ADDENDUM TO THE CONTRACT

for the

CBJ WASTEWATER TREATMENT PLANT SECURITY CAMERA INSTALLATION
Contract No. BE21-029

ADDENDUM NO.: **ONE**

CURRENT DEADLINE FOR BIDS:
January 20, 2021

PREVIOUS ADDENDA: **NONE**

ISSUED BY:
City and Borough of Juneau
ENGINEERING DEPARTMENT
155 South Seward Street
Juneau, Alaska 99801

DATE ADDENDUM ISSUED: **January 14, 2021**

The following items of the contract are modified as herein indicated. All other items remain the same. This addendum has been issued and is posted online. Please refer to the CBJ Engineering Contracts Division webpage at: http://www.juneau.org/engineering_ftp/contracts/Contracts.php

CLARIFICATIONS:

- Conduit fittings for Hazardous (Classified) Locations: Comply with UL 1203 and NFPA 70.
- Galvanized Rigid Conduit (GRC) are required per specification section 260533 "Raceways and Boxes for Electrical Systems" at Damp, Wet and Hazardous location.
- Although a building permit for this project is not required, bidders are reminded that the work shall meet all Federal, State and local code requirements as stated in Section 00700, 6.8, Laws and Regulations."

QUESTIONS:

Question: *"Is the storage specified sufficient? What is the intended retention goal and at what settings?"*

Response: Yes, reference Project Manual item numbers 1 and 2 in this Addendum.

Question: *"Video Surveillance 282300, 2.2 Standard Cameras, Paragraph B. Does 'Motion Detector: Built-in Digital' indicate 'Record on Motion' camera functionality?"*

Response: Yes.

Question: *"Video Surveillance 282300, 2.2 Standard Cameras, Paragraph C. To which camera(s) does this requirement pertain to?"*

Response: Reference Project Manual item number 1 in this Addendum.

Question: *"Video Surveillance, 282300, 2.3 Reinforced Dome Cameras. To which camera(s) does this requirement pertain to?"*

Response: Reference Drawing Sheet E002, Camera Schedule.

Question: *"Video Surveillance 282300, 2.4 Lenses. To which camera(s) does this requirement pertain to?"*

Response: Reference Drawing Sheet E002, Camera Schedule.

Question: *"Video Surveillance 282300, 2.5 Camera-Supporting Equipment, Paragraph C. To which camera(s) does this requirement pertain to?"*

Response: Reference Drawing Sheet E002, Camera Schedule.

Question: *"Video Surveillance 282300, 2.6 Monitors, Paragraph A, 1. Monitors are provided by Owner. Should the Contractor provide the Metal Cabinets?"*

Response: Reference Drawing Sheet E002, Network Equipment Schedule.

Question: *"Video Surveillance 282300, 2.8 IP Video Systems, Paragraph A, 6. To which camera(s) does this requirement pertain to? Does this also apply to all J-boxes conduits, terminations, etc.?"*

Response: Reference Project Manual item number 1 in this Addendum.

Question: *"Video Surveillance Pg. 282300, 2.9 Video Motion Sensors (interior), All. Does the VMS meet this spec? Or is it camera? What do the outputs get wired to, and what is there intent? Who is responsible for that system?"*

Response: Reference Project Manual item number 1 in this Addendum.

Question: *"Video Surveillance Software 282350, 1.3, Quality Assurance, Paragraph A. Will a minimum of (3) years' experience in surveillance software other than IP Configure be considered sufficient to meet this spec?"*

Response: Yes, reference Project Manual item number 2 in this Addendum.

Question: *"Video Surveillance Software 282350, 2.2 User interface, Paragraph E. Is LPR required?"*

Response: No, reference Project Manual item numbers 1 and 2 in this Addendum.

Question: *"Video Surveillance Software 282350, 2.3 Administrative Interface, Paragraph B. Is this accurate?"*

Response: Yes, reference Project Manual item number 2 in this Addendum.

PROJECT MANUAL:

Item No. 1 SECTION 282300 - VIDEO SURVEILLANCE
Delete in its entirety ***and replace with*** the attached Section 282300.

Item No. 2 SECTION 282350 - VIDEO SURVEILLANCE SOFTWARE
Delete in its entirety ***and replace with*** the attached Section 282350.

By: _____
Greg Smith,
Contract Administrator

Total number of pages contained within this Addendum: 17

SECTION 282300 – VIDEO SURVEILLANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes a video surveillance system consisting of cameras, digital video recorder, data transmission wiring, and a control station with its associated equipment.

1.3 DEFINITIONS

A. AGC: Automatic gain control.

B. B/W: Black and white.

C. CCD: Charge-coupled device.

D. FTP: File transfer protocol.

E. IP: Internet protocol.

F. LAN: Local area network.

G. PC: Personal computer.

H. RAID: Redundant array of independent disks.

I. TCP: Transmission control protocol - connects hosts on the Internet.

J. UPS: Uninterruptible power supply.

K. WAN: Wide area network.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include dimensions and data on features, performance, electrical characteristics, ratings, and finishes.

B. Design Data: Include an equipment list consisting of every piece of equipment by model number, manufacturer, serial number, location, and date of original installation. Add pretesting record of each piece of equipment, listing name of person testing, date of test, set points of

adjustments, name and description of the view of preset positions, description of alarms, and description of unit output responses to an alarm.

1.5 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

B. Product Warranty: Sample of special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For cameras, power supplies, monitors, digital video recorders, and control-station components to include in operation and maintenance manuals. Include the following:

1. Lists of spare parts and replacement components recommended to be stored at the site for ready access.

1.7 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with NECA 1.

C. Comply with NFPA 70.

1.8 PROJECT CONDITIONS

A. Environmental Conditions: Capable of withstanding the following environmental conditions without mechanical or electrical damage or degradation of operating capability:

1. Control Station: Rated for continuous operation in ambient temperatures of 60 to 85 deg F (16 to 29 deg C) and a relative humidity of 20 to 80 percent, noncondensing.
2. Interior, Controlled Environment: System components, except central-station control unit, installed temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 36 to 122 deg F (2 to 50 deg C) dry bulb and 20 to 90 percent relative humidity, noncondensing. Use NEMA 250, Type 1 enclosures.
3. Interior, Uncontrolled Environment: System components installed in non-temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 0 to 122 deg F (minus 18 to plus 50 deg C**)** dry bulb and 20 to 90 percent relative humidity, noncondensing. Use NEMA 250, Type 12 enclosures.
4. Exterior Environment: System components installed in locations exposed to weather shall be rated for continuous operation in ambient temperatures of minus 30 to plus 122 deg F (minus 34 to plus 50 deg C) dry bulb and 20 to 90 percent relative humidity, condensing. Rate for continuous operation when exposed to rain as specified in NEMA 250, winds up

to 85 mph (137 km/h) and snow cover up to 24 inches (610 mm) thick. Use NEMA 250, Type 4X enclosures.

5. Security Environment: Camera housing for use in high-risk areas where surveillance equipment may be subject to physical violence.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of cameras, equipment related to camera operation, and control-station equipment that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SYSTEM REQUIREMENTS

A. Video-signal format shall comply with IP based standard.

B. Surge Protection: Protect components from voltage surges originating external to equipment housing and entering through power, communication, signal, control, or sensing leads. Include surge protection for external wiring of each conductor's entry connection to components.

2.2 STANDARD CAMERAS

A. Basis-of-Design Product: Subject to compliance with requirements, provide products manufactured by Axis Communications.

B. Color Camera:

1. Comply with UL 639.
2. Motion Detector: Built-in digital.

C. Automatic Color Dome Camera: Assembled and tested as a manufactured unit, containing dome assembly, color camera, zoom lens, and receiver/driver.

1. Comply with UL 639.
2. Motion Detector: Built-in digital.

2.3 REINFORCED DOME CAMERAS

A. Camera: Designed for high-abuse locations, with a weathertight mounting, impact-resistance polycarbonate dome, and heavy-gage, 6061 T6 aluminum body.

1. Suitable for exterior environment, rated for continuous operation in ambient temperatures of minus 40 to plus 122 deg F (minus 40 to plus 50 deg C) dry bulb and up to 85 percent relative humidity.

2.4 LENSES

A. Description: Optical-quality coated lens, designed specifically for video-surveillance applications and matched to specified camera. Provide color-corrected lenses with color cameras.

1. Auto-Iris Lens: Electrically controlled iris with circuit set to maintain a constant video level in varying lighting conditions.
2. Fixed Lens: With calibrated focus ring.
3. Zoom Lens: Motorized, remote-controlled unit, rated as "quiet operating." Features include the following:

a. Electrical Leads: Filtered to minimize video signal interference.
b. Motor Speed: Variable.
c. Lens shall be available with preset positioning capability to recall the position of specific scenes.

2.5 CAMERA-SUPPORTING EQUIPMENT

A. Minimum Load Rating: Rated for load in excess of the total weight supported times a minimum safety factor of two.

B. Mounting Brackets for Fixed Cameras: Type matched to items supported and mounting conditions. Include manual pan-and-tilt adjustment.

C. Protective Housings for Fixed and Movable Cameras: Steel or 6061 T6 aluminum enclosures with internal camera mounting and connecting provisions that are matched to camera/lens combination and mounting and installing arrangement of camera to be housed.
1. Camera Viewing Window: Polycarbonate window, aligned with camera lens.
2. Alignment Provisions: Camera mounting shall provide for field aiming of camera and permit removal and reinstallation of camera lens without disturbing camera alignment.
3. Sun shield shall not interfere with normal airflow around the housing.
4. Mounting bracket and hardware for wall or ceiling mounting of the housing. Bracket shall be of same material as the housing; mounting hardware shall be stainless steel.
5. Finish: Housing and mounting bracket shall be factory finished using manufacturer's standard finishing process suitable for the environment.

2.6 MONITORS

A. Color:

1. Metal cabinet units designed for continuous operation.
2. Screen Size 60inch
3. Horizontal Resolution: 1920 x 1080
4. Electrical: 120-V ac, 60 Hz.

2.7 NETWORK VIDEO RECORDERS

A. External storage or internal 250-1, 500-GB hard disk drive.

1. Video and audio recording over TCP/IP network.
2. Video recording of JPEG H.264
3. Duplex Operation: Simultaneous recording and playback.
4. Continuous and motion-based recording.
5. Full-Featured Search Capabilities: Search based on camera, time, or date.
6. Internal RAID storage.
7. Full integration with LAN, Intranet, or Internet through standard Web browser or video management software.
8. Supports number of devices shown on the drawings with allowance 25% more cameras.

2.8 IP VIDEO SYSTEMS

A. Description:

1. System shall provide high-quality delivery and processing of IP-based video, audio, and control data using standard Ethernet-based networks.
2. System shall have seamless integration of all video surveillance and control functions.
3. System design shall include all necessary compression software for high-performance, motion, JPEG H.264 video. Unit shall provide connections for all video cameras, camera control data, bidirectional audio, discreet sensor inputs, and control system outputs.
4. All camera signals shall be compressed, encoded, and delivered onto the network for processing and control by the IP video-management software.
5. Camera system units shall be ruggedly built and designed for extreme adverse environments, complying with NEMA Type 4X environmental standards.
6. All system interconnect cables, workstation PCs, and network intermediate devices shall be provided for full performance of specified system.

2.9 VIDEO MOTION DETECTION

A. Device Performance: Detect changes in video signal within a user-defined protected zone. Video inputs shall be composite video as defined in SMPTE 170M. Provide an alarm output for each video input.

1. Detect movement within protected zone of intruders wearing clothing with a reflectivity that differs from that of background scene by a factor of two. Reject all other changes in video signal.
2. Modular design that allows for expansion or modification of number of inputs.
3. Controls:

    a. Size of detection zones.
    b. Sensitivity of detection of each protected zone.

4. Mounting: Standard 19-inch (483-mm) rack complying with CEA 310-E.

2.10 CONTROL STATIONS

A. Description: Heavy-duty, freestanding, modular, metal furniture units arranged to house electronic equipment. Coordinate component arrangement and wiring with components and wiring of other systems.

B. Equipment Mounting: Standard 19-inch (483-mm) rack complying with CEA 310-E.

C. Normal System Power Supply: 120 V, 60 Hz, through a locked disconnect device and an isolation transformer in central-station control unit. Central-station control unit shall supply power to all components connected to it unless otherwise indicated.

D. Power Continuity for Control Station: Batteries in power supplies of central-station control units and individual system components shall maintain continuous system operation during outages of both normal and backup ac system supply.

1. Batteries: Rechargeable, valve-regulated, recombinant, sealed, lead-acid type with nominal 10-year life expectancy. Capacity adequate to operate portions of system served including audible trouble signal devices for up to four hours and audible and visual alarm devices under alarm conditions for an additional 10 minutes.
2. Battery Charger: Solid-state, fully automatic, variable-charging-rate type. Charger shall recharge fully discharged battery within 24 hours.

E. Annunciation: Indicate change in system condition and switching of system or component to backup power.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine pathway elements intended for cables. Check raceways and other elements for compliance with space allocations, installation tolerance, hazards to camera installation, and other conditions affecting installation.

B. Examine roughing-in for LAN, WAN, and IP network before device installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 VIDEO SURVEILLANCE SYSTEM INSTALLATION

A. Install cameras level and plumb.

B. Set pan unit stops to suit final camera position and to obtain the field of view required for camera. Connect all controls and alarms and adjust.

3.3 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

B. Tests and Inspections:

1. Inspection: Verify that units and controls are properly installed, connected, and labeled, and that interconnecting wires and terminals are identified.
2. Pretesting: Align and adjust system and pretest components, wiring, and functions to verify that they comply with specified requirements. Conduct tests at varying lighting levels, including day and night scenes as applicable. Prepare video-surveillance equipment for acceptance and operational testing as follows:

    a. Prepare equipment list described in "Informational Submittals" Article.
    b. Verify operation of auto-iris lenses.
    c. Set and name all preset positions; consult Owner's personnel.
    d. Set sensitivity of motion detection.

3. Test Schedule: Schedule tests after pretesting has been successfully completed and system has been in normal functional operation for at least 14 days. Provide a minimum of 10 days' notice of test schedule.
4. Operational Tests: Perform operational system tests to verify that system complies with Specifications. Include all modes of system operation. Test equipment for proper operation in all functional modes.

C. Video surveillance system will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.4 ADJUSTING

A. Occupancy Adjustments: When requested within three months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose. Tasks shall include, but are not limited to, the following:

1. Check cable connections.
2. Check proper operation of cameras and lenses. Verify operation of auto-iris lenses and adjust back-focus as needed.
3. Adjust all preset positions; consult Owner's personnel.
4. Recommend changes to cameras, lenses, and associated equipment to improve Owner's use of video surveillance system.
5. Provide a written report of adjustments and recommendations.

3.5 CLEANING

A. Clean installed items using methods and materials recommended in writing by manufacturer.

B. Clean video-surveillance-system components, including camera-housing windows, lenses, and monitor screens.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain video-surveillance equipment.

END OF SECTION 282300

SECTION 282350 - VIDEO SURVILLANCE SOFTWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions Specification Sections, apply to this Section.

1.2 GENERAL REQUIREMENTS

A. The surveillance software shall be of manufacturer's official product line, designed for commercial and industrial use 24/7/365.

B. Available both Windows and Linux software versions for recording and management of video.

C. At a minimum, support live view and recording of 32 IP video sources supporting either H.264 or Motion JPEG.

1.3 QUALITY ASSURANCE

A. All surveillance software installation, configuration, setup, program, and related work shall be performed by technicians thoroughly trained by the manufacturer in the installation and service of the software provided. Minimum of three-year experience with surveillance software is required for the technicians.

B. All software shall be backed by a minimum of a three-year manufacturer warranty.

1.4 CERTIFICATIONS AND STANDARDS

A. The surveillance software at a minimum shall comply with the following approvals:

1. Section 508 – Accessibility Act
2. FDCC – Federal Desktop Core Configuration

B. The video server shall meet or support the following standards.

1. MJPEG & H.264

2. ISO/IEC 14496-10 MPEG-4 Part 10, Advanced Video Coding (H.264)

3. SMPTE 296M (HDTV 720p), SMPTE (HDTV 1080p)
4. Networking:

    a. IEEE 802.1X (Authentication)

b. IEEE 802.3af (Power over Ethernet)
c. IPv4(RFC 791) & IPv6
d. SSL Encryption
e. Quality of Service (QoS)
f. Microsoft Active Directory compliant

1.5 HARDWARE REQUIREMENTS

A. The VMS shall support full functionality for the supported number of cameras when operated on a workstation platform with the following specifications:
1. Equipped with at least a modern-day Intel Core i7 central processing unit (CPU)
2. 16 GB RAM
3. Dedicated graphic card with hardware acceleration and at least 1GB onboard video memory.
4. 1000BaseT Ethernet network port
5. Hard drives with NTFS-file system and SATA 6Gb/sec.

1.6 SOFTWARE REQUIREMENTS

A. The video management system shall support full functionality when operated in any of the following Operating system environments:
1. Windows 10
2. Windows Server 2012
3. Windows Server 2016
4. Ubuntu 16.04 LTS
5. Ubuntu 18.04 LTS
6. Ubuntu 20.04 LTS
7. Red Hat Enterprise Linux 8
8. CentOS 8

B. Remote viewing on a mobile platform will be available with the following software:
1. Chrome version 66 or higher for WebRTC compatibility
2. Internet Explorer
3. Safari

PART 2 - PRODUCTS

2.1 GENERAL

A. Basis-of-Design Product: Subject to compliance with requirements, provide products manufactured by IPCONFIGURE Corporation.

1. Orchid Fusion Video Management System.

B. Description:

1. Accessible from a web-browser and not rely on client software to access live or recorded video or perform administrative tasks available in the system.

2. Capable of supporting unlimited cameras, encoders, servers, locations, and users.
3. Contain the ability to leverage WebRTC native decoding capabilities by using Google Chrome (version 66 or higher) without a 3rd party plug-in requirement.
4. At a minimum, support live view and recording of 32 IP video sources supporting either H.264 or Motion JPEG.
5. Support replay of at least 32 simultaneous IP Video streams, instant replay of a live view event of at least 32 simultaneous IP video streams, and ability to view synchronized delayed playback of at least 32 simultaneous IP video streams.
6. Provide the ability to drag and drop individual cameras and split views in live view and/or playback and save specific viewing layouts for future review on a per-user basis.
7. Contain the ability to leverage WebRTC native decoding capabilities by using Google Chrome (version 66 or higher) without a 3rd party plug-in requirement.

2.2 USER INTERFACE

A. The surveillance software user interface shall:

1. Operate independently of any single operating system and be accessible through an HTML interface compatible with Internet Explorer, Mozilla Firefox, Chrome or Safari browsers while not requiring the installation of client software.
2. Provide unique user login-based camera accessibility through either internal or Active Directory based user access management.
3. Provide real-time display of RSS feeds with source links.

B. Video matrix user interface shall:

1. Support the viewing of up to 30 live video feeds per monitor with the capability of supporting up to 120 live video feeds across four monitors.
2. Offer a custom camera layout based on unique user accounts.
3. Support sharing option of custom layouts to other system users.
4. Rotate (cycle) live cameras on matrix screen based on camera motion detection or timed interval.

C. Archive search and playback interface shall:

1. Present video history in a calendar and search histogram that illustrates activity by each minute.
2. Allow for playback of definable segments of time.
3. Support for thumbnail image search and playback of pre-alarm buffer and post-alarm buffer events.
4. Provide the option to copy video events into a user library for later retrieval while excluding library video events from the first-in-fist-out (FIFO) delete routine.
5. Support search and playback of multiple cameras regardless of their geographic or logical location across the same period of time.
6. Provide the playback of up to 32 cameras simultaneously.
7. Display hourly summaries of recording durations and file size.
8. Support the download of either full-length video or still images.
9. Provide real-time evidentiary video authentication through file hashing based on U.S. Federal Information Processing Standard.

D. Motion Based monitoring interface shall:

1. Display motion-based event information and allow for playback.
2. Display system-based event information to include errors, alerts, and updates.
3. Allow for filtering of which events are displayed and the refresh rate frequency.

2.3 ADMINISTRATIVE INTERFACE

A. The surveillance software administrative interface shall:

1. Operate independently of any single operating system and be accessible through an HTML interface compatible with Internet Explorer, Mozilla Firefox, or Apple Safari browsers and not requiring the installation of PC or MAC client software.
2. Provide a single application interface to manage unlimited numbers of cameras, servers, and users.
3. Offer a pre-defined camera default configuration of basic camera settings to include IP addresses, recording criteria, and camera authentication information.

B. Camera setup interface shall:

1. Be able to display at least 64 different video streams using multiple split views.
2. Be able to display at least 32 different video streams.
3. Allow for independent live and recording frame rate settings.
4. Support drag and drop of video sources within the user interface.
5. Provide for user and security segmentation by group affiliation.
6. Support multiple screens when operating on a computer supporting this.
7. View multiple recording devices though an encrypted (SSL) user interface.

C. Storage configuration shall:

1. Support any size storage volume and not be limited by the number or size of recordings in any single day.

D. Email notification shall:

1. Be transmitted when camera connectivity or transmission failures occur.
2. Support notifications based on a schedule.

2.4 SYSTEM CAPABILITIES

A. System interface shall:

1. Multiple views while simultaneously viewing live and playback.
2. Timeline motion-based searching.
3. System administration.
4. Provide individually and configurable resolution and frame rate for each video source.
5. Provide the ability to copy configured settings from a configured video source and apply the applicable settings to additional, compatible video sources.
6. Provide the ability to search for video based upon time & date, by camera and motion detection event.
7. Operate using static or dynamic IP addresses.
8. Allow for automatic detection of cameras and encoders using ONVIF profile S.

9. Notifications.

2.5 SCALABILITY

A. Security

1. The video server shall for each video channel:

a. Support the use of HTTPS and SSL/TLS, providing the ability to upload signed certificates to encrypt and secure authentication and communication of both administration data and video streams.
b. Support IEEE 802.1x authentication.
c. Provide support for restricting access to pre-defined IP addresses only, so-called IP address filtering.
d. Restrict access to the built-in web server by usernames and passwords.

2. Be managed by group and associated with building and cameras.

B. API support

1. The VMS shall be fully supported by an open and published API, which shall provide necessary information for integration with third party applications.

2. The VMS shall have an API player which allows for embedding of the player from the VMS into another Web Application for third party integration.

C. Maintenance

1. The surveillance software shall:

a. Web browser-based software which allows for configuration of the system to includes, cameras, users, and servers.

2. Customer-specific settings, including statically assigned IP address, the local time and date, event functionality and video configuration, shall be stored in the cameras non-volatile memory and shall not be lost during power outages or soft reset.
3. Monitor cameras by a recording service that can automatically re-initiate recording processes if a malfunction is detected.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Carefully follow instructions in documentation provided by the manufacturer to ensure that all steps have been taken to provide a reliable, easy-to-operate system.

B. All software shall be tested and configured in accordance with instructions provided by the manufacturer prior to installation.

C. All software products shall be the latest versions and most up-to-date builds provided by the manufacturer.

D. All equipment requiring users to log on using a password shall be configured with user/site-specific password/passwords. No system/product default passwords shall be allowed.

E. Final commissioning shall be completed by the manufacturer.

END OF SECTION 282350