SECTION 281353.11 - IP NETWORK COMPATIBLE INTERCOM (IX SYSTEM)

PART 1 - GENERAL

1.1   SECTION INCLUDES

    A.   IP Video Intercom. (Aiphone IX Series)

1.2   RELATED SECTIONS

    A.   Section 33 82 00 - Communications Distribution.

    B.   Section 28 18 00 - Security Access Detection Equipment.

    C.   Section 28 13 53.10 - Security Video Intercom System.

1.3   REFERENCES

    A.   American National Standards Institute (ANSI/TIA/EIA) 568 - Commercial Building Telecommunications Cabling Standard.

    B.   International Organization for Standards (ISO) 9001:2000 - Quality Management Systems - Requirements.

1.4   SYSTEM DESCRIPTION

    A.   IP Network Compatible Video Intercom System: A network-based communication and security system featuring video entry security, internal communication, emergency stations, and paging. All units and app in the systems shall be able to unlock doors remotely on a network, assist onsite visitors from an offsite location, broadcast emergency announcements, and communicate using a PoE network.

        1.   Power Source: Power over Ethernet (802.3af).
        2.   Network Interface: 10 BASE-T / 100 BASE-TX Ethernet (RJ-45).
        3.   Network Protocols: IPv4, IPv6, TCP, UDP, SIP, HTTP, HTTPS, MJPEG, RTSP, RTP, RTCP, IGMP, MLD, SMTP, DHCP, NTP, DNS.
        4.   Bandwidth Usage:
            a.   G.711: 64Kbps x 2 per video call.
            b.   64Kbps per monitor.
            c.   H.264: 24Kbps ~ 2,048Kbps.
        5.   Communication: Hands-free (VOX), push-to-talk (simplex), or handset (full-duplex).
        6.   Video Display: 7-inch color LCD.
        7.   Camera: Type: IX-DV, IX-DVF, IX-DVF-(2)RA, IX-DVF-L, IX-DVF-P, IX-DVF-HWCB
            a.   1/3-inch color CMOS. 1.23 Megapixels.
            b.   View Area at 0-degree camera angle mounted at 4 feet 11 inches (1500 mm) AFF: 2 feet 3 inches (700 mm) vertical x 3 feet 9 inch (1150 mm) horizontal at 19 inches (500 mm).
        8.   Camera: IX-DVM Type:
            a.   1/3-inch 8-type color CMOS. 720p HD, wide dynamic range
            b.   View Area mounted at 4 feet 11 inches (1500 mm) AFF: 4 feet 3 inches (1300 mm) vertical and a range of 170 degrees in a 19 inch (500 mm) horizontal radius.
        9.   Video Stream: ONVIF Profile S.

10. Door Release: Programmable Form C dry contact, 24V AC/ DC, 1A (use RY-1824L for larger contact rating, which requires a 24V DC power supply) or use IXW-MA with 10 multipurpose relays.
11. Wire Type: CAT-5e or CAT-6.
12. Distance:
    a. Any station to Network Node: 330 feet (100 meters).

1.5　SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Shop Drawings: Submit the following:
   1. Wiring Diagrams: Indicate wiring for each item of equipment and interconnections between items of equipment.
   2. Include manufacturer's names, model numbers, ratings, power requirements, equipment layout, device arrangement, complete wiring point-to-point diagrams, and conduit layouts.

D. Installation and Operation Manuals:
   1. Submit manufacturer's installation and operation manual, including operation instructions and component wiring diagrams.
   2. Provide detailed information required for Owner to properly operate equipment.

E. Warranty: Submit manufacturer's standard warranty.

F. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

G. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.6　QUALITY ASSURANCE

A. Manufacturer Qualifications: ISO 9001:2015 certified company.

B. Installer Qualifications: Factory trained and experienced with system installations of scope and size required for the Project.

C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Architect.
   2. Do not proceed with remaining work until workmanship is approved by Architect.
   3. Refinish mock-up area as required to produce acceptable work.

1.7　DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's

instructions.

C.   Handling: Protect materials during handling and installation to prevent damage.

1.8   PROJECT CONDITIONS

A.   Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 - PRODUCTS

2.1   MANUFACTURERS

A.   Acceptable Manufacturer: Aiphone Corp., which is located at: 6670 185th Ave. NE; Redmond, WA 98052 ; Toll Free Tel: 800-692-0200; Tel: 425-455-0510; Fax: 425-455-0071; Email:request info (marketing@aiphone.com); Web:http://www.aiphone.com

B.   Substitutions: Any substitutions must be equivalent or better where requested. Refer to Section 012500 for Substitution Procedures

C.   Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

D.   IP Video Intercom System: IX Series Intercom System as manufactured by Aiphone Corporation.

2.2   SYSTEM DESIGN

A.   Master Stations:
    1.   Model IX-MV7-HB (Black chassis - Handset)

B.   Audio Video Door Stations:
    1.   Model IX-DVF (Video Door Station - Flush Mount - Vandal Resistant)

C.   Provide Selective Door/Gate Release.

D.   Provide Audio/video streaming via ONVIF Profile S.

E.   Provide ONVIF Profile S camera input (max 500).

F.   Provide Contact input at door station.

2.3   FUNCTIONAL COMPONENTS:

A.   Functional Components: As indicated on the drawings or as required to complete system.
    1.   Video Master Station Series IX-MV7:
        a.   Model IX-MV7-HB (Master Station - Black w/Handset).
        b.   An IP addressable video master station with a 7-inch color LCD monitor. It can be wall or desk mounted (desk stand included). The IX-MV7 offers handset (duplex) and hands-free (VOX/PTT) communication and call up to 500 other IX stations. It connects directly to a network using CAT-5e/6 cable. This station

requires an 802.3af compliant Power-over-Ethernet network.
2.   Software Master Station IX-SOFT:
   a.   A software-based master station for Windows based PCs. It can receive calls and communicate with up to 500 other IX stations across a network. An interactive map provides a visual means of selecting and interacting with stations. Device check and Line Supervision functions are available through the software to verify the status of IX stations in the system. Can record video conversations. Requires a single, transferrable license per PC.
3.   IP Programmable Relay Adaptor IXW-MA:
   a.   4 contact inputs and10 relay outputs.
4.   Stainless Steel Enclosure Model SBX-IDVF:
   a.   18-Gauge Stainless Steel Surface Mount Box for IX-SSA and IX-DVF.
   b.   Size: 10-7/16 inches x 5-15/16 inches x 3-5/16 inches (top); 2-5/16 inches (bottom) (265 mm x 151 mm x 84 mm (top); 59 mm (bottom).
   c.   Weather resistant.
   d.   Vandal resistant.
   e.   Inside space for cabling.
   f.   Mounts to flat wall surface.
   g.   Opening at bottom for drainage.

PART 3 - EXECUTION

3.1   EXAMINATION

A.   Examine areas to receive integrated security and communication system.

B.   Notify Architect of conditions that would adversely affect installation or subsequent use.

C.   Do not begin installation until unacceptable conditions are corrected.

3.2   PREPARATION

A.   Verify the following compliance before starting installation.
1.   The unit turns inoperative during power failure.
2.   Keep the intercom wires at least 1 foot (30 cm) away from strong electrical wiring (AC 100-240 V) including, in particular, wiring for inverter electrical appliances. Noise and malfunction could result.
3.   If a strong light shines on the main unit screen, the picture may turn white or only silhouettes will be visible.
4.   Other manufacturer's devices (such as sensor, detectors, door releases) used with this system, comply with the manufacturer's installation requirements.
5.   The LCD panel is manufactured with very high precision techniques, inevitably will have a very small portion of its picture elements always lit or not lit at all. This is not considered a unit malfunction. Please be aware of this in advance.

3.3   INSTALLATION

A.   Install integrated security and communication system in accordance with manufacturer's instructions at locations indicated on the Drawings.

B.   Mount equipment plumb, level, square, and secure. For video entrance stations and video door stations, comply with manufacturer's design requirements to provide optimum picture

quality of station monitoring.

3.4   SET-UP AND ADJUSTING

A.   Adjust integrated security and communication system for proper operation in accordance with manufacturer's instructions.

3.5   DEMONSTRATION AND TRAINING

A.   Demonstration:
1.   Demonstrate that integrated security and communication system functions properly.
2.   Perform demonstration at final system inspection by qualified representative of manufacturer.

B.   Instruction and Training:
1.   Provide instruction and training of Owner's personnel as required for operation of integrated security and communication system.
2.   Provide hands-on demonstration of operation of system components and complete system, including user-level program changes and functions.
3.   Provide instruction and training by qualified representative of manufacturer.

3.6   PROTECTION

A.   Protect installed integrated security and communication system from damage during construction.

END OF SECTION 281353.11