FLORIDA POLYTECHNIC UNIVERSITY
BOARD OF TRUSTEES

OPERATIONS COMMITTEE

AGENDA
One Poly Place
439 S. Florida Avenue, Suite 300
Lakeland, FL 33801
January 15, 2013
9:00 am - 12:00 pm

Committee Members: Mark Bostick, Dick Hallion, Kevin Hyman, Frank Martin and Bob Stork

1. Call to Order	Ava L. Parker, COO
2. Approval of December 13 Minutes	Ava L. Parker, COO
3. Status of Innovation, Science & Technology Labs	Pete Karamitsanis
4. Campus Systems	Bryan Mehaffey
A. Core Facilities Systems	
B. Back Office Systems	
C. Academic Systems	
5. System Implementation Status	Bryan Mehaffey
6. Campus Connectivity	Bryan Mehaffey
7 Campus Systems Next Steps	Bryan Mehaffey
8. Operations Committee Workplan	Pete Karamitsanis
9. Concluding Remarks and Adjournment	Ava L. Parker, COO

FLORIDA POLYTECHNIC UNIVERSITY
BOARD OF TRUSTEES - OPERATIONS COMMITTEE
January 15, 2013

SUBJECT: Approval of Minutes of Meeting held December 13, 2012

PROPOSED BOARD ACTION

Approval of Minutes of the meeting held on December 13, 2012 in Lakeland, FL.

AUTHORITY FOR BOARD OF TRUSTEES ACTION

Article IX, Section 7, Florida Constitution; Chapter 2012-129, Laws of Florida; Board of Governors Regulation 1.001

BACKGROUND INFORMATION

Trustees will review and approve the minutes of the meeting held December 13, 2012.

Supporting Documentation Included: Minutes December 13, 2012

Facilitators/Presenters: Ava L. Parker, Florida Polytechnic COO

MINUTES
FLORIDA POLYTECHNIC UNIVERSITY
BOARD OF TRUSTEES
OPERATIONS COMMITTEE MEETING
ONE POLY PLACE
LAKELAND, FLORIDA
DECEMBER 13, 2012

I. Call to Order

Florida Polytechnic COO, Ava Parker called the Operations Committee Meeting to order at 8:27 am. Committee members present: Kevin Hyman and Frank Martin. Board Members present: Chair Rob Gidel and Don Wilson.

II. Construction of Phase I

Pete Karamitsanis presented a power point depicting the progression of the campus starting with where we are now and moving through what has yet to be completed. Pete explained how the required ponds were part of the architect's design. The ponds and lakes were all permitted through SWFWMD. Any change to them will require re-permitting through SWFWMD and could result in additional costs. Pete clarified that we have all the retention ponds that are required for the entire campus and they are listed in the Master Plan.

Chair Gidel added that the Architect took the requirements for water retention and incorporated them into an attractive campus setting.

The Construction Team is asking the Committee for $11 million to be encumbered into the Skanska contract to continue construction. The money is appropriated but has not yet been approved for encumbrance by the Committee.

Pete explained that when money is appropriated, then encumbered it is still not "in the bank". As we draw it down, then it is in the bank.

Kevin would like to be able to explain this to the Board and Chair Gidel agreed that the committee needs to understand all this and be able to recommend to the Board. Before we can open the campus to students we will also need to build a Residence Hall ($14 million) and a Student Services Center ($40 million). The Student services center will require private and/or bond money.

Kevin is concerned with knowing what elements are required by SACS for the building in order to proceed with a request for accreditation.

There was much discussion regarding the Architect's rendering of what the campus looks like versus what will be provided in Phase I. Suggestions were raised about contracting for additional drawings which would be more reflective of what our

campus will look like; however, that task would fall on Calatrava and would cost more money. Ava asked that we cost out actual rendering vs. architectural drawings. She wants to see a realistic view which could be used for marketing as well as fund raising.

Moving through the Agenda to Future Construction, Pete showed how the layout allows for growth, how we can add more residence halls and academic buildings on each side of the Innovation, Science and Technology building.

Kevin raised concern with SACS Accreditation Guidelines and Requirements and whether all items in the illustration are in line with SACS. Pete answered that all spaces are flexible in nature so spaces can be used for other classes. In order to determine what programs need to be developed, there is a need first, to know what can be taught in this building. Discussion continued regarding a library. Pete reaffirmed the building's flexibility. The Committee would still like to know what elements SACS will deem as necessary and those elements should be depicted on all drawings we show to SACS.

Tom Belcher gave a brief overview of the rooms in the building (labs, prep rooms, storage, etc). The design of the lab rooms was a collaboration of ideas presented by the deans and faculty and the architect's office.

Moving along to the Central Utility Plant (CUP), the plan is to build only what is needed for Phase I; however, the CUP has the flexibility to grow as the University grows. Initially, capacity is approximate to the Innovation, Science and Technology building, Student Services Center and the Residence Hall. The CUP is ready to be constructed and money is encumbered. This building could be completed by the end of the summer.

Much discussion revolved around the Residence Hall and the Student Services Center; what was the plan prior to the split, and the need for a timeline in order to be up and ready for when the first students arrive on campus. Prior to the split the previous committee followed all CC&A processes for the State, asked and published a request for proposals. Proposals were reviewed and the Committee selected the firm and began negotiations. A master lease was drafted. According to Tim Campbell, he has the paperwork. It has not been reviewed and/or negotiated due to the split.

We can either pick up where we left off or we can look elsewhere which will add 6 – 8 months to the process.

Ava will check with Purchasing to see if we can go back to where we were or if we need to go through the RFQ process.

Don Wilson added that it is common for Universities to sub out the dorms.

Additional discussion revolved around how much influence the Architect has on other buildings. The Committee expressed concern about going back to the Architect. The Board needs to be very cost-conscious. We are here to educate students. We are locked into Calatrava but if we use something else, he could request we take his name off the project. The Master Plan also details the various aspects of the types of buildings we can build. We have design guidelines regardless of who builds it.

Ava wants information prepared which will be presented at one of the next Committee meetings detailing where we are and whether you recommend we go out for another RFQ.

Next, the Student Services Center (formerly the Wellness Center) will be used as a Student Union, Library, small retail and a gym. This center will require $20 million for each of the two phases:

Phase I - $10 million from Mantra (firm originally selected to erect Residence Halls)

$10 million – money already in Foundation ($5 million from Polk County and $5 million from an anonymous donor who has not yet decided yet whether the money will stay with Florida Polytechnic).

Under this assumption, we have $20 million to move forward.

Phase II - $20 million -
$10 million from private funding and
$10 million to come from public funds

III. Approval of November 19 Meeting Minutes

A motion was made by Frank Martin to approve the Operations Committee Meeting Minutes for November 19th. Kevin Hyman seconded the motion and the motion carried and the Minutes were approved.

IV. Technology and Technical Infrastructure

Bryan Mehaffey along with members of APG Electric presented information regarding Technology and Technical Infrastructure. To create a vision of flexibility, there were many conversations with faculty and deans at other universities. The results of these conversations resulted in a diagram with three major elements: 1) facilities, 2) core business and 3) applications (e-library).

There was much discussion regarding the Technology Platform for the first building. This building which will be the model for the rest will provide what we need. These are the core systems. Core facility systems will allow us to receive real time business information and enable us to make real time decisions. A suggestion was made to visit Ava Maria if we want to see the platform in action. It creates a digital campus.

Kevin asked about data centers for other universities providing services to other systems' schools (revenue producing). It was pointed out that USF is already doing this. It sells services because they have the resources to collaborate between business and students. The vision is a strong public/private relationship. There is an opportunity to serve others while bringing in revenue. Now is the time to discuss this.

Ava wanted to know if we will have the infrastructure in place which will allow us to provide shared services. Bryan's response was in the affirmative. We have a good foundation to help our sister campuses, private business and partnerships. Bryan had previously mentioned opportunities he believed were still viable to pair with private industry. Ava and Bryan will meet to discuss options regarding next steps.

V. Potential for Phasing and Deferrals

These are shown on the handout in purple. These are items we can phase or defer into the future. Ava would like to know when these items are actually needed in order to determine if phasing or deferring is feasible.

VI. Overview of Campus Master Plan

A Master Plan determines how and when the campus develops. We need to have 3-4 months to do the Master Plan. A Master Plan was prepared but not approved. Ava would like the board to be educated on what has happened and when we need to make another decision.

VII. Format for Monthly Reporting

Frank expressed an interest in receiving monthly updates on the status of construction. We currently get a monthly report from Skanska which shows the status of the project, draw schedules, Request for Information (RFI's) and shop drawings. This report is prepared on or before the 10th of the month. Frank would like to receive it prior to the committee meetings. They would like photos showing the progress. In addition, they would like the following to be included: any open items with the Design Team, a general description, any decisions made and construction photographs. Chair Gidel recommended the Skanska Report and the Finance Report.

Ava would like the report sent to the Committee so they can make modifications. Kevin would like to be notified of any 60 – 90 day timelines and Frank would like an Executive Summary attached to the front of the report.

VIII. Next Steps

What information should be brought to the full Board on Wednesday. Ava asked Pete to repeat the next stage: $11 million – major infrastructure of site and Ring Road. Additional ponds as part of stormwater. $10 million from Polk County to construct Ring Road. $3.3 million now for work completed. Part of this amount is already spent and part is what we are asking you to approve. Once approved, Skanska will immediately purchase items needed.

Chair Gidel is suggesting approval of additional $11 million to the Skanska contract.

Frank suggested a memo laying out what it is used for and the financial impacts and consequences if not approved. Pete will prepare a memo on Monday and send to Frank and Kevin.

Ava will put together a packet to be sent to the Board prior to the meeting on Wednesday. The full Board will vote on the $11 million on December 19th. Pete will present to Full Board and will be added to the Agenda. Frank would also like to have the Timeline that the Committees can look at.

IX. Status of Lease Agreements

Tim Campbell updated the Committee on the status of offsite property leases.
Blue Sky West – lease terminated 12/31/2012.
Removed personal property to storage
Modifications to space made by contractor

Blue Sky East- Lease expired – currently on month to month
Landlord would like to keep the space as an incubator with PSC paying us for use of the video wall. PSC is working on a proposal and will meet with Ava and Chair Gidel.

Brain Lab – Lease terminates 1/31/2014
Hoping that lease will be forgiven if we enter into an agreement on the media wall.

Pilot Bank – 1st Floor – Monthly Rent paid through 12/31/2012
Lease does not expire until 4/30/2014.

Pilot Bank – 3rd Floor – Prepaid rent through 3/31/2014.

Blue Sky – Wauchula – Lease terminates on 1/13/13. Building has been vacated and owner has already leased property to someone else, so termination date is now 12/10/2012. Since lease payment has already been made for December, rent will be prorated for 10 days and a refund will be issued to Florida Polytechnic.

Interstate Commerce Park – Lease extends to 1/31/15
USF has retained this space for the teach-out.
USF may want to have this lease turned over to them.

Pete requested proposals for moving and storage of equipment from vacated property. Items were crated, shrink wrapped and moved into storage in Orlando, FL. It was cheaper to store in Orlando versus Lakeland.

X. Delegation of Authority to Sign Invoices

After some discussion a motion was made by Kevin Hyman that Ava Parker should have authority to sign invoices for anything less than $100,000. Chair Gidel will retain his authority to sign all invoices greater than $100,000. Frank Martin seconded the motion and the motion was carried.

XI. Concluding Remarks and Adjournment

Frank would like to have a short meeting before the December 19th meeting to go over the request for $11 million dollars to add to the Skanska Contract which will be voted on by the Board. Going forward Frank would like to see the Full Board and Committee Meetings at least 2 full weeks prior to the Full Board Meeting to prepare memos for action. He would like a specific date calendared. Ava suggested an interim committee meeting via conference call. She wants to be certain they have the information they need to make decisions.

Chair Gidel brought up his desire to populate a Strategic Planning Committee on December 19th.

With no further business to discuss, Kevin Hyman motioned that we should adjourn the meeting at 12:15 p.m. Frank Martin seconded the motion and the meeting adjourned.

FLORIDA POLYTECHNIC UNIVERSITY
BOARD OF TRUSTEES – OPERATIONS COMMITTEE
January 15, 2013

SUBJECT: Operations Committee Campus Systems

PROPOSED BOARD ACTION

For discussion.

AUTHORITY FOR BOARD OF TRUSTEES ACTION

Article IX, Section 7, Florida Constitution; Chapter 2012-129, Laws of Florida; Board of Governors Regulation 1.001

BACKGROUND INFORMATION

Operations Committee will discuss the status of the core facilities, back office and academic systems in the Innovation, Science and Technology building. The committee will also consider the issues related to campus connectivity and the timeline for future systems decisions for the Committee and Board.

Supporting Documentation Included: Florida Polytechnic Campus Systems Descriptions

Facilitators/Presenters: Bryan Mehaffey

Florida Polytechnic Campus Systems

Campus Technical ECO System

Technology, today, exists in what can be described as a Technical ECO System. Systems interoperate and converge in order to share data and resources to enhance the capabilities and extend services beyond traditional silos. The user experience demands it and student/faculty attraction and retention counts on it. No one application, transport, or interface resides alone without the need to interact on some level with other platforms; they all serve information flow either up to or receive data down from different systems on campus. FPU Core campus systems have to be designed and implemented based on "ECO Friendly" criteria. No system is immune whereas all systems, today, play a key role in the campus operations, safety, and user experience. Even those technologies that were once facility specific, and did not communicate with other platforms, are now part of the campus Information Technology platform and must conform to design criteria that allows for convergence of data and management within the ECO System.

For example, Building Automation Systems once thought of as an application that was isolated and did not communicate with or on any network within a campus, today, has been reinvented to operate on IP based networks, both wired and wireless. The BAS feeds critical data into data bases, applications and user interfaces which in turn is analyzed for performance and preferences. Another example would be Access Control systems. The access control depends now on the campus network for transport and power to operate. The system receives data from the Enterprise Resource Planning (ERP) and the campus Identity Management System and allows or denies access to valuable campus resources. Access Control must work harmoniously with Identity Management, Human Resources, Student Information Systems and Housing in order to facilitate and protect campus life and ECO System.

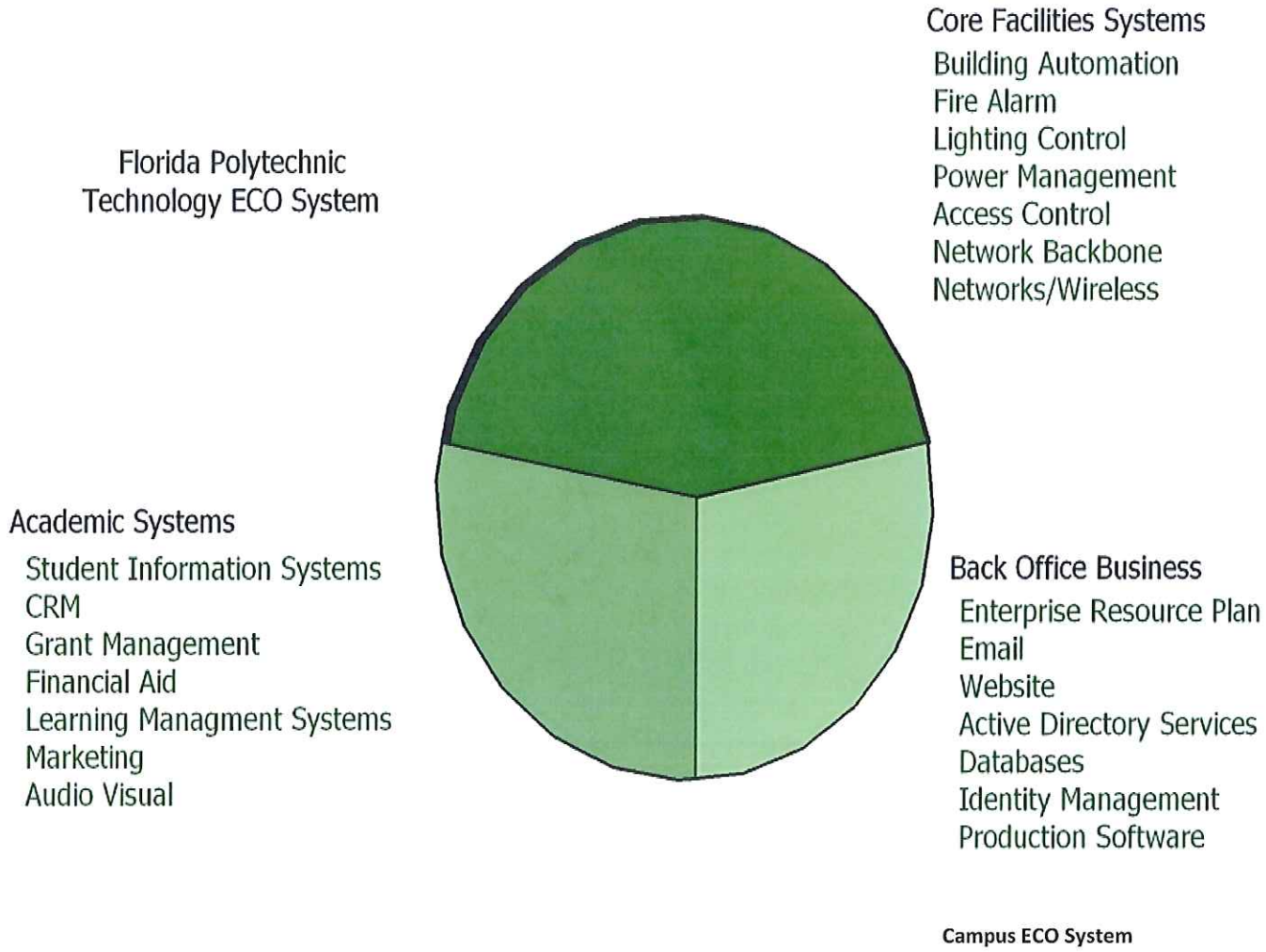
Campus leaders depend on data to make key operational and financial decisions. A system such as Power Management serves as the "report card" for all actions on campus. Data from this valuable system is fed into key reporting systems such as the ERP, CMMS, and Building Automation platforms. Analytics are used to evaluate the performance of the campus and management decisions are made accordingly.

The core strategy for the technology vision and strategy for the technical Solutions for Florida Polytechnic centers on the ECO System.

The design criteria set forth to support the entire development are as follows:

1. Scalable. These systems have to be capable of expansion as the campus grows.
2. Open. No proprietary systems will be permitted. All systems have to be based on standard architecture, open protocols, and non-proprietary interfaces into other systems.
3. Supportable. We must strive to insure that all systems are readily available in the local market and have support services and staff who can support them.
4. Accessible. All systems will be accessible throughout the campus, off campus, and via the web.

5. Transport. A commitment into wireless and Power over Ethernet (POE) will be of utmost importance whereas we wish to leverage as much wireless and POE as possible for communication for cost savings and flexibility.
6. Sustainable. In today's green economy, low energy usage and efficiency have a large impact on the chosen systems and design strategy.
7. All systems will be managed and controlled from the Network Operating Center located in the Central Utility Plant.



Campus ECO System

General Background and Scope of Building Plan

The IST Building – Phase I Facility (Project 555) will primarily provide large multi-user interdisciplinary shared core facilities. The building plan includes two 100-seat classrooms and multiple smaller teaching laboratories to support student enrollment needs in upcoming years. These classrooms will be designed by Florida Polytechnic to meet growth in technology. Teaching laboratories for the disciplines of engineering, sciences, arts, business and information technology will provide space for interdisciplinary laboratory courses, as well as more traditional upper and lower division courses as needed. Multiple commons spaces for students, faculty and support staff are also included in the project.

The ECO System space in this building is designed to promote interdisciplinary research and teaching.

Polytechnic ideals are strongly oriented toward interdisciplinary, collaborative relationships – between faculty members, support staff, student support, and others. The concept of a commons is strongly evocative of these interactions; the co-location and interweaving of faculty members across disciplines, for example, encourages and facilitates the dynamic exchange of ideas so critical for interdisciplinary learning. The close physical proximity of faculty, staff and students creates a collection of "critical masses," providing constant opportunities for productive interaction. The technology program will encourage the success of this culture.

The gross square footage of the facility is approximately 160,000 square feet. The parcel is approximately 200 acres.

History

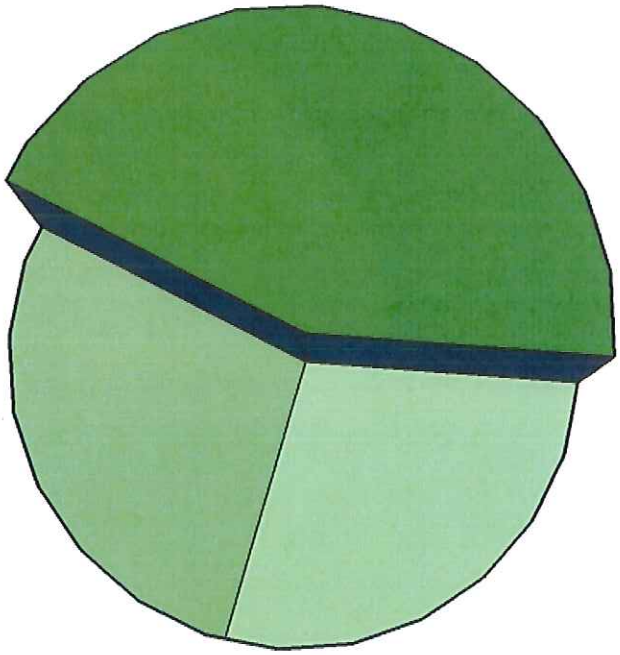
The design process of the core systems was a design build approach. This approach was broken into two parts, the design team, and the build team respectively. The design team, selected by Skanska Construction the Construction Manager for this project. The primary liaison for information was Bryan Mehaffey, then Director of Facilities for USF Polytechnic. The build team was organized by Skanska through a bid process. APG Electric was selected and serves as the sub-contractor for this implementation.

In order to facilitate the flow of information from the Polytechnic, Mr. Mehaffey conducted information sharing and approach meetings with key USFP staff and faculty and Senior Leadership. Mr. Mehaffey brought the results of those meetings into the design and relayed information to the design team. All criteria were approved by USF Poly leadership.

Details for all the technologies can be found in Specifications for Divisions 25, 26, 27, and 28 respectively.

The Core Facilities Systems

Florida Polytechnic
Technology ECO System



IST Core Facilities Systems:
Building Automation
Fire Alarm
Lighting Control
Power Management
Access Control
Network Backbone
Networks/Wireless

Core Campus Facilities Technology

Systems Included in Phase 1 IST GMP

Through and RFP Process, Skanska Construction, selected APG and awarded the contract to implement the initial campus technical systems for the IST building. The Back Office and Academic platforms have not be completed.

Integrated Building System (Schneider Electric: Citect)

The Integrated Building System (IBS) is the anchor of campus operations allowing for the seamless integration of campus SCADA systems such as Building Automation Systems (BAS), Operable Louvre System, Photovoltaic System (once purchased), Lighting Control, Power Management, Life Safety Systems, Generators and UPS, Elevators, and others, onto a single management platform. The IBS will provide for multi-vendor and multi product integration allowing for seamless communications between all systems on campus to occur. In addition the IBS will provide a single management point for all systems. The IBS will provide for immediate feedback and data for building and campus performance allowing for optimization of conditions and efficient utility utilization.

The IBS will be the graphical user interface that will allow for visual feedback for campus performance and conditions. The IBS will be the Human Machine Interface for monitoring and management of the

building systems. All sub systems on campus allow for API interface and utilize open communication protocols and data bases to allow for the seamless integration and interfacing with the IBS. The full breakdown of how the IBS communicates and operates can be found in Division 25 and the IBS Scope of work.

It is the intent of this system to allow for the campus to grow over a period of time and reduce the impact of disparate platforms that plague older campuses. This sustainable platform will allow for competitive bidding to continue, comprehensive improvements to product performance and upgrades without affecting the user experience on campus.

The IBS will allow for cloud based applications to interface and provide data reporting and management from the campus ECO Systems. Further details are available in the IBS scope. The IBS will allow for interaction via tablet interfaces such as tablets and smart phones.

Building Automation and Control (Johnson Controls: Metasys)

The BAS will provide the primary controls of two major components of Campus Operations; the Heating Ventilation and Air Conditioning (HVAC) and the Laboratory Air Flow System (Phoenix). The BAS will subordinate graphical interfaces to the IBS however, will maintain the actual control and PIDs. The BAS will receive commands from the IBS and set points and will react accordingly. The BAS Components are:

Head end Management Systems (Network Automation Engine)
Actuators, Dampers, Valves, Sensors and devices
Application Specific Controllers and Programmable Controllers
Stats and gages

The Laboratory Air Flow system is a Phoenix based solution based on the Venturi Valve. This system allows for sustainable control via static pressurized environments and is thought of as the most efficient laboratory system available.

Network Cabling Infrastructure (Belden Wire and Cable):

The network cabling platform consists of the latest cabling standards for performance as provided by ANSI, IEEE, BICSI, and others. The full breakdown of the cabling performance requirements can be found in Division 27.

Systems Covered:

Voice/Data Cabling: Provides for Single-Mode Fiber Optics to the Campus Demark and Between Each IDF, Provides for Category 6 (T568B) to the Desktop/Device Certified to 1000BASE-TX Gig.

CATV Cabling Infrastructure: Provides for an Optical Backbone Transport for all Cable Television Signals/Channels, Including Campus Video (Transport and Return Path). The design provides for a single head-end in the CUP with single mode fiber distribution to

the campus. This will allow the ability for the campus to create its own closed circuit system for feeds into community televisions, cable TV Networks, and the Web.

CATV Cabling Distribution: Provides for the delivery of cable television via UTP.

Audio – Visual: Provides for the UTP needs of the campus and classroom AV Systems.

Wireless Access: Provides for conduit and cabling to support the Wireless Access Points and antenna both indoors and outdoors, campus wide. All access points are POE and have dual antennae.

Emergency Phones/Call Boxes: Provides for TCP/IP and Analog Cabling for all the emergency phones and Code Blue Phones.

Conduits, Raceways, Cable Trays, Racks, Cabinets, and Equipment: Cabinet Layouts for the Closets, IDFs, and MDF. (A Backbone Conduit Description is attached.)

Grounding and Bonding

Network Data Infrastructure (Cisco Systems)

Ethernet and Network Switches: The building network is a Cisco infrastructure consisting of two large chassis switches (One at the CUP campus Demark and the Second located in the First building MDF) and Cisco POE Switches (WS-C3750E) located in each of the IDFs. The inter-building backbone will support Fiber 10 GE speed while the campus intra-building connection to the Demark will be Fiber 40 GE.

Firewalls: There are two firewalls for redundancy. CISCO ASA with and IP Security module in each will be placed in the CUP. Each Firewall will run BGP and will load share IP traffic. The process is underway to provide for an ARIN number for the university.

All the network switches will provide non-blocking, wire speed layer 2 10/100/1000 per port.

Layer 3 will support data QOS, IPv4, IPv6, Link Aggregation (Static IP), port mirroring and other standards/capabilities.

The VLAN Configurations will incorporate separate networks for dedicated disciplines such as:

Building Systems and Facilities

Voice Traffic

Life Safety Systems

Video Surveillance

Student Access

Public Access

Wireless Networks

Video Distribution (Lynx Broad Band, V-Brick)

The campus video distribution system is a fully integrated hybrid analog and digital video distribution system which performs the following:

Distributes Analog RF channels from the head end in the CUP to the rest of the campus.

Distributes digital video to the data network and to digital video outlets.

Provides a head end for CATV Channels, DVD, Camera inputs, and character generator.

Provides for the encoding of analog video to digital video and the reverse.

The head end, located in the CUP is a two-way sub-split RF Broadband spectrum consisting of a forward band pass of 50MHz – 750 MHz minimum and reverse band pass of 5 MHz – 30 MHz. This head end is capable of at least 40 channels of programming from the local provider. This head end utilizes FDM and leverages an amplifier to push signals to the campus.

The system also leverages MPEG-1, MPEG-2, and MPEG-4 formats. The storage system will support 2000 hours of storage (Phase 1) but can be expanded. Computers on campus will be equipped with software to detect digital MPEG-1 and MPEG-2 streams and provide for recording of any video stream and display the video.

The system provides for a mobile production cart that will allow for video creation and distribution for the campus. The cart is equipped with a channel modulator.

There are (4) 52 inch LED monitors to be placed in the lobbies.

Master Clock System (Primex)

The campus will be equipped with a master clock system that will centrally synchronize all clocks across the campus buildings and connected to the network. Each classroom shall be equipped with an SMS clock.

The head end will be located in the MDF.

Access Control System/Video Surveillance System/Mass Notification Paging and Music System (GE/ASSA Abloy, Mobotix and Bosch)

As part of the campus life safety system the campus will leverage a "One Card" Access Control System, Security Video Surveillance, and Mass Notification Paging and Music system in Phase 1. These systems are all POE based, open protocol, and controlled/monitored in the campus Network Operations Center.

The Access control system is an open PCIM platform that allows for communication across many technologies within the ECO System. This is the cornerstone for the campus Identity Management System. The campus will deploy a "smart card" for all students, faculty, and staff. The access control system will be the anchor of the technology unified on that card.

The access control system is based on an open platform leveraging DirecDoor controllers and HID Readers. It is a Wiegand based encoding that is the standard common in the United States. The openness allows for growth and integration with multiple technologies such as CCTV, Point of Sales, Library Records, and Vending. Each card will be equipped with Hi-Cor Magnetic Stripe as well as Proximity Smart Chip.

The design allows for IP to the door communication, eliminating costly electrical conduit and cabling. In addition the Assa Abloy locksets, included in this division, are specifically designed for this application. The external doors, each Teaching Laboratory and Research Laboratory are equipped with access control, and are equipped with lock down during mass notification events.

The CCTV system is a networked solution that allows for data storage and retrieval in a central location. The DVN included in this phase will store up to 30 days capacity of video activity from the 360 degree panoramic security cameras located strategically in the building.

Appendix A

Design Responsibility Matrix

IST Design Responsibility Matrix

Division	Sub -Division	Description	Specifications	Drawings	Budget
08	10	Door Lock and Card Reader Assembly for Access controlled doors	Festina	Festina	Construction
10	14	Signage (Non Digital)	Festina	Festina	Construction
	14	Signage (Digital)	USF	USF	Construction
11	50	Educational and Scientific Equipment	Festina	Festina	Construction
	53	Fume Hoods and Sequence of Operation	Festina	Festina	Construction
	53.09	Systems Integration with BAS	USF	USF	Construction
	60	Fire Curtains	Festina	Festina	Construction
	110	Commercial Laundry	Festina	Festina	Construction
	110.1	Commercial Laundry Integration	USF	USF	Construction
	130	Audio Visual	USF	USF	Construction
	130.1	Learning Spaces Technology	USF	USF	FF & E
	130.2	Motorized Screens	Festina	Festina	Construction
12	20	Window Blinds	Festina	Festina	Construction
	20.1	Window Blinds Motorized	Festina	Festina	Construction
	20.1.1	Window Blinds Motorized Integration	USF	USF	Construction
	20.2	Smart Glass	USF	USF	Construction
13	20	Special Purpose Rooms (Classrooms)	Festina	Festina	Construction
	20.1	Special Purpose Rooms (Classroom Technology)	USF	USF	FF & E
	20.2	Special Purpose Rooms (Conference)	Festina	Festina	Construction
	60	Solar and Wind Energy Equipment	USF	USF	Construction

	20.2.1	Special Purpose Rooms (Conference Technology)	USF	USF	FF & E
14	**20**	Elevators/Controls	Festina	Festina	Construction
	20.1	Elevator Integration to Systems	USF	USF	Construction
21	**00**	Fire Suppression Design Intent	Festina	Festina	Construction
	13	Sprinkler	Festina	Festina	Construction
	21	Carbon Dioxide Extinguishing System	Festina	Festina	Construction
	24	Dry Chemical Extinguishing System	Festina	Festina	Construction
	30	Fire Pumps	Festina	Festina	Construction
22	**1**	Plumbing	Festina	Festina	Construction
23	**00 - 84**	HVAC	Festina	Festina	Construction
25	**00**	Integration Automation	USF	USF	Construction
	90	Sequence of Operation	Festina	Festina	Construction
26	**00**	Electrical	Festina	Festina	Construction
	09.23	Instrumentation and Control	Festina	Festina	Construction
	20	Low Voltage Electrical Distribution	Festina	Festina	Construction
	50	Interior Lighting	Festina	Festina	Construction
	50.2	interior Lighting Controls	USF	USF	Construction
	52	Emergency Lighting	Festina	Festina	Construction
	56	Exterior Lighting	Festina	Festina	Construction
	56.02	Exterior Lighting Controls	USF	USF	Construction
27	**00**	Communications			
	05.13	Communications Services	USF	USF	Construction
	05.26	Grounding and Bonding for Communication Systems	Festina	Festina	Construction
	05.28	Pathways	Festina	Festina	Construction
	05.43	Underground Pathways	Festina	Festina	Construction
	05.46	Utility Poles	Festina	Festina	Construction
	05.53	Identification	Festina	Festina	Construction
	06.00	Schedules for Communications	USF	USF	Construction
	10.0	Structured Cabling			
	11	Communication Equipment Room Fittings	Festina	Festina	Construction
	13	Backbone Cabling	USF	USF	Construction
	15	Horizontal Cabling	USF	USF	Construction
	16	Connecting Cords Devices an Adapters	USF	USF	Construction
	20 - 26	Data Communications	USF	USF	Construction
	30	Voice Communications	USF	USF	Construction
	40	Audio-Video Communications	USF	USF	Construction

					and FF&E
	41	Architecturally Integrated Audio-Video Equipment	USF	USF	Construction
	41.19	Portable Audio Video Equipment	USF	USF	FF&E
	41.23	Audio-Video Accessories	USF	USF	FF&E
	42.13	Point of Sales	USF	USF	FF&E
	42.16	Transportation Information Display System	USF	USF	Construction
	42.19	Public Information Systems	USF	USF	Construction
	50.00	Distributed Communications and Monitoring Systems	USF	USF	Construction
	53	Clock Systems	USF	USF	Construction
28	00	Electronic Safety and Security	USF	USF	Construction
	05.28	Pathways for Electronic Safety and Security	Festina	Festina	Construction
	10	Electronic Access Control and Intrusion Detection	USF	USF	Construction
	30	Electronic Detection and Alarm	Festina	Festina	Construction
	31	Fire Detection and Alarm	Festina	Festina	Construction
	31.23	Fire Detection and Alarm Control, GUI, and Logical Systems	USF	USF	Construction
	31.23	Fire Detection Annunciation Panels and Fire Stations	Festina	Festina	Construction
	31.33	Fire Detection Alarm Interfaces	USF	USF	Construction
	31.43	Fire Detection Sensors	Festina	Festina	Construction
	31.46	Smoke Detection Sensors	Festina	Festina	Construction
	31.49	Carbon -Monoxide Detection Sensors	Festina	Festina	Construction
	31.53	Fire Alarm Initiating Devices	Festina	Festina	Construction
	31.63	Integrated Audio Visual Evacuation Systems	Festina	Festina	Construction
	31.63.13	Fire Alarm Horns and Strobes	Festina	Festina	Construction