SECTION 27 32 26 RING-DOWN EMERGENCY TELEPHONES AND ANALOG TELEPHONE SUPPORT [DELETE IF NOT APPLICABLE]

PROJECT DECISION REQUIRED BEFORE BID. Conditional section — retain only where the project includes ring-down emergency telephones or other limited analog telephone support, resolved as a matched set with its dependent sections per Issue Checklist C.5 and the design-review coordination of Section 27 05 00 §1.10; otherwise delete this section in its entirety. Confirm the endpoints, counts, serving option, and any power-fail requirement are shown on the Drawings.

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes ring-down/emergency telephones and Division 27 passive cabling, termination, and gateway-interface support for limited analog telephone endpoints, typically emergency telephones and elevator telephone lines, served by Owner-furnished analog voice gateway infrastructure where indicated. Division 27 provides only the analog telecommunications transport path, associated cabling, terminations, and gateway-interface components. Unless specifically indicated otherwise, the ancillary system served by that analog line — including elevator communication equipment, area of refuge / area of rescue assistance equipment, emergency call stations furnished under another division, security/intercom equipment, or other specialty systems — remains the responsibility of the division furnishing that system. This transport-only boundary applies to ancillary systems and devices furnished under another division or section (for example, the elevator car telephone, area of refuge / area of rescue assistance equipment, third-party emergency call stations, and security/intercom equipment). It does not apply to the ring-down/emergency telephones furnished under this Section: the Contractor furnishes, installs, terminates, and tests those emergency telephones (the specified Model No. 397-001 campus standard) as a complete system under Parts 2 and 3 of this Section. Elevator telephone equipment itself is furnished under the applicable elevator/life-safety sections unless specifically indicated otherwise. For elevator telephone lines, the Division 27 demarcation is the termination of the analog line at the elevator machine/control room; the elevator contractor makes the final connection from that demarcation to the elevator car telephone. Limited analog endpoints addressed by this Section may also include building entrance/vestibule emergency telephones and, where served by a Division 27-provided analog line, area of refuge / area of rescue assistance two-way communication. Design-review coordination and the campus answering-point standard (KUPD extension; on-campus dialing only) for these endpoints are addressed in Section 27 05 00 §1.10; power-fail survivability is addressed in §2.1.G of this Section. The area of refuge two-way communication system itself, including its standby power, listing, and pathway survivability, is Division 28 / life-safety scope except for passive cabling/pathway expressly directed under this Division.

1.2 SUBMITTALS

A. Product data for emergency telephones where furnished under this Section, passive analog voice gateway interface components, accessories, mounting/back boxes, and related termination hardware.

PART 2 – PRODUCTS

2.1 EMERGENCY TELEPHONES

A. Manufacturer: Gai-Tronics Corporation. Model No. 397-001. No Substitute (Campus Standard).

B. Rationale: KU emergency telephones are standardized campus-wide on this model for consistency of operation, parts, training, and support. Provide only the specified model unless the Contract Documents include an approved written justification for an alternate. This is a life-safety/public safety standardization decision intended to ensure consistent operation, spares, maintenance, and training across campus. If a procurement form or proprietary justification is required by the Contracting Authority, the Owner will provide the required written justification as part of the procurement record.

C. Provide flush-mount line-powered telephone with brushed stainless steel finish. Provide surface mount in finished areas; surface mount shall not exceed ADA requirements for space intrusion. Provide all back boxes.

D. Provide a complete system terminated and tested for proper operation. The Contractor shall test emergency telephones in conjunction with University Public Safety. Provide location and proper telephone number to University Public Safety.

E. Serving Voice Infrastructure: Analog telephone endpoints, including emergency telephones, elevator telephone lines, and similar limited analog voice needs, are analog (FXS) devices served by an Owner-furnished analog voice gateway registered to the University's Cisco CUCM environment. The gateway, CUCM, and voice trunking are Owner-furnished active equipment (Section 27 05 00 §1.4); Division 27 scope is the passive copper path, gateway interface components, terminations, cross-connects, labeling, testing, documentation, and coordination required to connect the analog endpoint cabling to the Owner-furnished gateway.

F. Copper Connection and Termination (per campus voice convention; confirm topology with KU IT prior to bid): Terminate each analog telephone station cable on a Category 6A RJ-45 patch panel in the MDF/IDF of the building containing the endpoint (the local/project building) and provide analog connection/patching in accordance with Section 27 11 19 §2.3 (Future-Proof Voice Terminations). The serving analog voice gateway is Owner-furnished active equipment provided by KU IT. The passive cabling, gateway interface components, terminations, labeling, testing, and documentation required to connect the voice patch panel — and the 110-style field where used (for example, building entrance protection) — to the Owner-furnished gateway are

provided under this Division unless specifically indicated otherwise. The serving topology shall be one of the following, as designated by KU IT:

1. MDF Gateway (local, in-building): The serving analog voice gateway resides in the project building MDF/IDF. KU IT provides the active analog voice gateway. The Contractor shall provide the passive gateway interface components required for connection to the gateway, as specified in Section 27 11 19 §2.3.F. Connect/patch from the Category 6A voice patch panel to the in-building analog voice gateway using the gateway interface method specified in Section 27 11 19 §2.3.F. No inter-building copper voice backbone or building entrance protection is required for this option unless required for other project voice scope.

2. Stratton — New Copper (dedicated inter-building copper to the campus network center in the Stratton Administration Building): Provide a dedicated copper voice backbone (e.g., 25-pair) from the project building to the campus network center in the Stratton Administration Building via campus OSP duct/manhole pathways (coordinate with Section 27 13 00 OSP requirements and §2.4), and provide building entrance protection where the inter-building copper enters the building (Section 27 11 19 §2.4).

3. Renovation — Existing Inter-Building Copper Protected/Reused: Where an existing inter-building copper path is present and KU IT directs that it remain in service for the same analog telephone purpose after renovation, protect the existing cable and associated termination/protection hardware during construction, identify it as protected-to-remain in the demolition documents per Section 27 05 00 §1.9, include it in cabling counts provided at design review, and reconnect/test it as required. Do not reuse or rely on an existing inter-building copper path unless specifically directed by KU IT.

In each option, the analog telephone station cable lands on the local Category 6A patch panel per Section 27 11 19 §2.3.D; the options above describe the connection/patching path to the serving analog gateway, not a substitute for that local station-cable termination.

G. Operability During Loss of Normal Power (power-fail) [SELECT / DELETE IF NOT REQUIRED]: **PROJECT DECISION REQUIRED BEFORE BID.** Where emergency telephone or other analog telephone endpoint operability during loss of normal building power is required, survivability shall be achieved by serving the endpoints from voice infrastructure that remains powered for the entire call path during the outage, by one of the following (coordinate with KU IT and Division 26):

1. MDF Gateway on emergency power: Where this project includes a generator/standby power system and the serving analog voice gateway is located in the project building, all active equipment in the emergency-call path shall be supplied from building emergency/standby power. Because the analog voice gateway converts the analog line to VoIP, this includes the gateway and its UPS and the serving network switch(es) and building uplink/aggregation electronics carrying VoIP toward CUCM. Coordinate emergency/standby power for all such

equipment with Division 26; the active equipment and UPS are Owner-furnished per Section 27 05 00 §1.4.

2. Home to central infrastructure on emergency power: Where this project does not include standby power, or where an all-passive project building is preferred, achieve survivability by homing the analog telephone endpoints over continuous copper (per the Stratton — New Copper option, F.2, or per Renovation — Existing Inter-Building Copper Protected/Reused where specifically directed by KU IT) to voice infrastructure at the campus network center in the Stratton Administration Building or other KU-designated serving location with emergency power, as confirmed by KU IT. In this case the analog endpoints are line-powered from the remote gateway and require no emergency-powered active equipment within the project building.

Division 27 provides the passive copper path and coordination only; emergency/standby power provisions and the powered active equipment are furnished and coordinated under Division 26 and by the Owner. Confirm the required survivability method, the full powered call path, and the responsible division with KU IT prior to bid.

Clarification: A local UPS provides power-quality conditioning and short-duration ride-through only. It does not, by itself, constitute the emergency/standby power described in Paragraph G.1 above. Survivability under this Section requires the full call path — gateway, UPS, serving switches, and building uplink/aggregation — to be supplied from building emergency/standby power coordinated with Division 26, per Paragraph G.1, or from centrally-powered infrastructure per Paragraph G.2.

PART 3 – EXECUTION

3.1 INSTALLATION AND TESTING (EMERGENCY TELEPHONES AND ANALOG TELEPHONE SUPPORT)

A. Install emergency telephones in accordance with manufacturer instructions and the Contract Documents.

B. Coordinate final locations, mounting details, and required back boxes with the Architect, General Contractor, and KU IT.

C. Test emergency telephones for proper operation and coordinate acceptance testing with University Public Safety and other appropriate Owner representatives.

D. Analog telephone cabling and gateway interface (all analog endpoints): Install and terminate the analog station cabling and the gateway interface components in accordance with Section 27 11 19 §2.3 and §2.3.F. At the time of cabling acceptance, test each analog line for proper termination and continuity (including wire map and opens/shorts) to its endpoint location. This acceptance test does not require the presence of dial tone, because campus voice connectivity to the serving gateway may not be established during the construction period. Operational

verification (dial tone / line operation) is performed separately by KU IT after voice connectivity is established and is not a condition of Division 27 cabling acceptance. For elevator telephone lines, terminate and test the analog line to the Division 27 demarcation at the elevator machine/control room, then coordinate handoff to the elevator contractor, who makes the final connection to the elevator car telephone. Where the cabling is disturbed or damaged after acceptance, KU IT may require a new physical cable test within the warranty period. Document the final voice cross-connect/patching scheme per Section 27 11 19 §2.3.D and Section 27 08 00.