DIVISION 10 SPECIALTIES

Section 10 17 20 – Telephones: Emergency Blue Lights

PART 1: GENERAL

1.01 Scope of Standard

A. This standard provides general guidance concerning the specific preferences of Texas State University.

B. Texas State University recognizes that project conditions and requirements vary, thus precluding the absolute adherence to the items identified herein in all cases guidelines will govern the design and specifications for Texas State University. However, unless there is adequate written justification, it is expected that these guidelines will govern the design and specifications for Texas State University projects.

1.02 Summary

A. Section Includes:

1. Emergency Telephones
2. Stranded power and control cable.
3. Cable connecting hardware, patch panels, and cross-connects.
4. Cable management system.
5. Cabling identification products.
6. Grounding
7. Pathways

B. Related Specifications:

1. Communications Specification Standards – 27 00 00

C. System Requirements:

1. Install Emergency Blue Light Telephone and related hardware.
2. Provide telephones, wide area broadcast equipment, power supplies, communication interfaces, and other related equipment.
3. Provide all required software licenses for telephones and wide area broadcast system.

D. Bidding Requirements:

1. Bidder shall submit complete detailed proposals with line-item cost representation for components and associated installation labor. Lump sum bids will not be accepted.
2. Include as part of the bid response the following item:
    a. Installation schedule with proposed manpower assignments,
    b. Resumes for project manager and lead engineer for this project.

    Review associated electrical, low voltage infrastructure drawings to verify necessary conduit and floor boxes will be provided by others. The Owner will provide no additional infrastructure to support the emergency telephones. Any discrepancies with the identified infrastructure to support these systems should be questioned in the form of a request for information (RFI) during the bidding process. Be responsible for any additional infrastructure requirements after receipt of contract for this project.
3. Unspecified Equipment and Material: Any item of equipment or material not specifically addressed on the drawings or in this document and required to provide complete and functional emergency blue light telephone shall be provided in a level of quality consistent with other specified items.

1.03 References

A. The Codes and Regulations listed below from a part of this specification to the extent referenced. Work shall be performed in accordance with the applicable international, federal, state, and local codes or standards current at the commencement of installation. The following list summarizes applicable standards:
    1. UL 294, UL 1076, ULC
    2. CE
    3. FCC-Part 15, Part 68
    4. NFPA 70, NEC
    5. IEEE, RS 170 variable standard

B. Where more than one code or regulations is applicable, the more stringent shall apply.

C. Cable and equipment installation, identification and termination shall be performed in accordance with the applicable codes above.

1.04 System Description

A. Complete Engineering, installation, and maintenance emergency blue light telephones.

B. Texas State University current telephone communications system standard are in Division 27 Construction Standards.

C. All additional accessories or supporting hardware shall be fully compatible with and able to integrate with existing campus systems.

D. All emergency blue phone installations shall provide adequate housings and environmental controls to ensure proper operation of phone determined by environmental conditions and building usage. Provide protection from accidental and intentional damage or tampering.

1.05 Performance Requirements:

A. Provide as shown on drawing quantity of telephones, speakers, mounts, and controls.

B. All programming of all systems hardware is by the installation contractor. A one-year full parts and labor warranty is specified. Note that the full one-year parts and labor warranty is unconditional and covers all portions of this system form failure, except for acts of God or misuse by the owner. During this one-year period, the security contractor must meet the following performance requirements.

1. Respond Onsite Within Two to Four Hours
2. Advanced Loaners
3. Computerized Dispatch
4. Service technicians certified on Knightscope systems and products.
5. Available 7 days a week, 24 hours a day.

1.06 Submittals

A. Comply with requirements of Submittal Procedures by A/E specifications.

B. Informational Submittal: Submit a detailed bill-of materials listing all part numbers and quantities for this project.

C. Qualification data:

1. List all technical personnel
2. List of all technical personnel factory-certified by Knightscope.
3. Resume of key project manager, and lead technician.

D. Three (3) references from entities using emergency call phone systems (prefer at least one reference from university or higher education entity).

E. Pre-Qualification Certificate as part of this proposal: Submit a letter of approval from the manufactures indication compliance with qualifications requirements. Training certificates for design, engineering and installation of the proposed products shall be submitted with the proposal.

F. Service Dispatch: Submit as part of this proposal an outline containing the type of service program used for dispatching and tracking service calls.

G. Shop Drawings: Required before work can begin. Shop drawings will clearly indicate how work will be performed.

H. Product Literature Sheets: Provide a manufacturer's product cut sheet for each component of the system including each telephone, speaker, interface module, light unit, cabling, conversion device, power supply, mount, stanchion, or other devices to be utilized.

I. Detail Drawings. Provide a detail drawing for each type of telephone and device installation. This should also include device location on floor plans, wiring diagrams and point-to-point charts, and riser diagram.

J. Project Directory. Provide a job directory of your company engineering and installation team including phone, fax, email or mail to each manager, engineer, sales rep, or installer involved in this project.

K. Block Diagrams. Submit block diagrams for emergency blue light telephone system indicating connections of equipment and indicating equipment types and model numbers.

L. Programming Sheets – Submit programming sheets in Excel format showing hardware components location, equipment type, model number, serial number, MAC address, and default IP address.

M. Manuals: Final copies of the manuals shall be delivered within fourteen (14) days after completing the installation test. Each manual's contents shall be identified on the cover. The manual shall include names, addresses, and telephone numbers of the contractor responsible for the installation and maintenance of the system and the factory representatives for each item of equipment for each system. The manuals shall have a table of contents and labeled sections. The final copies delivered after completion of the installation test shall include all modifications made during installation, checkout, and acceptance testing. The manuals shall consist of the following available from the manufacturing:

1. Hardware Manual: The manual shall describe all equipment furnished including:

    a. General description and specifications

    b. Installation and check out procedures

    c. Equipment layout and electrical schematics to the component level

    d. System layout drawings and schematics

    e. Alignment and calibration procedures

    f. Manufacturers repair parts list indicating sources of supply

2. Software Manual: The software manual shall describe the functions of all software and shall include all other information necessary to enable proper loading, testing, and operations. The manual shall include.

    a. Definition of terms and functions

    b. System use and application software

    c. Initialization, startup, and shut down

d. Reports generations

e. Details on forms customization and field parameters

3. Maintenance Manual: The maintenance manual shall include descriptions of maintenance for all equipment including inspection, periodic preventive maintenance, fault diagnosis, and repair or replacement of defective components.

4. Manuals shall be delivered on CD/DVD in an organized fashion based on manufacturer and product.

N. As-Built Drawings: During system installation, maintain a separate hard copy of drawings, elementary diagrams, and wiring diagrams of the emergency blue light telephones to be used for record drawings. This set shall be accurately kept up to date by the Contractor with all changes and additions to the emergency blue light telephones system. The final as-built drawings shall be provided to the end user in DXF format.

1.07 Quality Assurance

A. Installing company must be on a pre-approved list furnished by the owner for installation services for this project.

B. Providers of manufactured components, installation, wiring and testing shall be the responsibility of a single contractor who is an authorized dealer for the product supplied and who has been continuously in business for a period of not less than five (5) years and is licensed as required by the jurisdictions where the work will occur to perform the work specified.

C. Service Support: Provide post-sales service support for all components in the system design that meets requirements:

1. Availability: 7 days a week, 24 hours a day.

2. Response Time: Two to four hours on-site.

3. Advance Replacement:

a. Contractor shall provide advance replacements for any component whenever it is required.

b. The contractor shall be able to provide advance loaners.

1.08 Contractor Performance Requirements

A. Working Hours Response: During normal working hours, all telephone calls placed to the contractor shall be answered by a live person, not an auto-attendant.

B. The contractor shall use a computerized service dispatch system that is a commercial off-the-shelf product used for dispatching service companies. At the end of every week, the contractor will be required to email Texas State University a list of all service calls and their status on an automatic basis. Excel spreadsheets are not acceptable for a service dispatch program.

C. The contractor shall have a dedicated position specifically for managing and dispatching service call for their clients. This position shall perform no other functions except service-related dispatch functions and service.

D. Engineering: The contractor must have field-trained engineers on staff are 100% conversant in AutoCAD and are able to provide the necessary electronic drawings and submittals required for a project of this size.

1.09 Substitutions and Quality:

A. Where products are specified by name, provide and install that product. Substitutions will not be accepted for the emergency blue light telephones system or their sub-system.

1.10 Delivery, Storage, and Handling

A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and materials.

1.11 Project Conditions

A. Environmental Limitations: Do not deliver or install cables, equipment, and connecting materials until wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.12 Coordination

A. Coordinate layout and installation of emergency blue light telephone systems equipment with Infrastructure Services.

1. Meet jointly with Infrastructure Services to exchange information and agree on details of equipment arrangements and installation interfaces.

2. Record agreements reached in meeting and distribute them to other participants.

B. Coordinate layout and installation of the emergency blue light telephone systems cable pathways with telecommunications contractor.

1.13 Warranty

A. During the first year, provide a full-service warranty program that guarantees a two to four hour on-site response, include all parts and labor, and provides advance replacements for any defective components. The installation contractor must qualify as the service organization and provide the on-site warranty service.

B. The system components shall be guaranteed against all defective materials, design and workmanship for a period of one-year from the date of acceptance by the client after final testing. New replacement parts shall be furnished promptly and defects in design and workmanship shall be corrected, without cost to the Owner, promptly upon receipt of notice from the Owner of failure of any part of the system during the guarantee period. This is a one-year full parts and labor warranty and no alternative will be acceptable.

C. Any item failing before the one-year guarantee period expires shall be replaced and the guarantee extended for that item for twelve months from the replacement date of the item.

D. The warranty period for any part which has a warranty by the manufacturer of longer than 12 months shall be for the longer period. Provide a copy of the manufacturer's warranty period statement for all major emergency blue light telephone components.

PART 2: PRODUCTS

2.01 Wiring and Cabling

A. Data transmission cable.

1. All emergency blue light telephone system data wiring, cables, jumpers, and connectors will comply with requirements of Division 27 Construction Standards.

2. Each emergency blue light telephone installation shall be equipped with:

   a. One (1) CAT 6 cable.

   b. One (1) 6 Strand 50 micron laser optimized fiber cable.

   c. All cabling shall be placed in rigid metal conduit, buried at least 24' below finished grade.

3. All emergency blue light telephone system low voltage electrical wire shall be rated and adequate to supply the intended devices full functionality including but not limited to telephone, audio equipment, and lighting without exceeding seventy-five percent (75% of the wire's rated capacity.

4. Sufficient cabling shall be provided to each installation to use all data, audio, dry contact input and output capabilities of the emergency blue light telephone system.

2.02 Electrical Power Needs

A. Emergency blue light telephone power supplies should be located in the device mount or Telecommunication/IDF closets.

B. Emergency blue light telephone system power cables shall not be installed to be within the public view. Any power cables within public view shall be placed in conduit to prevent damage or tampering.

C. Emergency blue light telephone system power supplies shall be connected to the building emergency power systems to insure service in the event of a power failure.

2.03 Mounting Equipment

A. All emergency blue light telephone system housings and mounts shall be installed to the manufacturer's specifications using original parts.

2.04 Data Transmission Resources Needs

A. Contractors shall work closely with the Texas State University Office of Technology Resources via the Office of Facilities Planning design and Construction to ensure adequate computer network and telephone communication resources are available for intended emergency blue light telephone systems.

B. Data cable runs shall be limited to no more than 290 ft. from the emergency blue light telephone installation and data switch. During design and installation close attention should be paid to the distance of cabling runs for emergency blue light telephone.

C. Installations requiring cable runs longer than 290 ft may use the following methods to transmit data to the telecommunications/IDF closet with prior approval by Infrastructure Services.

   1. 6 Strand 50 micron laser optimized fiber with required conversion devices. Data conversion devices must be approved by Infrastructure Services (See Division 27 Construction Standards).

2.05 Products

A. Emergency Blue Light Telephone Stanchion/Tower (with wide area broadcast)

   1. Knightscope K1BLT Tower

      a. AC Powered K1BLT Tower

      b. K1 Faceplate, 1 Button LX200

      c. K1 BLT Wireless Mass Notification Speaker

      d. LED Blue Light

      e. LED Panel Light

      f. K1BLT Rebar Cage Foundation 30” X 15”

B. Emergency Blue Light Telephone Wall Mount

   1. K1BLE Wireless Wall Mounted AC Powered EPhone

   2. K1 Faceplate, 1 Button LX200

C. Knightscope Emergency Blue Light Telephone Stanchion Single Camera Arm

   1. PTZ Camera Mount for K1BLT

PART 3: EXECUTION:

3.01 Examination

A. The contractor shall examine areas and conditions under which the equipment is to be installed and shall notify the general contractor in writing of conditions that are detrimental to proper and timely completion of work.

3.02 Records

A. A record is a collection of information about or related to a specific element of the emergency blue light telephones. Records must be maintained in a computer spreadsheet, or in a computer database. Paper records are encouraged but are optional. A device and cable record are prepared for each device installation. The record will show the device name and must describe the components from origin point and destination point. The device and cable record will record what services and/or connections are assigned to each installed location. An equipment record is prepared for services distributed from a certain piece of equipment, such as a telephone, controller, or a system.

3.03 Drawings

A. Drawings are used to illustrate different stages of emergency blue light system installation planning, installation, and administration.

B. Installation or Construction Drawings

1. Installation or construction drawings are the plans that show the installer how the infrastructure and devices are to be installed. The quality of the installation can be directly impacted by the level of detail in the installation drawings and written specifications. Installation drawings for Texas State projects shall, at a minimum, device installation, show pathway locations and routing, configuration of telecommunications spaces including backboard and equipment rack configurations, and wiring details including identifier assignments.

C. As-built Drawings

1. The as-built drawings graphically document the installed emergency blue light system devices and infrastructure through floor plan, elevation, and details drawings. In many cases, these drawings will differ from the installation drawings because of changes made during construction and specific site conditions. In the as-built drawings, the identifiers for major infrastructure components must be recorded. The pathways, spaces, and wiring portions of the infrastructure each may have separate drawings if warranted by the complexity of the installation, or the scale of the drawings. As-built drawings are a vital component of the administration system, and must be kept current as adds, moves, and changes take place. Texas State requires the installer to provide a complete and accurate set of as-built drawings.

3.04 Labeling and Color Coding

A. Use labeling and color coding found in Division 27 – Communications

END OF SECTION 28 23 00