FIFTH AMENDMENT TO CONTRACT NO. DA-5212 BETWEEN
THE CITY OF LOS ANGELES AND
INTEGRATED SECURITY SOLUTIONS, INC.

This Fifth Amendment ("Fifth Amendment") is made and entered into this _____ day of _____, 2022, at Los Angeles, California by and between the City of Los Angeles, a municipal corporation ("City"), acting by and through the Board of Airport Commissioners ("Board") of the Department of Airports ("Department" or "LAWA") and Integrated Security Solutions Inc., a Maryland corporation (hereinafter referred to as "Contractor").

<u>RECITALS</u>

WHEREAS, City and Contractor entered into Contract No. DA-5212 dated August 2, 2017 for maintenance, repair, and support services for the Closed-Circuit Television Video Surveillance and Intelligent Observation Network for the Department, as amended by the First Amendment No. 5212A dated August 13, 2019, as amended by the Second Amendment No. 5212B dated July 28, 2020, as amended by the Third Amendment No. 5212C dated August 25, 2021, and as amended by the Fourth Amendment No. 5212D dated November 11, 2021 (collectively, the "Contract"); and

WHEREAS, the parties hereto desire to amend this Contract as set forth herein.

NOW, THEREFORE, in consideration of the covenants and conditions hereinafter contained to be kept and performed by the respective parties hereto, IT IS MUTUALLY AGREED that the Contract BE AMENDED AS FOLLOWS:

Section 1.0   Section 1.0 <u>Term of Contract</u> shall be deleted in its entirety and replaced with the following:

"This Contract shall commence on August 1, 2017 and shall terminate on July 31, 2023, unless earlier terminated pursuant to Sections 5.0 or 6.0 below."

Section 2.0   The first sentence of subsection 3.2 of Section 3.0 <u>Contractor Scope and Fee</u> is deleted in its entirety and replaced with the following:

"The compensation to Contractor shall not exceed Fourteen Million Eighty-Seven Thousand Nine Hundred Sixty-Two Dollars ($14,087,962) for the term of the Contract."

Section 3.0   Exhibit A-1 of the Contract shall be deleted and replaced with Exhibit A-1R attached hereto and incorporated by reference herein. The attached Exhibits A-2, A-3, and A-4 shall be added to the Contract and incorporated by reference herein. For the period from August 1, 2022 through July 31, 2023, Contractor shall perform work in accordance with Exhibits A, A-1R, A-2, A-3, and A-4.

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Section 4.0   It is understood and agreed by and between the parties hereto that, except as specifically provided herein, this Fifth Amendment shall not in any manner alter, change, modify, or affect any of the rights, privileges, duties or obligations of either of the parties hereto under or by reason of the Contract and except as expressly amended herein, all terms, covenants, and conditions of the Contract and all amendments thereto, shall remain in full force and effect.

Section 5.0   This Fifth Amendment may be executed in counterparts, including counterparts that are manually executed and counterparts that are in the form of electronic records and are electronically executed. An electronic signature means a signature that is executed by symbol attached to or logically associate with a record and adopted by a party with the intent to sign such record, including facsimile or e-mail signatures. All executed counterparts shall constitute one agreement, and each counterpart shall be deemed an original. The parties hereby acknowledge and agree that electronic records and electronic signatures, as well as facsimile signatures, may be used in connection with the execution of this Fifth Amendment and electronic signatures, facsimile signatures or signatures transmitted by electronic mail in so-called PDF format shall be legal and binding and shall have the same full force and effect as if a paper original of this Fifth Amendment had been delivered that had been signed using a handwritten signature. All parties to this Fifth Amendment (i) agree that an electronic signature, whether digital or encrypted, of a party to this Fifth Amendment is intended to authenticate this writing and to have the same force and effect as a manual signature; (ii) intended to be bound by the signatures (whether original, faxed, or electronic) on any document sent or delivered by facsimile or electronic mail or other electronic means; (iii) are aware that the other party(ies) will rely on such signatures; and, (iv) hereby waive any defenses to the enforcement of the terms of this Fifth Amendment based on the foregoing forms of signature. If this Fifth Amendment has been executed by electronic signature, all parties executing this document are expressly consenting, under the United States Federal Electronic Signatures in Global and National Commerce Act of 2000 ("E-SIGN") and the California Uniform Electronic Transactions Act ("UETA") (California Civil Code §1633.1 et seq.), that a signature by fax, e-mail, or other electronic means shall constitute an Electronic Signature to an Electronic Record under both E-SIGN and UETA with respect to this specific transaction.

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IN WITNESS WHEREOF, the Department has caused this Fifth Amendment to be executed on its behalf by the Chief Executive Office and Contractor has caused the same to be executed by its duly authorized officers, all as of the day and year first hereinabove written.

APPROVED AS TO FORM:
MICHEL N. FEUER,
City Attorney

CITY OF LOS ANGELES

Date: _____

Date: _____

By: _Cynthia Alexander_
     Cynthia Alexander (Jun 3, 2022 15:51 PDT)
     Deputy/Assistant City Attorney

By: _____
     Chief Executive Officer
     Department of Airports

By: _____
     Deputy Executive Director
     Chief Financial Officer

ATTEST:

INTEGRATED SECURITY SOLUTIONS INC., a Maryland corporation

By: _Narmins_
     Signature (Secretary)

By: _Alihassan_
     Signature

Narmin Sayyah
     Print Name

Ali Ezzati
     Print Name

Owner/ President
     Print Title

[SEAL]

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Exhibit A-1R – Support Levels and Labor Rates

Table 1: Support Levels

Level	Name*
Level 1 – First Contact Resolution	Karen Hovsepian
Level 2 – Break Fix Field Support	Francisco Fonseca
Level 2 – Break Fix Field Support	Dominque Mitchell
Level 2 – Break Fix Field Support	Arnold Ramirez
Level 3 – Engineering Support	Vaneh Petrossian
Level 3 – Engineering Support (Includes Genetec, Dell Servers, Dell Storage support)	Ali Ezzati and ISSI team
The employees listed herein shall not be altered without prior written consent from LAWA	

Table 2: Labor Rates

For additional Time & Materials professional services, including major Moves/Adds/ and Changes.

Item	Job Classification	All-Inclusive Maximum Hourly Rates
1	Project Manager	$140
2	Project Manager – Senior	$148
3	Software Development Engineer	$140
4	Software Development Engineer - Senior	$172
5	Support Staff (Technical Writer, Scheduler, Controls)	$84
6	System Technician – Associate	$93
7	System Technician – Senior	$104
8	System Integration Engineer	$142
9	System Integration Engineer – Senior	$175
10	CCTV Systems Engineer	$140
11	CCTV Systems Engineer – Senior	$152
12	CAD Drafting	$77
13	Cisco Wireless Installation Specialist	$125
14	Senior Cisco Wireless Installation Specialist	$145
15	Network Engineer	$115
16	Network Engineer Senior	$174
17	Foreman / Lead Technician (1st Shift)	$125
18	Foreman / Lead Technician (2nd Shift)	$134
19	Foreman / Lead Technician (3rd Shift)	$143
20	Field Technician Journeyman (1st Shift)	$112
21	Field Technician Journeyman (2nd Shift)	$122
22	Field Technician Journeyman (3rd Shift)	$131
23	Field Technician Apprentice (1st Shift)	$85
24	Field Technician Apprentice (2nd Shift)	$93
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Table 3: Additional Work Requested

Description	Maximum Percentage Mark-up
Mark-up of 3rd Party Equipment and Supplies	10%
Mark-up of 3rd Party Software License / Renewals	10%
Mark-up of 3rd Party Work Request Services	10%

Exhibit A-2

VMS/VSS MIGRATION SCOPE OF WORK

Exhibit A-2 – SCOPE OF WORK

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APPROVED AS TO FORM:
MICHEL N. FEUER,
City Attorney

Date: _____

By: _Cynthia Alexander_
　　Cynthia Alexander (Jun 3, 2022 15:51 PDT)
　　Deputy/Assistant City Attorney

CITY OF LOS ANGELES

Date: _____

By: _____
　　Chief Executive Officer
　　Department of Airports

By: _____
　　Deputy Executive Director
　　Chief Financial Officer

ATTEST:

By: _Narmina_
　　Signature (Secretary)

Narmin Sayyah
　　Print Name

[SEAL]

INTEGRATED SECURITY SOLUTIONS INC., a Maryland corporation

By: _Alihassan_
　　Signature

Ali Ezzati
　　Print Name

Owner/ President
　　Print Title

3

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Exhibit A-2

VMS/VSS MIGRATION
SCOPE OF WORK

Exhibit A-2 – SCOPE OF WORK

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EXHIBIT A-2 - SCOPE OF WORK

1. PURPOSE

    a. The Los Angeles World Airports (LAWA) has developed this Scope of Work for the purpose of migrating from the NiceVision Video Management System (VMS) and HP IBRIX Video Storage System (VSS) to Genetec VMS and Dell EMC VSS. The Scope of Work will also include the ability to pilot several video analytics and cloud storage proof of concept.

2. GENERAL REQUIREMENTS

The General Requirements section applies to all components of this Scope of Work unless altered via a LAWA-approved Change Order.

    a. Contractor is to provide the following items including but not limited to labor, materials, tools, transportation, storage costs, installation, programming, interfaces configuration, testing, commissioning, training, equipment, insurance, temporary protection, permits, inspections, taxes and all necessary and related items required to provide complete and operational equipment / system described in the Scope of Work.

    b. Contractor is responsible to provide resources to gather necessary information, facilitate workshops and interviews as required, and perform any configuration activities needed to facilitate delivery of the system.

    c. Contractor is to perform work in accordance with a Baseline Schedule. A proposed work plan is required as part of the submittal.

    d. Be responsible for management and performance of its subcontractors, ensuring that all tasks are completed based on LAWA approved Baseline Schedule.

    e. Contractor is to assess the deadline for project activities and furnish an adequate supply of technicians and materials at all times Contractor's programmers and technicians are to be certified by the manufacturers of the systems and devices for the installation and configuration of the systems and devices.

    f. Contractor is responsible for providing and coordinating final equipment arrangements, locations, phased activities and construction methods that minimize disruption to operations and provide complete and operational systems.

In addition, the Contractor is responsible to migrate the existing cameras over to the new VMS. Prior to installing any new software or upgrades, Contractor is to ensure that all components are compatible with LAWA MPLS Network, LAWA network management software, LAWA updates for system, software patches and upgrades,

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the LAWA directory structure, LAWA virus detection software, and LAWA Microsoft software and its updates.

g. Contractor is responsible for all data backup and restore operations.

h. Contractor is responsible for migrating "Flagged/Saved/Archived" footage from legacy HP Ibrix storage servers to the Dell EMC VSS to preserve bookmarked video footage.

i. Contractor is responsible for delivering all integrations required in the Attachment 2: CCTV Functionality and Performance Matrix.

j. Contractor is to recommend the best approach to implement a centralized alarm routing method with the Genetec VMS.

k. Provide all services and products necessary to integrate, and test a complete, digital, networkable, and retrievable VMS.

l. Contractor will be responsible for converting all existing CCTV workstations with the new Systems Software to ensure that full functionality of the new VMS/VSS is installed and tested (and trained) for all existing workstations.

m. Contractor is to bear the full responsibility for all installations and workmanship and warrant all installation and implementation and all services as set forth in this Scope of Work.

n. Contractor is to apply all National/State/City Security requirements outlined in this document to all system components including, but not limited to, workstations and servers.

o. Contractor is to provide all necessary documentation/files showing complete integrated CCTV System configuration and settings for all products installed under this Scope of Work to allow LAWA future maintenance of the integrated CCTV System. In addition, Contractor should abide by all acceptance criteria provided by LAWA for all CCTV Systems installed under this Scope of Work.

p. LAWA's CCTV security systems are critical airport systems and no downtime of existing operational systems are to be allowed at any time.

q. Perform all required system testing for newly configured VMS and expanded VSS, a ninety (90) day burn-in test and handover of the system.

r. All specifications and requirements for VMS and VSS which are listed within this document and Exhibit A-3: CCTV Functionality and Performance Matrix supersede the DCH. For specifications not specifically mentioned in this Scope of Work, please reference the DCH. All infrastructure related work has to abide by the DCH.

s. Contractor is to complete the VMS/VSS installation and configuration in one (1) year from NTP.

3. VIDEO MANAGEMENT SYSTEM / VIDEO STORAGE SYSTEM (VMS/VSS)

a. The Contractor is to submit a complete turn-key integrated systems design and transition plan for migrating the existing cameras and alarms from NiceVision VMS to the Genetec VMS and "Flagged/Saved/Archived" footage from legacy HP Ibrix storage servers to the Dell EMC VSS. Upon approval of the design, Contractor is to implement all components of the VMS/VSS.

b. Contractor is to provide the requirements found in Exhibit A-3: CCTV Functionality and Performance Matrix.

c. The Contractor is responsible for configuring and verifying interactive mapping within the VMS. LAWA's current mapping services are supported by ESRI. Contractor is responsible for configuring all migrated cameras onto the Genetec VMS's mapping or migrate LAWA's GIS maps that include all existing camera locations onto the Genetec VMS mapping. The best approach will be determined by LAWA stakeholders during system design phase.
Contractor is to obtain approval from LAWA stakeholders once mapping is completed.

d. As part of system provisioning, the Contractor is to configure the system to ensure the authorized users have the appropriate access rights.

e. Configure the system to facilitate recording pre-alarm and post-alarm video for events identified by LAWA stakeholders.

f. LAWA has additional cameras channels that are not part of this Scope of Work. These maybe incorporated into the new VMS/VSS at a later date.

g. Video Recording Requirements

    a   Refer to Exhibit A-3: CCTV Functionality and Performance Matrix for detailed requirements.

h. VMS Interface Requirements

    a   Refer to Exhibit A-3: CCTV Functionality and Performance Matrix for detailed requirements.

    b   Contractor is to define each separate interface in terms of functionality, data format, transmission type, communication media, and protocol.

    c   Contractor is to provide all necessary software, hardware and licenses to develop and test each interface.

    d   Contractor is to ensure that all necessary internal and external system interfaces for the new VMS provide the same functionality as or better than the existing interfaces.

e   As part of the interface development initiative, the Contractor will be provided with available documentation about the existing interfaces. The Contractor is to review the documentation and ensure all of the functionalities outlined in those documents with regards to existing interfaces and their interaction with VMS application are supported by the interfaces being developed for the Genetec VMS.

f   Contractor is to ensure that all necessary internal and external system interfaces for the Genetec VMS are configured per LAWA requirements.

g   A comprehensive testing plan is required for each interface. Testing is to be conducted at the subsystem and system level to ensure all functionality and performance requirements are met. The Contractor is to propose details of testing each component as part of their design.

h   The Contractor is to conduct workshops with LAWA, and develop an Interface Design Document (IDD) for LAWA approval before final sign-off.

    i.   Interface Descriptions

        a.   Refer to Exhibit A-3: CCTV Functionality and Performance Matrix for detailed requirements.

        b.   Alarm Routing Interface (Optional) – during system design phase LAWA may opt to go to a de-centralized alarm routing, whereby, Access Control Alarm and Monitoring System (ACAMS), Computer-Aided Dispatch (CAD), Perimeter Intrusion Detection System (PIDS) and other alarms are interfaced directly to the Genetec VMS rather than through the Qognify Situator (v8.5+). Contractor should provide both options. In this case, the Contractor is required to provide an interface(s) or gateway(s) which will receive API alarm data triggers (approximately 600 plus alarm points) from the new ACAMS system and display video from a camera(s) associated with each of those alarms on a large wall mounted display monitor in the Airport Dispatch Center.

        c.   All development and testing of interfaces are to be done in a test or staging environment before being introduced into the production systems.

4. CLOUD STORAGE PROOF OF CONCEPT (POC)

Contractor to conduct a Cloud Storage POC to demonstrate the ability to transmit and receive recorded video in the cloud.

1.   Contractor to provide design and hardware requirements for implementing the cloud storage POC according to LAWA's requirements.

2. Contractor to stand up the cloud storage environment and perform system and user testing.

3. Contractor to provide test results and proof of concept outcome report to LAWA.

5. VIDEO ANALYTICS PILOT TESTING

a. Contractor is to perform Video Analytics Pilot Testing to understand the state and usefulness of the Intelligent Video Analytics (IVA) technology currently available. LAWA will decide what analytics if any meet the needs of LAWA's long-term requirements for Intelligent Video Surveillance currently and into the future.

b. Contractor is to design, furnish, install and configure a video analytics Demonstration Pilot (hereafter referred to as "the Pilot" in this section). The Pilot is to be used for demonstrating and evaluating IVA technologies currently available in the Genetec software or those IVAs that can be easily installed and integrated into the VMS/VSS. The Pilot is to be located within Los Angeles International Airport (LAX) in a location to be determined by LAWA. Video analytics technologies that prove to be useful to Airport Police may then be deployed to other areas.

c. The Pilot configuration is to be composed of all equipment and hardware (workstation, server, cabling, accessories, etc.) needed to effectively demonstrate the video analytics to LAWA for evaluation. The Pilot is to be connected to the LAWA MPLS Network and be a part of the VMS/VSS allowing the Contractor and LAWA to view and analyze LAWA selected video streams from live cameras without interfering with the normal operation of the VMS/VSS during the evaluation/demonstration period.

d. The Contractor is to perform the Pilot Testing on a LAWA approved number of new cameras. Data is to be collected from each camera on the effectiveness and usefulness of the video analytics for the following main analytic technologies and other proposed video analytic technologies:

    1. Person(s), Object(s), Vehicle(s) of Interest Search:

        i   Overview: This application is to allow Airport Police to quickly identify and locate a person(s), object(s), vehicle(s) of interest by searching video footage from cameras in surrounding areas in order to establish their whereabouts. This analytic may be used for real-time pursuits and/or after action investigations using recorded video.

    2. Intrusion Detection:

        i   Overview: The Intrusion/motion detection algorithm is an application that can be used on live or recorded video to automatically detect illegal trespassing and/or unauthorized entry to certain restricted areas.

    3. Passenger Flow/Queuing:

1. Overview: This algorithm can be used to automatically detect overcrowding of passenger queues for example at TSA checkpoints where an alert can be sent to supervisors when there are larger than expected lines at any location to quickly reassign personnel to those areas to facilitate quicker passenger processing. The passenger flow/queue monitoring feature is to also help determine passenger traffic patterns, which can then be used for predictive analysis to more efficiently plan terminal staffing.

4. Gunshot:

   1. Overview: Through the deployment of sensors, Airport Police are to be automatically notified of shootings that occur in the targeted area of sensor coverage. Wireless sensors for both indoor and outdoor gunshot detection are preferred.

5. Tailgating:

   1. Overview: Detects and alerts if multiple people pass through a controlled door using a single badge swipe.

   Note: An allowance has been set aside for analytics in which LAWA will determine at a later date after notice to proceed the exact scope, location and details surrounding their needs for analytics to be deployed and will further issue a task order for the appropriated work relative to analytics.

5. DATA NETWORK

a. The Scope of this Work includes the data network configuration for the implementation of the Genetec VMS and Dell EMC VSS at LAWA.

b. Design, configuration, programming, commissioning, and maintenance of all existing and new network equipment (core switches, edge/access switches, firewalls, etc.) are to be performed by LAWA's staff.

c. Contractor is to add new IP devices to the existing LAWA data network and confirm that they are communicating properly with the system servers.

d. Contractor is to configure SNMP or coordinate with LAWA to configure SNMP on all servers, workstations, storage devices, and networking equipment to support forwarding of their critical auditing information to a LAWA identified centralized location for further action by the administrators or security administrators.

e. Contractor is required to participate in and assist other Contractor's with the CCTV System acceptance testing.

f. Contractor is to produce the overall system Performance Verification Plan.

g. LAWA IMTG will provide direction on IP addresses to be used for network equipment (Workstations, servers, etc.). Contractor is responsible for configuring all IP addresses and subnet schemes on devices.

h. Contractor is responsible for configuring all access control lists (ACL), RADIUS and all necessary Active Directory configuration to allow single log on authentication to the proposed VMS and all its applications.

i. As the VMS and new cameras are being brought on-line, there may be communication and other data throughput errors and failures. Contractor is to provide all troubleshooting and data network maintenance to optimize network performance and data throughput.

6. SYSTEM MAINTENANCE SERVICES

a. The Contractor will be responsible for providing on-site System Maintenance Services for the period of one year consistent with the guidelines of the existing CCTV O&M DA-5212 contract. The support shall include support of 10,000 cameras as well as turnkey support of Genetec VMS servers and Dell EMC VSS.

7. TRANSITIONAL SUPPORT SERVICES

a. Transitional Support Services are to include all services rendered under the System Maintenance Services.

b. Before the System Maintenance Services contract ends or prior to contract termination, Contractor is to provide transition support for a period of up to sixty (60) days to LAWA staff and to the successor of the maintenance contract, if awarded to another Contractor. The transition support will address, at a minimum, a detailed description of transition activities including but not limited to:

1. VMS/VSS hardware architecture and technical infrastructure.

2. Technical review of LAWA's CCTV System servers, software, field components, interfaces and existing documentation, procedures, and policies to include but not limited to the following:

   a. VMS – Production and Test Environments

   b. Daily CCTV System procedures

   c. Interfaces – Lenel OnGuard v7.5+, Qognify Situator v8.5+, Perimeter Intrusion Detection System (PIDS), and/or Computer-Aided Dispatch (CAD) PremierOne v4.4.

   d. Other tasks, activities, and responsibilities as may be requested by IT Security & Public Safety Systems CCTV O&M Manager or designee.

3. Explanation of the approach and instructional method(s) to be used to ensure continued system stability, maintenance, and issues resolution including but not limited to:

    a. Daily activities - System Health Checks, backups

    b. Preventative Maintenance – for camera hardware, microphones, encoders, power supplies, battery backups

    c. Software Moves, adds, changes – for cameras, users

    d. Hardware Moves, adds, changes – for cameras, servers, microphones, duress buttons

    e. Sample resolved break-fix issues and incident work orders with actual step by step solutions employed and suggestions on "tricks of the trade".

4. Contractor is to conduct hands-on/simulated specialized instructional training and coaching in the following areas pertaining to the software, hardware, and infrastructure:

    a. Most typical break-fix incidents, issues, troubleshooting

    b. Most typical move, add, change tasks

    c. Most difficult/challenging break-fix incidents, issues, troubleshooting

    d. Most difficult/challenging move, add, change tasks

5. Contractor is to provide technical and/or institutional information to address questions from LAWA and/or successor's staff deemed essential for the maintenance, repair, technical support, and mastery of the CCTV System.

6. Throughout this transitional period (unless directed otherwise by LAWA), Contractor is to observe and guide successor's staff in completing the break fix incidents and move/add/change tasks.

7. Contractor is to provide in class practical and in field training to LAWA IMTG and successor's O&M staff to include the following hardware and software topics:

    a. Video software overview

    b. Storage overview (some storage topics to be provided to Dell EMC contractors only)

    c. Adding and removing cameras

    d. Camera settings

    e. Alarm Monitoring

    f.   Interfaces

    g. Health Status Monitor

    h. Creating user groups and individual user accounts

    i.   Providing permissions

    j.   Database backup and restore

    k. VMS Map updates

c. <u>On-Site Staffing:</u>
Contractor is to provide three and half (3.5) full-time on-site staff that will address the transitional knowledge needs identified herein. The staffing levels and respective work hours for the three and half (3.5) full-time Contractor employees are as follows:

    1. Provide one (1) Software Programmer/CCTV Engineer and one (1) on-site Field Technicians Monday – Friday, from 7 a.m. to 3:30 p.m. (includes 30 mins. lunch)

    2. Provide one (1) on-site Field Technician from Monday – Friday, from 3:30 p.m. to 12 a.m. (includes 30 mins, lunch)

    3. Provide on-site qualified staff (.5 full time equivalent) for two-weeks to train LAWA IMTG CCTV O&M personnel on VMS/VSS hardware and software.

d. <u>Reporting Location of Contractor Staff:</u>
The reporting location will be at Skyview Building, 2nd Floor. All related costs including but not limited to, insurance, security badges, parking, transportation etc. are included in the Cost Proposal. Contractor staff is to report to the IT Security & Public Safety Systems CCTV O&M Manager or designee.

e. Contractor is to provide a high level documentation of training topics and a coaching guide. This knowledge and technical skills will be transferred to LAWA and successor's CCTV O&M support staff.

8. PROJECT START-UP PHASE

a. Immediately following the official NTP the Contractor is to mobilize for project start-up. Elements to be accomplished during start-up phase include:

1. Establishment of physical team office space and deployment of key staff as appropriate. All on-site key staff are to be screened through the LAWA Badging Office and comply with all LAWA required policies and procedures. The Contractor is responsible to adhere to all security badge regulations in place at LAWA.

2. Contractor is to establish project plans, team members and their roles and responsibilities, schedules and other project management processes and devices critical to a successful implementation.

3. LAWA and Contractor will hold a Kick-Off meeting within the first (2) two weeks from NTP to review project goals, requirements, expectations, and project plan and LAWA team resource requirements. This meeting is to be held on-site at LAWA's facility. During this meeting interim milestones, risks and baselines are to be defined and critical paths highlighted. LAWA and Contractor will ensure the Kick-Off meeting obtains all of the following:

    a. Define organizational structure of project teams, member roles and responsibilities. Both parties will identify names and contact information of all team members.

    b. Define issue escalation procedures.

    c. Define a communications plan that addresses the need of project stakeholders.

    d. Identify resources required.

    e. Identify the type of workshops needed.

    f. Identify and define project schedule, milestones, and deliverables.

    g. Identify and discuss any potential risks and mitigations and develop a Risk Management Plan.

    h. Develop draft project schedule that includes identified resource allocation.

b. Project Start-up Phase Deliverables:

    1. As part of the Project Start-up Phase, Contractor is to deliver the following documents for LAWA's review and approval:

        a. Baseline Project Schedule is to be furnished within thirty (30) calendar days after NTP. The Baseline Project Schedule is to include resource allocation, milestones and deliverables. The schedule is to be broken down by milestones and dates and allow for sufficient submittal review time by LAWA and revision by the Contractor. The LAWA

processes will be explained to the Contractor during Kick-Off meeting by applicable LAWA groups.

Note: The Contractor is to submit and maintain on a weekly basis a detailed project schedule. The schedule is subject to LAWA's approval.

b. Millstone Payment Plan - The Contractor is to develop and submit Milestone Payment Plan to LAWA for their review. The Contractor's Project Manager is to employ a Milestone Payment Plan to assist in the management of the project deliverables and budget. The Milestone Payment Plan is to provide work description, deliverables, and cost associated with each milestone.

c. Risk Management Plan - The Plan is to address risk mitigation techniques and methodology for early problem identification and resolution.

d. Project Management Plan - The Plan is to identify resources required, and contains issue escalation procedures.

e. Communication Plan – The Plan provides details on who from the Contractor's team will be the point of interface with the LAWA Project Manager and how all verbal and written communications are to be issued.

f. Organizational Chart with names and responsibilities and contact information.

9. PROJECT DESIGN PHASE

a. The focus of this Phase is to validate the design requirements by performing site survey assessments, Existing system assessment and configuration template for video analytics requirements as described in this Scope of Work and its Addendums and other contract referenced documents and attachments.

b. Contractor is to perform site investigation at the LAWA Data Center and submit for approval a Site Investigation Report that details what was discovered at the intended VMS/VSS installation area and confirmation of what the Contractor's Scope of Work in the Data Center is and their preliminary design recommendations.

c. Contractor is to get approvals from LAWA IMTG for CCTV System equipment procurement and installation requirements prior to making any purchases.

d. The Contractor is to also submit for LAWA's review and approval:

1. A network multicast design for the CCTV System.

2. All required Test Plans and Procedures e to include scripts and expected results. System Acceptance Test Plan is to include end-to-end testing. All Test

Cases are to be traceable to the Requirements Traceability Matrix. Test Plans are to be final and approved by LAWA prior to any testing.

3. All required Training Plans (refer to Training Requirements Section).

4. Contractor's descriptions and drawings that clearly illustrate the final design of the CCTV System.

    a. For network connectivity, remote access, communications protocols, redundancies, and any other elements that make up the physical components of the CCTV System solution (11" x 17" format acceptable).

    b. For logical architecture, show a block diagram depicting the major components of the CCTV System with its external interfaces and information flow (11" x 17" format acceptable).

e. Design Phase Deliverables:

1. As part of the Design Phase, Contractor is to deliver the following documentation within ninety (90) calendar days from NTP for LAWA's review and approval:

    a. Site Survey Assessment Reports

    b. VMS migration plan

    c. Cloud storage POC outcome report

    d. VMS/VSS System Design

    e. Requirements Traceability Matrix

    f. Network Multicast Design

    g. Training Plans and Training Materials

    h. CCTV System (Unit) Test Plans

    i. Interface Design Document (IDD)

    j. Performance-Load Testing and Shakedown, Endurance & Failure Recovery Tests Plans

    k. CCTV System Acceptance Test Plan (SAT) end-to-end test

User Acceptance Test Plan (UAT) 10. CCTV TESTING REQUIREMENTS

a. General Testing Requirements

1. Contractor is required to submit to LAWA for review and approval all test plans associated with the fully configured CCTV System with integrated Interface Test, Endurance and Failure Recovery Tests, System Acceptance Test (SAT), User Acceptance Test (UAT).

2. Endurance and Failure Recovery Tests are to be completed on the entire system prior to the SAT and UAT.

3. Whenever changes are made resulting from a testing defect, the entire system is to be regression tested.

4. Approved, automated test scripts may be used for SAT, UAT, and Performance testing.

5. Under all tests, the system is to meet or exceed the specified performance and functional criteria given by this Scope of Work.

b. Test Plans and Reports

1. The Contractor is to provide a master hard copy and an electronic copy (such as in MS Word, MS Excel, or PDF as applicable) of the proposed Integrated CCTV System Test Plan for each testing phase for the review and approval of LAWA. The Test Plan for each phase of testing is to detail the objectives of all tests. The tests are to clearly demonstrate that the system and its components fully comply with the requirements specified herein and the approved Design Phase documents.

2. Test plans are to contain at a minimum:

   a. Functional procedures including use of any test or sample data. It is to show how each of the functional requirements will be tracked, documented and tested prior to Final Acceptance.

   b. Show how integration and interfaces of system and its components will be verified.

   c. Will demonstrate the elimination of redundant data entry within the system and all interfaces.

   d. Delineate the testing tasks between LAWA and the Contractor personnel.

   e. Describe pre-installation testing procedures for all equipment (unit testing).

   f. Allocated time Contractor requires for each test.

   g. Test equipment is to be identified by manufacturer and model.

   h. Testing of multiple security levels.

   i. Expected results for each test case.

j. Record of test results with witness initials or signature and date performed.

k. Pass or fail evaluation with comments.

l. Hardware and/or software failover and restoration.

m. Redundancy and latency requirements to be met.

n. Proof of the system backup and restore.

o. Test Scripts and Expected Results.

3. Successful completion of the SAT is necessary as a condition of proceeding to UAT.

   a. All Test plans are to be approved in writing by LAWA.

   b. All tests need to "Pass" and the test results are to be signed and dated by the Contractor, and LAWA IMTG.

   c. LAWA and its representatives will review, witness and validate the execution of all tests performed by the Contractor to assure the tests cover all requirements and that there is conformity between the conducted test, the test results, the Contract Documents and Design Requirements.

   d. The Contractor is to notify LAWA IMTG of all planned tests. Unless released in writing otherwise, LAWA IMTG is to witness all tests.

   e. Test plans are to be provided for all components tincluding but not limited to: VMS, VSS, servers, workstations and peripherals.

c. Test Report

1. The Contractor is to prepare, for each test, a Test Report document that certifies successful completion of that test. A master hard copy and a digital electronic copy of the Test Report are to be submitted to LAWA IMTG for review and acceptance within seven (7) working days following each test. The Test Report is to contain at a minimum:

   a. The test results and commentary.

   b. A listing, report, and scheduled discussion of all discrepancies between expected and actual results as well as all failures encountered during the test and their resolution.

   c. Complete copy of test procedures and test data sheets with annotations showing dates, times, initials, and any other annotations entered during execution of the test.

   d. Signatures of persons who performed and witnessed the test.

e. Contractor is responsible for producing a Failure Analysis and Corrective Action Report (FACAR).

d. Test Resolution

1. Any discrepancies, errors and issues discovered during these tests are to be corrected by the Contractor at no cost to LAWA and the entire system retested before any subsequent testing is performed.

e. User Acceptance Test (UAT) Plans and Procedures

1. The Contractor is to develop UAT Plans and Procedures. The UAT is to be conducted in the same manner as described above.

2. The UAT is to include, but is not limited to the following:

a. Configured Functionalities: The test scripts are to include a checklist of functional items to be verified by users for each system modules including User Requirements. Checklist of testing items includes all standard and custom reports, workflows, and user interfaces. Complete checklist of items to be included in the test scripts that will be developed as part of the configuration analysis. All test scripts are to state intended results.

11. TRAINING REQUIREMENTS

a. The full operation integrated CCTV System is to be installed and tested prior to training.

b. The Contractor is to provide relevant training to one hundred (100) end-users, ten (10) system administrators, and ten (10) technical staff members/power users. Training Sessions are to be divided between swing shift and day shift as well as recorded for future use.

c. Training is to be provided for all components that comprise the System Upgrade and Expansion, including but not limited to: VMS, VSS, servers, and workstations.

d. Provide two (2) on-site training sessions for the operation and maintenance of the VMS/VSS.

e. Provide five (5) on-site training sessions for End-Users. Classes are to support a minimum of ten (10) attendees.

f. All training is to be provided in a virtual environment. Each attendee is to have his/her own workstation. Workstations and training room will be provided by LAWA. Provisioning of these workstations with software is the responsibility of the Contractor. The system on which training is to be conducted is to be set up to simulate or use the actual installed VMS/VSS and not a generic sample setup.

g. Contractor is to submit the training plan, syllabus and training schedule one- hundred and twenty (120) calendar days prior to the training for LAWA's review and approval. Training Plan is to include a syllabus covering course description, objective, structure, content, target audience, prerequisites, duration, number of sessions, and class size.

h. Materials for each course are to include training aids, such as flow diagrams, drawings, user guide and training manuals for each attendee to keep, description and lesson plans for all hands-on training.

i. Schedule training sessions with LAWA a minimum of thirty (30) calendar days in advance.

j. CCTV System Administrator Training:

1. Contractor is to provide comprehensive Administrator Training with illustrated documentation, materials, lectures, and demonstrations for personnel from LAWA on all new system functions including automated functions, manual functions and switchovers between normal and degraded modes. Training is to be on-site and provide hands-on training of equipment and systems pertinent to the group being instructed.

   a. Training is to cover the functions and features of the system. Figures and Interfaces with other systems should be identified and described. How the system utilizes and provides data from/to other systems should be described.

   b. Training is to include a thorough understanding of the design of the system, its configuration, and the principle of operation of all major hardware and software modules. It is to cover all aspects of use of computer based monitoring tools, how to correlate actual system measurements to expected system values, and steps to be taken when actual measurements are outside the accepted system values.

   c. Training is to cover the administration of the computer system and applications such as start-up, closedown, maintain user accounts, run backups, maintenance scheduling, Disaster Recovery plan, etc.

   d. Training is to cover all aspects of operating the computer system and applications such as retrieving, processing and distributing data either from internal or external sources, reports production, saving and restore data, etc.

   e. Training is to cover the operational capabilities, administration, and configuration on all system applications, hardware/software components and subsystems. This is to include all applicable training for new VMS/VSS hardware and software.

   f. The Administrator training is to also include routine and non-routine maintenance, equipment care, troubleshooting and repair.

g. Ten (10) LAWA personnel are to be trained in the Administrator training. Additional training is to be made available as may be required by LAWA. One (1) manual is to be provided for each student and one (1) for the instructor.

k. End-User Training:

1. Contractor is to provide comprehensive end-users Training with illustrated documentation, materials, lectures, and demonstrations for personnel from LAWA on all new system functions including automated functions, manual functions and switchovers between normal and degraded modes.

2. Training is to be on-site and provide hands-on training of equipment and systems pertinent to the group being instructed.

3. Training is to cover the operational capabilities of the VMS/VSS System.

4. One hundred (100) LAWA personnel are to be trained in the end-users training. Additional training is to be made available as may be required by LAWA. One (1) manual is to be provided for each student and one (1) for the instructor.

5. Training is to also include the use of Mobile Handheld devices such as tablets and smartphones.

6. Training is to cover all shifts for end-users. Contractor is to include, in its Training Plan, classes to be conducted for the second shift and the midnight shift for end-users.

n. Maintenance Training:

1. Contractor is to provide technician training for personnel required to maintain the new systems. Contractor is to train LAWA personnel with detailed knowledge of the VMS/VSS such that LAWA personnel can interpret and diagnose the system alarms to pinpoint the faults and report to the Contractor for system recovery.

2. Training materials and instruction are to cover system and subsystem analysis and in-depth component troubleshooting as well as routine maintenance. Materials supplied are to be bound for long-term reference.

3. Training is to cover the functions and features of the system. Interfaces with other systems are to be identified and described. How the system utilizes and provides data from/to other systems should be described.

4. Training is to cover routine and non-routine maintenance, equipment care, troubleshooting and repair. Class attendees are to be provided a thorough understanding of the design of the system, its configuration and the principle of operation of all major hardware and software modules.

5. Ten (10) LAWA personnel are to be trained in the technician training. Additional training is to be made available as may be required by LAWA. One (1) manual is to be provided for each student and one (1) for the instructor.

12. PROJECT DOCUMENTATION REQUIREMENTS

a. Project Documentation Requirements Overview - All project documentation is to be supplied in electronic format (such as in Word, Excel or PDF as applicable) and one (1) hard copy. Electronic documentation is to be delivered to LAWA electronically and/or via physical electronic media such as USB.

13. DISASTER RECOVERY PLAN REQUIREMENTS

1. Contractor to provide Disaster Recovery Plan (project deliverable) as described below:

   a. The Contractor is to provide LAWA with a single, detailed Disaster Recovery Plan addressing the specific needs of LAWA and the CCTV System and Interfaces.

   b. The Contractor is to work with LAWA to produce recommendations for the action steps and assigned areas of responsibility for their execution of these steps, which are to appear in this Disaster Recovery Plan document.

   c. This plan is to cover a variety of likely disaster situations and is to include various options for response based upon the type of disaster. This plan is to also include the necessary steps and area responsibility needed to restore the CCTV System operation back to "Pre-Disaster" status automatically. The Contractor provided Disaster Recovery Plan contains the following elements at a minimum:

      1. Recommends a level of internal auditing and test plans for backup systems

      2. States test objectives

      3. Describes test methods and evaluation of test results

      4. Proposes an audit and test schedule

      5. Includes the restoration of the CCTV System back to their pretest status

   d. LAWA uses Site Recovery Manager (SRM) and Recovery Point for Disaster Recovery.

   e. The Contractor is to provide pricing for all materials and labor necessary to implement their proposed Disaster Recovery plan.

16. MANNER OF PERFORMANCE

a. The Contractor is to provide the Work described or referenced herein in a competent and professional manner satisfactory to LAWA in accordance with the terms and

conditions of this Contract. LAWA is entitled to a satisfactory performance of all Work described herein and to full and prompt cooperation by the Contractor in all aspects of the Work. At the request of LAWA, Contractor is to promptly remove from the project any Contractor's employee, subcontractors, or any person performing Work hereunder. The Contractor agrees that such removal of any of its employees does not require the termination or demotion of any employee by the Contractor.

b. The Contractor agrees that at all times to employ, maintain and assign to the performance of the Work with a sufficient number of competent and qualified professionals and other personnel to meet the Schedule and Scope of Work required under this Contract. The Contractor agrees to adjust its personnel staffing levels or to replace any of its personnel if so directed upon reasonable request from LAWA, should LAWA make a determination, in its sole discretion that said personnel staffing is inappropriate or that any individual is not performing in a manner consistent with the requirements for such a position.

c. The Contractor warrants and represents that its personnel have the proper skill, training, background, knowledge, experience, rights, authorizations, integrity, character and licenses as necessary to perform the Work described herein, in a competent and professional manner.

d. If Contractor fails to perform any substantial obligation under this Contract, LAWA will give Contractor written notice of such Failure to Perform. If after thirty (30) calendar days from the date of the written notice Contractor still has not performed, then LAWA may withhold all monies due and payable to Contractor, without penalty to LAWA, until such Failure to Perform is cured and/or otherwise resolved.

17. GENERAL WARRANTY

a. General

1. Contractor represents and warrants that the hardware, software, interfaces, workmanship, delivery of the integrated system, and warranty/maintenance services furnished hereunder, and all Contractor-supplied modifications are to meet the Contract requirements and the representations of Contractor's Proposal.

2. All warranties and guarantees of subcontractors, suppliers, and manufacturers with respect to any such work and system equipment/hardware/software are to be obtained by the Contractor for the benefit of LAWA regardless of whether or not such warranties and guarantees have been assigned or transferred to LAWA by separate agreement. The Contractor is to fully endorse such warranties and guarantees on behalf of LAWA and provide certificates in LAWA IMTG's name.

3. Contractor is responsible for warranty/maintenance of hardware, software, interfaces, workmanship, and system integrations they furnished under this Contract.

    4. Hardware provided by Contractor are to be warranted by the Manufacturer for three (3) years from issuance of date of purchase.

b. Software and Interfaces – During the warranty period after issuance of LAWA Certificate of Final Acceptance, the Contractor warrants that all software, interface programs, and applications, provided by, or modified by the Contractor:

    1. Are free of defects in design and workmanship, and are to perform according to the Contract Documents.

    2. Do not contain any viruses, worms, Trojan horse, timers, counters, or preprogrammed devices that cause the software to be erased, inoperable, or incapable of performing as specified.

    3. Contain an appropriate security and control system for protecting the software

    and the data from unauthorized use.

    4. Are free of "back doors" and all other known methods of software access that bypass the normal system security features.

c. Hardware – During the three-year warranty period, after purchase date the Contractor warrants that all Contractor provided and installed hardware and all warranty work, including all parts, cost of shipment and labor, are to be performed at no cost to LAWA. All part replacements are to be new and not used, or refurbished.

d. During the warranty period, the Contractor is to supply software maintenance consisting of bug fixes and patches as part of the annual Genetec software maintenance agreement (SMA).

e. Contractor is to submit to LAWA a detailed document fully describing the Contractor's Warranty Plan and Procedures to be used by LAWA to resolve warranty-related issues. This document should be of similar form and content to what the Contractor normally provides for its warranty plan and procedures for its COTS CCTV system modified to incorporate LAWA-specific requirements defined in this RFP or the subsequent formalized contract between LAWA and the Contractor.

18. LIST OF ABBREVIATIONS

A

ACAMS Access Control and Alarm Monitoring System

ACL Access Control Lists

APD Airport Police Division

API Application Programming Interface

APSD   Airport and Public Safety Division

ARCC Airport Response Coordination Center

ASR   Area Shutdown Request

ASP   Airport Security Programs

B

BOAC Board of Airport Commissioners

C

CALM Coordination and Logistics Management

CAD   Computer-Aided Design or Computer-Aided Dispatch

CBP   Customs and Border Protection

CCTV Close Circuit Television

CD   Compact Disk

CE   Customer Edge

CFR   Code of Federal Regulations

COTS Commercial Off-the-Shelf

CPU   Central Processing Unit

CTA   Central Terminal Area

D

DAS   Direct Attached Storage

DCH   Design and Construction Handbook

DHS   Department of Homeland Security

DR   Disaster Recovery

DVD   Digital Versatile Disk

DVR   Digital Video Recorder

D2D   Disk to Disk

E

EMT   Electrical Metallic Tubing

ERD   Entity Relationship Diagram

ESD   Environmental Services Division

EVIDS Electronic Visual Information Display Systems

F

FAA   Federal Aviation Administration

FACAR Failure Analysis and Corrective Action Report

FC   Fiber Channel

FCC   Federal Communications Commission

FDD   Functional Design Document

FETSD Facilities Engineering and Technical Services Division

FIS   Federal Inspection Services

FOT   Fiber Optical Transceivers

FOV   Field of View

FTP   File Transfer Protocol

FTSD Facilities and Technical Services Division

G

GB   Gigabyte

Gbps Gigabits per second

GIS   Geographic Information System

GPS   Global Positioning System

GSM   Global System for Mobile Communication

GUI

H

HBA   Host Bus Adapter

HD   High Definition

HP   Hewlett Packard

HTTP   Hyper Text Transfer Protocol

I

ICD   Interface Concept Document

IDD   Interface Design Document

IDE   Integrated Development Environment

IE   Internet Explorer

IMTG   Information Management Technology Group

IOPS Internet Official Protocol Standard

iOS   Apple's Operating System

IP   Internet Protocol

IT   Information Technology

IVA   Intelligent Video Analytics

K

K   Thousand (4K resolution refers to screen display resolution of 4,000 pixels)

L

LABAVN   Los Angeles Business Assistance Virtual Network

LAWA Los Angeles World Airports

LAX   Los Angeles International Airport

LBE   Local Business Enterprise

LBPP Local Business Preference Program

LDAP Lightweight Directory Access Protocol

LLC   Limited Liability Company

LLP   Limited Liability Partnership

LOS   Level of Service

L2   Layer 2

L3   Layer 3

M

MACs Modifications, Adds, and Changes

MHD   Mobile Handheld Device

MPLS Multi-Protocol Label Switching

MS   Multi-Sensor Camera

N

NAS   Network-attached Storage

NDA   Non-Disclosure Agreement

NTE   Not-to-Exceed

NTP   Notice to Proceed

NVR   Network Video Recorder

O

ODBC Oracle Database Connectivity

OEM   Original Equipment Manufacturer

ONVIF Open Network Video Interface Forum

OPS   Airport Airside Operations

ORI   Originating Agency Identifier

OS   Operating System

OSD   On-Screen Display

OVF   Open Virtualization Format

O&M   Operations and Maintenance

P

PC   Personal Computer

PDF   Portable Document Format

PDG   Planning & Development Group

PE   Provider Edge

PoE   Power over Ethernet

PM   Preventive Maintenance

PMD   Project Management Division

PMI   Project Management Institute

PMP   Project Management Professional

PO   Purchase Order

PTZ   Pan-Tilt-Zoom

R

RAM   Random Access Memory

RDMS   Relational Database Management System

RFC   Requests for Clarification

RFI   Request for Information

RFP   Request for Proposals

RGS   Rigid Galvanized Steel

S

SAN   Storage Area Network

SAS   Serial Attached SCSI

SAT   System Acceptance Test

SATA   Serial Advance Technical Attachment

SBE   Small Business Enterprise

SCSI   Small Computer System Interface

SD   Standard Definition

SDK   Software Development Kit

SFF   Small Form Factor

SLR   Service Level Requirements

SMS   Short Message Service

SNMP Simple Network Management Protocol

SOP   Standard Operating Procedure

SOV   Schedule of Values

SOW   Scope of Work

SQL   Structured Query Language

SRM   Site Recovery Manager

SRS   System Requirements Specification

SSA   Software Service Agreement

SSI   Security Sensitive Information

SSD   Solid State Drive

SSL   Secure Socket Layer

T

TBIT   Tom Bradley International Terminal

TCP/IP Transmission Control Protocol/Internet Protocol

TCP   Transmission Control Protocol

TCU   Traffic Control Unit

TIAP   Tenant Improvement Approval Process

TSA   Transportation Security Administration

TTL   Time-to-Live

U

UAT   User Acceptance Test

UDP   User Datagram Protocol

UI   User Interface

USB   Universal Serial Bus

USR   Utility Shutdown Request

UTP   Unshielded Twisted Pair

V

VBlock VCE Virtual Block

VMD   Video Motion Detection

VMS   Video Management System

VMWare VMware, Inc.

VNY   Van Nuys General Aviation Airport

VOIP   Voice Over Internet protocol

VPN   Virtual Private Network

VPO   Visual Parameters Optimizer

VRF   Virtual Routing and Forwarding

VRR   Video Recording Room

VSS   Video Storage System

W

WAN   Wide Area Network

WBS   Work Breakdown Structure

Wi-Fi   Wireless Fidelity

WLAN   Wireless Local Area Network

WPH1   Wireless Phase 1

WPH2   Wireless Phase 2

WO   Work Order

WWAN   Wireless Wide Area Network

X

XML   Extensible Markup Language

19. DEFINITIONS

a. "Contractor" is used to identify the firm responsible for furnishing the Work contracted for unless otherwise noted.

b. "Subcontractor", is a person or business, which has a contract (as an "independent Contractor" and not an employee) with a Contractor to provide some portion of the work or services on a project, which the Contractor has agreed to perform.

c. "Kick-Off", is the first official meeting held between Contractor and LAWA after Notice To Proceed

d. "Baseline Project Schedule", final project schedule approved by LAWA's management.

e. "CCTV System" – System consists of communication systems including, but not limited to, edge/network devices, VMS, VSS, workstations, video/audio encoders, video decoders, cameras, microphones, duress buttons, ring down phones, servers, cabling, connectors, software licenses, documentation, drawings, submittals, operation/maintenance, and warranties.

f. "Acceptable Manufacturer": Where this term is used, it is intended to denote specific manufacturers qualified to provide the products specified.

g. "Acceptance," "acceptable," or words of similar import: Acceptance, acceptable or similar words are to be from LAWA. LAWA is to have final jurisdiction.

h. "At no additional cost to Owner," "With no extra compensation to Contractor," "At Contractor's own expense," or words of similar import: Such terms are to be understood to mean that Contractor is to perform or provide specified operation of Work at no increase to Contract Sum stated in executed Contract.

i. "Propose Alternate/Additive Alternate/Deductive Alternate": This phrase designates a request for a price for substituting one material, product, system or method in place of another, or for adding to, or deducting from, the Scope of the Project.

j. "Conflicts": This term is intended to refer to real or potential discrepancies between portions of the Specification, which includes the entire project Specification as well as all other Contract Documents.

k. "Demonstration": This term signifies the verification by operation, movement or adjustment of an item or system and the comparison of the item or system

performance against a qualitative standard, or standards, as set forth in the specific requirements of the cited paragraph.

l. "Furnish" is used to mean, "supply and deliver" to Project Site, ready for unloading, unpacking, assembly, installation, and similar operations.

m. "Information Systems Security" refers to an application or operating systems software and hardware to host any component of this proposed solution.

n. "Or equivalent," or words of similar intent, refers to systems or equipment that are the products of a manufacturer, fabricator, or vendor which are comparable or equal in quality, design and performance and are functionally equal or superior to the item specified and which meets all salient characteristics and other requirements of the Contract as determined by LAWA.

o. "Owner": the Owner Los Angeles World Airports (LAWA) or their duly appointed representative.

p. LAWA's (Owner's) Approval": The intent of this phrase is that it is the Contractor's responsibility to seek out LAWA, and/or their authorized representative(s), and to obtain written approval of any aspects of the Work prior to the start of any related Work and prior to any actions or activities that would establish a financial obligation for LAWA related to the items or activities requiring such approval.

q. "LAWA Certificate of Final Acceptance": The document issued by LAWA after completion of Final Acceptance and sign off by all LAWA stakeholders, and completion of all remaining punch list items.

r. "LAWA Certificate of Milestone Completion": The document issued and signed off by LAWA stakeholders after completion for each milestone.

s. "Liquidated Damages": Failure by the Contractor to complete the work in the time allowed will result in damages being sustained by LAWA. For each consecutive day in excess of the time specified and approved for the completion of the work, the Contractor is to have withheld from monies due it per day based on Key Milestones. Such sum is Liquidated Damages and is to not be construed as penalty. After Notice to Proceed, both parties are to agree to a Baseline Schedule and Key Milestones. The applicable Key Milestones are to be documented as subject to Liquidated Damages.

t. "Perform": Contractor, at Contractor's own expense, is to perform operations necessary to complete Work, including furnishing of necessary labor, tools and equipment, and further including and installing and testing of materials indicated, specified or required to complete such performance.

u. "Provide": Contractor, at Contractor's own expense, is to furnish and install Work complete in place and ready for use, including furnishing of necessary labor, materials, tools, equipment, programming, configuration, testing, commissioning and transportation. Definitions apply the same to future, present and past tenses, except work "provide" may mean "contingent upon" where such context is apparent.

v. "Specification" is used to mean Scope of Work (SOW), Scope of Work/Drawings, Terms, Conditions, Requirements, Exhibits, Appendixes, Addendums, Attachments and Figures.

w. "System" is used to refer to all integrated CCTV System equipment, hardware, software, infrastructure, and interface components.

x. "Test Plans and Procedures", are submittal documents that explain test strategy and contain test script templates that will be used during the tests performed for the project.

20. APPENDICES

Appendix 1: LAWA INFORMATION SECURITY AND CYBER SECURITY REQUIREMENTS

The term 'Information Systems Security' reference in this section refers to an application or operating systems software and hardware to host any component of this proposed solution. The Selected Contractor is to incorporate security best practices and meet a standard of due care to support the security policy of LAWA and is to abide by the following requirements:

1. Security Controls

Selected Contractor is responsible for configuring security controls to provide individual accountability, audit ability, and separation of duties. Security controls are to be consistent with industry best practices, including but not limited to the following:

a. Authentication requirements for access to sensitive data and privileged functions.

b. Ensure the latest operating system patches have been applied to all components.

c. Ensure the latest security-related patches have been applied to all components.

d. Run only services required to meet desired functionality (disable unused services).

e. Identify and enable required TCP/UDP ports and disable other TCP/UDP ports when applicable.

f. Log all security related events including unauthorized attempts to access privileged services.

g. For data encryption. Symmetric cryptosystem key lengths are to be at least 128 bits. Asymmetric crypto-system keys are to be of a length that yields equivalent strength.

2. Security Design & Review

a. Selected Contractor is to submit a network diagram for approval by LAWA IT Security.

b. Selected Contractor is to submit an application flow diagram for approval by LAWA IT Security.

c. Selected Contractor is required to show that the network and/or application flow design conforms to security best practices.

3. Documentation

Selected Contractor is to provide a security plan that include, but is not limited to:

a. An overview of the information system security posture.

b. Technical details regarding information system implementation strategy, documentation or guidelines that vendor follows to implement and deliver the information system.

c. Technical details regarding security strategy - patches applied, operating system hardening steps, services enabled/disabled, TCP/UDP ports opened/closed, authentication requirements, etc.

d. Any deviations from the security best practices are to be documented by the Selected Contractor and is to be approved by LAWA IT Security.

4. Security Assessment

Selected Contractor is to conduct a security risk assessment (ISO/IEC 27001 and 27005) prior to deployment to ensure appropriate security controls have been designed and implemented. LAWA IT Security, or a third party representing LAWA, is to conduct a security risk assessment prior to final user acceptance, and semi-annually.

5. Security Issue(s) Remediation
Provision for remediation of security issues as requested by LAWA:

a. The Selected Contractor is to immediately remediate vulnerabilities and high-priority security issues identified during a security review or assessment based upon an agreed matrix for priority focused resolution times.

b. The Selected Contractor is responsible to remediate high and medium risk level issues within a reasonable timeframe. If the remediation affects the functionality of the system, LAWA IT Security may grant an exception depending on the risk level or use other external security methods to mitigate the risk.

    c. Additional security assessment may be performed after remediation for verification purposes at the discretion of LAWA IT Security.

6. Cloud Security – Software as a Service (SaaS)

SaaS provides LAWA clients the capability to use the provider's applications running on a cloud infrastructure. LAWA does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage with the possible exception of limited user-specific application configuration settings.

Requirements for Cloud Provider:

    a. Is to be SSAE 16 SOC1/SOC2 or ISO 27001/27002 compliant on all hosting facilities; and provide compliance audit report semi-annually.

    b. Ability to provide regulations & compliance control solution.

    c. Ability to provide identity management solution (such as active directory Integration, Multi-Factor Authentication, single sign-on).

    d. Ability to provide data access control solution.

    e. Ability to detect and block unauthorized/malicious traffic on the network (such as botnet/malware, SQL injection, cross-site scripting, denial-of-service, etc.)

    f. Ability to provide data protection/encryption/segregation solution.

    g. Ability to provide anti-virus and patch management solution.

    h. Ability to provide key management solution

    i. Ability to provide business continuity and Disaster Recovery solution (such as alternate site, backup/recovery procedure, recovery point objective, recovery time objective).

    j. Ability to provide security incident response solution.

    k. Ability to respond and provide immediate notification to LAWA on all security breaches, system failure, and network outages.

    l. Ability to provide LIVE application/data security feeds to LAWA.

    m. Ability to provide service level agreements on reliability, availability, performance, customer support, and penalties.

    n. Ability to provide data retrieve/removal solution when contract terminates.

7. Vendor Hosted Systems Service Provider

Vendor Hosted system services are those services where LAWA does not manage or control daily operations, application or system services, infrastructure, network, servers, operating systems, or storage. Requirements for Vendor Hosted system services:

a. Is to follow industry best practice security standards when providing Industrial Control Systems.

b. Is to ensure PCI DSS compliance when dealing with payment cards and PII.

c. Ability to provide regulations & compliance control solution.

d. Ability to provide identity management solution (such as active directory Integration, Multi-Factor Authentication, single sign-on).

e. Ability to provide data access control solution.

f. Ability to detect and block unauthorized/malicious traffic on the network (such as botnet/malware, SQL injection, cross-site scripting, denial-of-service, etc.)

g. Ability to provide data protection/encryption/segregation solution.

h. Ability to provide anti-virus and patch management solution.

i. Ability to provide key management solution

j. Ability to provide business continuity and Disaster Recovery solution (such as alternate site, backup/recovery procedure, recovery point objective, recovery time objective).

k. Ability to provide security incident response solution.

l. Ability to response and provide immediate notification to LAWA on all security breaches, system failure, and network outages.

m. Ability to provide LIVE application/data security feeds to LAWA.

n. Ability to provide service level agreements on reliability, availability, performance, customer support, and penalties.

o. Ability to provide data retrieve/removal solution when contract terminates.

Appendix 3: SECURITY REQUIREMENT FOR INFORMATION / APPLICATIONS / SYSTEMS

a. The Contractor is to meet all security policies and standards stipulated by, but not limited to, LAWA, TSA and FAA.

b. Information Security Requirements - The term "Information Systems Security" referenced in this section refers to application or operating systems software and hardware used to host any component of the CCTV System. The Contractor is to incorporate security best practices and meet a standard of due care required by the security policy of LAWA and is to also abide by the following requirements:

    1. Security Controls - The Contractor is responsible for configuring security

controls to provide individual accountability, audit ability, and separation of duties. Security controls are to be consistent with industry best practices, including but not limited to, the following:

        a. Authentication requirements for access to sensitive data and privileged functions.

        b. Applying latest operating system/security related patches to all components monthly.

        c. Utilization of only the services required to meet desired functionality (disable unused services).

        d. Identification and activation of required TCP/UDP ports, and a deactivation of access to other TCP/UDP ports when applicable.

        e. Logging of all security related events including unauthorized or invalid attempts to access privileged services; and provide logs to LAWA centralized log management system.

        f. Appropriate securing of components of the information system to ensure the confidentiality, integrity, and availability of information stored.

    2. Security Design and Review

        a. The Contractor is to use a "layered security" approach to network architecture design so that it provides multiple barriers to delay or prevent attackers from exploiting network resources.

        b. Any deviation from the security best practices are to be documented by the Contractor and is to be approved by the LAWA Office of Information Security.

    3. Security Assessment - A security assessment may be performed by the LAWA Office of Information Security to ensure appropriate security controls have been designed and implemented. At the discretion of LAWA IMTG, prior to or immediately after information system deployment, LAWA or a third party

representing LAWA may conduct a security assessment of the system prior to final user acceptance.

4. Remote Access Restriction – The use of multi-factor authentication and air gapping security measures will be applied to any remote user who has administrative access to LAWA enterprise network, systems and applications.

5. Security Issues Remediation - Provisions for remediation of security issues as requested by LAWA:

   a. The Contractor is to immediately remediate vulnerabilities and high priority security issues identified during a security review or assessment.

   b. The Contractor is responsible for remediating high and medium risk level issues within a reasonable timeframe. If the remediation affects the functionality of the information system, the LAWA Office of Information Security may grant an exception depending on the risk level or use other external security methods to minimize the risk.

   c. Additional security assessments may be performed after remediation for verification purposes at the discretion of LAWA IMTG.

Appendix 4: LAWA SOFTWARE STANDARDS

a. A copy of the *LAWA Information Technology Standards Catalog* has been provided. All software products proposed are to meet these standards unless otherwise noted within this Scope of Work. Below is a summary of related software product standards adopted by the LAWA IMTG.

b. System software general requirements:

   1. Operating Software - Windows 10 Professional or latest LAWA IMTG certified OS.

   2. Server Operating System - Windows Server 2016 or the latest version required by LAWA.

   3. Application Software - As Required.

   4. Anti-Virus Software - Symantec Endpoint.

   5. Include software and software licenses for all software installed.

   6. Include plug-ins or additional software to support user interfaces to various systems as required.

Appendix 5: LAWA HARDWARE STANDARDS

a. A copy of the *LAWA Information Technology Standards Catalog* has been provided. All hardware products proposed are to meet these standards unless otherwise noted within this Scope of Work.

b. All equipment is to bear the label and listing of Underwriters Laboratory or Factory Mutual. Application and installation of all equipment and materials are to be in accordance with such labeling and listing.

Appendix 6: LAWA IT INFRASTRUCTURE STANDARDS

a. All construction is to be planned and executed per the LAWA DCH that has Guide Specifications for all Divisions 1 through 28.

ⓈEnd of Scope of WorkⓈ

Exhibit A-3: CCTV Functionality and Performance Matrix

Item #	Description	Related Modul	Software	Type	Compliance Classification	Explanation	Development Efforts (in man hours)	Development Time (in calendar weeks)	Months from NTP until Go-Live
1	Integrate with existing IP and analog cameras	VMS	Software	Integration					
2	Native camera integration to allow VMS to control/change features on all IP cameras	VMS	Software	Integration					
3	VMS compatibility with existing viewing workstations	VMS	Software	Integration					
4	Ability to thumbnail search	VMS	Software	Functional					
5	Ability to pixel search	VMS	Software	Functional					
6	Ability to motion search	VMS	Software	Functional					
7	Ability to search by vehicle	VMS	Software	Functional					
8	Ability to search by color of article of clothing	VMS	Software	Functional					
9	Ability to search by hair color	VMS	Software	Functional					
10	Ability to search by gender	VMS	Software	Functional					
11	Integration with Lenel OnGuard v7.5+ Access Control	VMS	Software	Integration					
12	Integration with 2 Way Radio Applications such as Motorola Radio	VMS	Software	Integration					
13	Integration with PremierOne v4.4+ Computer-Aided Dispatch (CAD)	VMS	Software	Integration					
14	Integration with Sight Logix Cameras	VMS	Software	Integration					
15	Integration with Qognify Situator 8.5+	VMS	Software	Integration					
16	Mapping which allows for operators to see camera locations on a map diagram	VMS	Software	Functional					
17	Mapping which allows operators to see the direction of the field of view for each camera on a map diagram	VMS	Software	Performance					
18	Mapping with hover feature which allows cameras to display the view prior to drill down	VMS	Software	Performance					
19	Integration with ESRI for GIS Maps	VMS	Software	Integration					
20	Camera configuration that allows for automatic configuration of the cameras based on pre-configured templates	VMS	Software	Performance					
21	Server configuration upon installation that allows automatic configuration based on pre-configured templates	VMS	Software	Performance					
22	Ability to change camera settings to conform to policies for retention requirements	VMS	Software	Functional					
23	Ability to change recording schedules to conform to policies for retention requirements	VMS	Software	Functional					
24	Mobile Application (Mobile App) that supports Apple iOS	VMS	Software	Functional					
25	Mobile Application (Mobile App) that supports Google Android	VMS	Software	Functional					
26	Mobile Application (Mobile App) that supports Microsoft Surface OS	VMS	Software	Functional					
27	Mobile App with the ability to view Live video footage	VMS	Software	Functional					
28	Mobile App with the ability to playback Recorded video footage	VMS	Software	Functional					
29	Mobile App push alarm notifications via Apple iOS	VMS	Software	Functional					
30	Mobile App push alarm notifications via SMS Text Message	VMS	Software	Functional					
31	Mobile App push alarm notifications via Google Android	VMS	Software	Functional					
32	Mobile App push alarm notifications via Microsoft Surface OS	VMS	Software	Functional					
33	Mobile App push alarm notifications via email	VMS	Software	Functional					
34	Camera call-ups by mobile push alarm notifications	VMS	Software	Functional					
35	Integration with Barco Video Wall	VMS	Software	Integration					
36	Video stream management for reduced bandwidth usage	VMS	Software	Performance					
37	Real-time collaboration feature which allows various users to identify, request, and investigate events collectively within the client	VMS	Software	Functional					
38	Ability to use camera based Edge Analytics	VMS	Software	Functional					
39	Edge analytic events being presented in VMS user interface as an alarm	VMS	Software	Performance					
40	Input control through user interface	VMS	Software	Functional					

Exhibit A-3: CCTV Functionality and Performance Matrix

Item #	Description	Related Modu	Software	Type	Compliance Classification	Explanation	Development Efforts (in man hours)	Development Time (in calendar weeks)	Months from NTP until Go-Live
41	Output control through user interface	VMS	Software	Functional					
42	Ability to set different camera settings (video compression, frame rate, resolution, etc.) for each stream of video received from an individual camera	VMS	Software	Performance					
43	Ability for VMS to automatically change video compression, frame rate, resolution, etc. when a specified event is triggered on a single stream	VMS	Software	Performance					
44	Ability to utilize three (3) or more simultaneous multi-streams from an individual camera	VMS	Software	Functional					
45	Video stream selection for live viewing	VMS	Software	Functional					
46	Ability to perform Automatic Failover for production servers to ensure redundancy of VMS settings and video recordings	VMS	Software	Functional					
47	Detailed access control card holder information available thru the VMS within user interface via integration with OnGuard 7.5+	VMS	Software	Functional					
48	Access control events/alarms are automatically identified on a map diagram in the user interface	VMS	Software	Performance					
49	Access control events such as Cardholder and Door activities are shown in user interface reports	VMS	Software	Performance					
50	The option to display alarms in a popup window rather than the screen being taken over	VMS	Software	Performance					
51	Client application automatically adjusts camera view resolution based on the size of the viewing window	VMS	Software	Performance					
52	Allow real-time operator to operator screen sharing within client application for review of live and recorded video playback	VMS	Software	Functional					
53	Allow camera replacement without the need to reconfigure camera settings	VMS	Software	Functional					
54	Ability to retain video footage when an individual camera is replaced	VMS	Software	Functional					
55	Allow camera settings to be set as a batch based on the model number of camera	VMS	Software	Functional					
56	Ability to send alert notifications over radio based handsets	VMS	Software	Functional					
57	Ability to utilize push to talk feature in VMS client software allowing communication through microphones & field speakers	VMS	Software	Functional					
58	Ability to send pre-recorded messages from VMS client software to field speakers	VMS	Software	Functional					
59	Ability to stream camera views simultaneously to 80 client workstations using the VMS client software	VMS	Software	Performance					
60	Integrate with Dell Isilon server storage to record video	VMS	Software	Integration					
61	Peer to Peer based server communications	VMS	Software	Functional					
62	Authenticate device firmware updates through an encrypted digital signature	VMS	Software	Functional					
63	ONVIF compliance with Profile S	VMS	Software	Functional					
64	ONVIF compliance with Profile T	VMS	Software	Functional					
65	Graphics Processing Unit (GPU) Hardware Acceleration for client workstations	VMS	Software	Functional					
66	Customizable video layouts in client applications	VMS	Software	Functional					
67	Simultaneous video playback of at least 25 cameras on a single client workstation	VMS	Software	Performance					
68	Ability to view/review camera footage via a Web Server Service over a VPN connection	VMS	Software	Performance					
69	Ability to receive camera tamper detection alerts	VMS	Software	Functional					
70	Ability to export video footage	VMS	Software	Functional					
71	License Plate Recognition (LPR) solution with support for a "Cleared" or "Hot" list	VMS	Software	Functional					
72	Ability to create real-time and historical reports with Lenel OnGuard 7.5+	VMS	Software	Functional					
73	Ability to create real-time and historical reports with PremierOne v4.4 Computer-Aided Dispatch (CAD)	VMS	Software	Functional					
74	User interface allows for screen commands	VMS	Software	Functional					
75	Ability to audit all VMS users	VMS	Software	Functional					
76	Ability to audit all VSS users	VSS	Software	Functional					
77	Ability to audit the VMS at system level	VMS	Software	Functional					
78	Ability to audit the VSS at system level	VSS	Software	Functional					

Exhibit A-3: CCTV Functionality and Performance Matrix

Item #	Description	Related Modu	Software	Type	Compliance Classification	Explanation	Development Efforts (in man hours)	Development Time (in calendar weeks)	Months from NTP until Go-Live
79	Ability to audit user access level	VMS	Software	Functional					
80	Ability to audit user access level	VSS	Software	Functional					
81	Ability to transfer and store video footage in the cloud	VMS	Software	Functional					
82	Ability to utilize an mixed storage design (On-premise and in the cloud)	VMS	Software	Performance					
83	Configurable report capabilities within VMS client software	VMS	Software	Performance					
84	Ability to export a backup of all system settings	VMS	Software	Functional					
85	Ability to export a backup of all system settings on preset intervals	VMS	Software	Performance					
86	VMS to have disaster recovery capability	VMS	Software	Functional					
87	VSS to have configuration backup capability	VSS	Software	Functional					
88	VSS to have disaster recovery capability	VSS	Software	Functional					
89	Ability to utilize Two-factor Authentication via SMS Text Messaging for users	VMS	Software	Functional					
90	Ability to utilize Two-factor Authentication via Email for users	VMS	Software	Functional					
91	Support for Okta Multi-factor Authentication	VMS	Software	Functional					
92	Support for at least 1 redundant server for every 4 production servers	VSS	Hardware	Performance					
93	Video footage from all IP cameras and encoders are to be recorded on the new VSS in the LAWA Data Center for thirty (30) day storage	VSS	Hardware	Performance					
94	Configure storage for up to 10,000 HD cameras recording video at a minimum 720p resolution, fifteen (15) frames per second for continuous twenty-four seven (24/7) video recording for thirty (30) day storage	VSS	Hardware	Performance					
95	Event based recordings are to be stored for one (1) year	VSS	Hardware	Performance					
96	Ability to record audio from a camera microphone	VMS	Software	Functional					
97	Audio from specific cameras need to be recorded and retained in the LAWA Data Center for 30-day storage	VSS	Hardware	Performance					
98	Compliance with camera bandwidth utilization requirements found in Exhibit A-2: Scope of Services, Section 4 – Cameras	VMS	Software	Functional					
99	The video compression, frame rate, and resolution for event recordings are to be the same as the normal recordings for the thirty (30) day storage retention	VSS	Software	Performance					
100	Each storage server is to have sufficient headroom to provide at least twenty-five percent (25%) additional storage space for event/bookmarked recordings	VSS	Hardware	Performance					
101	The video recording process is to positively ensure validity and authenticity of the captured images for acceptance as legal evidence in a court of law	VMS	Software	Performance					
102	Redundancy mechanisms are to be fully automated	VMS	Software	Performance					
103	Interfaces to transmit all information through a TCP/IP sockets interface	VMS	Software	Performance					
104	The delay during the exchange of messages between the systems using the interfaces is expected to be less than twenty (20) ms but is to never exceed one (1) second delay	VMS	Software	Performance					
105	Network communication is to utilize TLS 1.2 or better	VMS	Software	Performance					
106	Integration between VMS Alarm Management Interface and the existing PIDS Server	VMS	Software	Integration					
107	VMS to receive PIDS alarm data and display the associated PTZ camera on a wall mounted alarm video monitor	VMS	Software	Performance					
108	Configurable alarm routing capabilities that allow users to arrange how critical alarms are viewed through the VMS client software with multiple monitors	VMS	Software	Performance					
109	Allow an alarm(s) to automatically trigger the forwarding of live video from the corresponding camera(s) to an operator's workstation in unison with the alarm(s)	VMS	Software	Functional					
110	Ability to adjust camera image brightness	VMS	Software	Functional					
111	Ability to adjust camera image contrast	VMS	Software	Functional					
112	Ability to adjust camera image saturation	VMS	Software	Functional					

Exhibit A-3: CCTV Functionality and Performance Matrix

Item #	Description	Related Modul	Software	Type	Compliance Classification	Explanation	Development Efforts (in man hours)	Development Time (in calendar weeks)	Months from NTP until Go-Live
113	Ability to adjust camera image hue	VMS	Software	Functional					
114	Ability to adjust camera image sharpness	VMS	Software	Functional					
115	Ability to set home position for PTZ cameras	VMS	Software	Functional					
116	Ability to set preset positions for PTZ cameras	VMS	Software	Functional					
117	Ability to adjust camera image resolution	VMS	Software	Functional					
118	Ability to adjust camera frame rate	VMS	Software	Functional					
119	Ability to adjust camera bit rate	VMS	Software	Functional					
120	Ability to change camera video compression type to H.265	VMS	Software	Functional					
121	Ability to change camera video compression type to H.264	VMS	Software	Functional					
122	Ability to change camera video compression type to MJPEG	VMS	Software	Functional					
125	Integrate with proposed cameras	VMS	Software	Integration					

Exhibit A-4: Milestone Payment Schedule

TASK IDs	Tasks and Milestones	Invoice Date	Invoice Value		Milestone Subtotal	
	Nicevision Migration and CCTV O&M Payment Milestone Schedule					
1	Mobilization	NTP + 30 Calendar Days	$	138,761.60		
2	Maintenance Support services month 1	NTP + 30 Calendar Days	$	118,450.00		
	Milstone payment 1				$	257,211.60
3	Maintenance Support services month 2	NTP + 2 Months	$	118,450.00		
4	LaX-it system support	NTP + 2 Months	$	12,000.00		
5	Camera Sharing with Partner airlines	NTP + 2 Months	$	125,000.00		
	Milstone payment 2				$	255,450.00
6	Maintenance Support services month 3	NTP + 3 Months	$	118,450.00		
7	VMS/VSS Design + Disaster Recover Plans	NTP + 3 Months	$	562,586.70		
8	Cross Project Labor Increment 1	NTP + 3 Months	$	211,977.09		
	Milstone payment 3				$	893,013.79
9	Maintenance Support services month 4	NTP + 4 Months	$	118,450.00		
10	Turnkey Support of Media Gateways	NTP + 4 Months	$	30,000.00		
11	Release to Order/'Procure VMS/.VSS Hardware/Software	NTP + 4 Months	$	256,632.00		
	Milstone payment 4				$	405,082.00
12	Maintenance Support services month 5	NTP + 5 Months	$	118,450.00		
13	VMS/VSS HW/SW Reconfiguration Nash	NTP + 5 Months	$	518,846.95		
	Milstone payment 5				$	637,296.95
14	Maintenance Support services month 6	NTP + 6 Months	$	118,450.00		
15	Video Analytic pilot	NTP + 6 Months	$	300,000.00		
16	Cross Project Labor Increment 2	NTP + 6 Months	$	211,977.09		
	Milstone payment 6				$	630,427.09
17	Maintenance Support services month 7	NTP + 7 Months	$	118,450.00		
	Milstone payment 7				$	118,450.00
18	Maintenance Support services month 8	NTP + 8 Months	$	118,450.00		
19	Completion of interfaces	NTP + 8 Months	$	331,928.50		
	Milstone payment 8				$	450,378.50
20	Maintenance Support services month 9	NTP + 9 Months	$	118,450.00		
21	VMS configuration completed	NTP + 9 Months	$	724,543.00		
22	Cross Project Labor Increment 3	NTP + 9 Months	$	211,977.09		
	Milstone payment 9				$	1,054,970.09
23	Maintenance Support services month 10	NTP + 10 Months	$	118,450.00		
24	WKS deployment/Training	NTP + 10 Months	$	200,411.00		
	Milstone payment 10				$	318,861.00
25	Maintenance Support services month 11	NTP + 11 Months	$	118,450.00		
26	Camera/Map configuration for CIP Projects completed	NTP + 11 Months	$	389,280.00		
27	Burn-in	NTP + 11 Months	$	45,000.00		
	Milstone payment 11				$	552,730.00
28	Maintenance Support services month 12	NTP + 12 Months	$	118,450.00		
29	VMS/VSS SAT Completed	NTP + 12 Months	$	86,913.75		
30	Decommisioning/AS-Built Documentation/Transition support	NTP + 12 Months	$	207,916.40		
31	Cross Project Labor Increment 2	NTP + 12 Months	$	211,977.09		
	Milstone payment 12				$	625,257.24
	Total Payments		$	6,199,128.26	$	6,199,128.26

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	1
Payment Amount	$ 257,211.60
Payment Date	NTP + 30 Calendar Days

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	Project Kick-Off		
1	Mobilization	$ 138,761.60	Logistics
	Subtotal	$ 138,761.60	
	Monthly and Quarterly		
2	Maintenance Support services month 1	$ 118,450.00	Maintenance

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	2
Payment Amount	$ 255,450.00
Payment Date	NTP + 2 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	Camera Sharing		
5	Media Gateway for Partner Airlines	$ 125,000.00	Options
	Subtotal	$ 125,000.00	
	Monthly and Quarterly		
3	Maintenance Support services month 3	$ 118,450.00	Maintenance
4	Support of LaX-It system	$ 12,000.00	
		$ 130,450.00	

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	3
Payment Amount	$ 893,013.79
Payment Date	NTP + 3 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	Design and Plans		
7	Site Surveying and Investigation	$ 29,617.60	Cross project
7	Test Laboratory Environment Configuration	$ 13,800.00	VMS
7	Cloud Storage POC	$ 70,000.00	Options
7	Interface Design Document - Qognify Situator	$ 17,655.00	VMS
7	Interface Design Document - PIDS	$ 17,655.00	VMS
7	Multicast Design	$ 8,025.00	VMS
7	VMS Disaster Recovery Plan	$ 53,410.00	VMS
7	VSS Disaster Recovery Plan	$ 30,634.10	VSS
7	System Design	$ 121,790.00	VMS
	Design and Implementation of APM Federation	$ 200,000.00	OPtions
	Subtotal	$ 562,586.70	
	Monthly and Quarterly		
6	Maintenance Support services month 3	$ 118,450.00	Maintenance
8	PM and Administrator labor Increment 1	$ 211,977.09	Cross Project Labor

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	4
Payment Amount	$ 405,082.00
Payment Date	NTP + 4 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	HW/SW Procurement		
11	Software Maintenance Agreement	$ 176,868.00	VMS
11	Migration Channel Licenses	$ 79,764.00	VMS
11	Subtotal	$ 256,632.00	
	Monthly and Quarterly		
9	Maintenance Support services month 4	$ 118,450.00	Maintenance
10	Turnkey Support of Media Gateways	$ 30,000.00	Maintenance
	Subtotal	$ 148,450.00	

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	5
Payment Amount	$ 637,296.95
Payment Date	NTP + 5 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	Delivery and Installation of VMS/VSS HW/SW		
13	Server Configuration/Implementation	$ 39,690.00	VMS
13	Multicast Implementation	$ 25,556.95	VMS
13	VMS Server Upgrade and reconfig	$ 135,600.00	VMS
13	VSS Server Upgrade and reconfig	$ 318,000.00	VSS
13	Subtotal	$ 518,846.95	
	Monthly and Quarterly		
12	Maintenance Support services month 5	$ 118,450.00	Maintenance

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	6
Payment Amount	$ 630,427.09
Payment Date	NTP + 6 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	Video Analytic		
15	Pilot of VA Technologies	$ 300,000.00	Options
15	Subtotal	$ 300,000.00	
	Monthly and Quarterly		
14	Maintenance Support services month 6	$ 118,450.00	Maintenance
16	PM and Administrator labor Increment 2	$ 211,977.09	Cross Project Labor

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	7
Payment Amount	$ 118,450.00
Payment Date	NTP +7 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	Monthly and Quarterly		
17	Maintenance Support services month 7	$ 118,450.00	Maintenance

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	8
Payment Amount	$ 450,378.50
Payment Date	NTP + 8 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	VMS Configuration		
19	API Interface to Qognify Situator	$ 26,161.50	VMS
19	API Interface to Qognify Situator Configuration	$ 66,714.50	VMS
19	Interface Testing - Qognify Situator	$ 18,650.00	VSS
19	API Interface to PIDS	$ 44,405.00	Options
19	API Interface to PIDS Configuration	$ 30,495.00	VMS
19	Interface Testing - PIDS	$ 11,235.00	VMS
19	API Interface to new Computer-Aided Dispatch (CAD) - PremierOne	$ 13,680.00	VSS
19	API Interface to Computer-Aided Dispatch (CAD) Configuration - Pr	$ 77,520.00	Options
19	Installation Supervisor	$ 43,067.50	Cross Project Labor
19	Subtotal	$ 331,928.50	
	Monthly and Quarterly		
18	Maintenance Support services month 8	$ 118,450.00	Maintenance

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	9
Payment Amount	$ 1,054,970.09
Payment Date	NTP + 9 Months

Task ID	Categories and Associated Tasks	Associated Cost		Cost Proposal TAB
	VMS Configuration			
21	Professional Services	$	317,343.00	VMS
21	Migration of Existing Qognify NiceVision Cameras	$	325,000.00	VMS
21	Data Migration "Flagged/Saved" Footage	$	46,200.00	VSS
21	Additional ACAMS door configuration: 600 and up	$	36,000.00	Options
21	Subtotal	$	724,543.00	
	Monthly and Quarterly			
20	Maintenance Support services month 9	$	118,450.00	Maintenance
22	PM and Administrator labor Increment 3	$	211,977.09	Cross Project Labor

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	10
Payment Amount	$ 318,861.00
Payment Date	NTP + 10 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	Transition Logistics		
24	Training	$ 66,340.00	VMS
24	Workstation Deployment	$ 134,071.00	VMS
24		$ 200,411.00	
	Monthly and Quarterly		
23	Maintenance Support services month 10	$ 118,450.00	Maintenance

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	11
Payment Amount	$ 552,730.00
Payment Date	NTP + 11 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	Burn-in		
27	Burn-in Completion	$ 45,000.00	Cross Project Labor
	CIP projects Support		
26	Completion of CIP VMS/VSS support	$ 389,280.00	VMS
	Monthly and Quarterly		
25	Maintenance Support services month 11	$ 118,450.00	Maintenance

Exhibit A-4: Milestone Payment Schedule

Payment Milestone ID	12
Payment Amount	$ 625,257.24
Payment Date	NTP + 12 Months

Task ID	Categories and Associated Tasks	Associated Cost	Cost Proposal TAB
	Acceptance Testing		
29	System Acceptance Test (SAT)	$ 61,157.25	VMS
29	User Acceptance Test (UAT)	$ 25,756.50	VMS
29	Subtotal	$ 86,913.75	
	Project Closure		
30	Decommissioning	$ 31,650.00	VMS
30	As-Built Documentation	$ 57,266.40	Cross Project Labor
30	Transitional Support Services	$ 119,000.00	Maintenance
30	Subtotal	$ 207,916.40	
	Monthly and Quarterly		
28	Maintenance Support services month 12	$ 118,450.00	Maintenance
31	PM and Administrator labor Increment 4	$ 211,977.09	Cross Project Labor

Exhibit A-4: Milestone Payment Schedule

Task ID	Categories and Associated Tasks	Associated Cost		Cost Proposal TAB
	Project management			
26	Project Manager	$	384,000.00	Cross Project Labor
26	Project Coordinator	$	180,000.00	Cross Project Labor
	Logistics			
27	Shipping and Storage	$	20,028.35	Logistics
27	Parking and logistics	$	25,680.00	Logistics
	Warranty Services	$	238,200.00	Maintenance
	Total for the project duration	$	847,908.35	
	Billing per Quarter	$	211,977.09	