



Henderson County Capital Projects

100 North King Street, Suite 206
Hendersonville, North Carolina 28792

Detailed Scope of Work

Contractor will provide all materials and labor for the following scopes of work:

- Complete Structured data cabling solution including cabling, faceplates, jacks, patch panels, 2 post network equipment racks, and any necessary J hooks or other ceiling supports.
- Security cameras (Bosch brand cameras) that will connect to existing S2 enterprise system
- Installation of security cameras, fully adjusted to meet the end user's desired preference.
- S2 Net VR appliances, to support the cameras, that will have a minimum of a 30-day retention time, at full capacity, for all cameras.
- Install software, as required, to run the cameras and fully integrate them into the HCPS S2 enterprise infrastructure, to meet the end user's desired preferences.
- Provide the training necessary to add/replace/integrate cameras into the software and articulate the system to the end user's desired preference. Also, with the ability to contact the awarded contractor for support up to 1 year from the date of completion.
- The contractor will be responsible for providing infrastructure compliance to current standards; including the procurement of products, installation of cabling infrastructure, fire stopping, verification of performance, and documentation.
- In addition, the contractor must be an **S2 authorized vendor** and be able to properly configure all installed security cameras to integrate with HCPS's existing S2 Enterprise infrastructure.
- Contractor employees will act in a professional manner, and dressed appropriately for the task. No person will bring alcoholic beverages, controlled substances, firearms, tobacco, or animals to the jobsite.
- All packing material will be disposed of at the end of each day. The Owner will not be responsible for the loss, theft, or damage of any equipment or material.
- Contractor will follow the security policies and procedures defined by the Owner and HCPS staff. This may include HCPS staff providing key access, and/or a keycard to access the HCPS main IT server room located in the Technology building in Mills River.
- Contractor will be provided physical access to server rooms, for portions of the job, involving S2



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system, and cabling.

- The Contractor will take all precautions necessary to protect existing structures. Any items that are damaged during the course of the work shall be repaired or replaced by the contractor at no cost to the Owner.
- Contractor will install only material that are new and undamaged. Refurbished or used materials are not acceptable.
- Owner expects the workmanship to be of high quality. All equipment will be plumb and true with the structure. All materials will be firmly secured in place, adequately supported, and permanent.
- Owner will consider the project complete when the security camera system is fully functional, the final documentation has been delivered, and the work site has been cleaned to the Owners satisfaction.
- Contractor will provide as-built drawings for camera layout, networking, and cabling pathways, at the completion of the job, on some form of USB media storage device. This information will be non-proprietary in form.
- Contractor agrees to replace or repair, as new, any defective work or materials, which are identified by the Owner within 1 year of final completion date.

System Specifications and Standards

Data Cable standards:

- All CAT 6 cable will be yellow regardless of end use
- All patch cables will be non-booted (i.e. not have any material covering the clip)
- Patch cables (only if necessary) for the network closets should be blue and 1 foot in length
- All camera cables will be labeled at both ends, for identification
- Cable in the ceiling will be kept at least 8-inches above the finished ceiling.
- Cable will be left loose, without cable ties or tape, in cable trays.

Fiber Cable Standards (only if needed):

- Each data/telecom room will interconnect back to the HCPS core network
- All fiber optic will confirm to OS2 Single Mode Fiber specifications
- All fiber optic cable will be terminated into either an existing or new fiber tray
- Fiber optic cables will have sufficient slack to minimize the risk of a pinched cable



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- Where indicated, network closets will also interconnect between floors using fiber optic cable standards outlined above

Security Cameras:

- All security cameras will be Bosch brand cameras
- The contractor will integrate all working Interlogix IP cameras, already in existence, to the new S2 Net VR, where marked on the drawing.

- **Add-Alternate 1:** The contractor is responsible for providing an uninstalled unit price, for future attic stock, **(not to be included in the overall bid price; list separately)**
- **Add-Alternate 2: Career Academy Annex (not to be included in the overall bid price; list separately)** Change out all Avigilon Software/NVR, to S2 NetVR and integrate all existing cameras.
- **Add-Alternate 3: Central Office (not to be included in the overall bid price; list separately)**
- **Add-Alternate 4: Technology (not to be included in the overall bid price; list separately)**

Execution

9 Elementary School campuses of HCPS (with 4 add alternates), as listed.

Furnish and install as needed, Cat6 cabling, cabling hangers, j-hooks, jacks, wall boxes, plates, patch panels, equipment racks, UPS battery backups and all needed appurtenances, for all network and security cameras. All NetVR's will be plugged into a 900VA UPS battery backup. Requests for minor changes such as the addition of network port locations must be provided at the same unit price as the original bid, with no additional charge.

Products

All products will be installed in compliance with the manufacturer's specifications. The Owner has identified products, which are approved for this installation. All data cabling equipment will be UL listed and/or TIA/EIA certified. No substitutions of identified products will be allowed without prior, written, approval.



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1. Horizontal Cabling

- a. The horizontal cabling solution will conform to the Category 6 Cabling Specification {250MHz (up to 550); 1000Mbps}
- b. UTP Cable should be yellow in color

2. Equipment Racks (if needed)

- a. The Equipment racks will be Chatsworth Racks or equivalent, using standard screws

3. Security Cameras

- a. All security cameras will be Bosch brand cameras compatible with HCPS S2 Enterprise System.
- b. All security cameras will support day/night operation
- c. Outdoor security cameras will include all proper mounting equipment, waterproofing and anti-vandalism features
- d. Security cameras will support minimum resolution of 1080P, and will be a minimum of a 5MP, but up to 20mp, depending on range of camera shot. Each camera type and resolution, is determined on the prints included and color coded to the included legends.
- e. Contractor will include all licensing, configuration and installation costs in proposal

4. Security Camera Appliances

- a. S2 Net VR appliances needed, capable of 20% expansion above the installed number of cameras.
- b. Contractor will configure the S2 Net VR appliance to integrate with HCPS existing S2 NetBox Enterprise system.