

ACTION ITEM – H (revised)

DATE: November 19, 2019
RE: Port Security Cameras
TO: Honorable Board President and Harbor District Board Members
ISSUED BY: Gary Dehlinger, Port Manager

OVERVIEW

- Port has reached out to three security contractors to provide estimates installing a professional security camera system that would cover all Port properties. Port also advertised in the local newspaper and website for proposals.
- Port received two estimates at the time this packet submission.
- We asked the contractors to install the camera infrastructure for room to expand and provide high quality cameras.
- Installing security cameras would increase safety and security. Our plan is to install the minimum amount of security cameras at first (due to limited funding) and then expand the system later when more funding becomes available.
- Funding to install the first phase (camera infrastructure & 32 cameras) would come from RV Park professional fees not used and from reduced security patrol hours.
- Estimates do not include any electrical work or permitting. Electrical work and permitting would require additional Port funds to complete the work, estimated at \$15,000.

DOCUMENTS

- Revised Oregon Alarm Proposal with Camera Specs, 10 pages
- SOS Alarm, 6 pages

COMMISSIONERS ACTION

- **Recommended Motion:**
Motion to approve installing security camera system for Port properties not to exceed \$85,000.



We'd like to take a moment to thank you for your interest in Oregon Alarm. Our company was founded on the basis of incredible customer service. We pride ourselves on a commitment to building and maintaining relationships with our customers that last for years beyond project completion. We're always around to help provide a solution to any of the problems that our customers might need to overcome.

At Oregon Alarm, we've embraced a family atmosphere. The company was founded by Brett Mosieur, who got his start at a Curtis Mathes dealership in Coos Bay that was owned by his brother Bruce in the 1980's. He started with C-band satellite TV installation, which has evolved over the years into Dish Network, DirecTV (AT&T), and now our very own satellite internet service powered by Viasat. We still offer satellite sales and service to this day.

Brett has worked hard to remain at the cutting edge of technology since the very beginning. In the mid 90's he took the plunge into security services as another way to apply his professional licensing to his body of work. It was something of a leap from satellite TV at the time, but it opened up a wealth of new technology for us to master and offer to our customers. What began as Oregon Security evolved into a Brinks dealer, into a Broadview Security Dealer, and then into an ADT dealer.

A couple of decades after Brett stepped out onto his own, Brett's son Brealan joined the efforts of the business. Starting by helping with satellite installs during his high-school summers, Brealan grew with our company over the years. After an absence while he obtained his college degree, life's course brought him back to Oregon Alarm in 2017. We're thrilled that he has embraced the family business as he's currently working through the apprenticeship program for all the state licensing required to install and maintain the services we offer. Brealan is excited to ensure Oregon Alarm remains active and committed to excellence in customer service for decades to come.

As time flew by, we grew more and more frustrated with how these huge companies were treating our customers, and we decided that we could take better care of our customers in the Oregon Community than any national company could. We brought our professional experience back home and started the brand Oregon Alarm. We now offer the same or better services and equipment than the national companies do, but with personalized care and attention to the details of each project.

We've embraced the challenges presented by professional video surveillance enthusiastically. The world of surveillance cameras and network video has exploded in just the last handful of years. Cameras may have increased in the complexity of install and programming, but they have come down in price and grown in their capabilities to a mind-boggling level. Gone are the days of an alarm system that just makes noise and calls the authorities. With the options that we have at our disposal in the world of video, we can provide effective tools and true peace of mind for our customers.

Our commitment to our customers runs deeper than great customer service. With Oregon Alarm, you can expect quality product selection, and more importantly, quality installation. We will settle for nothing less than extreme attention to detail when it comes to the cleanliness of our work. We truly believe that everything we do is worth doing the right way and it shows in the end result.

In summary, we at Oregon Alarm value our relationships with people over all else. We strive to take good care of those who choose to do business with us. We'll offer the highest quality of work, the absolute best support, and a partner in security that cares. We're a family at Oregon Alarm and we'd love nothing more than for you to join it.

We appreciate your consideration.

Thank you.



PROPOSAL

Project Title: Video Surveillance System (As Built)

P.O. Number: N/A

Proposal Number: 62515-2

Terms: COD

Date: 10/7/19

Port of Brookings Harbor

Gary Dehlinger

16330 Lower Harbor Rd.

Brookings, OR 97415

541-469-2218 (Office)

541-254-4162 (Gary Cell)

541-291-7380 (Travis Cell)

portmaster@portofbrookingsharbor.com

***Oregon Alarm to Install and Program the Following Equipment:**

Description	Quantity
Hikvision Professional Series Commercial Digital 64 Channel, 32TB H265 (High Compression) NVR Recording Appliance (Web GUI and App Included)	1
Hikvision Commercial 4K Bullet Camera (8MP) With Long Range IR & H265 High Compression	32
Hikvision 4K Bullet Camera Mounting Back Box	32
Hikvision Commercial 2MP 50X Zoom PTZ Speed Dome IP Camera w/Auto Tracking and Long Range IR Illumination	2
Hikvision 4 Port POE+ Ethernet Switch (Optimized for Video)	21
Ubiquiti 5 GHZ Point to Point Ethernet Bridge (Client)	21
Ubiquiti 5GHZ Sector (Station)	1
Kralroy 12X12X6 NEMA Rated Plastic Enclosure	21
OmniMount 12U Locking Equipment Cabinet	1
Minuteman 2500VA UPS Battery Backup	1
Miscellaneous Installation Materials	
Electrical Permit	

Project Estimate

\$68,840.00

***Client to provide all electrical requirements for camera locations at light poles, buildings, Etc.

DS-2CD2T85G1-I5

8 MP Outdoor IR Fixed Network Bullet Camera

Powered by
DarkFighter.



- 1/2" (8 MP) Progressive Scan CMOS
- Up to 3840 x 2160 Resolution @ 20 fps
- **Minimum Illumination:**
Color: 0.014 lux @ (f/1.6, AGC on),
0 lux with IR
- **Darkfighter Technology**
- Up to 165 ft (50 m) EXIR 2.0 Range
- 2.8 mm, 4 mm, and 6 mm Lens Options
- H.265+, H.265, H.264+, H.264
- 120dB True WDR
- MicroSD Card Slot Supports 128 GB
- IP67 Protection
- 12 VDC and PoE (802.3af)

The Hikvision DS-2CD2T85G1-I5 Outdoor IR Fixed Network Bullet Camera provides high definition output. It supports H.265+ video compression, which assures savings in bandwidth and storage.

The camera is equipped with 2.8 mm, 4 mm, and 6 mm lens options, and offers an EXIR 2.0 range of up to 165 ft (50 m).

Smart features, such as line crossing, intrusion, unattended luggage, and scene change detection are also supported.

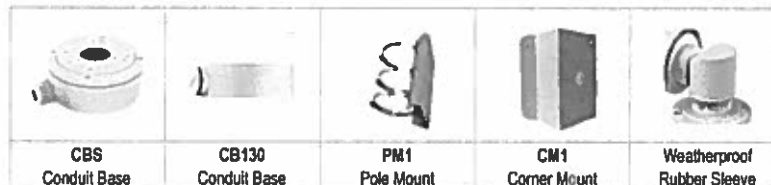
Available models:
DS-2CD2T85G1-I5



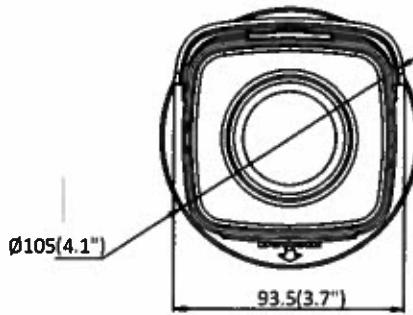
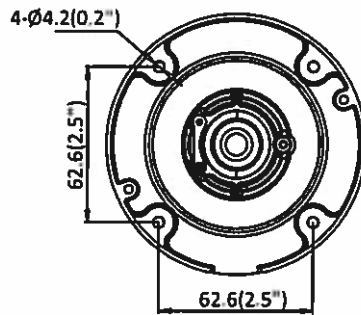
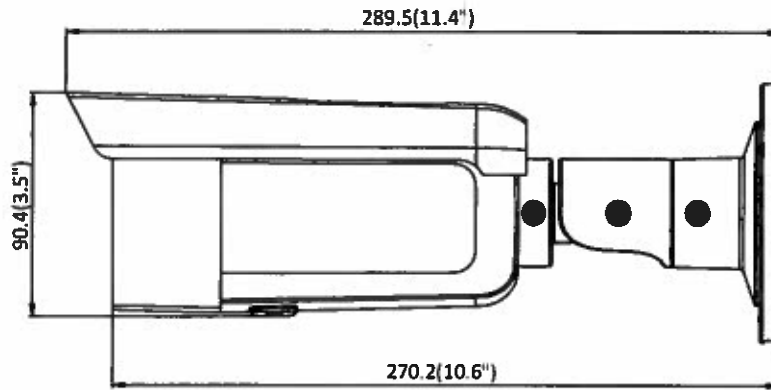
Specifications

DS-2C0278561-15	
Camera	
Image Sensor	1/2" progressive scan CMOS
Minimum Illumination	Color: 0.014 lux @ f/1.6, AGC on), 0 lux with IR
Shutter Speed	1/3 s to 1/100,000 s
Slow Shutter	Yes
Focal length	2.8 mm, 4 mm, 6 mm
Focus	Fixed
FOV	2.8 mm, horizontal FOV: 102°, vertical FOV: 55°, diagonal FOV: 120° 4 mm, horizontal FOV: 78°, vertical FOV: 43°, diagonal FOV: 92° 6 mm, horizontal FOV: 50°, vertical FOV: 27°, diagonal FOV: 59°
Lens Mount	M18
Iris	f/1.6
Day/Night	IR cut filter
DNR	3D DNR
Wide Dynamic Range	120dB
3-Axis Adjustment (bracket)	Pan: 0° to 360°, tilt: 0° to 90°, rotate: 0° to 360°
Compression Standard	
Video Compression	Main stream: H.265+/H.265/H.264+/H.264; sub stream: H.265+/H.265/H.264+/H.264/MJPEG; third stream: H.265+/H.265/H.264+/H.264
H.264 Type	Main profile/high profile
H.264+	Main stream supported
H.265 Type	Main profile
H.265+	Main stream supported
Video Bit Rate	32 Kbps to 16 Mbps
Image	
Maximum Resolution	3840 × 2160
Main Stream	20 fps (3840 × 2160), 30fps (3072 × 1728, 2560 × 1440, 1920 × 1080, 1280 × 720)
Sub Stream	30 fps (640 × 480, 640 × 360, 320 × 240)
Third Stream	30 fps (1280 × 720, 640 × 360, 352 × 240)
Image Enhancement	3LC/3D DNR
Image Setting	Rotate mode, saturation, brightness, contrast, sharpness adjustable by client software or web browser
Region of Interest (ROI)	Supports one fixed region for main and sub streams
Day/Night Switch	Day/night/auto/schedule
Network	
Network Storage	Supports microSD/SDHC/SDXC card (128G), local storage and NAS (NFS, SMB/CIFS), ANR
Alarm Trigger	Motion detection, tampering alarm, network disconnected, IP address conflict, illegal login, HDD full, HDD error
Protocols	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTp, SNMP, IGMP, 802.1X, QoS, IPv6
Standard	ONVIF (PROFILE S, PROFILE G), ISAPI
General Function	One-key reset, anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filter
API	ONVIF (PROFILE S, PROFILE G), ISAPI
Simultaneous Live View	Up to six channels
User/Host	Up to 32 users, three levels: administrator, operator, and user
Client	IVMS-4200, Hik-Connect
Web Browser	IE8+, Chrome 31.0-44, Firefox 30.0-51, Safari 8.0+
Interface	
Communication Interface	1-port RJ45 10M/100M self-adaptive Ethernet port
On-Board Storage	Built-in microSD/SDHC/SDXC slot, up to 128 GB
Reset Button	Yes
SVC	H.265 and H.264 encoding support
Smart Features	
Behavior Analysis	Line crossing detection, intrusion detection, unattended baggage detection, object removal detection
Exception Detection	Scene change detection
Face Detection	Yes
General	
Operating Conditions	-22° F to 140° F (-30° C to 60° C), humidity 95% or less (non-condensing)
Power Supply	12 VDC ± 25%, PoE (802.3af, class 3), 5.5 mm coaxial power plug
Power Consumption	12 VDC, 0.7 A, maximum: 9 W, PoE: (802.3af, 36 VDC to 57 VDC), 0.3 A to 0.1 A, maximum: 11 W
IR Range	Up to 165 ft (50 m)
Wavelength	850 nm
Protection Level	IP67
Dimensions	Ø 4.1" × 11.4" (Ø 105 mm × 289.5 mm)
Weight	2.20 lbs (1.00 kg)

Accessories



Dimensions



Unit: mm (inch)

DS-2DF8250I5X-AELW

2 MP Outdoor 50x Network IR Speed Dome



Hikvision DS-2DF8250I5X-AELW Network IR Speed Dome Cameras produce images with a resolution of up to 1920 x 1080 pixels.

The embedded 1/2.8" progressive scan CMOS chip supports 120 dB WDR, and the 25x optical zoom allows for greater detail to be collected over more expansive areas. The camera and lens are precision controlled using a gyroscopic sensor to improve image performance at high zoom.

The Network IR Speed Dome Camera also features a wide range of smart functions, including intrusion detection, line crossing detection, and audio exception, which allows for key events and objects to be recorded for further forensic needs.

- 1/2.8" Progressive Scan CMOS
- Up to 1920 x 1080 Resolution
- **Minimum Illumination:**
Color: 0.05 Lux @ (F1.8, AGC ON)
B/W: 0.01 Lux @ (F1.8, AGC ON)
0 Lux with IR
- Up to 1,640 ft (500 m) IR Distance
- H.265+/H.265 Video Compression
- 50x Optical Zoom, 16x Digital Zoom
- Optical Image Stabilization
- Smart Detection: Line Cross, Intrusion, Region Enter/Exit
- Rapid Focus Supported
- 120 dB WDR, 3D DNR, HLC, BLC
- IP66 Protection
- 24 VAC/Hi-PoE, 60 W








Available models:
DS-2DF8250I5X-AELW



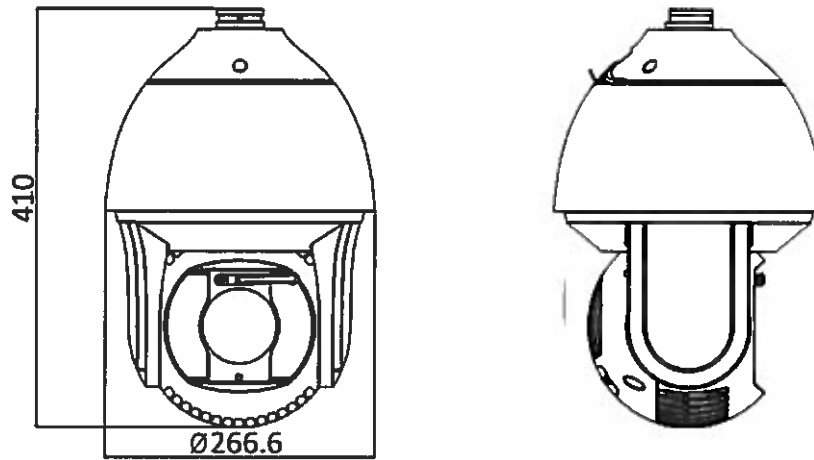
Specifications

DS-2DE825QISX-AELW	
Camera Module	
Image Sensor	1/2.8" progressive scan CMOS
Minimum Illumination	Color: 0.05 Lux @(F1.6, AGC ON); B/W: 0.01 Lux @(F1.6, AGC ON); 0 Lux with IR
Shutter Time	1/1 to 1/30,000 s
White Balance	Auto / manual / ATW [auto-tracking white balance] / indoor / outdoor / fluorescent lamp / sodium lamp
AGC	Auto / manual
Day and Night	IR cut filter
Digital Zoom	16x
Privacy Mask	24 programmable privacy masks
Focus Mode	Auto/Semi-automatic/Manual
Optical Image Stabilization	Supported
WDR	120 dB
Rapid Focus	Supported
Lens	
Focal Length	6.6 mm to 330 mm, 50x Optical
Zoom Speed	Approximately 4.5 s [optical lens, wide to tele]
Angle of View	Horizontal field of view: 41.3° to 1.1° [wide to tele]; vertical field of view: 23.6° to 0.6° [wide to tele]; diagonal field of view: 47.4° to 1.3° [wide to tele]
Minimum Working Distance	10 mm to 1,500 mm [wide to tele]
Aperture Range	F1.8 to F5.5
IR	
IR Distance	Up to 1,640 ft (500 m)
PTZ	
Movement Range (Pan)	360° endless
Pan Speed	Configurable, from 0.1°/s to 160°/s, Preset Speed: 240°/s
Movement Range (Tilt)	From -20° to 90°
Tilt Speed	Configurable, from 0.1°/s to 120°/s, Preset Speed: 200°/s
Proportional Zoom	Supported
Presets	300
Patrol Scan	8 patrols, up to 32 presets for each patrol
Pattern Scan	4 pattern scans, record time over 10 minutes for each scan
Power-off Memory	Supported
Park Action	Preset / pattern scan / patrol scan / auto scan / tilt scan / random scan / frame scan / panorama scan
PTZ Status Display	Supported
Preset Freezing	Supported
Scheduled Task	Preset / pattern scan / patrol scan / auto scan / tilt scan / random scan / frame scan / panorama scan / dome reboot / dome adjust / aux output
Compression Standard	
Video Compression	Main stream: H.265+ / H.265 / H.264+ / H.264; sub-stream: H.265 / H.264 / MJPEG; third stream: H.265 / H.264 / MJPEG
H.264 Type	Baseline profile / main profile / high profile
H.264+	Support
H.265 Type	Main profile
H.265+	Support
Video Bitrate	32 kbps to 16,384 kbps
Audio Compression	G.711 alaw / G.711 ulaw / G.722.1 / G.726 / MP2L2 / PCM
Audio Bitrate	64 Kbps (G.711) / 16 Kbps (G.722.1) / 16 Kbps (G.726) / 32 to 160 Kbps (MP2L2)
Smart Features	
Smart Detection	Intrusion detection, line crossing detection, region entrance detection, region exiting detection, audio exception detection
Smart Tracking	Manual tracking, auto tracking, event tracking
Smart Record	ANR (Automatic Network Replenishment), dual-VCA
Image	
Maximum Resolution	1920 × 1080
Main Stream	50 Hz: 25 fps (1920 × 1080, 1280 × 960, 1280 × 720); 50 fps (1920 × 1080, 1280 × 960, 1280 × 720); 60 Hz: 30 fps (1920 × 1080, 1280 × 960, 1280 × 720) 60 fps (1920 × 1080, 1280 × 960, 1280 × 720)
Sub-Stream	50 Hz: 25 fps (704 × 576, 640 × 480, 352 × 288); 60 Hz: 30 fps (704 × 480, 640 × 480, 352 × 240)
Third Stream	50 Hz: 25 fps (1920 × 1080, 1280 × 960, 1280 × 720, 704 × 576, 640 × 480, 352 × 288); 60 Hz: 30 fps (1920 × 1080, 1280 × 960, 1280 × 720, 704 × 480, 640 × 480, 352 × 240)
Image Enhancement	HLC / BLC / 3D DNR / Defog / Optical Image Stabilization / Regional Exposure / Regional Focus / Optical Defog
SVC	Supported
Network	
Network Storage	Built-in memory card slot, support microSD / SDHC / SDXC, up to 256 GB; NAS (NFS, SMB / CIFS), ANR
Alarm Linkage	Alarm actions, such as preset, patrol scan, pattern scan, memory card video record, trigger recording, notify surveillance center, upload to FTP / memory card / NAS, send email, etc.
Protocols	IPv4 / IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP/IP, DHCP, PPPoE, Bonjour
API	Open-ended, support ONVIF, PSIA and CGI, support HIKVISION SDK and third-party management platforms
Simultaneous Live View	Up to 20 channels
User / Host	Up to 32 users, 3 levels: administrator, operator and user
Security Measures	User authentication (ID and PW), Host authentication (MAC address), HTTPS encryption, IEEE 802.1x port-based network access control, IP address filtering
Client	IVMS-4200, IVMS-4500, IVMS-5200, Hik-Connect
Web Browser	IE 7+, Chrome 18-42, Firefox 5.0+, Safari 5.02+
Interface	
Audio	1-ch audio input / 1-ch audio output
Network Interface	1 RJ45 10 M/100 M Ethernet Interface, Hi-PoE
Alarm	7-ch alarm input / 2-ch alarm output
RS-485	Half duplex, HIKVISION, Pelco-P, Pelco-D, self-adaptive
BNC	1.0 V [p-p] / 75 Ω, NTSC (or PAL) composite, BNC
General	
Power	24 VAC (maximum 60 W), Hi-PoE (maximum 50 W)
Working Temperature	-40° F to 149° F (-40°C to 65°C); humidity: ≤ 90%
Protection Level	IP66 standard, TVS 6,000V lightning protection, surge protection and voltage transient protection
Material	Aluminum alloy
Dimensions	Ø 10.50" × 16.14" (Ø 266.6 mm × 410 mm)
Weight	Approximately 17.64 lb (8 kg)

Accessories

						
JBPW-L Power Box Mount w/Wall Bracket	CMP-JB Corner Mount for JBPW-L	PMP-JB Pole Mount for JBPW-L	CPM-S Short Ceiling Pendant Mount	CPM-L Long Ceiling Pendant Mount	CPMPE Ceiling Pendant Mount Extension Pipe	RPM Roof Parapet Mount

Dimensions



Unit: mm



PORT OF BROOKINGS HARBOR SECURITY CAMERA LAYOUT



SOS ALARM 3273 Biddle Rd. Medford Oregon 97504 541-773-3900

Brookings Harbor CCTV Proposal

November 1st, 2019

Thank you for allowing SOS Alarm the opportunity to provide a bid on your camera project.

SOS Alarm is a family owned, Southern Oregon based full service security company. We have been operating since 1968. We focus on providing our clients top level security options with a strong personal customer service approach.

Personally, I have been in the security industry and working for SOS Alarm since 1998. I began my security career as a technician and still hold a current Limited Energy Class A license through the State of Oregon, #4041LEA. I regularly attend industry trainings and trade shows to stay current with the rapidly evolving security industry.

From among the thousands of camera system installations that SOS Alarm has performed for multitudes of clients in residential, commercial, large retail, industrial and government applications, the following are a small example of some of our clientele who, like you, have had challenging facilities to protect:

Kids Unlimited Public Charter School, Medford
-Cameras, Burglar Alarm, Access Control, Intercom

Old Mill Shopping District, Bend
- Cameras, License Plate Recognition, Access Control

Oregon State Police, Central Point
- Burglar Alarm, Access Control

Josephine County Adult Jail, Grants Pass
- Cameras

Crate Lake NP, Klamath County
- Burglar alarm, Fire Alarm Monitoring, Cameras

My intent in the camera system design that I have created for you is to provide a scalable, high quality, robust, anti-corrosion camera system providing views of all primary areas of concern throughout the Brookings Harbor complex. The system layout is as you have requested and may be built on at a later date to add additional areas of coverage or to meet specific criteria such as license plate recognition, or specific activity monitoring. The cameras that I have chosen are high-end, robust, stainless steel models, specifically designed for marine application.

Please let me know if you have any questions or if you would like to see any alteration made to my proposal.

Henry Knepp - Regional Manager - SOS Alarm

Proposed equipment to be installed:

Harbor North Area

- | | | |
|----------|--|---|
| 1 | 32 Channel NVR W/24TB | <i>Harbor Office</i> |
| 1 | IP camera 2MP Wide Dynamic Range 2.8mm, 30m IR | <i>Harbor Office</i> |
| 7 | Anti-Corrosion Dome Camera 2.8-12mm, 30M IR, IP 67 Low Light | |
| 7 | Anti-Corrosion Dome Camera Bracket | <i>Fish Station, 2x Ramp Restroom,
2x Boardwalk, 2x Retail Restroom</i> |
| 7 | Anti-Corrosion Cylinder Camera 3.8-16mm, 50m IR, IP 67, Low Light | |
| 7 | Anti-Corrosion Cylinder Camera Bracket | <i>2x Lot N Light, 2x Lot S Light,
3x Boardwalk S Light</i> |
| 3 | Multi-Point Gigabit Exterior Wireless Network Transceiver | <i>3x Harbor Office</i> |
| 6 | Directional Gigabit Exterior Wireless Network Transceiver | <i>Fish Station, Ramp Restroom
Retail Restroom, Lot N Light, Lot S Light,
Boardwalk S Light</i> |
| 6 | 20x16x11 Weatherproof NEMA Type 4, 4X / IP56 rated Enclosures W/Power | <i>Fish Station, Ramp Restroom
Retail Restroom, Lot N Light,
Lot S Light, Under Boardwalk</i> |
| 2 | 8 Port 48V Gigabit POE Switch | <i>Harbor Office, Under Boardwalk</i> |
| 5 | 5 Port 48V Exterior Gigabit POE Switch | <i>Fish Station, Ramp Restroom
Retail Restroom, Lot N Light,
Lot S Light</i> |
| 5 | 4 Port 24V Exterior Gigabit POE Switch | <i>Fish Station, Ramp Restroom
Retail Restroom, Lot N Light,
Lot S Light</i> |

Harbor South Area

- 1 **32 Channel NVR W/24TB**
Boatyard Warehouse Building
- 4 **Anti-Corrosion Dome Camera 2.8-12mm, 30M IR, IP 67 Low Light**
4 **Anti-Corrosion Dome Camera Bracket**
2x E Restroom, 2x W Restroom
- 15 **Anti-Corrosion Cylinder Camera 3.8-16mm, 50m IR, IP 67, Low Light**
15 **Anti-Corrosion Cylinder Camera Bracket**
*3x Receiving Dock Light, Fuel Dock Light,
Transient Dock Light, NE Light, SE Light,
NW Light, SW Light, RV Park N Light,
2x RV Park Central Light, RV Park S Light,
2x Boatyard Warehouse Building*
- 4 **Multi-Point Gigabit Exterior Wireless Network Transceiver**
Boatyard Warehouse Building
- 12 **Directional Gigabit Exterior Wireless Network Transceiver**
*Receiving Dock Light, Fuel Dock Light,
Transient Dock Light, NE Light, E Restroom,
SE Light, NW Light, W Restroom, SW Light,
RV Park N Light, RV Park Central Light,
RV Park S Light*
- 12 **20x16x11 Weatherproof NEMA Type 4, 4X / IP56 rated Enclosures W/Power**
*Receiving Dock Light, Fuel Dock Light,
Transient Dock Light, NE Light, E Restroom,
SE Light, NW Light, W Restroom, SW Light,
RV Park N Light, RV Park Central Light,
RV Park S Light*
- 1 **8 Port 48V Gigabit POE Switch**
Boatyard Warehouse Building
- 12 **5 Port 48V Exterior Gigabit POE Switch**
*Receiving Dock Light, Fuel Dock Light,
Transient Dock Light, NE Light, E Restroom,
SE Light, NW Light, W Restroom, SW Light,
RV Park N Light, RV Park Central Light,
RV Park S Light*
- 12 **4 Port 24V Exterior Gigabit POE Switch**
*Receiving Dock Light, Fuel Dock Light,
Transient Dock Light, NE Light, E Restroom,
SE Light, NW Light, W Restroom, SW Light,
RV Park N Light, RV Park Central Light,
RV Park S Light*

The following infrastructure and services are to be provided by the Harbor

- An electrician to provide 110VAC power to the power receptacles in all of the Weatherproof NEMA enclosures that we will be providing.
- An electrician to provide a minimum 3/4" conduit from the Light pole at the south end of the boardwalk to the Weatherproof NEMA Enclosure located under the boardwalk and from there a minimum 1" conduit to each of the camera location under the boardwalk, providing junction boxes in the conduit for future camera additions.
- A tall post or preferably climbable tower at the Harbor Office building for mounting wireless network transceivers. The post must be tall enough to have an unobstructed direct view of the roof of the fishing station, the ramp restroom, and the retail area restroom. If the post or tower is not climbable and the network equipment must be placed above a height safely reached by ladders, some means of access to the network equipment, such as a boom lift, must be provided for installation and be made available for any future service of the equipment by our technicians.
- Broadband internet service at the Harbor Office and at the Boatyard Warehouse.
- Any computer used for viewing and manipulating the system.
- Any monitor or TV desired for viewing in the Harbor Office.
- Clearing of any brush and or debris necessary in order for our technicians with their tools and equipment to access and install the cameras located under the boardwalk.

System description

I have carefully designed this CCTV System to cover the areas that you have specified with a few main objectives in mind:

Scaleability - I have selected equipment that may easily be expand in the future.

Ease of use - I have selected equipment with simple easy to learn user interfaces. The ability to view the system remotely over any broadband internet connection or high speed cellular network and smartphone integrations.

Reliability - I have selected well tested high quality components for this system. These cameras are specifically designed and manufactured to be installed in marine and other harsh environments. The cameras and mounts are made custom order from 316L (A4) anti-corrosion stainless steel. The cameras are IP67 Certified and have ISO C5-M, NEMA 4X Certification.

Longevity - I have planned the system so that any camera mounted in a low, easily accessed location is a dome style camera, less likely to be successfully vandalized. Cameras that are to be placed higher and less easily reached are to be cylinder style cameras that allow for more options when it comes to aiming, a stronger telephoto setting on the lens and a more powerful infrared illuminator for low light situations.

Purchase of the equipment as described above including all wiring, fixtures, fasteners, and connectors and taking into account permits, travel, lodging and prevailing wage rates: \$209,590.00

SOS Alarm warranties our installation for 1 year from the date of completion. Equipment is warrantied by the individual manufacturers for their individual specified terms. After the first year, any service and or maintenance of this system will be performed on a time and material basis.

Please contact me with any questions.

Henry Knepp - SOS Alarm - Regional Manager - 541-773-3900

