

NORTH FOUNDATION HALL COMMUNICATION CORE

A Recommendation

1. **Division and Department:** Academic Affairs and Finance and Administration Divisions, University Technology Services and Facilities Management.

2. **Introduction:** Oakland University's (University) communications networks currently exist in three locations: North Foundation Hall (NFH), Dodge Hall of Engineering (DHE) and O'Dowd Hall (ODH). NFH is the oldest building on campus and was established as the telecom demarcation point. The Data Center in DHE was built in 1969. ODH was strategically established as the Network Hub in 1990, with a fiber backbone plan approved by the Board of Trustees (Board) in 1989. The core was upgraded in 1995 and expanded in 2000.

In response to ever increasing technology demands and limited resources, University Technology Services (UTS) hired WTC Communications, Inc. to develop a strategic communications network plan in May 2007. The plan encompassed growth, capital budgets, redundancy and distribution hardware, wireless, voice and data networks. Parts of that plan have been implemented, with approximately \$2.2M of work completed over the last 5 years. In today's dollars, the cost of the entire plan would be \$25.8M.

Because the University currently relies on a single fully operational data network core in ODH (a significant operational risk) and because NFH lacks both the space and the infrastructure required to accommodate required network improvements, it is recommended that the NFH Communication Core be the next phase of the plan to be implemented.

This project will provide NFH with reconfigured space, a raised floor, 25 new server racks and cabling, a redundant network core, a redundant datacenter core, additional electrical substation and service, emergency power and generator, uninterruptible power supply, air conditioning and fire suppression upgrades. The additional network core will ensure reliability and consistent service. Moodle, Banner, Network Authentication, Domain Name, Shares, and other critical systems will be replicated from DHE to NFH, ensuring adequate redundancies.

The cost of this project is \$2,425,533 and will take 18-24 months to complete.

3. **Previous Board Action:** The Board approved the plan to implement the Fiber Backbone in 1989, approved a network expansion upgrade involving ODH Network Hub in 1995 and approved network expansion in 2000.

4. **Budget Implications:** Funding for this project will be derived from Technology Improvement Funds. There are no further budget implications.

5. **Educational Implications:** The NFH Communication Core will ensure reliable and consistent network services to students, faculty and staff.

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6. **Personnel Implications:** None.

7. **University Reviews/Approvals:** This recommendation was formulated by University Technology Services and Facilities Management, and reviewed by the Vice President for Finance and Administration, Senior Vice President for Academic Affairs and Provost, and President.

8. **Recommendation:**

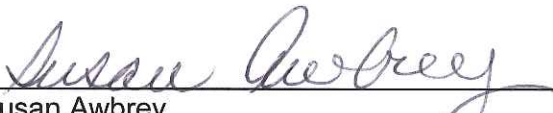
RESOLVED, that the Board of Trustees authorizes the Vice President for Finance and Administration to negotiate and execute all contracts related to the NFH Communications Core project; and, be it further

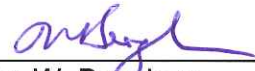
RESOLVED that total NFH Communication Core project cost will not exceed \$2,425,533; and, be it further

RESOLVED, that all contracts be reviewed and approved by the Office of the Vice President for Legal Affairs and General Counsel prior to execution, and be in compliance with the law and University policies and regulations, and conform to legal standards and policies of the Vice President for Legal Affairs and General Counsel.

9. **Attachments:** A. North Foundation Hall Communication Core Project Plan.

Submitted to the President
on 11/21, 2012 by


Susan Awbrey
Senior Vice President for Academic Affairs
and Provost


John W. Beaghan
Vice President for Finance and Administration
and Treasurer to the Board of Trustees

Recommended on 11/26, 2012
to the Board of Trustees for Approval


Gary D. Russi
President

UTS North Foundation Hall Communication Core

Analysis and Recommendations for
Improvements

December 3, 2012

PLANNED UTS STRATEGICALLY DEPLOYED EQUIPMENT -2013

DHE – Data Center

Deployed Equipment

DATA CENTER CORE -150 Systems

- A. Moodle Servers
- B. Banner Servers
- C. Network Authentication Servers
- D. DNS – Domain Name Service
- E. DHCP – Dynamic Host Control Protocol (IP Address)
- F. Shares (Shared Hard Drive Servers)
- G. Medical School Servers
- H. E-Mail
- I. E-Learning Applications
- J. Library Catalog Server
- K. Building Management System Servers
- L. OUPD Security Cameras Servers
- M. Research Servers

NFH – Communication Core

Deployed Equipment

- *Telcom Demark (Phone)*
- *Merit Demark (Internet)*
- ***REPLICATE NETWORK CORE SWITCHING***

REPLICATE DATA CENTER CORE SYSTEMS

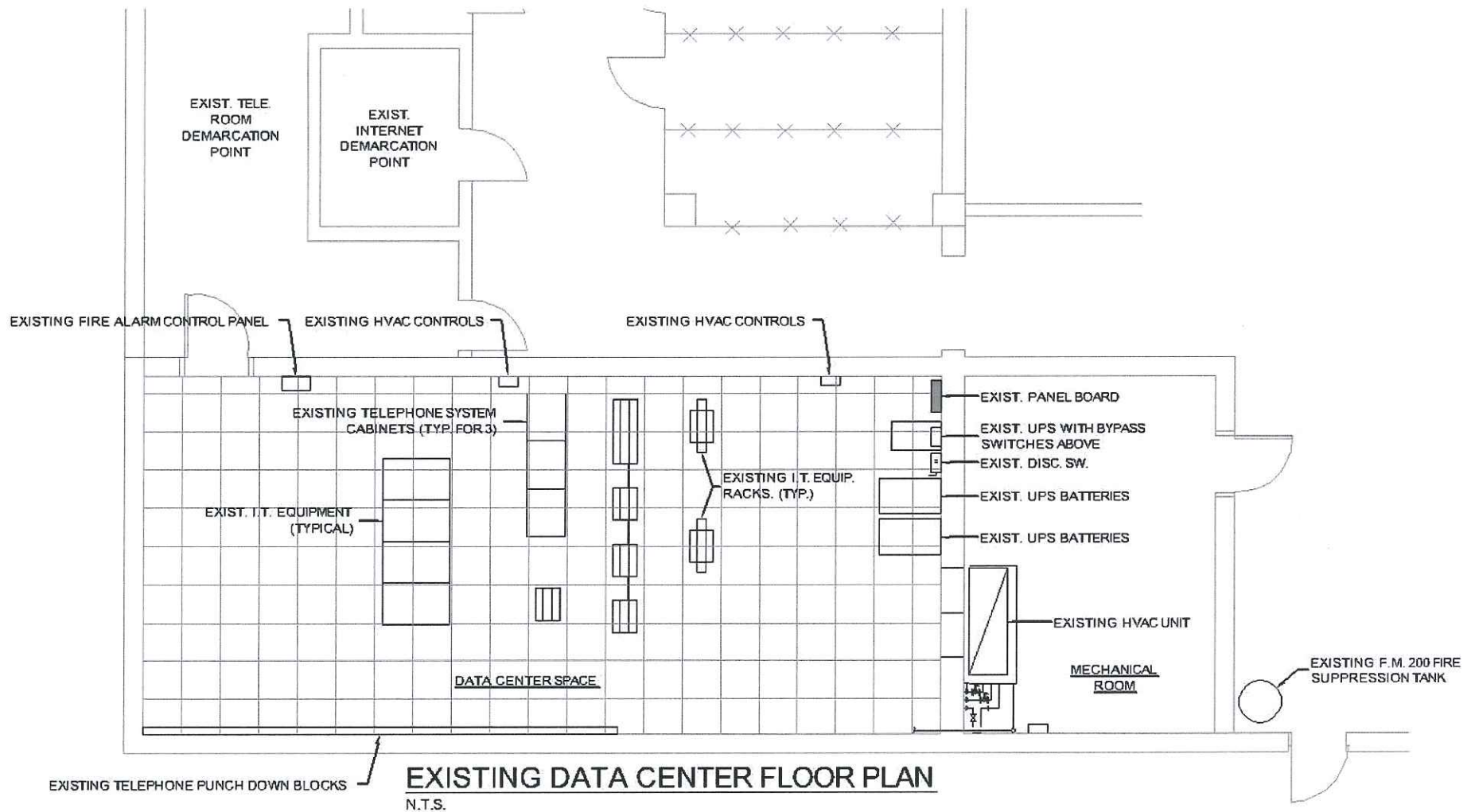
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- H. E-Mail
- I. E-Learning Applications
- J. Library Catalog Server

ODH – Network Nook

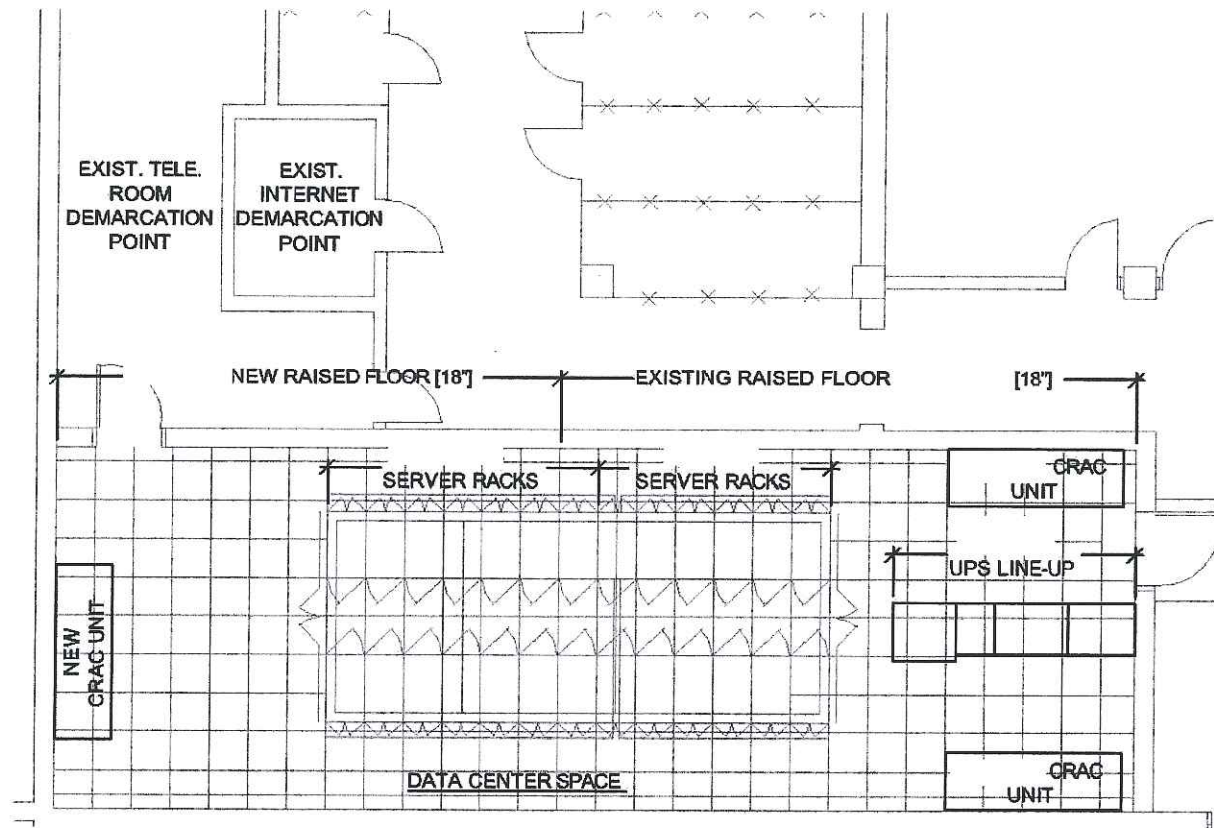
Deployed Equipment

- *Network Core (Primary)*
- *Fire Alarm Fiber Hub*
- *Fiber Hub*

Existing Floor Plan



Proposed Floor Plan



DATA CENTER FLOOR PLAN

N.T.S.

Cost Estimate

Architectural & Civil Systems	\$ 114,045
Mechanical Systems	\$ 568,793
Electrical Systems	\$ 994,862
Furniture, Fixtures and IT Equipment	\$ 532,447
<u>Design Fees</u>	<u>\$ 215,386</u>
Estimated Project Total:	\$2,425,533