

ELECTRICAL SYSTEM DESCRIPTION

Receptacles:

All the receptacles within project area shall be duplex NEMA 5-20R. Receptacles within patient care areas shall be UL-listed as Hospital Grade. Receptacle within 5 foot radius of water outlet shall be GFCI type to comply with the requirements of latest NEC. All the receptacles will have labeling as per specification.

Lighting:

Lighting system will be designed to comply with the ANSI/ASHAE/IESNA 91.1. All the light fixtures will be energy saving LED type with dimmable driver. Lighting level within exam room will be 50 FC and within corridor areas will be 30 FC as per VA design guide.

All the egress light fixtures and exit lights will be powered from life safety branch of essential electrical system power in order to comply with life safety code.

Lighting Controls:

VA Coatesville prefer to have lighting control as below as oppose to dual technology occupant sensor or vacancy sensor controls recommended in VA lighting design guideline.

- Light fixtures in all the rooms and corridor will be controlled via toggle switches.
- Room with multiple light fixtures will be controlled via 2 or more switches.
- Light fixtures in shared rooms will be controlled via multiple switches.
- Light fixtures within all exam room will be controlled via manual switches.

Cabling:

Each branch circuit homerun shall have no more than three circuits. Each branch circuit homerun shall have separate green insulated equipment ground conductor. All conductors will be type THWN/XHHW. All wire size #10 and larger will be stranded and solid for #12 and smaller.

Panel Boards:

All existing power and lighting panel boards schedule to remain and will used to feed power to electrical devices and light fixtures. Panel FCU-2 that feeds power to all fan coil units is out dated and will be replaced with new panel. Line voltage cabling to existing FCU's not in project scope will be spliced and connected to new panels.

Electrical room on ground floor remains at same location, however existing panel 2DPBL needs to be relocated from south wall to north wall. Risers from panel 2DPBL to panels on first floor electrical room and second floor electrical will be demolished and new risers will be re-routed via relocated first floor electrical room. New feeder cable will be added from source panel located in transformer vault B17 to new location. Electrical room on first floor will be relocated to new location. All the existing panels (CB-2B, LS-2A, and 21L) will be relocated and new feeder cables in new conduits will be added.

VA will furnish battery operated paper towel dispenser and soap dispenser in noted locations.



Raceways:

All the wiring will be new in new raceway as per VA guide lines. All wire will be installed in thin wall E.M.T. conduit with minimum size of 3/4". All thin wall fittings will be of the steel compression gland type. All the conduits 2" or larger will be Galvanized Rigid Steel or intermediate metal conduit.

ALL the Data/voice plenum rated cables and WAP cables support system shall be J-hook type.

Data/Voice ports:

Since there no spare capacity in existing east end 1st floor communication closet available to add new rack to support additional data/voice ports, new communication closet will be added on first floor. New 62.5/125 micron multi-mode backbone cable will be added to connect new telecommunication room to existing telecommunication room.

VA will provide network equipment (switch and router etc.) and GC will provide patch panels for new data/voice communication rack.

Existing east end basement level communication closet can house new 19" rack to support additional data/voice ports for renovated basement area. All the data/communication horizontal cabling will be routed to this existing closet.

Data/voice outlet shall be vertical 3 port type. Below is the Color coding for outlets.

Blue	- Voice
Gray	- Data
Yellow	- Data

WAP Devices:

Existing WAP devices will be re-used for renovated area. All existing WAP devices will be handed over to COR during construction and reinstalled in at the same location as much as possible with new CAT 6 green cables.

Fire Alarm Devices:

VA would like Bancroft A+E to re-use existing Fire Alarm devices and will be given to COR during construction. These devices will be placed at code required locations and will be reconnected to existing fire alarm panel with new signal wiring. Re-programming and final testing for proper operation will be provided at existing fire alarm panel.

PACS System:

As per VA standard, Med rooms will have access control devices. All new access control devices will be connected to existing controller panel in ground level communication room. Card readers will also be provided at entry to staff areas.

PA system:

Existing PA systems tied to the addressable fire alarm system speakers. Existing fire alarm speaker will be re-installed as addressed under fire alarm devices.