Computer Hardware and Software Minimum Specifications:

The Contractor shall utilize the minimum technical specifications below in conjunction with the project specific special provisions and submit the vendor supplied information required by the special provisions. Actual types and number of required devices are listed in the project specific special provisions.

1. Desktop Computer – Minimum Specification:
* Models: Only Dell OptiPlex (preferred), HP-Z 200 Series, or an equal if pre-approved by the Connecticut DOT Office of Information Systems, will be entertained.
* Hardware:
	+ - Processor – Intel® Core i5 Processor (3.20 GHz, 1600 MHz FSB 6MB Cache) Memory – 8 GB DDR3 1600MHz
		- Monitor – Dual (2) 24.0 inch LCD color monitor
		- Graphics – Intel Integrated Graphics with support for dual monitors
		- Hard Drive – 500 GB 7200 RPM SATA hard drive (Western Digital, IBM or Seagate) Optical Drive – CD-RW/DVD-RW
		- Multimedia Package – Integrated sound
		- Case – Small Form or Mid Tower, capable of vertical or horizontal orientation
		- Integrated Network Adapter - Intel® 10/100/1000 twisted pair Ethernet
		- Keyboard – 104+ Keyboard
		- External Speakers
		- Uninterrupted power supply – APC Back-Ups 500VA
		- Mouse – Optical 2-button mouse with scroll wheel
		- Internal or external Multi-Card Reader – Must include SD
		- Operating System – Windows 7 Professional 64-bit SP 1 or newer.
	+ Additional (peripheral) Software (Latest Releases, including subscription services for the life of the Contract)- The Contractor shall provide a licensed copy of the software on original media and/or download information, as well as license keys. **The peripheral required software in excess of the operating system shall not be preinstalled, but shall be delivered to OIS with the Computer. The installation will be performed by CTDOT OIS.**
* Application Software – MS Office 2010 Professional Edition (or newer)
* Symantec Endpoint Protection
* Blue-Beam **Revu eXtreme** (*Must be original purchased Licensed Media CD/DVD or authentic digital down load certificate*).
	+ - Adobe Acrobat Professional may be specified as an alternative to Blue-beam Revu eXtreme, upon request by administrating District (*Must be original purchased Licensed Media CD/DVD or authentic digital down load certificate*)
* Resource or Driver CD/DVD(s) – CD/DVD(s) with all drivers and resource information necessary to install all software and hardware (if not supplied the PC will be returned wiped and with no operating system).
* The Contractor shall supply instructions, manuals, maintenance for future software version upgrades, and customer support services offered by each software producer, for the duration of the Contract.

Note A1: All hardware components must be installed before delivery or as instructed by the Office of Information Systems.

1. Laptop Computer – Minimum Specification:
* Models: Only Dell Latitude (preferred), HP (model submitted will be reviewed on a case by case basis), or an equal if approved by the Connecticut DOT Office of Information Systems, will be entertained.
* Hardware:
* Processor – Intel® Core i5 Processor (4th Generation or better) with Intel V-Pro Technology
* Memory – 8 GB
* Screen – 14.0 inch LED anti-glare
* Graphics – Intel HD Graphics 4400 or better
* Hard Drive – 500 GB 7200 rpm hard drive (Western Digital, IBM or Seagate) USB ports – Four (4)
* Optical Drive – CD-RW/DVD-RW Combo
* Multimedia Package – Integrated microphone and speakers
* Integrated Network Adapter – Intel® 10/100/1000 twisted pair Ethernet Wireless Network Adapter – Intel® Centrino a/b/g/n/ac
* Internal or External Card Reader – multi-card reader including SD
* Battery – Two (2) 9-cell batteries: 1-primary and 1-spare
* Power adapters – One (1) AC wall adapter and One (1) 12 Volt DC Auto adapter Mouse – Cordless laser 2-button mouse with scroll wheel
* Carrying Case – Carrying case sized to carry laptop and accessories
* Operating System – Windows 7 Professional 64-Bit SP 1 or newer
* Additional (peripheral) Software (Latest Releases, including subscription services for the life of the Contract)

The Contractor shall provide a licensed copy of the software on original media and/or download information, as well as license keys. **The peripheral required software in excess of the operating system shall not be preinstalled, but shall be delivered to OIS with the Computer. The installation will be performed by CTDOT OIS.**

* Application Software – MS Office 2010 Professional Edition (or newer).
* Symantec Endpoint Protection.
* Blue-Beam **Revu eXtreme** (*Must be original purchased Licensed Media CD/DVD or authentic digital down load certificate*).
	+ Adobe Acrobat Professional may be specified as an alternative to Blue-beam Revu eXtreme, upon request by administrating District (*Must be original purchased Licensed Media CD/DVD or authentic digital down load certificate*)
* Resource or Driver CD/DVD(s) – CD/DVD(s) with all drivers and resource information necessary to install all software and hardware (if not supplied the PC will be returned wiped and with no operating system).
* The Contractor shall supply instructions, manuals, maintenance for future software version upgrades, and customer support services offered by each software producer, for the duration of the Contract.

Note A1: All hardware components must be installed before delivery or as instructed by the Office of Information systems.

1. Multifunction Laser Printer/Copier/Scanner/Fax – Minimum Specification:

The following list of Multifunction Laser Printer/Copier/Scanner/Fax includes the only units that will be **approved** for use in the Field Offices. If you currently have a construction project that is scheduled to start, please ensure that the contractor only supplies one of these printers. No other printers will be approved or supported for new construction projects (**Note: This is separate from the Wi-Fi printer also specified below**).

* For Small and Medium Field offices:
	+ - **Models:** SAVIN B&W Multifunction 9…. Series or SAVIN B&W Multifunction MP…. Series
	+ All multifunction units for small and medium field offices must meet the following special requirements and be supplied with the following peripherals:
		- * Print speed – 20 ppm
			* Resolution – 1,200 x 1,200 dpi
			* Paper size – Up to 216 mm x 355 mm (8.5 in x 14 in)
			* RAM – 16 MB
			* Print Drivers – Must support HP PCL6 and HP PCL5e
			* Printer cable – 1.8 m (6 ft.)
			* All printers/multifunction devices **shall be Network ready** (MIN 10/100 RJ45)
			* Network/OS – Windows XP/Windows 7/Server 2008R2
			* Network Protocols - TCP/IP (IPv4, IPv6)
			* All printers/multifunction devices shall have a built in **display window**.
			* The only supported scanning method is via a Savin Multifunction
			* Wireless/ePrinting are **not** allowed **nor** supported.
* For Large and Extra Large Field offices:
	+ - Model:SAVIN Color Multifunction MP…. series
		- All multifunction units for small and medium field offices must meet the following special requirements and be supplied with the following peripherals:
			* Print speed – 20 ppm
			* Resolution – 1,200 x 1,200 dpi
			* Paper size – Up to (11 in x 17 in)
			* RAM – 16 MB
			* Print Drivers – Must support HP PCL6 and HP PCL5e
			* Printer cable – 1.8 m (6 ft.)
			* All printers/multifunction devices **shall be Network ready** (MIN 10/100 RJ45)
			* Network/OS – Windows XP/Windows 7/Server 2008R2
			* Network Protocols - TCP/IP (IPv4, IPv6)
			* All printers/multifunction devices shall have a built in **display window**.
			* The only supported scanning method is via a Savin Multifunction
			* Wireless/ePrinting are **not** allowed **nor** supported.
1. Field Office Wi-Fi Connection:

The contractor shall provide an internet connection to the field office for the duration of the project. A router shall be provided that is capable of supporting the maximum number of concurrent users listed below. The router must be located within and able to provide an uninterrupted Wi-Fi signal throughout the field office. The internet service will be provided unlimited data and be for the sole use of CTDOT forces and others who may be engaged to augment CTDOT forces with relation to the Contract and be separate from that of any Contractor internet connection. Wireless signal repeaters shall be provided to boost the signal as needed. The contractor shall be responsible for setting up the service in the field office and configuring the router. The Contractor or the internet service provider will be required to set up the router as directed by the Department.

* Wireless Router – Minimum Specifications
* IEEE 802.11n or IEEE 801.11ac
* Dual Band (2.4GHz and 5GHz)
* Security - WPA-2 min.
* Broadband Speeds (Unlimited Data) – Minimum Specification
	+ Small and Medium Field Office (Est. 10 Users) – 25Mbps
	+ Large (Est. 20 Users) – 50Mbps
	+ X-Large ( Est. 50 Users) – 100Mbps
1. Field Office Wi-Fi Printer:

The Contractor shall provide a printer capable of printing from multiple devices connected through a wireless network. The Contractor shall be responsible for setting up and configuring the printer as directed by the Department.

Allowed printers:

* Samsung CLX – 4195FW
* Dell C 1765nfw
* Brother HL 3170 CDW

Or equal if approved by the OOC Technology Coordinator (Call Doug Harz @ 860 594-2681)

* Minimum Specifications
	+ Paper Size – Up to 216 mm x 355 mm (8.5 in x 14 in)
	+ Laser
	+ Wi-Fi Printing Function
	+ B&W and Color Printing
1. Digital Camera – Minimum Specification:
* Optical – 16 mega pixel, with 12x optical zoom Memory – 16 GB
* Features – Date/Time stamp feature
* Connectivity – USB cable or memory card reader
* Software – Must be compatible with Windows 7 Professional 64 -bit
* Power – Rechargeable battery and charger
1. Communications (Cell Phones):
* Smart Phone:
* Phones will be smart phones capable of communicating digitally by voice, as well as the ability to send and receive Text and Numeric messaging, voice mail, caller ID and call waiting.
* Hardware – Minimum Specification (Per Phone)
	+ - Operating System – Limited to either Android or Apple (latest version)
		- Wireless Technology – Phone shall be capable of connecting to a 4G LTE network
		- Calling/Data Packages – The Contractor shall provide a cell phone plan that provides unlimited talk time, unlimited texting, and unlimited data on the Verizon or AT&T 4G LTE networks (The cellular plan for the phones can be combined into one plan).
		- Camera – Minimum 8 Megapixels
		- Video – 1080p format
		- Total Memory – 32 GB minimum (for Android phones a micro SD card slot and 16 GB micro SD memory card may be subtitled for 16 GB of internal memory)
		- Power Adapters – One (1) AC wall adapter and One (1) 12 Volt DC Auto adapter per phone
		- Protective Case – One (1) case that drop protection up to 5 feet and is capable of preventing water and dust intrusion.
* Flip Phone:
* The Contractor shall provide rugged cell phones with unlimited nation-wide talk and text calling plans that operate on the Verizon or AT&T network and provide adequate data allotments for multimedia messages. The phones shall be capable of sending and receiving text and multimedia messages and shall also include voice mail. Additional features beyond those described shall be at no additional cost to the Department. Accessories for each phone shall include holster, AC wall charger, DC auto charger, and extended life battery.
1. Smart Board (only applicable for Extra –large Office):

The Contractor shall provide a SMART Board Interactive Whiteboard System model M680i6, or equal, if pre-approved by the Office of Construction. Call 860-594-2681 for inquiries. Any hardware and documentation necessary to ensure proper equipment operability shall be included. DisplayPort to HDMI adapters and any additional necessary cables shall be included for each computer being connected to the device.

1. Video Projector (only applicable for Extra – Large Office):

The Contractor shall provide an HD Projector model Optoma H181X DLP Projector, or equal, if pre-approved by the Office of Construction. Call 860-594-2681 for inquiries. Any hardware and documentation necessary to ensure proper equipment operability shall be included. DisplayPort to HDMI, mini HDMI to HDMI, or other adapters and any additional necessary cables shall be included for each computer being connected to the device.