CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

INFORMATION TECHNOLOGY MASTER PLAN

ITS DETAILED SPECIFICATIONS

UPDATED 2011

ITMP 2011 UPDATE

5.0 NETWORK INFRASTRUCTURE ACTIVITIES IN SUPPORT OF MEASURE B BOND PROJECTS

CLPCCD District ITS has continued to participate in the design review and construction for new and modernized buildings at the Chabot and Las Positas campuses. The main areas of activity have been:

- Design input to architect teams for current infrastructure.
- Review of IDF spaces: location, size and access.
- Review of voice/data station outlet placement: location, cable density, outlet quantity.
- Conformance to CLPCCD Standards: Category 6A cabling to voice/data outlets, single mode fiber backbones.
- On-site construction review: inspections, punchlists, manufacturer's review and certification, acceptance.

During the 2011 year, the principal construction projects were as follows.

5.1 Chabot Campus Construction

Name	Scope	CLPCCD ITS contribution
B200	UPS installation to support MPOE equipment	- B200 MPOE and temporary MDF had small, limited uptime UPS systems. - 30 KVA UPS was salvaged from B300 during building demolition. - UPS was installed in B200 to feed 60 amp power panel that supplies power to MPOE room. Hot-cut transition was required. - Coordination with Atlas (electrical contractor) and Gruber (UPS maintenance firm) resulted in a smooth installation and startup.
B300	Modernization of Building 300	- Input to Addendums 13 for contract clarification prior to bidding. - Review of submittals for B300 construction. Review and respond to project RFIs. - Onsite coordination with contractors for pathway and cabling issues. - Coordination of OFCI generator including

		bidding, selection and contractor-installation. - Coordination of Inergen system reinstallation into IT computer room, network room and adjacent office spaces. - Inspection of cabling infrastructure. Punchlist for cabling installation. - Completion of renovation in November 2011.
B1800	Modernization of B1800	- Coordination with Hazmat contractor for cabling removal. - Review of contractor qualifications.
B4000	New Strength/ Fitness building	- Pathway review and redesign for backbone routing. - Construction walkthroughs and inspection. - Punchlist for cabling completion.
PE Complex	B2500, 2600, 2700, 2800, 2900	- Review of design drawings. Documentation of necessary corrections and changes. - Coordination with designer for interim connectivity of Central Plant. - Coordination of IDF construction to maintain CUP uptime. - Verification of contractor qualifications.
B1400		- Coordination of Avaya S8800 telephone system upgrades as included in the B1400 construction contract. - Inspection of cabling infrastructure. Punchlist creation.
B1200/1300	Music/PAC Plaza Modernization	- Review of SD and DD drawings - Coordination with A&E team for data backbone interim connectivity for B1300. -
B1700/1800	Math/Science	- Review of CD drawings - Coordination with A&E team for voice/data/video connectivity - Rerouting of Talk-a-phone cabling to maintain connectivity during B1800 remodel.
B2100	Science	- Installation of cabling for wireless connectivity.

5.2 Las Positas Campus Construction

Name	Scope	CLPCCD ITS contribution
CDC	New building construction	- Completion of cabling infrastructure with manufacturer's warranty.
PE III	Fields and FieldHouse new construction	- Inspection of cabling infrastructure for field connectivity. Coordination with security for network connectivity and activation. - Punchlist for cabling installation.
LPC CCA	Building completion	- Punchlist completion of all items. Manufacturer's warranty receipt.
LPC Solar	New construction	- Review of design for network connectivity. - Coordination of current PV network connectivity and integration to Draker system. - Specification of fiber backbone and enclosure. Review of pathway and submittals.
Science	Modernization of existing and construction of new Science Buildings	- Participation in construction process for new Science Building. Attendance at weekly construction meetings. Submittal and RFI reviews with design clarifications. - Participation construction methods to protect underground infrastructure during beam erection. - Coordination of floorboxes and connectivity for GIS lab. - Coordination of upstairs classroom layouts. - Site inspection of backboxes and conduit paths before cabling.
Student Services and Administration (SSA)	New building	- Participation in construction process for new Science Building. Attendance at weekly construction meetings. Submittal and RFI reviews with design clarifications. - Coordination of backbone copper/fiber pullback and storage. Coordination of emergency repair after conduit/cables destroyed during lime treatment.
Emergency Call Station	New project	- Review of device placement and connectivity.

5.3 ADDITIONAL DESIGN ACTIVITY

In addition to the projects described above, CLPCCD District ITS has provided additional expertise for the coordination of proper design/construction activities for:

Security: As additional Access Control, Video Monitoring and Talk-a-Phone connectivity was implemented on the campuses, CLPCCD District ITS continued its role as technical advisor and facilitator to ensure that the configuration and implementation of these security solutions is provided with the appropriate network connectivity and performance. In particular, the ENVS product change to support streaming video, and not store-and-forward video, significantly changed the connectivity from dedicated coax cameras to IP cameras transmitting over the data network. CLPCCD ITS provided the architecture document to outline changes to the Security Standards. Design guidelines and installation requirements for the IP camera cabling infrastructure were detailed so A&E teams could implement the IP camera changes in ongoing and future construction projects. CLPCCD ITS continues to provide ongoing review of AMAG technology that may impact the data network performance, while day-to-day administration of the security systems still remains the responsibility of Campus Police and local campus technology departments.

AV systems: Although AV is the responsibility of the Chabot IT and LPC Technology, CLPCCD District ITS has been involved in discussions of this technology to ensure proper pathway and network connectivity is in place for operation of the AV systems. As AV technology advances, more devices are controlled or intercommunicate on the data network. Reliable connectivity for AV devices is critical for smooth and high-performing smart classroom operation.

Fire Alarm: The LPC Campus Fire Alarm interconnects over a multimode fiber backbone. CLPCCD District ITS has provided support during installation, and troubleshooting/diagnostics of FA panel communication malfunctions.

District Server room. To support the failover/development IBM system, CLPCCD District ITS worked with District M&O and an architect/engineering team for the improvement of the Server room located at the Franklin office. This consisted primarily of mechanical and electrical improvements to bring the facility into compliance for the ongoing operation of the IBM system. This project proceeded to the Schematic Design Phase.

Chabot Telephone system. The B1400 project included a very complex upgrade of the Chabot telephone system and voice cabling. This eliminated the aging Fujitsu system that had previously been housed in B1400. CLPCCD ITS, in

conjunction with Chabot CS, coordinated with the sub-contractors to ensure correct project scope, a smooth implementation and transition to the new system.

Dublin Continuing Education Classrooms. CLPCCD ITS worked on the initial designs of the remodeled second floor classroom spaces for the provisioning of voice, data and AV network infrastructure to the new Continuing Education classrooms.

5.4 NETWORK/SERVER UPGRADE ACTIVITY

- Firewall upgrade - CLPCCD IS was able to upgrade the firewalls at each campus to next generation Cisco ASA devices in failover configuration. These devices will provide CLPCCD campuses with higher performance Internet access and state-of-the-art security protection.
- Server upgrade – CLPCCD ITS implemented the next-generation server technology consisting of HP Blade servers and enclosure. Power and racking upgrades to prepare for the implementation of this technology were performed. Blades servers were successfully implemented and put into production for high capacity information transfers from the Banner system.

7.0 DISASTER RECOVERY

A key element to CLPCCD ITS functionality is the 99.9 percent uptime that is maintained for access to servers by students and staff. During the B300 project, two significant changes occurred to improve the uptime environment:

- **New UPS in B200** - With the B300 construction, the existing 20KVA UPS was removed and stored. This UPS was inadequate to support the servers and network equipment that would be deployed into the new B300 computer room. However, it was moved to B200 and wired into the electrical panel servicing the telephone and network equipment. This allowed CLPCCD ITS and Chabot CS to remove the multiple smaller UPSes that were old and failing. The new UPS can maintain all of the B200 equipment for many hours, in the event of a power failure.
- **New UPS in B300** - Included in the B300 renovation project was the installation of a 30KVA UPS to support the remodeled network and server rooms. The UPS was a Eaton Powerware UPS, of similar grade and capability as the UPSes installed in the LPC IT building.
- **New generator in B300 -** A supplemental project to the B300 construction included the provisioning of a new generator to support the network and server rooms.

CLPCCD ITS worked with manufacturers and electrical contractors for the specification and bidding of a 150KW Cummins generator. This was installed and integrated to a Zenith ATS (automatic transfer switch) which connected to the new electrical provisioning in the B300 remodel.

- **Maintenance –** All of these units are maintained by the same maintenance provider to ensure a consistent and comprehensive support quality across all CLPCCD Server/Network rooms

The result of these upgrades is a robust infrastructure that improves the uptime and access to CLPCCD network and server resources during power fail events.