**SECTION 10 17 16**

**TELEPHONE ENCLOSURES**

**PART 1 GENERAL**

**1.01 SUMMARY**

1. Equipment and materials used shall be standard components that are manufactured and available for purchase as standard replacement parts as long as the product is commercially available from the manufacturer.

**1.02 QUALITY ASSURANCE**

1. All tower installation, configuration, setup, programming, and related work shall be performed by electronic technicians thoroughly trained by the manufacturer in the installation and service of the equipment provided.
2. The tower shall be warrantied against any defects in material and workmanship under normal use for a period of five (5) years from date of installation, provided that manufacturer receives a completed "Installation Certification" certifying the date on which the system has been installed. An "Installation Certification" card shall be enclosed with every unit. In the event that no "Installation Certification" is received by manufacturer, the five (5) years will commence on the date of shipment by the manufacturer.
3. The LED blue light, LED panel light, amplifier, volume control unit, speakers, local audio paging microphone, and power supply shall be warrantied against any defects in material and workmanship under normal use for a period of twenty-four (24) months from date of installation, provided that manufacturer receives a completed "Installation Certification" certifying the date on which the system has been installed. An "Installation Certification" card shall be enclosed with every unit. In the event that no "Installation Certification" is received by manufacturer, the twenty-four (24) months will commence on the date of shipment by the manufacturer.

**1.03 CERTIFICATIONS AND STANDARDS**

1. The tower shall have a Nationally Recognized Testing Laboratory (NRTL) recognized component mark that indicates:
   1. Conformance to ANSI/UL Standards 60950-1 and 60950-22.
   2. Certification to CAN/CSA Standard C22.2 Nos. 60950-1 and 60950-22.
2. The included LED blue light (model: ETP-EL12/24) shall be listed to:
   1. UL Std 1598
   2. CSA Std C22.2 No. 250.0-08
3. The included LED panel light shall be a component recognized by UL to the following standards:
   1. UL Std 1638
   2. CSA 22.2 No. 205-M1983
4. The included power supply shall be a recognized component to:
   1. UL Std 60950-1
   2. CSA Std C22.2 No. 250.0-08

**PART 2 PRODUCTS**

**2.01 GENERAL**

1. The tower shall:
   1. Consist of a highly vandal-resistant free-standing steel call station tower mount with an integrated flashing LED blue light, and built-in audio paging capability.
   2. Have four (4) audio paging speakers with independent volume controls.
   3. Have a local audio paging microphone secured by a lockable door.
   4. Have one (1) integrated LED panel light mounted directly above the call station faceplate.

**2.02 HARDWARE**

1. The tower shall:
   1. Be constructed of 0.25” thick steel and weigh approximately 430 lbs.
   2. Measure:
      1. Tower only: 12.75” W x 11” D x 124” H, with a 2” radius on each corner.
   3. Utilize a high-gloss, multi-coat, corrosion-inhibitive coating that shall be applied to withstand prolonged exposure to hard environments.
      1. Tower shall be sandblasted to SSPC-6 standards before a 2-3 mil layer of rust-inhibitive primer is applied.
      2. Tower shall be hand sanded for smoothness before a second 2-3 mil layer of primer is applied.
      3. Tower shall have a 2-3 mil layer of customer specified color coat applied.
      4. Tower shall have a 1-2 mil layer of clear coat applied.
   4. Have four (4) protected speaker grilles.
   5. Have a pressure compensating aerator to increase airflow and reduce internal condensation.
2. The tower base plate shall:
   1. Be 2.0” above the tower base.
   2. Be constructed of 0.75” A-36 Structural Steel.
   3. Have a 4” diameter center hole for wiring access.
   4. Have four 1” x 2.31” slots for anchor bolt attachment.
3. The tower shall have one wiring access opening for the lower section of the tower and one wiring access opening for the upper section of the tower.
   1. The lower wiring access opening shall:
      1. Measure 11.25” H x 7.5” W.
      2. Be located at 7” above the base of the tower.
   2. The upper wiring access opening shall:
      1. Measure 15.625” H x 6.875” W.
      2. Be located at 61” above the base of the tower.
   3. Each wiring access opening shall have a flush cover plate that shall:
      1. Be constructed of 0.25” thick steel.
      2. Be held in place by eight countersunk, tamper-resistant security screws.
4. The tower shall have an opening in the front to accommodate flush mounting a call station. The call station opening shall:
   1. Measure 10” H x 6.75” W.
   2. Have six self-clinching 10-24 stainless steel threaded nuts to mount the call station.
5. Directly below the tower call station opening, the tower shall have a section with a 30° downward slope from rear to front, spanning the depth of the call station opening to the full tower depth.
6. The tower shall have the word “EMERGENCY” emblazoned on all four sides in 3.25” high reflective white letters. Custom lettering, sizes, and colors are available.
7. The LED blue light shall:
   1. Be mounted within an enclosed protective polycarbonate housing.
   2. Have a polycarbonate refractor lens assembly with a prismatic pattern to increase visibility at greater distances.
8. The tower shall have provision for future mounting of a tower extension arm. This provision shall:
   1. Provide a 2” wire opening surrounded by four pre-drilled holes for mounting the tower extension arm.
   2. Have a flush cover plate that shall:
      1. Be constructed of 0.25” thick steel.
      2. Be located at 91” above the base of the tower.
9. Each side of the tower shall have one (1) audio paging speaker for a total of four (4) audio paging speakers. Each speaker shall:
   1. Be located at minimum 102” above the base of the tower.
   2. Be reentrant horn loudspeaker.
   3. Be constructed for outdoor use.
   4. Have a cable harness to facilitate wiring connections.
10. The tower shall have a local audio paging microphone compartment in the rear. The compartment shall:
    1. Be located at 52” above the base of the tower.
    2. Have a hinged door with lock and handle to secure access.
    3. Have a locking mechanism that requires the use of a physical key.
    4. House the local audio paging microphone.

**2.03 FUNCTIONALITY**

1. LED Blue Light
   1. The LED blue light shall always remain lit.
   2. The LED blue light shall automatically flash 78 times per minute when triggered by the call station.
   3. The LED blue light shall have an illumination rating of 209 lumens (peak).
   4. The LED blue light shall retain 70% of its initial output intensity after 50,000 hours of operation.
2. LED Panel Light
   1. The LED panel light shall always remain lit.
   2. The LED panel light shall have a concealed, ultra-bright LED design.
   3. The LED panel light shall have no less than a 50,000-hour lifetime.
3. Amplifier
   1. The amplifier shall have four (4) separate speaker outputs.
   2. The amplifier shall directly interface with the volume control unit.
   3. The amplifier shall have a standby mode to minimize power consumption when not in use.
   4. The amplifier shall be capable of accepting an external trigger to exit standby mode and power on fully.
4. Volume Control Unit
   1. The volume control unit shall have four (4) separate speaker volume level controls so that each speaker can be individually adjusted.
   2. The volume control unit shall have one (1) line level audio input interface rated for either 600 Ohm or 10K Ohm.
   3. The volume control unit shall have one (1) input for the local audio paging microphone.
5. Audio Paging Speakers
   1. Each audio paging speaker shall have an impedance rating of 8 Ohms.
   2. Each audio paging speaker shall have a rating of 40W.
   3. The array of four (4) audio paging speakers, when used in conjunction with the amplifier and volume control unit, can provide an audio output level of 123 dBA, on-axis at 1.0 meter.
6. Local Audio Paging Microphone
   1. The local audio paging microphone shall provide audio paging at the local tower only.

**2.04 POWER REQUIREMENTS**

1. The tower shall be powered by one of the following power sources:
   1. 120VAC, 50/60Hz, 36 Amps

**2.05 MANUFACTURED UNITS**

1. The tower shall be a Talkaphone WEBS-MT/R Call Station Tower.

**PART 3 EXECUTION**

**3.01 INSTALLATION**

1. The Contractor shall carefully follow instructions in documentation provided by the manufacturer to ensure all steps have been taken to provide a reliable, easy-to-operate system.
2. All equipment shall be tested and configured in accordance with instructions provided by the manufacturer prior to installation.
3. The tower shall include 24-inch long J-bolts for mounting into a 24” x 24” concrete foundation. Depth to vary according to local regulations and other site-specific considerations.
4. The J-bolts shall protrude approximately 5 inches from the surface of the foundation.

**END OF SECTION**