



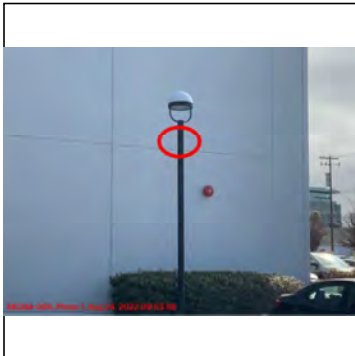
MCAM-001



MCAM-002



MCAM-004

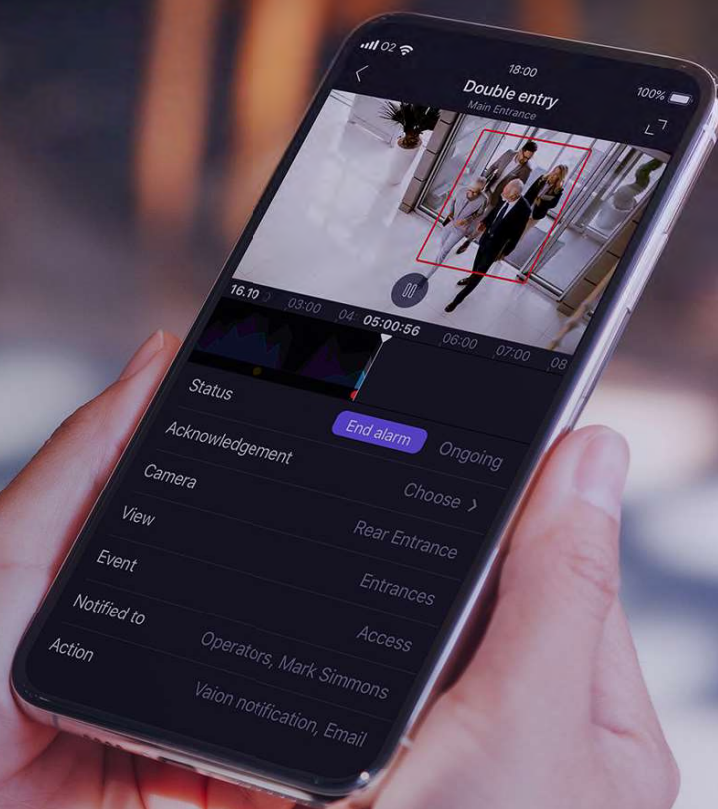


MCAM-004





a Motorola Solutions Company



Summary Brochure | 2022

# Ava Cloud Video Security

# Ava Cloud Video Security

Rethink security and bring Ava's cloud-native open data platform with full analytics and operational insights to your existing cameras and systems.



Detect threats and anomalies in real time with AI-powered security



Deploy Ava Cloud Cameras with integrated analytics and onboard storage



Get started quickly and manage with ease



Stay protected from cyberattacks and updated through the cloud



Search faster and more accurately



Get analytics from all your cameras, all the time, in a unified, single view



Optimize operations with insights



Enjoy secure web and app access from anywhere in the world



Extend to the tools and systems that you use every day



Reduce bandwidth usage and get high-quality footage

## An open video security data platform at your fingertips



Ava Compact Dome®  
Ava Dome®  
Ava 360®  
Ava Bullet™  
Ava Quad™



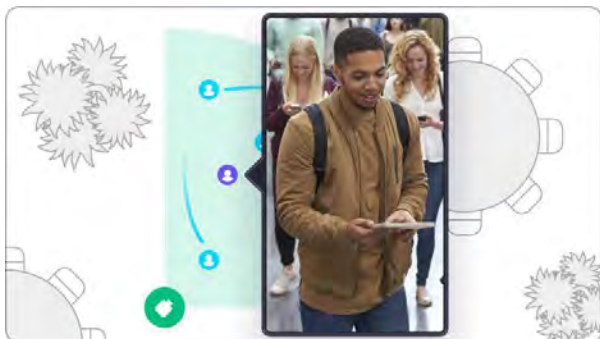
Ava Aware Cloud® Video  
Management System



Ava Cloud Connector™

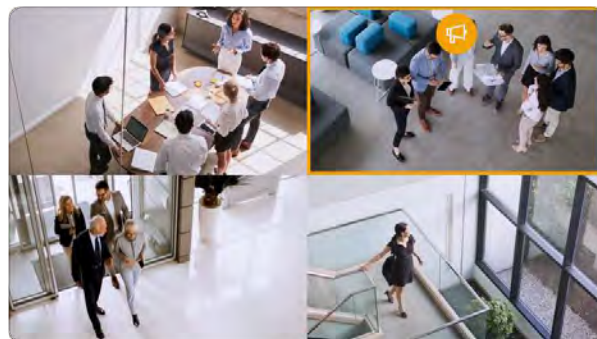


# Why Ava?



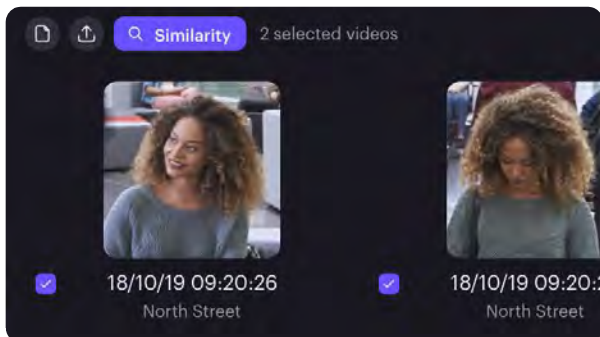
## Map view with Smart Presence™

Add maps of all your locations and facilities in Aware to gain enhanced situational awareness and insights. Each map can be configured and includes camera views, alarm views, as well as the ability to track and count people, vehicles, and other objects as they move on your premises.



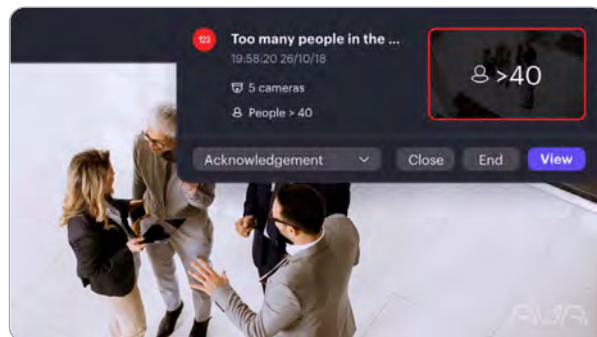
## Video view with Spotlight

Powered by deep learning, Aware uses Spotlight to change video streams dynamically to bring only the relevant feeds to the operators' attention. Real-time alerts and notifications pop up on the video wall to describe the incident, the time, and the place it occurred.



## Fast investigations with Smart Search™

Search by event and similarity, and perform appearance and image detection powered by machine learning to comb through countless hours of video throughout your entire deployment. Reduce forensic investigation time from days to minutes, and gain more efficiency and accuracy with the same number of operators.



## Occupancy counting

With occupancy counting, security operators and administrators can monitor large facilities to keep a rolling total of the current occupancy of people and vehicles of defined locations. Additionally, in-view area counting can be used to monitor specific areas where people are congregating.



## Reduce bandwidth and get high-quality video

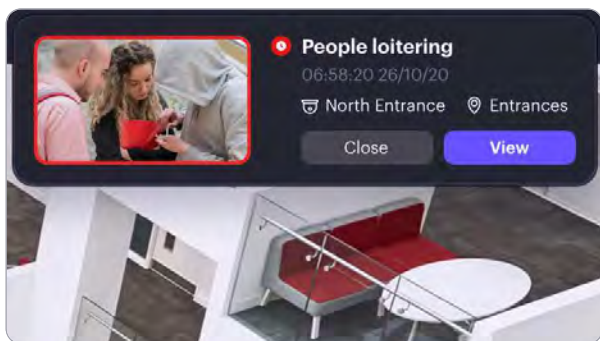
Ava Smart Path™ minimizes bandwidth consumption and keeps video local using unique and innovative technology such as WebRTC intelligent routing and AI-based bandwidth and storage optimization, alleviating a key customer concern.



## Single View™

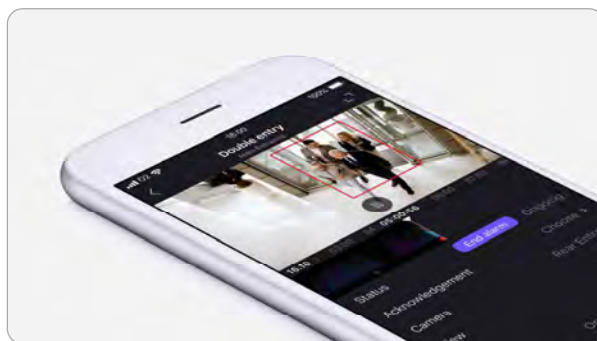
See and manage all your Ava and third-party devices across all deployments in a single pane of glass, regardless of whether they are directly connected to the cloud, or physically tethered to the Cloud Connector.





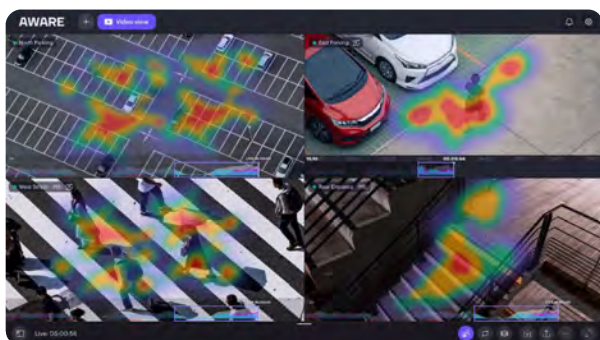
## Anomaly detection in real-time

Use rules-based templates to define scenarios where you want to be notified when specific events occur, such as loitering, line crossing, fire exit access, and more. Aware leverages advanced object identification to monitor and detect unusual events and behaviors and sends alerts and notifications in real-time.



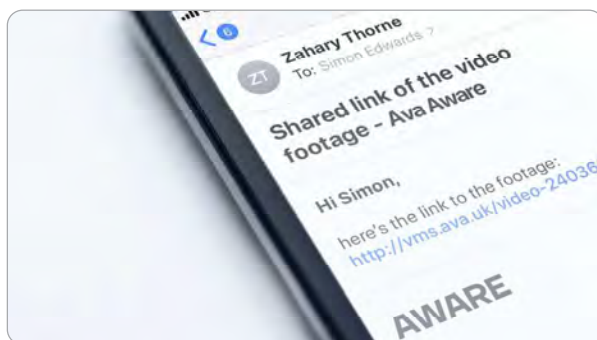
## Mobile app (Android, iOS)

With the Ava Aware Android and iOS apps, we offer users a set of features that mirrors the Aware web client, from seeing and managing alarms to viewing live video or playback. Users will experience a natural, smooth transition from web to mobile and vice-versa.



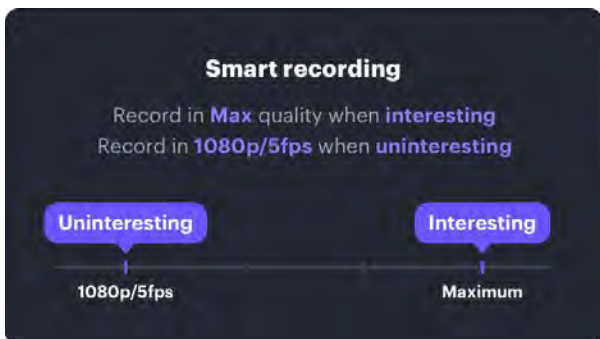
## Heatmaps

Heatmaps are ideal for gaining more insights into retail, healthcare, schools and other educational facilities, public venues, hospitality locales, public transport, or federal government premises. The tool provides enhanced awareness of customer behavior, dwell times and congestions, transportation flows, suspicious activities, and more.



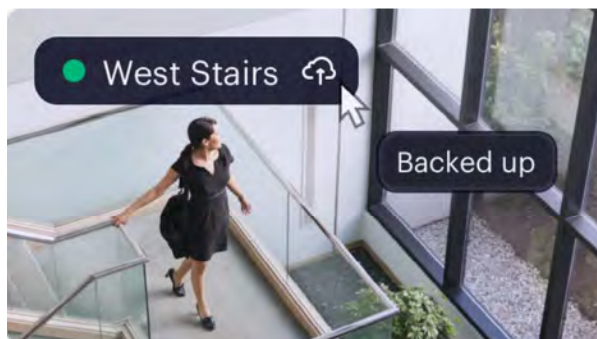
## Secure sharing of recordings

Aware enables you to select clips of interest and then generate a link that you can send to relevant people, such as your Human Resources department or law enforcement authorities, for secure viewing. When they follow this link, they can view your selected video clip without needing access credentials for Aware. You can choose the access availability or allow the viewer to download.



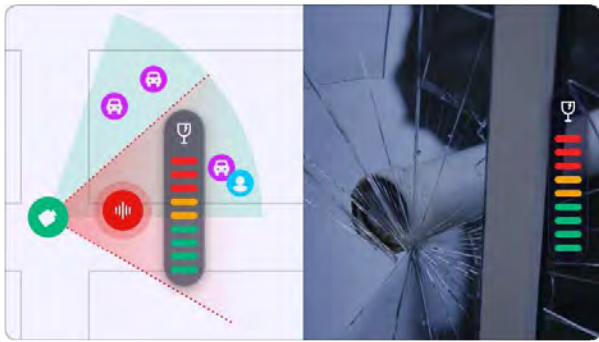
## Smart Recording™

Smart Recording™ switches the resolution stream for all your camera recordings. It automatically records with maximum resolution when people and vehicles are present or interesting events occur and changes to as low as 360p or no recording at all when the activity disappears to save storage space.



## Ava Cloud Storage™

Expand the storage of all your video footage into the cloud. Attain enhanced flexibility with easy access to your cloud archive, irrespective of connectivity and bandwidth demands. Leverage the machine learning-based Smart Recording™ feature to determine which activities or events are unusual and therefore important to be saved.



## On-camera analytics

Ava's cloud-managed Dome, Compact Dome, 360, Bullet, and Quad security cameras integrate advanced intelligence via image recognition, machine learning, and directional acoustic sensors. Each camera also identifies specific sound patterns, like screaming, gunshots, breaking glass, ultrasound, car alarms, or loud noises, to determine the type of sound and direction\*.

\* Compact Dome and Quad have sound analytics, but cannot determine direction.



## Always on security

With automatic software updates from the cloud, end-to-end encrypted data and metadata, and secure remote access from anywhere in the world, it's never been easier to prevent cybersecurity threats. We manage all your Ava products through the cloud, enabling a controlled, proactive process to keep your system always up-to-date.



## Open

Deploy Aware Cloud directly or use one of our highly performant Cloud Connectors to achieve a friction-free transition to the cloud, gain local storage capacity, and power your third-party cameras with AI analytics and storage. Integrate Aware with your existing security cameras, access control systems, dashboards, monitoring systems, sensors, cloud storage solutions, and APIs to get more value and visibility in a single view.



## Ava Aware License Plate Recognition

Extend Ava Aware's powerful LPR solution to your existing security cameras. Say goodbye to dedicated license plate recognition cameras, expensive licensing, and lack of control. Get rules-based alerts for license plates of interest, speed up post-event investigations, and optimize operations based on vehicle analytics and business intelligence.



### 100% NDAA-889 compliant

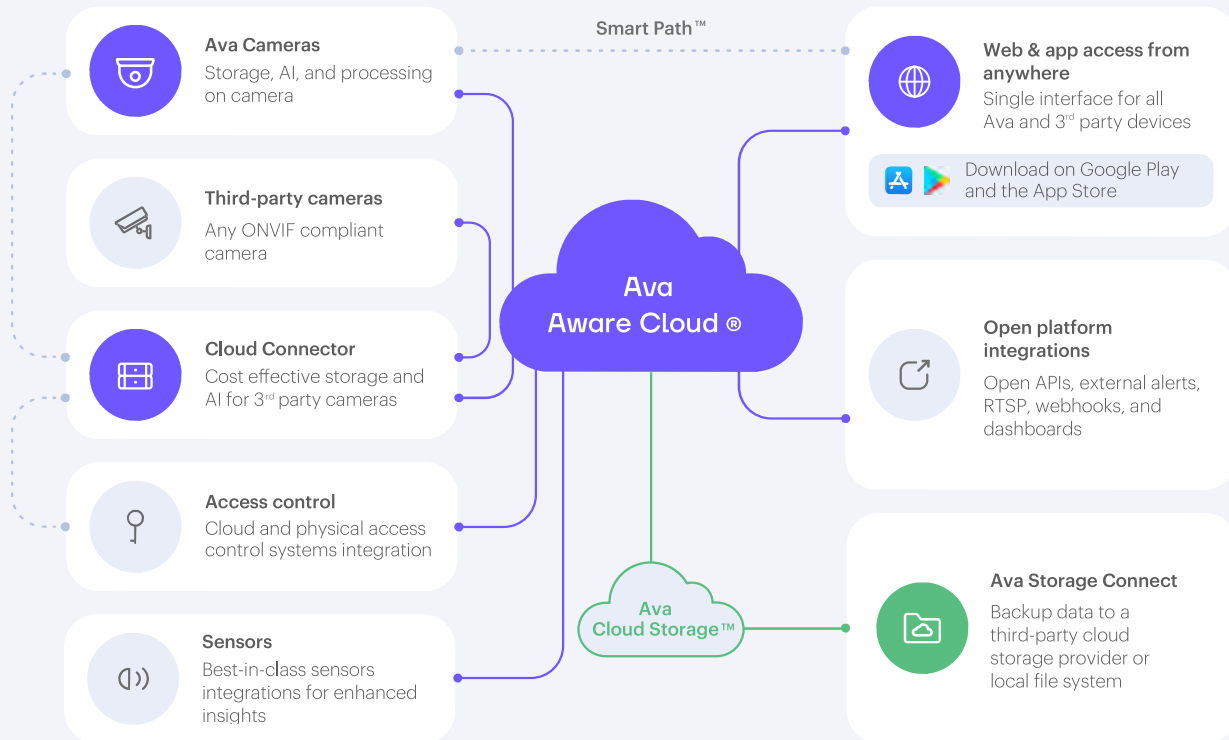
Ava's video security hardware adheres to the US Federal Government IT procurements guidelines and is 100% NDAA Section 889 compliant.



### ISO 27001 certified

Ava's design, development, sales, implementation, and software support for cyber and video security, including cloud-hosted services with associated support services, including operational delivery, are ISO 27001 certified.

## The solution – Simple, open, and scalable video security





Ava Security is a Motorola Solutions company that delivers better, smarter security in the cloud.

Organizations use the Ava Aware Cloud® open video security data platform to protect people and operations, allowing them to optimize for their evolving business needs, giving them more time to spend on the possibilities ahead.

To learn more about Ava's intelligent solutions and how you can enjoy proactive security, visit our website or schedule a demo with a member of our sales team at **[sales@avasecurity.com](mailto:sales@avasecurity.com)**.

**[www.avasecurity.com](http://www.avasecurity.com)**





White Paper | March 2021

# **Security at the core of the Ava video security systems**

## Introduction

To deliver an effective security solution, the system itself must be secure.

From the outset, Ava has designed the Ava video security systems to have security at the core of all aspects of design and implementation. This includes:

- Using software development best practice and design for the Ava Aware™ software running on the Ava Appliances, Ava Cameras, and in the Ava Aware Cloud™.
- Careful consideration and selection of all components used within the Ava Cameras and the Ava Appliances.
- Designing, monitoring, and controlling the manufacturing processes used for all hardware and software components of the Ava video security systems.
- Using an ISO 27001 compliant process for information security.
- Protecting all data using encryption, whether in transit or at rest.

## Ava engineering

Ava designs and manufactures two product portfolios, the Ava Aware video security systems, and the Ava Reveal™ next-gen enterprise Data Loss Protection systems. The development teams for both portfolios work together to ensure that world-class secure development models are used for all products. This includes using shared security teams to maintain the security focus on all design and development activities for all Ava products.

Security incidents related to the video products are handled by the Ava internal cross-functional Product Security Incident Response Team (PSIRT) using the process documented in

<https://www.avasecurity.com/internal-security>.

Security issues are reported through our support portals.

When an issue is found in an Ava product, patches are developed for the affected products which are then released via the normal processes.

In addition, Ava publishes security advisories for all security issues, including those found internally. You can find all the security advisory information for the Ava video security products at

<https://support.ava.uk/support/solutions/folders/44001217217>.

To receive notifications about new software releases and vulnerability advisories, subscribe at <https://www.ava.uk/software-updates-security-advisories>.

## ISO 27001 compliant

Ava Security has implemented an Information Security Management System (ISMS) which is compliant with ISO/IEC 27001, an international standard for managing information security adopted by many organizations worldwide to demonstrate that they take the management of information and internal security processes very seriously to protect their businesses and their customer's data.

ISO 27001 requires organizations to implement controls to manage and monitor security services in a number of common areas, such as Logical and Physical Access Control, Secure Software Development, Encryption Technology and Security Incident Handling.

## Development operations

Access to the Ava software development environments is strictly controlled using multi-factor authentication with hard tokens - so only authorized specialists have access to the source code. Working for a security company, all employees have to undertake regular security training, and are trained on how to handle and manage any customer data. In addition, all Ava employees have to have suitable security software installed on their computers - including the Ava Reveal agent to prevent data loss, regularly updated anti-malware defense controls, and control software to restrict access to files and information.

## Ava Aware, Ava Aware Cloud, and Ava Cameras software

Ava develops the software that runs on the Ava Appliances, the Aware Cloud, and on the Ava Cameras.

The Aware software and the Ava Appliances hardware work together and function as an appliance specifically designed for running the Ava Aware video management system. For the Ava Appliances and Ava Cameras, there is no direct access to the underlying file system, and the Ava Appliances and Ava Cameras run a proprietary hardened Ava Linux distribution, creating a secure platform.

Ava controls and uses asymmetric keys for all upgrade images. By checking these signatures before upgrading the Ava Appliance or Ava Camera devices, any unauthorized modifications to the upgrade images are rejected, preventing third-party tampering with the upgrade images.

Some third-party, open source software is used in the Ava systems, and the internal software development procedures ensure that these open source components are maintained to ensure all relevant security patches are installed.

## Certificates

Ava uses encrypted communication channels, such as HTTPS and TLS, for all communications between Ava Cameras, the Aware software running on Ava Appliances and the Ava Cloud. These channels are all secured using certificates and private keys.

Each Ava Appliance and Ava Camera are pre-loaded with unique certificates and keys during manufacture. These certificates and keys are used to prove the identity of the devices to each other, and to the Ava Cloud. In addition to using the pre-installed certificates and keys, you can also create additional Certificate Signing Requests (CSRs) from your Ava components. These CSRs can then be signed by external Certificate Authorities (CAs) of your own choice.

To provide secure remote access to your Ava Appliance, Aware connects to Ava Cloud to create the necessary certificates to ensure secure communications.

Ava Appliances and Ava Cameras do not require any port forwarding, and all outgoing connections from your appliances and Ava Cameras use Port 443 on either [aware.avasecurity.com](https://aware.avasecurity.com) or [aware.ava.uk](https://aware.ava.uk) (or subdomains thereof).

## Authentication and Authorization

Before a user can access either the Ava Camera software or the Aware video management system, they must first provide authentication information.

Users can authenticate against local user accounts for the Ava Aware video management system, where a hashed and salted password, created using PBKDF2 and SHA-512 to NIST guidelines (see <https://pages.nist.gov/800-63-3/sp800-63b.html>) is stored locally.

Alternatively, your users can authenticate against an external Active Directory server.

For Ava Cameras, all users are authenticated against local user accounts, again, using hashed and salted passwords created using PBKDF2 and SHA-512 to NIST guidelines and stored on the Ava Cameras.

In addition to requiring authentication, Aware uses role-based access controls (RBAC) so that users have authorized access levels, set by your system administrator. Each user is assigned a role, and that role controls the access the user has to the Aware or Aware Cloud software.

Your system administrators have complete control of who can access your Ava video management system and their levels of access. Remote access to your Ava Aware deployments is controlled by your system administrators — so, for example, to allow an Ava Partner to monitor your system, or to enable the Ava Support team to assist in troubleshooting, you have to opt-in and create suitable roles for the Partner or Ava Support. The system administrator can revoke this access at any time.

## Credentials

The customer can change all credentials in Ava Aware, Ava Aware Cloud, and the Ava Cameras — Ava does not hardcode default user names and passwords into any products.

This ensures that nobody can use default credentials to access your Ava video management systems, or any Ava hardware —

there is no concept of "Super admin" users, so no access can be gained to any Ava deployment without the relevant permissions being granted by your own system administrator.

## Securing data-in-transit

Connections between the Ava video management system and Ava Cameras are encrypted to prevent eavesdropping. All communications between Aware or Aware Cloud and Ava Cameras, between Aware or Aware Cloud and the browser being used to monitor camera activities, and between all Ava Appliances connected as a cluster are encrypted using HTTPS, RTP over HTTPS, and DTLS.

For connections between Aware and third-party cameras, HTTPS is used to encrypt the connection if at all possible. Video streams from third-party cameras use RTP over HTTPS, when available.

## Securing data-at-rest

All data from on-premise Ava Cameras is stored securely on the drives within the Ava Appliances. Video data is stored on multiple dedicated hard disk drives, and uses erasure encoding to protect against disk failures.

Video data from Ava Cloud Cameras is stored on the camera, using surveillance-grade storage.

The video data is encrypted before it is stored, and the encryption keys are stored separately from the video data.

Because the data is encrypted before being stored, the data cannot be read without access to the encryption keys. This means that even if the data storage is stolen, the data itself is still protected, and therefore safe from confidentiality breaches.



## Securing exported video recordings and links to video clips

The video that your Ava video security systems have recorded could contain confidential or commercially-sensitive information.

When exporting this video, you can choose to encrypt the video files using password-protected AES-256 encryption. This prevents access to the recordings by anybody without the password.

When using link sharing, all data continues to be stored on the appliance or camera. The links contain sufficient entropy as to be difficult to brute force in our lifetime, and our API is protected by various rate-limiting mechanisms to mitigate brute force attacks. The optional password that can be configured per clip further strengthens this.

## Digitally-signed (watermarked) video

Exported video and the accompanying metadata files are also digitally signed, to verify that the video recordings and metadata have not been tampered with since being exported. Each video recording and metadata file in the exported archive has a hash, created using the SHA-256 cryptographic hashing tool.

These hashes are digitally signed using a key only known to the Aware system that recorded the video, and verified with the corresponding Aware certificate that is included in the archive.

## Audit logs

The Aware and Aware Cloud software includes logging of important system events, such as somebody logging into the system, or somebody making changes to camera configurations etc. Using these logs, you can audit the access to your Ava video security cloud systems, ensuring that only authorized

current users are using the system. If you find that somebody that should no longer have access is still logging into your system, you can revoke their user account.

## Ava Aware Cloud

Ava Aware Cloud provides the same feature set as the on-premise Ava Aware software, and the security of each function is handled using appropriate mechanisms.

Access between Aware Cloud, the Ava Cloud Cameras, and your browser all uses HTTPS. Each tenant's data is isolated inside the Aware Cloud to avoid unauthorized access to your information. The Ava Cloud Cameras connect out to Aware Cloud on Port 443, so no port forwarding is required, and no additional ports need to be opened in your firewalls.

All other authentication is carried out using the accounts created within Aware. These accounts are under full customer control. This means that Ava Security or partners have no access to this data unless you either enable cloud-based management or create accounts in your Aware video management system specifically to allow them to see this data.

When using cloud services to provide remote access to your Aware video management system, the cloud acts as a proxy and all data is encrypted in transit using industry best practices. No application data or video data is ever stored in the cloud when using remote access.

You can back up your configuration information from your Aware software to the Ava Cloud. These backup files are encrypted using keys that are stored only on the Ava Appliances. The backup files do not contain any video or the metadata associated with video.

## Hardware

The hardware components of your Ava video security systems are all designed with security in mind.

### Ava Cameras

The Ava Cameras hardware is based around an Ambarella imaging processor. This processor was chosen because it meets all of the Ava Security requirements and the market-leading technical capabilities of this component.

The Ambarella processor supports the Arm TrustZone technology to separate the secure cryptographic operations from the main application.

Ava Cameras are equipped with a Trusted Platform Module (TPM) to provide the certificate storage for each camera.

### Ava Appliances

The Ava Appliances range of hardware appliances is based on Dell OEM servers featuring Intel Central Processing Units (CPUs) and NVIDIA Graphics Processing Units (GPUs). All data storage disks are surveillance-grade items.

Ava Appliances are also fitted with a TPM to provide the secure encryption key storage for each appliance.

### Manufacturing

The Ava Cameras and Ava Appliances hardware are built by manufacturing partners. All manufacturing is carried out in factories in Europe, America or Taiwan.

As part of the manufacturing process, each device is pre-loaded with a digital certificate, to prove its identity to other devices and to the Ava Cloud. The test software and related quality control processes for all of Ava's video products have been developed internally by Ava engineers.

We continually monitor the results of this testing to ensure compliance with our standards and requirements.



Ava Security is a global technology company with offices in the UK, Norway, and the USA. It was founded in 2016 to create a better, smarter way to deliver security. Ava protects people, property, and data anywhere.

Innovative companies worldwide use Ava Reveal™ for human-centric data loss protection and Ava Aware Cloud™ for video security and analytics.

To learn more about Ava's smart solutions and how you can enjoy proactive security, visit our website or schedule a demo with a member of our sales team at [sales@avasecurity.com](mailto:sales@avasecurity.com).

**[www.avasecurity.com](http://www.avasecurity.com)**



# QUAD



Multisensor security camera for flexible coverage



Built-in AI video and audio analytics and on-device storage



Easy to install and manage and simple onboarding



Factory-installed certificates backed by a trusted platform module (TPM)



Dynamic resolution up to 5MP on all four sensors

**Image sensor**

4 x 5MP

**Image sensor size format**

1/2.7"

**Lens**

Lens Type Motorized

Vari-focal

Remote Focus Focal Length:  $f = 3.7 \sim 7.7$  mm

Aperture: F1.9 ~ F2.9

**IR night vision**

Automatic night mode

IR-cut filter

850 nm IR LED

**Color night vision\***

*\*To be confirmed*

**Minimum illumination in color mode**

0.10lux

**Field of view**

81° ~ 39° (Horizontal)

60° ~ 29° (Vertical)

100° ~ 48° (Diagonal)

**Maximum resolution & Frame rate**

2592x1944@30fps per sensor

**Dynamic range**

Multi-exposure line-based HDR

**Video compression**

H.265, H.264, Motion JPEG

**Audio\***

*\*To be confirmed*

**Security**

Trusted Platform Module (TPM 2.0)

Factory installed certificates

No default passwords

Mandatory access authentication

HTTPS/TLS encryption

**Network protocols**

IPv4, HTTPS, TLS, DNS, mDNS, DNS-SD, NTP, RTSP, RTP, RTCP, ICMP, DHCP, ARP

Streaming: RTP/UDP, RTP/RTSP/HTTPS/TCP

**Power source**

IEEE 802.3at PoE Class 4

**Power consumption**

Max: 25.5/13.84 W (IR on/off)

**Storage**

2 x MicroSD/SDHC/SDXC

**Connection**

802.3ab 10/100/1000 Gigabit Ethernet

**Installation aid\***

*\*To be confirmed*

**Adjustment range\***

*\*To be confirmed*

**Impact resistance**

IK10 (IEC/EN 62262)

**Ingress protection**

IP66 (IEC/EN 60529)

**Temperature**

Storage & Operating: -40C to +60C

**Physical characteristics**

Dimensions:

Ø 267x114 mm (Main body)

Ø 275x118 mm (w/ bracket)

Weight 2.7 kg

**EMC**

EMC: CE (EN55032 Class A, EN55024), FCC (FCC Part 15 Subpart B Class A), RCM (AS/NZS CISPR 32 Class A), VCCI (VCCI-CISPR 32 Class A)

**Safety**

UL (UL 62368-1),

CB (IEC/ EN 62368-1, IEC/EN 60950-22, IEC/ EN 62471), NOM-019



# 360



360° fisheye panoramic IR



Built-in AI video and audio analytics  
and on-device storage



Versatile, robust and sleek, fit for both the  
hardest outdoor and discreet indoor setups



Factory-installed certificates backed by  
a trusted platform module (TPM)



Image sensor up to 12MP



Designed and developed in Norway  
and the UK

**Image sensor**

12MP

**Image sensor size format**

1/2.3"

**Effective resolution**

9MP

**Lens**

Aperture:  $f/2.0$

Fixed focus

Focus distance: 0.5m -  $\infty$

**Night vision**

Automatic night mode

IR-cut filter

850 nm IR LED

**Field of view**

>180°

**Maximum resolution & Frame rate**

3000x3000@30fps

**Dynamic range**

Multi-exposure line-based HDR

**Video compression**

H.265, H.264, Motion JPEG

**Audio**

Microphone array (4x microphones)

AI audio event classification

Audio source localization

**Security**

Factory-installed certificates, no default passwords, mandatory access authentication, HTTPS/TLS encryption

**Network protocols**

IPv4, HTTPS, TLS, DNS, mDNS, DNS-SD,

NTP, RTSP, RTP, RTCP, ICMP, DHCP, ARP

Streaming protocols: RTP/UDP, RTP/

RTSP/HTTPS/TCP

**Power source**

PoE+ (802.3at Type 2)

For installation only: USB-C (1.5A mode)

**Power consumption**

Typical: 5 W

Max without heater: 12.95 W

Max with heater: 23 W

**Storage**

MicroSD, SDXC UHS-I

**Connection**

802.3ab 10/100/1000 Gigabit Ethernet

USB-C for preview and setup

**Installation aid**

Automatic wall and ceiling detection.

Flexible bracket, mounts to standard back boxes. Refer to technical drawing.

**Impact resistance**

IK10 (IEC/EN 62262)

**Water protection**

IP66 (IEC/EN 60529)

**Temperature**

Operating: -25C to +50C

Storage: -40C to +60C

Heater: 9.6W

**Physical characteristics**

Dimensions: 152x152x77mm

Weight: 1.1 kg

Body: Aluminum

**EMC**

EN 55032, EN 61000-3-2/-3, EN 55024,

EN 55035, EN61000-6-2/-4, FCC Part 15B,

ICES-003 Issue 6

**Safety**

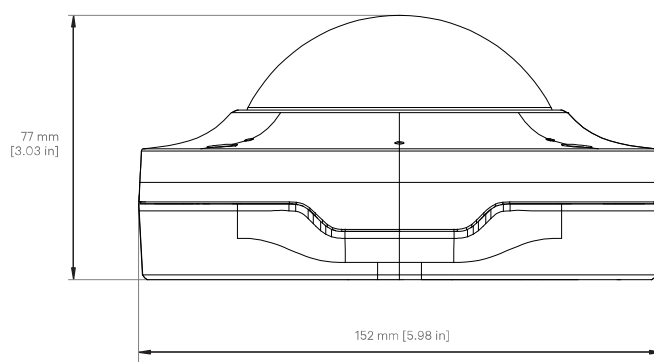
IEC60950-1, IEC62368-1, IEC60950-22,

UL/CSA60950-1, UL/CSA 62368-1,

UL E164374, NOM-019, IEC62471(IR LED)

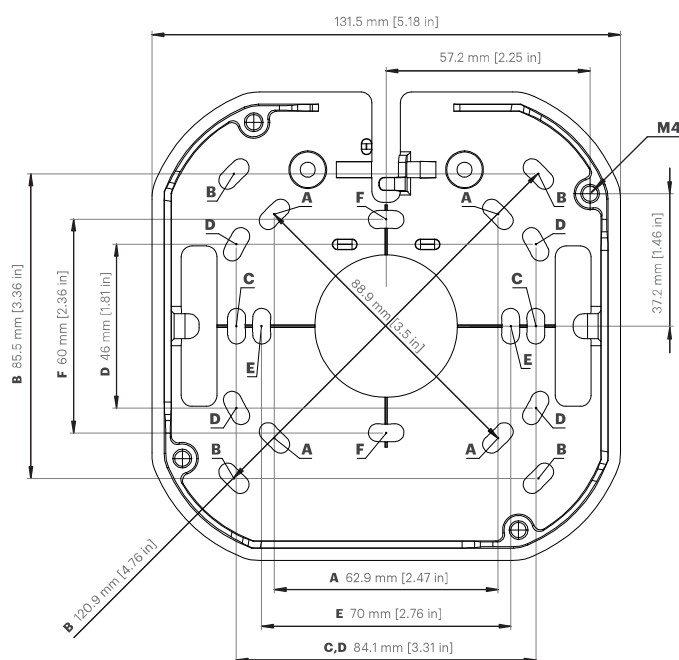
# Technical drawings

## 360, side view



Scale 1:2

## Mounting bracket, top view



Scale 1:2

	Designation	Dimension (mm)	Dimension (inch)
<b>A</b>	Octagon	62.9 x 62.9 (88.9 diagonal)	2.47 x 2.47 (3.50 diagonal)
<b>B</b>	4" Square Box	85.5 x 85.5 (120.9 diagonal)	3.36 x 3.36 (4.76 diagonal)
<b>C</b>	Single Gang	84.1	3.31
<b>D</b>	Double Gang	84.1 x 46	3.31 x 1.81
<b>E</b>	EU Ceiling Box	70	2.76
<b>F</b>	EU Outlet Box	60	2.36



# Ordering information

## Cloud 360

Product family	PID	Product description
Cameras	360-W-30	Ava Aware Cloud camera - 360 White. 9MP resolution. 30 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	360-B-30	Ava Aware Cloud camera - 360 Black. 9MP resolution. 30 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	360-W-60	Ava Aware Cloud camera - 360 White. 9MP resolution. 60 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	360-B-60	Ava Aware Cloud camera - 360 Black. 9MP resolution. 60 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.

## On-prem Dome

Product family	PID	Product description
Cameras	360-W	Ava 360 Camera White. 9MP resolution. AI-powered pano camera, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	360-B	Ava 360 Camera Black. 9MP resolution. AI-powered pano camera, IR and advanced microphone array, indoor and outdoor, 3 year warranty.

# Ordering information

## Accessories

Product family	PID	Product description
Cameras	ACC-PEN-CAP-W	Pendant mounting cap for Ava Dome and 360 cameras. White.
Cameras	ACC-PEN-CAP-B	Pendant mounting cap for Ava Dome and 360 cameras. Black.
Cameras	ACC-MNT-ARM-W	Wall mount arm for Ava Dome and 360 cameras. White
Cameras	ACC-MNT-ARM-B	Wall mount arm for Ava Dome and 360 cameras. Black.
Cameras	ACC-POL-BRA-W	Pole mount for Ava Dome and 360 cameras. White.
Cameras	ACC-POL-BRA-B	Pole mount for Ava Dome and 360 cameras. Black.
Cameras	ACC-CRN-BRA-W	Corner mount for Ava Dome and 360 cameras. White.
Cameras	ACC-CON-A34-W	Conduit adapter 3/4" for mounting 3/4" NPT or NPS electrical conduits to the camera for cable protection. White.
Cameras	ACC-CON-A34-B	Conduit adapter 3/4" for mounting 3/4" NPT or NPS electrical conduits to the camera for cable protection. Black.
Cameras	SVCS-CAM-W5YR	5 year total warranty, with next business day advance replacement. Purchased at the time of original purchase.



# DOME



Fixed IR Dome camera with motorized zoom and focus



Built-in AI video and audio analytics and on-device storage



Versatile, robust and sleek, fit for both the hardest outdoor and discreet indoor setups



Factory-installed certificates backed by a trusted platform module (TPM)



Dynamic resolution up to 8MP (4K)



Designed and developed in Norway and the UK

**Image sensor**

8MP (4K)

**Image sensor size format**

1/1.8"

**Lens**

Focal length: 3.6-10mm

Aperture: f/1.5-f/2.8

Remote zoom and focus

P-iris

**Night vision**

Automatic night mode

IR-cut filter

850 nm IR LED

**Field of view**

100°-45° Horizontal

53°-25° Vertical

**Maximum resolution & Frame rate**

3840x2160@30fps

**Dynamic range**

Multi-exposure line-based HDR

**Video compression**

H.265, H.264, Motion JPEG

**Audio**

Microphone array (4x microphones)

AI audio event classification

Audio source localization

**Security**

Factory-installed certificates, no default passwords, mandatory access authentication, HTTPS/TLS encryption

**Network protocols**

IPv4, HTTPS, TLS, DNS, mDNS, DNS-SD,

NTP, RTSP, RTP, RTCP, ICMP, DHCP, ARP

Streaming: RTP/UDP, RTP/RTSP/HTTPS/TCP

**Power source**

PoE+ (802.3at Type 2)

For installation only: USB-C (1.5A mode)

**Power consumption**

Typical: 5 W

Max without heater: 12.95 W

Max with heater: 23 W

**Storage**

MicroSD, SDXC UHS-I

**Connection**

802.3ab 10/100/1000 Gigabit Ethernet

USB-C for preview and setup

**Installation aid**

Electronic leveler. Flexible bracket, mounts to standard back boxes.

Refer to technical drawing.

**Impact resistance**

IK10 (IEC/EN 62262)

**Water protection**

IP66 (IEC/EN 60529)

**Temperature**

Operating: -25C to +50C

Storage: -40C to +60C

Heater: 9.6W

**Physical characteristics**

Dimensions: 152x152x96mm

Weight: 1.2 kg

Body: Aluminum

Adjustment range: Pan, Tilt, Azimuth

**EMC**

EN 55032, EN 61000-3-2/-3, EN 55024,

EN 55035, EN 61000-6-1/-3, EN61000-6-2/-4,

FCC Part 15B, ICES-003 Issue 6

**Safety**

IEC60950-1, IEC62368-1, IEC60950-22,

UL/CSA60950-1, UL/CSA 62368-1,

UL E164374, NOM-019, IEC62471(IR LED)



# Ordering information

## Cloud Dome

Product family	PID	Product description
Cameras	DOME-W-5MP-30	Ava Aware Cloud camera - Dome white. 5MP resolution. 30 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-B-5MP-30	Ava Aware Cloud camera - Dome black. 5MP resolution. 30 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-W-5MP-60	Ava Aware Cloud camera - Dome white. 5MP resolution. 60 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-B-5MP-60	Ava Aware Cloud camera - Dome black. 5MP resolution. 60 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-W-5MP-120	Ava Aware Cloud camera - Dome white. 5MP resolution. 120 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-B-5MP-120	Ava Aware Cloud camera - Dome black. 5MP resolution. 120 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-W-4K-30	Ava Aware Cloud camera - Dome white. 8MP (4K) resolution. 30 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-B-4K-30	Ava Aware Cloud camera - Dome black. 8MP (4K) resolution. 30 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-W-4K-60	Ava Aware Cloud camera - Dome white. 8MP (4K) resolution. 60 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-B-4K-60	Ava Aware Cloud camera - Dome black. 8MP (4K) resolution. 60 days retention. AI-powered, IR and advanced microphone array, indoor and outdoor, 3 year warranty.

# Ordering information

## On-prem Dome

Product family	PID	Product description
Cameras	DOME-W	Ava Dome Camera White. 8MP (4K) AI-powered dome camera, IR and advanced microphone array, indoor and outdoor, 3 year warranty.
Cameras	DOME-B	Ava Dome Camera Black. 8MP (4K) AI-powered dome camera, IR and advanced microphone array, indoor and outdoor, 3 year warranty.

## Accessories

Product family	PID	Product description
Cameras	ACC-PEN-CAP-W	Pendant mounting cap for Ava Dome and 360 cameras. White.
Cameras	ACC-PEN-CAP-B	Pendant mounting cap for Ava Dome and 360 cameras. Black.
Cameras	ACC-MNT-ARM-W	Wall mount arm for Ava Dome and 360 cameras. White
Cameras	ACC-MNT-ARM-B	Wall mount arm for Ava Dome and 360 cameras. Black.
Cameras	ACC-POL-BRA-W	Pole mount for Ava Dome and 360 cameras. White.
Cameras	ACC-POL-BRA-B	Pole mount for Ava Dome and 360 cameras. Black.
Cameras	ACC-CRN-BRA-W	Corner mount for Ava Dome and 360 cameras. White.
Cameras	ACC-CON-A34-W	Conduit adapter 3/4" for mounting 3/4" NPT or NPS electrical conduits to the camera for cable protection. White.
Cameras	ACC-CON-A34-B	Conduit adapter 3/4" for mounting 3/4" NPT or NPS electrical conduits to the camera for cable protection. Black.
Cameras	SVCS-CAM-W5YR	5 year total warranty, with next business day advance replacement. Purchased at the time of original purchase.

## NetWaySP8WPN

### 8-port Outdoor Hardened PoE Switch



Altronix NetWaySP8WPN PoE+ Outdoor Hardened Switch provides two (2) 1Gb SFP (Fiber) ports and eight (8) PoE+ (30W) or two (2) Hi-PoE (60W) ports (external 48-55V UL Listed ITE power supply required), passing data for PoE/PoE+/Hi-PoE compliant devices. Cameras/edge devices may be located up to 100m from the unit. Embedded LINQ Technology allows you to monitor, control, and report power and diagnostics from anywhere.



NetWaySP8WPN

#### Key Features

- Two (2) Gigabit SFP ports.
- 115W total power:
  - Eight (8) PoE/PoE+ (up to 30W) ports or two (2) Hi-PoE (60W) ports
- Two (2) 10/100/1000 Mbps ports
- Six (6) 10/100 Mbps ports
- IEEE 802.3at (30W), IEEE 802.3af (15W) compliant, or Hi-PoE (60W)
- PoE activity LED indicators
- VLAN (Virtual Local Area Networks) subnetwork allows for the grouping together of devices for improved network traffic and higher security
- UL Listed in the U.S. and Canada
- CE European Conformity
- Lifetime Warranty

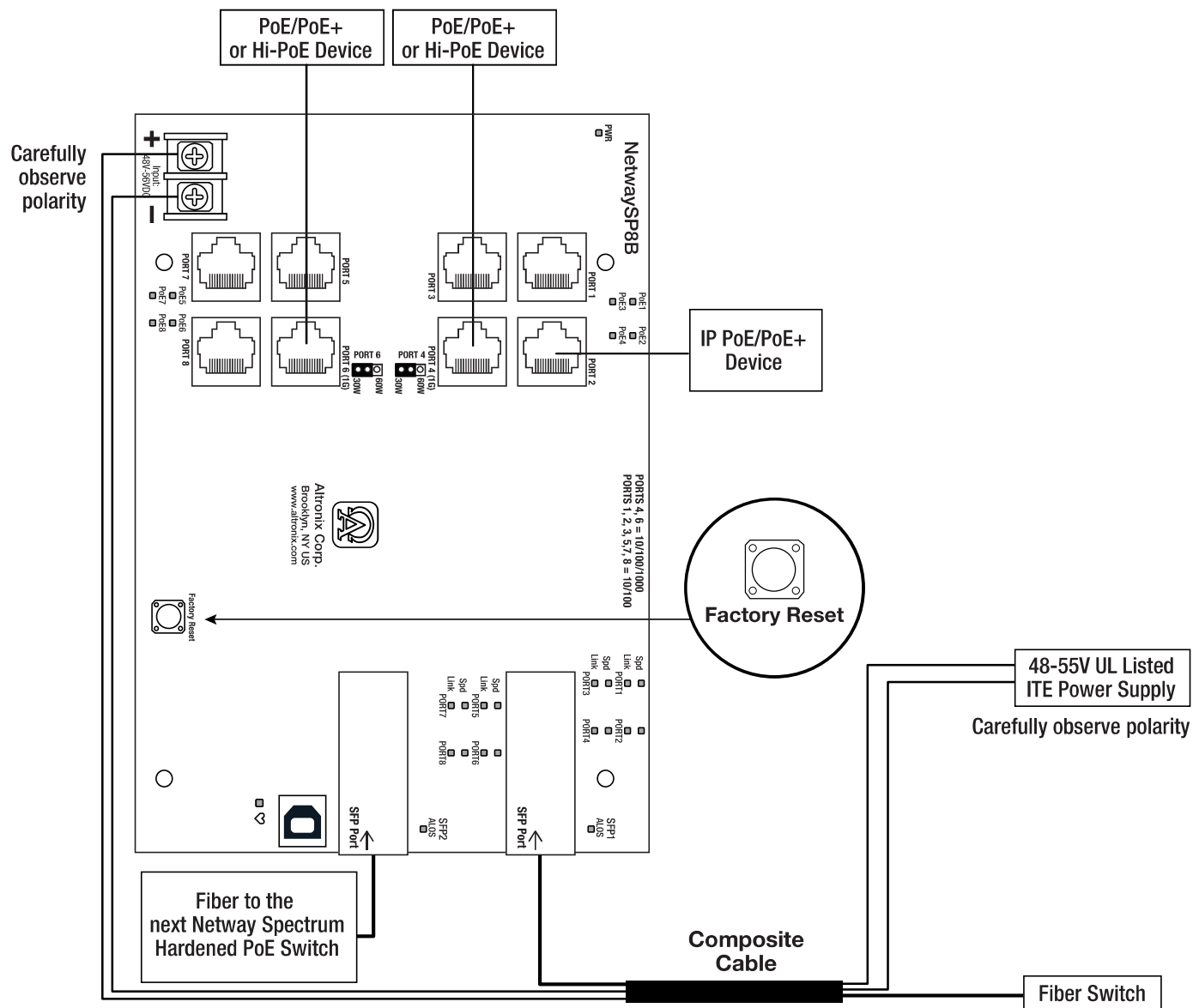
#### Similar products

<b>NetWaySP4WPX</b>	Outdoor 4-port PoE+ Hardened Switch in NEMA 4/4X, IP66-11 enclosure which accommodates stand-by batteries
<b>NetWaySP4WP</b>	Outdoor 4-port PoE+ Hardened Switch in NEMA 4/4X, IP66-11 enclosure
<b>NetWaySP4X</b>	Indoor 4-port PoE+ Hardened Switch in NEMA 1 Rated indoor enclosure
<b>NetWaySP4PL</b>	4-port PoE+ Hardened Switch with Integral Power on a Backplane
<b>NetWaySP4B</b>	4-port PoE+ Hardened Switch (board only)

#### Lifetime Warranty



### Typical Composite (Fiber + Copper) Application



### Lifetime Warranty

Altronix Corporation | 140 58th St | Brooklyn, NY 11220 USA

phone: +1 718.567.8181 | fax: +1 718.567.9056 | email: info@altronix.com | www.altronix.com

## NetWaySP8WPN

8-port Outdoor Hardened PoE Switch



### Specifications

#### Input

Voltage 48-56V UL Listed ITE power supply (up to 120W)

#### Power Output

Maximum Power Eight (8) PoE+ (30W) ports or two (2) Hi-PoE (60W) ports  
IEEE 802.3at (30W) and  
IEEE 802.3af (15W) compliant  
115W total power. Integral surge protection

**Fiber Ports:** Two (2) Gigabit SFP ports

**Ethernet Ports:** Six (6) 10/100 Mbps and two (2) 10/100/1000 Mbps ports  
Connectivity: RJ45, auto-crossover  
Wire type: 4-pair CAT5 or better structured cable  
Distance: up to 100m  
Speed: 10/100/1000 Mbps, half/full duplex, auto negotiation

#### Indicators (LED)

Individual PoE On LEDs for each port  
Individual IP Link status, 10/100Base-T/active LEDs for each port  
ALOS LED indicates fiber connection for SFP port  
Heartbeat LED indicates proper operation of the unit

#### VLAN:

Multiple management VLAN assignment  
802.1Q Tagged VLAN. Up to 10 VLAN groups. ID Range 2-4095

#### LINQ Technology:

Remote network management allows for camera/device reset and monitoring  
Provides local and/or remote access to critical information via LAN/WAN  
Email and Windows Dashboard Alert notifications report real-time diagnostics.  
Event log tracks history

#### Agency Listings

UL/cUL UL60950-1 (Information Technology Equipment)  
UL60950-22 (Information Technology Equipment to be installed Outdoors)  
CE European Conformity

#### Physical and Environmental

Enclosure Dimensions (H x W x D approx.):  
13.31" x 11.31" x 5.59" (338.1mm x 287.3mm x 142mm)

NEMA 4/4X, IP66-11 Rated enclosure for outdoor use

#### Product Weight / Shipping (approx.)

Product Weight: 9.5 lb. (4.3 kg).  
Shipping Weight: 10.9 lb. (4.9 kg).

#### Temperature

Operating (115W): -40°C to 75°C (-40°F to 167°F)  
Storage: -40°C to 85°C (-40°F to 185°F)

Relative Humidity: 85% +/-5%

Operating Altitude: -304.8 to 2,000m

### Accessories (order separately)



#### NetWaySP1A -

Ethernet over Fiber Media Converter/Repeater  
For Applications requiring an additional SFP (Fiber) Port

NetWaySP1A PoE powered media converter/repeater converts 10/100/1000 Mbps to Fiber (1000Base-X/SX/LX).



4-port Ethernet over Fiber Media Converter for applications utilizing composite or conventional cabling

#### NetWaySP4 -

Unit passes a maximum power up to 120W per port from a Power Supply or Midspan Injector. Four (4) 1Gb SFP ports.

#### NetWaySP4P -

Unit passes a maximum power up to 120W per port from a built-in Power Supply/Charger. Four (4) 1Gb SFP ports.

#### NetWaySP4P2 -

Unit passes 56VDC power-limited 60W max. per port from a built-in Power Supply/Charger. Four (4) 1Gb SFP ports.

#### SFP Modules - Hot pluggable Transceivers

**P1MM** Multi-Mode SFP Module for distances up to 550m.

**P1SM10** Single-Mode SFP Module for distances up to 10km.

**P1AB2K** Single Strand SFP Module for distances up to 2km.

**P1GCE** Copper SFP Module for distances up to 100m.



#### POE60 -

75W Power Supply/Lithium Iron Phosphate Charger

Provides 75W for NetWay Spectrum switches. It also features a built-in charger for Lithium Iron Phosphate batteries.

#### POE201 -

120W Power Supply/Charger

Provides 120W for NetWay Spectrum switches. It also features a built-in charger for sealed lead acid or gel type batteries.



#### PMK1 - Pole Mount Kit

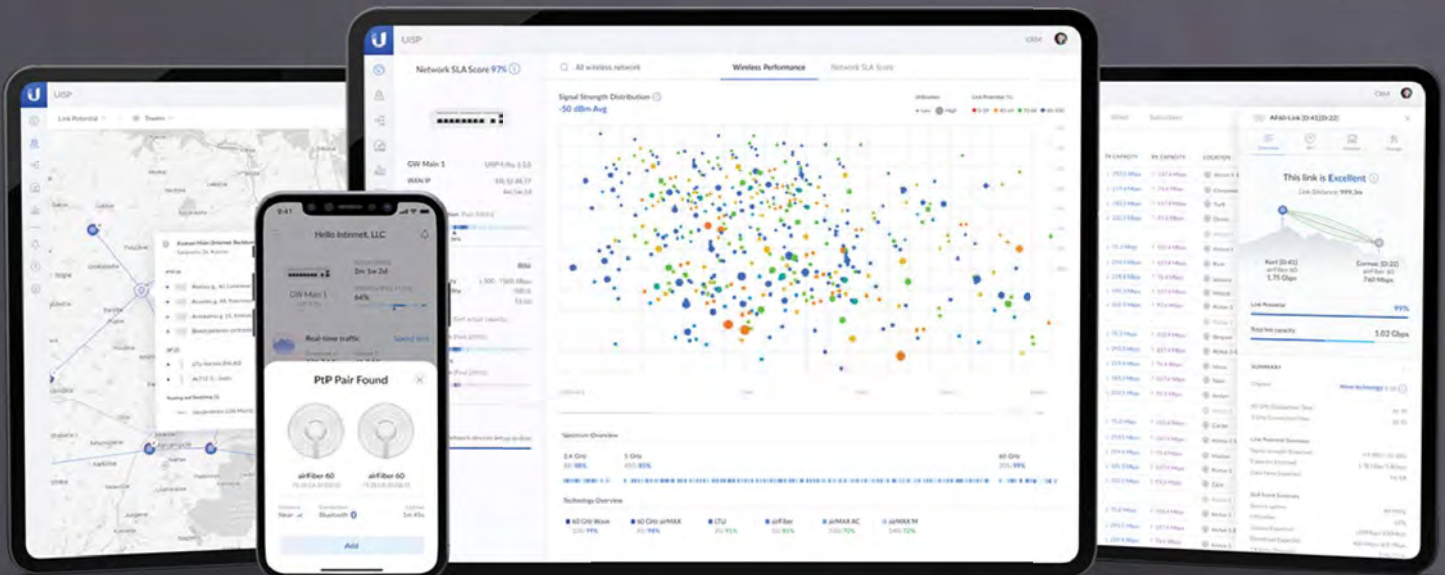
Designed to simplify installation of outdoor units (WP1, WP3 and WP4). It accommodates 2"- 8"(diameter) poles.



### Lifetime Warranty

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phone: +1 718.567.8181 | fax: +1 718.567.9056 | email: info@altronix.com | www.altronix.com



# airMAX GigaBeam Plus 60 GHz Radio

High-gain 60 GHz radio with a Cassegrain reflector that delivers 1.5+ Gbps throughput with low latency.

The GigaBeam® Plus (GBE Plus) is a 60 GHz radio that can be used as a high-throughput backhaul/edge point-to-point (PTP) solution in WISP deployments. With its integrated Cassegrain reflector, the GBE Plus delivers 35 dBi antenna gain and can exceed a 1.5 Gbps bidirectional throughput rate with very low latency. Designed for simple deployment and ease of use, the GBE Plus can be set up in minutes and fully managed with the UISP™ web application or mobile app.



## Mechanical

Dimensions	Ø155 x 137 mm (Ø6.1 x 5.4")
Weight	1 kg (2.2 lb)
Enclosure materials	UV-resistant polycarbonate, stainless steel
Mount material	Metal
Wind loading	50 N at 200 km/h (11.24 lbf at 125 mph)

## Hardware

Processor	Quad-Core ARM® Cortex® A7
Memory	256 MB DDR3
Networking interface	10/100/1,000 Mbps RJ45 port
Management interfaces	Ethernet Bluetooth
RF connections	Internal
Max. power consumption	11W
Power method	Passive PoE (Pairs 4, 5+; 7, 8-)
Power supply	24VDC, 0.5A Gigabit PoE adapter
Supported voltage range	22 to 26VDC
ESD/EMP protection	Air/Contact: ± 24kV
Operating temperature	-40 to 60° C (-40 to 140° F)
Operating humidity	5 to 95% noncondensing
Certifications	FCC, IC, CE

## LEDs

Power	Flashing white: Booting up White: Not connected to UISP Blue: Connected to UISP
Ethernet	Flashing blue: Ethernet traffic detected
60GHz	Blue: Connected

## Software

OS	airOS®
Operating modes	PtP master or station



Ubiquiti specific features	Integrated 60 GHz radio, discovery protocol
Security	WPA2 AES only
Dashboard	Yes
Wireless settings	Yes
Network settings	Yes
System	Yes
Services	UISP, ping watchdog, web server, SSH server, NTP client, system log, device discovery
Tools	Antenna alignment, discovery utility, traceroute, speed test
Management interface	UISP application (web/mobile)
Minimum software requirements	A modern web browser or an iOS/Android device

## RF

Operating frequency*	57,000 - 66,000 MHz <small>*Dependent on regional regulations.</small>
Channel bandwidth	2160 MHz
Operating channels	58320, 60480, 62640, 64800 MHz
Beamwidth*	Azimuth: 2° (-3 dB) / 3° (-6 dB) Elevation: 2° (-3 dB) / 3° (-6 dB) <small>*The antenna is only vertically polarized.</small>
Bluetooth	2400 - 2483.5 MHz
Electrical downtilt	0°



Specifications are subject to change. Ubiquiti products are sold with a limited warranty described at [www.ui.com/support/warranty](http://www.ui.com/support/warranty)

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