

## **Capital Project for Residential Hall Connectivity Project**

### **JOINT FINANCE AND AUDIT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE**

**February 14, 2015**

The existing service model and infrastructure for connectivity in the residence halls was developed when computing and communications devices were designed to be tethered to the wall with capacity to support a single device per student. Since implementing the existing wired service model, technology and software advances have changed the device landscape and shifted service demand and expectations to a wireless environment capable of supporting multiple devices per student. In particular, students are calling for Wi-Fi service to support multiple devices which are becoming an integral part of a data-driven, networked academic program. Many of the current generation devices used by students for academic work such as laptops, tablets, smartphones, printing devices, and media devices are almost exclusively equipped with Wi-Fi, and many do not have a wired network interface. Two residence halls have wall-to-wall access wireless service, including Wi-Fi, the remaining halls have access only in the common areas.

A team from Network Infrastructure and Services (NI&S) and the Division of Student Affairs (DSA) collaborated to develop a service model to provide comprehensive, high-performance, wireless network service in Virginia Tech's residence halls. The plan developed by the team will ensure the expectations expressed by the students will be addressed and will align the university with peers that have or are in the process of installing wireless service in their residence halls. The proposed implementation strategy calls for installing necessary components for wireless network transmission speeds up to 850 megabits per second through approximately 2,000 wireless access points in 38 residence halls. The project would also update the residential wired network infrastructure to accommodate the increased demand on the network from wireless devices.

The estimated project costs inclusive of design, materials, and installation is \$4 million. As with all self-supporting projects, the university has developed a financing plan to provide assurance regarding the financial feasibility of the project. This funding plan calls for a mix of cash from auxiliary reserves that will be restored over time and temporary short-term debt to provide flexibility for managing cash flows. This fund source is sufficient to cover the proposed project costs. With the scope, schedule, cost, and funding plan established, the university is ready to move forward with the project.

Under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has the authority to approve the budget, size, scope, issuance of debt, and overall funding of nongeneral fund capital outlay projects. This request is for a \$4 million project authorization to move forward with the Residential Hall Connectivity project.

## **RESOLUTION ON CAPITAL PROJECT FOR RESIDENTIAL HALL CONNECTIVITY PROJECT**

**WHEREAS**, the existing communications service model and infrastructure for residential hall connectivity was developed when computing and communications devices were designed to be tethered to the wall with capacity to support a single device per student; and,

**WHEREAS**, since implementing the existing wired service model, technology and software advances have changed the device landscape and shifted service demand and expectations to a wireless environment capable supporting multiple devices per student; and,

**WHEREAS**, many of the current generation devices used by students for academic work such as laptops, tablets, smartphones, printing devices, and media devices are almost exclusively equipped with Wi-Fi, and many do not have a wired network interface; and,

**WHEREAS**, students are calling for service in the residence halls to support the multiple Wi-Fi devices which are becoming an integral part of a data-driven, networked academic program; and,

**WHEREAS**, the proposed solution calls for installing necessary components and infrastructure for wireless network transmission throughout the residential hall system of facilities; and,

**WHEREAS**, the proposed solution will ensure the expectations expressed by students for Wi-Fi will be addressed and will align Virginia Polytechnic Institute and State University's (Virginia Tech) with peers that have or are in the process of installing wireless service in their residence halls; and,

**WHEREAS**, the estimated project cost inclusive of design, materials, and installation for the residential connectivity project is \$4 million; and,

**WHEREAS**, Virginia Tech has developed a 100 percent nongeneral fund resource plan that can successfully support the \$4 million of project costs; and,

**WHEREAS**, under the 2006 Management Agreement between the Commonwealth of Virginia and Virginia Tech, the Board of Visitors has authority to approve the budget, size, scope, debt issuance, and overall funding of nongeneral funded major capital outlay projects;

**NOW, THEREFORE BE IT RESOLVED**, that Virginia Tech be authorized to move forward with the Residential Hall Connectivity project with a total project cost amount not to exceed \$4 million and to secure temporary short-term financing through any borrowing mechanism that, prior to such borrowing, has been approved by the Board, as applicable, in an aggregate principal amount not to exceed the \$4 million total project costs, plus related issuance costs and financing expenses.

### **RECOMMENDATION:**

That the resolution authorizing Virginia Tech to complete the Residential Hall Connectivity project be approved.

March 30, 2015