Exhibit E-4: Network Management Standards

Network Management Standards

The District aims to ensure that all network management standards are accurate, up-to-date, and accessible for instruction, student services and administrative services both on campus and off-campus.

- Usability-The system does what it is supposed to do ensuring efficiency from the user’s perspective.
- Reliability - The system meets availability requirements. (24/7 uptime)
- Performance-The system performs in an adequate manner based on contemporary standards.
- Security-The systems ensures data security, integrity and appropriate access.

We need adequate bandwidth to support instruction for both on-campus & off campus sites

Discussion with the Chancellor’s Office needs to be addressed to update our DS-3 with CENIC.

1.0 Plan to increase the speed of the network backbone. *The minimum standard for any new or renovated buildings should be at least 10GB per second.*

2.0 Standardize network hardware including switches and be consistent with vendors.

3.0 Ensure that we have QoS (Quality of Service) enabled equipment that will let campus needs determine service levels.

4.0 Establish wireless capability for the college district at the current wireless standards or to match the student’s current hardware.

5.0 Establish remote centralized management by testing and monitoring all our networking equipment to facilitate efficient tech support. *Automatic alerts need to be sent to network managers.*

6.0 Establish equipment redundancy to eliminate single points of failure in order to attain our service levels, i.e. 24/7 availability, UPS battery backup protection.

7.0 Provide secure, remote access for Gavilan employees to work from remote locations.

8.0 Provide a system-wide notification of changes in system operations and maintenance schedules.

9.0 Provide a secured environment to ensure integrity and privacy to comply with government standards to include physical connectivity to the network.

10.0 Plan for a network that includes the capability for new technology services and/or infrastructure. For example, this may include video and voice over IP, i.e. convergence.
11.0 Establish the capability of supporting network intrusion, detection, prevention and logging. This includes network access accounting.

12.0 Continue to incorporate anti-virus software and malware protection for the network and desktop stations.

13.0 Control Gavilan network access to external networks.