DESIGN & CONSTRUCTION GROUP
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ADDENDUM NO. 2 TO PROJECT NO. 47900

ELECTRICAL WORK
REPLACE NURSE CALL SYSTEM
HELEN HAYES HOSPITAL
ROUTE 9W
WEST HAVERSTRAW, NY

November 2, 2026

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

SPECIFICATIONS

1. SECTION 275223 NURSE CALL SYSTEM: Discard the Section bound in the Project Manual and substitute the accompanying Section (pages 275223 – 1 thru 275223 – 16) noted "Revised 10/30/2026".

END OF ADDENDUM

Brady M. Sherlock, P.E.
Director, Division of Design
Design & Construction

SECTION 275223 – NURSE CALL SYSTEM

PART 1 - GENERAL

1.1 ALLOWANCES

A. An allowance for the following portions of the Work of this Section is included in Section 012100:

1. Services of the Company Field Advisor as described in QUALITY ASSURANCE.
2. All items listed in SUBMITTALS.
3. Engineering and reprogramming associated with the installation of the new equipment and updating existing information.

B. All listed products and services in PARTS 1 and 2 of this section. Except, the following shall be provided (furnished and installed) by the contractor and are not included in the allowance:

1) Network Cables, connectors, and supporting hardware.
2) Markers.
3) Nameplates.
4) Line voltage 120Vac power circuiting.
5) Rack shelving and associated mounting accessories required for the headend hardware.

C. All listed services in PART 3 of this section. Except, the following work listed in PART 3 of this section, shall be provided by the contractor and is not included in the allowance.

1) Contractor/Electrician to assist Company Field Advisor in installation of all system components and devices.

1.2 SYSTEM DESCRIPTION

A. The nurse call system alerts nurses when calls-for-assistance are placed at stations by patients and staff. The system also enables two-way voice communications between master stations (at central nursing stations), patient bedside stations, staff stations, and duty stations.

B. Nurse Call System Nurse/Patient Communications Network:

1. System hardware shall consist of a nurse call network comprised of VoIP nurse consoles, nurse call network controllers, patient stations, power supplies, battery back-up, dome lights, entertainment cords, call cords, pull cord stations, emergency push button stations, wiring and other options such as bed side-rail interfaces, and VoIP staff terminals, as shown on drawings. All necessary equipment required to meet the intent of these specifications, regardless of whether enumerated within these specifications, shall be supplied and installed to provide a complete and operating nurse/patient communications network.
2. System hardware and firmware shall be the product of a single, reputable manufacturer with a proven history of product reliability and sole control over all source code. Manufacturer shall provide a 5-year warranty on all manufactured hardware. System

configuration programming changes shall not require any exchange of parts and shall be capable of being executed remotely via a VPN connection. Any supplier whose equipment cannot support remote system configuration programming and diagnostics via VPN or requires the exchange of parts, chips for system configuration programming changes will not be acceptable.

3. All programming and firmware changes shall be accomplished on a working system without interruption to the normal operation of the system. Therefore, all system switches and controllers, which hold this firmware and system parameters must have DUAL storage. While updates are being made to one set of firmware, the system shall be working and fully functional on the original firmware. It shall be possible to switch to the NEW system control software modules by a single system command. In the event of an error or failure in the update process, the system shall revert to the previous firmware.
4. All communications shall be full duplex audio, not only on handsets, but all loud speaking devices, including patient, staff, duty, staff terminals, and pillow speakers. Systems that do not have full duplex audio or do not have separate microphone and speaker capability within the pillow speakers will not be accepted.
5. All wall mounted stations shall be flush mounted using snap tight cover plates. Sub plates shall be slotted and adjustable for trimming the mounting for "squaring" the vertical and horizontal fit. All screws shall be hidden.
6. Pushbutton and pullcord stations shall have the ability to be recess-mounted so the station faceplate does not protrude from the wall surface.
7. All flush mount station buttons shall use a bio-seal cover to facilitate the use of disinfectant cleaners.
8. Entire Network shall be supervised, including all sub-stations. Reporting of station failure shall be to any designated console, PC, e-mail, or wireless device. Remote diagnostics shall be utilized to quickly locate the source of the problem.
9. Up to 99 different staff levels may be defined within the nurse call network to facilitate workflow within and outside of normal nurse call activity (i.e. environmental services, facilities, transportation, lab, pharmacy, etc.).
10. Nurse call network shall support a VLAN configuration to separate activity in the nurse call network from other hospital LAN traffic. Nurse call network can span multiple subnets on a hospital's LAN.
11. The nurse call network shall support a GUI interface that sits on the hospital LAN. This interface consists of multiple modules such as staff assignment, PC call display, call detail recording, exception reporting, Business Intelligence (BI) functions, etc.
12. Nurse call network shall support any Real Time Locating System (RTLS) via an open architectural interface.
13. Nurse call network shall support any telephone device via an open architectural interface.
14. Nurse call network shall support any ADT system via an open architectural interface.
15. Nurse call network shall support any staff assignment system via an open architectural interface.
16. Nurse call network shall support any data backup system.
17. Nurse call network shall support HL7 integration with 3rd party systems for patient status and workflow including:

    a. Electronic Medical Records (EMR) with bi-directional room status and workflow
    b. Smart Beds (unidirectional bed status including brake status, patient weight, rail status, bed angle, etc.)
    c. Other systems providing HL7 status and event messages.

C. Master Station:

1. Each master station is equipped with indicator lamps:

    a. Busy lamp indicates that system is in use.
    b. Incoming call lamp indicates that a new call has been placed on the system.
    c. Station call lamps (one for each staff station, duty station, patient bedside station, and emergency station).

2. When calls are placed to the master station, a tone sounds, the incoming call lamp, busy lamp, and appropriate station call lamp illuminate. The attendant at the master station presses the automatic answer button:

    a. The station call indicator lamp changes intensity (alternating brilliance).
    b. The tone is silenced.

3. Calls received at the master station during a conversation with another patient or staff station illuminates the incoming call lamp and the appropriate station call lamp. Once illuminated, each station call lamp remains illuminated until the call from that station is answered.
4. The attendant at the master station can initiate calls to patient bedside stations, staff stations, duty stations, and other master stations by dialing the number corresponding to that station. Attendant may use the speaker/microphone or the handset for communication with the station called.

    a. Master station may call and monitor numerous stations simultaneously.

5. When the standby switch in the master station is in listen position, the busy lamp illuminates as a reminder for the attendant at the master station to return the switch to standby position upon conclusion of a conversation.
6. Pressing a cancel or reset button on patient bedside stations, staff stations, duty stations, and emergency stations automatically extinguishes all illuminated signals in the system associated with the call from that station.

D. Patient Bedside Stations:

1. Calls-for-assistance from patient bedside stations are placed on the system as follows:

    a. Patient Bedside Stations: By pressing a button on a call cord connected to the station. (Removing cord from the station also places a call on the system).

2. When a call is placed from a patient bedside station, a call assurance lamp on the station illuminates to verify that the call was placed on the system. (On dual stations, there is a separate call assurance lamp for each patient).
3. Calls from patient bedside stations are annunciated on the system as follows, depending upon position of medical status selector switch on station:

    a. Normal Mode:

1) White lamp illuminates (steady) in corridor light outside of the patient's room (and in corridor light in main corridor if light outside of the patient's room is not readily visible from main corridor).
2) Incoming call lamp and station call lamp associated with the station originating the call illuminate (steady) in each master station.
3) Slow rate audible tone sounds in each master station and duty station.
4) Incoming call lamp in each duty station illuminates.
5) Call assurance lamp, corresponding with patient placing call, illuminates on the patient's station.
6) Calls can be acknowledged and automatically reset from master stations and duty stations.
7) Station can be reset by pushing cancel button at the station.

b. Personal Attention Mode: Same as normal mode, except that station must be reset at the station originating the call (master station cannot reset patient bedside station).
c. Emergency Mode:

1) White lamp flashes in corridor light outside of patient's room (and in corridor light in main corridor if corridor light outside of the patient's room is not readily visible from main corridor).
2) Incoming call lamp in master station illuminates.
3) Station call lamp, associated with the station originating the call, flashes at a rapid rate in the master station.
4) Rapid rate tone sounds in each master station and duty station.
5) Incoming call lamp flashes in each duty station.
6) Call assurance lamp, corresponding with patient placing call, illuminates on patient station.
7) Station can be reset only at station originating the call (master station cannot reset patient bedside station).

4. Patient bedside stations are equipped with a speaker/microphone to allow two-way conversations between bedside station and master station.

a. A privacy lamp on the patient station illuminates when calls from that station are being answered or monitored.

E. Emergency Stations (Lavatory):

1. Calls for assistance from these stations are placed on the system by pressing a pushbutton on the station. Calls are annunciated on the system as follows:

a. White lamp flashes in corridor light outside of the room where call is placed (and in corridor light in main corridor if light outside of the room is not readily visible from the main corridor).
b. In each master station, the incoming call lamp illuminates and the station call lamp for the originating station (or associated patient station) flashes.
c. A rapid rate tone sounds in each master station and duty station.
d. The incoming call lamp flashes in each duty station.
e. The call assurance lamp flashes on the station originating the call.

2. Station can be reset only at station originating the call (master station cannot reset emergency station).

F. Staff Stations:

1. Staff stations are equipped with a call switch, medical status switch, cancel switch, call assurance lamp, privacy lamp, and speaker/microphone which allows two-way communication between the staff station and the master station.

a. Annunciation of calls to or from the staff station is the same as that described for patient bedside station.

G. Duty Stations:

1. Duty stations are equipped with audible and visual indicators which alert staff when calls-for-assistance are placed on the system as follows:

a. An incoming call lamp illuminates and a tone sounds as described for each different type of station above.
b. A switch on the duty station allows the tone to be silenced.
c. When calls are answered at the master station, a busy lamp illuminates at the duty station.

2. Duty stations are equipped with a call switch, cancel switch, call assurance lamp, privacy lamp, and speaker/microphone which allows two-way communication between the duty station and master station.

a. Annunciation of calls to or from the duty station is the same as that described for patient bedside station (in normal mode).

H. Failure of the 120V ac primary (main) power supply automatically transfer the system to its secondary (standby) power supply to maintain all system functions for a minimum of 6 minutes.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

E. Submittals Package: Submit the shop drawings, product data, and quality control submittals specified below at the same time as a package.

F. Shop Drawings:

1. Composite wiring and/or schematic diagrams of the complete system as proposed to be installed (standard diagrams will not be acceptable).
2. Construction details of vandal resistant stations.

G. Product Data:

1. Catalog sheets, specifications and installation instructions.
2. Bill of materials.
3. Detailed description of system operation (format similar to SYSTEM DESCRIPTION).
4. Name, address and telephone number of nearest fully equipped service organization.

H. Quality Control Submittals:

1. Company Field Advisor Data - Include:

   a. Name, business address and telephone number of Company Field Advisor secured for the required services.
   b. Certified statement from the Company listing the qualifications of the Company Field Advisor.
   c. Services and each product for which authorization is given by the Company, listed specifically for this project.

2. Authorized Distributor Letter from manufacturer.

3. Certificate of successful completion of manufacturer's installation/training school for installing technicians of the equipment being proposed.

   a. Manufacturer Rep Letter certifying technician qualifications.

I. Contract Closeout Submittals:

1. Test Report: System acceptance test report.
2. Certificate: Affidavit, signed by the Company Field Advisor and notarized, certifying that the system meets the contract requirements and is operating properly.
3. Operation and Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative. Include:

   a. Operation and maintenance data for each product.
   b. Complete point to point wiring diagrams of entire system as installed. Number all conductors and show all terminations and splices. (Numbers shall correspond to numbered tags installed on each conductor.)
   c. Name, address, and telephone number of nearest fully equipped service organization.

1.4 QUALITY ASSURANCE

A. Source Quality Control: The Company producing the system shall have test facilities available which can demonstrate that the proposed system meets contract requirements.

B. Company Field Advisor: Secure the services of a Company Field Advisor for a minimum of 40 working hours for the following:

1. Render advice regarding installation and final adjustment of the system.
2. Render advice on the suitability of each device for its particular application.
3. Witness final system test and then certify with an affidavit that the system is installed in accordance with the contract documents and is operating properly.
4. Train facility personnel on the operation and maintenance of the system (minimum of two 2-hour sessions).
5. Explain available service programs to facility supervisory personnel for their consideration.

C. Service Availability:

1. A fully equipped service organization capable of guaranteeing response time within 24 hours to service calls shall be available to service the completed Work.
2. A fully equipped service organization capable of guaranteeing response time within 4 hours to emergency service calls for total or catastrophic failure of equipment (i.e. hub or nurse console failure) shall be available to service the completed Work.
3. A fully equipped service organization capable of routine service provided 9 a.m. to 5 p.m., Monday through Friday, excluding holidays. When a minor failure of equipment is reported to contractor, a service person will be on site within 24 hours of notification. (An example of a minor failure includes peripheral equipment such as control stations, entertainment speakers, corridor lights, pull-cord stations, etc. which normally affect only one patient or patient room.).

1.5 MAINTENANCE

A. Spare Parts:

1. 5 spare call cords for patient bedside stations.
2. 5 Pillow Speakers.
3. 5 percent corridor lights.
4. 5 Domeless Controllers.

PART 2 - PRODUCTS

2.1 SYSTEM DESIGN

A. Nurse Call System specified herein is the Rauland Responder® 5 Nurse Call System, compatible with existing infrastructure.

B. The design is structured around Rauland system architecture, capabilities, and performance characteristics to establish a standard of quality, functionality, and integration with the existing to remain system outside the area of work.

2.2 NURSE CALL NETWORK WIRING

A. All Nurse Call Network wiring shall be only CAT 5E or CAT 6. Plenum wire shall be used in open areas and standard CAT 5E or CAT 6 within conduit. System shall be capable of injecting DC power into a CAT 5 or CAT 6 run, for additional rooms, or long runs, by running a separate DC cable pair to a remote location.

2.3 CENTRAL EQUIPMENT

A. Rauland's NC2828 having:

1. Station capacity as indicated on drawings.
2. Rauland's 24 V dc power supply, having:

    a. Power circuits suitable for operation on 120V ac primary (main) power supply.
    b. Battery powered secondary (standby) power supply to operate the system as specified in 1.01 System Description.

3. Backboxes suitable for surface mounting.

2.4 PATIENT STATIONS

A. Provide single patient or dual patient station as shown on plans.

B. Each patient station shall be capable of the following functions:

1. Separate speaker and microphone for full duplex audio. Entertainment audio to be muted when intercom in use.
2. One DIN pillow speaker receptacle per bed that shall have a tilt design, with automatic release of pillow speaker plug when pillow speaker cord is pulled at any angle.
3. Station shall support an optional separate module to interface with feature bed side rail controls to indicate the bed is disconnected. LED on station shall indicate that the bed is disconnected and that a Bed Out call is active.
4. Built in lighting control that interfaces directly to low voltage controllers.
5. One universal 1/4" jack for auxiliary alarm input/call cord per bed. Call priority of these receptacles shall be independent of any other button or receptacle.
6. No dummy plugs required.
7. Cancel button shall cancel any call on this station and any other station in room that is programmed for universal room cancel.
8. Continuous supervision.
9. Ability to service exchange station "hot" without removing system power or powering down the local controller.
10. Ability to program on a per patient station basis, each bed and entertainment/call cord receptacle to custom call priorities.
11. Supply where noted the Enhanced Single Patient Station that includes all the features above, and additionally, two programmable buttons: code blue and staff assist. Optionally these two buttons may be changed to any call process that is selected by OWNER by changing the buttons.

12. Supply where noted for the Enhanced Single Patient Station an optional Clear Button Cover to prevent accidental initiation of the additional programmable buttons. Cover is easy to install and has an easy to lift cover to access the buttons.
13. Unit shall mount in a standard 3-gang electrical box.

C. Patient Station (single): Rauland's 353000, with:

1. Rauland's 354000 call-cord with audio (1 for each station).
2. Rauland's NCBED5 R5 Bed Receptacle.

D. Patient Station (double): Rauland's 354028, with:

1. Rauland's 354000 call-cord with audio (2 for each station).
2. Rauland's NCBED5 R5 Bed Receptacle.

E. Lavatory/Emergency Station: Rauland's 354001 Emergency Station:

1. Call assurance lamp.
2. Cancel pushbutton.
3. Water Resistant.

2.5 DUTY STATIONS

A. Provide as shown on plans a duty station. Unit shall provide remote annunciation of assigned patient stations and sub-stations via 4 LED's and multiple call tones. Duty station faceplate LED's shall mimic corridor light activity for the assigned nursing area. Also provides two-way duplex intercom to the assigned nurse console(s) through separate speaker and microphone. Call tones generated at duty station must be identical and repeat in synch with tones produced at closest nurse console. It shall be possible to mute the call-in tone, without cancelling call. The next call in, assigned to this duty station, will un-mute the station. Muting feature may be defeated in those jurisdictions that do not allow muting of duty station. The duty station shall be capable of being programmed for a specific time that a day/night mode takes place, allowing a volume change to the call-in tones. This feature is required to minimize noise for patients. Unit shall mount in a standard 3-gang electrical box.

B. Duty Station: Rauland's 353100, with backbox for flush mounting.

2.6 SUB-STATIONS

A. Provide as shown on plans, sub-stations which shall be flush mounted in a single gang box. All sub-station cancel buttons will follow the cancel policy as defined in the system configuration. Typically canceling a high-priority call can only be accomplished by the station initiating a call, while lower priority calls may be cancelled by any associated station in the room.

B. Individual sub-stations shall be:

1. Pull cord station shall be waterproof with a minimum ingress protection rating of IP68 (IEC 60529) with a replaceable PVC pull-cord, and easily cleaned surface. The pull-cord

shall have a large, easy to pull plastic "bell" attached. This station may only be cancelable with the room and not cancelable from the nurse console.

2. Pull cord station with Call button shall the same characteristics as above, with the addition of one extra pushbutton for call-in. This button shall be programmable separately from the pull-cord to indicate a different call process (i.e. call caregiver to return to bed) than the pull cord which may indicate an emergency situation. Although this station trims out to a double gang faceplate, the mounting is in a single gang box.
3. Pull cord station with Speaker shall have all the capabilities of the pull cord station with call button, and include a built-in speaker and microphone for communications with the patient. Although this station trims out to a double gang faceplate, the mounting is in a single gang box.
4. Single call button station and Dual button stations shall be water resistant. The buttons shall be back lit and have the ability for a user defined customized call label corresponding to the 990 call priorities available within the system. An elapsed timer may be activated by any call button to start a count up timer on any clock that accepts remote activation.
5. Single and Dual call button station can have an optional Clear Cover to prevent accidental initiation of the call buttons. Clear Cover is easily lifted to access buttons and does not cover the Cancel button for easy cancelation of calls.
6. Remote Cancel Station shall have a large "Cancel" button and will follow the room cancel policy established by the system configuration.
7. Staff Registration station shall have four backlit buttons that allow by default three levels of staff and one Staff Assist Button. Any button can be configured as a staff registration or call button to provide maximum flexibility. Although this station trims out to a double gang faceplate, the mounting is in a single gang box.
8. Bed Status station shall have four backlight buttons: Transport, Cleaning Needed, Cleaning in Progress, Bed Ready. The buttons will indicate the room condition and alert transportation personnel to this room. When the Transport button is depressed, the transport person assigned to this area receives a wireless message to transport this patient, or alternately, transportation dispatcher receives an on-screen display. Environmental Services staff will receive a wireless message that this bed requires cleaning. Environmental Services and nursing supervisors are alerted to the bed's state. Alternately, customized descriptions can be assigned to this station for specific facility needs. Canceling an event maybe accomplished by pressing a button a second time, using the cancel button, or by pressing another button in the chain of events.
9. Supply where noted for the Staff Registration and Bed Status Stations an optional Clear Button Cover to prevent accidental initiation of the additional programmable buttons. Cover is easy to install and has an easy to lift cover to access the buttons.
10. A two-jack auxiliary alarm station shall allow the connection of external patient monitoring devices via two (2) ¼ inch jacks. This allows individual annunciation of patient alarms to nurse call consoles and wireless devices. Each jack may be programmed for one of 990 call processes and may be configured for latching or non-latching. A call-in timer may be set within system configuration to buffer a device that produces intermittent alarms.
11. Remote Tilt Release Pillow Speaker Station shall provide a remote connection for the standard 9 pin DIN connector associated with a patient station. This allows the remote installation of the patient station, while keeping the 9-pin receptacle close to the patient.
12. Provide where noted, a Remote Standard 8 pin DIN Pillow Speaker Station. This station shall function with legacy 8 pin DIN pillow speakers.
13. Provide where noted a Logical Input Station which allows any dry contact closure from an external device to activate a call into the nurse communications network.

14. Provide where noted a Logical Output Station that allows external devices to be controlled from the nurse call network. Either dry contacts or a driver voltage output shall be available

2.7 NURSE CALL CONTROLLERS

A. Furnish as needed in each nursing unit a nurse call network controller. Each controller shall provide the following:

1. Non-blocking, duplex communications between consoles and rooms, sub stations and duplex pillow speakers. Provide for a minimum of 12 dynamically allocated speech paths per controller.
2. CAT 5E or CAT 6 wiring standard utilizing PoE (Power over Ethernet) between console and nurse call controllers and local wiring to power room station equipment and dome lights.
3. VoIP audio to Nurse Call Network, VoIP Nurse Console, VoIP staff terminal, wired or wireless phones via SIP protocol. VoIP digital audio stream out to rooms without IP overhead signaling.
4. Up to 96 corridor lights can be operated with a single controller.

B. Controller must be life safety grade meaning that it shall not require regular rebooting for continued basic functions of system and it shall be possible for controller to act as a standalone controller should loss of network communication occur. Personal Computers may not be used for this purpose. PCs will only be allowed outside of the UL-listed nurse call network on the customer supported LAN.

C. Nurse call controller(s) are connected to the hospital's LAN via Ethernet switches. All life safety functions of the nurse call system such as patient calls, staff calls, and system alarms must be routed through UL1069-listed switches, if switches are used. The nurse call servers also connected to the hospital's LAN are running specialized software for using hospital data resources and telephone communications resources

2.8 VOIP NURSE CONSOLES

A. Furnish as shown on plans, a UL-1069 listed VoIP nurse console capable of the following functions:

1. Full duplex audio
2. Color display

B. 12 or 24 hour time display and synchronization to hospital standard network time from the nurse call gateway server including any daylight savings time changes supported by the network.

C. Display up to 3 incoming calls each with an individual elapsed timer which increments time since call was placed. Also provide the ability to scroll to see more incoming calls.

D. Power over Ethernet powered connection to UL-1069 listed Ethernet controller. No local power supplies required.

E. Choice of hands-free duplex communications through built in speaker and separate microphone or private handset conversation.

F. Ability to create up to 32 soft keys, user-configurable, with 4 buttons, 8 screens deep.

G. Console shall be interactive with an associated PC workstation (user provided) without the necessity of any interconnection to the PC. The work process relationship shall be software defined through the network connections.

H. Tone/mute of calls in progress.

I. Ability to block all nurse call loudspeaker paging to facilitate a low noise patient environment. Password protection can be enabled to only allow authorized access to audio paging.

J. Ability to swing an individual room or any group of rooms by touching one labeled touch point. Room(s) and consoles may be located anywhere within hospital nurse/patient communications network.

K. Console can be programmed to be the receiver of any call that is not answered by another console or can be programmed to receive any call from a console that has failed or has been unplugged, or otherwise not receiving the call (call orphaning).

L. Ability to dial through built in keypad.

M. Self-contained unit which shall not occupy more than 88 square inches of desk space and is desk or wall mountable.

N. Support manual Staff Follow functions. When Staff Follow is enabled, call-tones for a prescribed area will automatically be forwarded to the room station speaker where staff members are located. Staff location may be determined manually by entering the room number into the console or automatically using staff register stations or registration via RTLS. Pressing the call button on that station shall silence the tones. When a new call is placed, the tones shall automatically be restored

2.9 VOIP STAFF TERMINAL

A. Furnish as shown on plans, as part of the nurse call communications network, a UL 1069 listed VoIP Staff Terminal. This dynamic device shall serve as a patient or procedure room communications tool while providing staff with “soft” touchpoints to initiate an instantaneous notification of an in-room need. Additionally, this terminal may be used as a functional nurse call console.

B. The following functions shall be provided:

1. Color touchscreen display.
2. Ability to create up to 60 soft keys, user-configurable, up to 8 screens per terminal.

    a. Sends specific need for that location. Examples: Emergency, Staff Assist, Cleaning Needed, Lifting Help, Transport, Order, Stat Order, Rounding, etc.
    b. Speed dial to any location

3. Power over Ethernet powered connection to UL-1069 listed Ethernet switch. Local power not required.
4. Full duplex audio
5. Hands-free duplex communications through built in speaker and separate microphone.
6. Display up to 3 incoming calls each with an individual elapsed timer which increments time since call was placed. Also provide the ability to scroll to see more incoming calls.
7. Ability to dial through touch keypad.
8. Ability to capture an individual nursing unit, selected units, or all units in hospital by touching single custom labeled touch point.
9. Ability to Bi-Directionally interface to the EMR in order to allow Staff Terminal workflow events to be logged in the EMR and have EMR events (i.e. Fall Risk, Isolation, etc.) activate workflow in the Staff Terminal including corridor light illumination, call placement, and wireless messaging.

2.10 STAFF STATION

A. Provide as shown on plans a staff station. Unit shall provide two-way hands-free duplex intercom to its assigned nurse console(s) by pushing a call-in button. Station shall support an optional module to feature bed side rail control on station to indicate bed connection. LED on station shall indicate bed connection. Unit shall mount in a standard 3-gang electrical box.

B. Master Stations: Rauland's 351206 desk top station.

C. Staff Station: Rauland's 353101, with backbox for flush mounting.

D. Staff Registration Station: Rauland's 354017, with backbox for flush mounting.

2.11 CORRIDOR LIGHTS AND DOMELESS CONTROLLERS

A. Provide as shown on plans, the proper type of corridor light or domeless controller. Corridor lights shall contain four sections, each lighted by a long life, RGB LED capable of producing 7 colors. Each section shall have a diffusion lens which allows for 180-degree horizontal visibility of call lights. The corridor lights shall be capable of the following:

1. All segments of corridor light can indicate a call in any of the following 7 colors: Blue, Red, White, Green, Orange, Yellow, or Pink.
2. Custom call patterns (any combination of light segments, such as all segments blue for code blue).
3. Flash any single color or strobe the sections of the light in any color pattern.

B. Intelligence in the corridor light and domeless controller shall support up to 16 room devices and allow for the ability of any room station to be associated with any other room in the system. This allows special functions where needed, such as associated call stations and cancelling options, (i.e. door monitoring).

C. Staff registration shall be indicated by a custom color associated with that staff level (i.e. Green = Nurse, Orange = LPN, Yellow = Aide).

D. Domeless controllers shall have all the function of the corridor light, less LED's.

E. In the unexpected event of communications loss with the nurse call controller, corridor lights and domeless controllers shall enter a local room failsafe mode showing all calls in the hallway via the LED indicators.

F. Corridor lights and domeless controllers may be hot-swapped on the room-to-room communication line without the loss of communications to other devices on the local network.

G. Supply where noted a Mini Corridor Light that contains 2 sections for use in ward rooms or above bathroom doors. The top section is a White long-life LED and the bottom section is a long life RGB LED capable of producing 7 colors. Each section shall have a diffusion lens which allows for 180-degree horizontal visibility of call lights.

H. Quadruple Corridor Light: Rauland's Model 352012 with:

1. A four-segment lens having segment colors as indicated on drawings.
2. Backbox for surface mounting (ceiling or wall, as required).

I. Domeless Controller: Rauland's 352023

2.12 PATIENT ENTERTAINMENT SPEAKER/CALL CORDS

A. Provide one (1) pillow speaker per bed station and 5% spares. The pillow speaker shall have a mating 9 pin DIN plug and nurse call button. TV control shall be programmed as a system function to allow pillow speakers to work with any standard hospital grade TV. Lighting control is optional to control up to two lights. All pillow speakers to have call assurance and monitor LED's. There shall be three different pillow speaker models.

1. Pillow Speaker: Rauland's GEN4 Plus. 1 or 2 to match each single or double patient station.
2. Enhanced Model: Digital TV control with full duplex communications via built in microphone and separate speaker. There shall be three additional buttons for the use by the patient for special needs, such as "pain", "water", and "toilet". The system shall have the ability to discern the difference between these calls and send it to the appropriate care level. Controls for up/down volume, up/down channel. TV mute, closed caption and TV on/off shall be standard. A direct entry key pad gives patient ability to enter channel number.

2.13 WIRING

A. Conductors: Number of conductors, size and type as recommended by the Company producing the system.

2.14 MARKERS AND NAMEPLATES

A. Markers: Pre-marked self-adhesive; W.H. Brady Co.'s B940, Thomas and Betts Co.'s E-Z Code WSL self-laminating, Ideal Industries' Mylar/Cloth wire markers, or Markwick Corp.'s permanent wire markers.

B. Nameplates: Precision engrave letters and numbers with uniform margins, character size minimum 3/16 inch high.

1. Phenolic: Two color laminated engravers' stock, 1/16-inch minimum thickness, machine engraved to expose inner core color (white).
2. Aluminum: Standard aluminum alloy plate stock, minimum .032 inches thick, engraved areas enamel filled or background enameled with natural aluminum engraved characters.

2.15 ACCESSORIES

A. Include accessories required to perform the functions summarized in SYSTEM DESCRIPTION and indicated on the drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install system in accordance with the Company's printed instructions unless otherwise indicated.

B. Labeling:

1. Use markers to identify conductors at terminal strips, cabinets, and junction boxes (designations shall correspond with point-to-point wiring diagrams).
2. Install nameplate with station designation on each station.

3.2 SUPERVISION

A. Only factory certified installers shall install, service and maintain the specified system

3.3 NEEDS ASSESSMENT

A. Contractor shall provide a Nurse Call Orientation meeting that educates key clinical staff that will be using the nurse call system on the specific hardware (and integrations) they purchased. This includes typical associated workflow processes for those devices. It should conclude with instruction on the process and the data collection methods that will be completed in the subsequent one (1) hour Unit Break-out Meetings with key unit staff. Unit Break-out meetings shall include reviewing the floor plan drawing, gathering details specific to the individual units; coverage and priorities of calls; staffing patterns; and other pertinent details that will affect the training. In-service Scheduling materials will be provided. A staff member list, if needed, will be filled out for inclusion in the software. Information gathered will be provided to Contractor to program the network software as well as being used for In-service Training.

3.4 FIELD QUALITY CONTROL

A. Preliminary System Test:

1. Preparation: Have the Company Field Advisor adjust the completed system and then operate it long enough to assure that it is performing properly.
2. Run a preliminary test for the purpose of:

    a. Determining whether the system is in a suitable condition to conduct an acceptance test.
    b. Checking and adjusting equipment.
    c. Training facility personnel.

B. System Acceptance Test:

1. Preparation: Notify the Director's Representative at least three working days prior to the test so arrangements can be made to have a Facility Representative witness the test.
2. Make the following tests:

    a. Individually test each station.
    b. Test corridor lights.
    c. Test each system function step by step as summarized under SYSTEM DESCRIPTION.

3. Supply all equipment necessary for system adjustment and testing.
4. Submit written report of test results signed by Company Field Advisor and the Director's Representative. Mount a copy of the final report in a plexiglass enclosed frame assembly adjacent to the control equipment.

3.5 IN-SERVICE TRAINING

A. Provide thorough training of all nursing staff assigned to those nursing units receiving needs assessment of new networked nurse/patient communications equipment. This training shall be developed and implemented to address all types of staff determined at the needs-assessment. Floor nurses/staff shall receive training appropriate to their needs, and likewise, unit secretaries (or any person whose specific responsibilities include answering patient calls and dispatching staff) shall receive operational training appropriate to their needs and charge nurses (or any person whose specific responsibilities include scheduling staff to patient assignments) shall receive operational training appropriate to their needs. A separate training room will be set up that allows this type of individualized training utilizing in-service training unit.

3.6 WARRANTY

1. Provide a warranty on the system which shall include all necessary labor and equipment to maintain the system(s) in full operation for a period of one year from the date of acceptance.
2. In addition, the equipment (parts) warranty for all core system components including control / switching equipment, power supplies, patient stations, sub-stations, and nurse consoles shall extend to a total of at least five (5) years. Warranty for ancillary devices such as pillow speakers and call cords shall extend to a total of at least one (1) year.

END OF SECTION 275223