Overview

Data and Communication Infrastructure

The existing campus communications infrastructure is built upon a network of copper and fiber optic cables that are routed throughout the campus in an underground system of concrete encased pathways, hand-holes and vaults. Most of the raceway network was installed as part of the original campus construction in 1964 and with an age of over 41 years, it is beginning to fail.

In the original construction, electrical conduit was not used to build this network. In fact, what was used was a composite pipe material that is constructed of wood fiber and coal tar called “Orangeburg Pipe”. This pipe was originally designed in the 1890’s for use as a sewer and water drainage pipe. Production of this product was discontinued after about 1970. Common failures of the piping system were a result of tree root intrusion and collapse due to the external forces from the surrounding earth.

Currently on campus, there has been one major failure of the raceway system which is located between Buildings 5 and 6 at the north end of the campus. The original raceway network is becoming more and more unreliable and needs to be replaced. To replace this network of 10 vaults and approximately 9,000 feet of raceway would cost on the order of $600,000 to $700,000. Based on the limited availability of funds, another solution to the problem has begun to develop on the campus to meet this need. It is the incremental building of a new raceway network loop around the campus, that are built in small segments, as an element within the each new major building projects. Constructed under the most recent ITC and Science Building projects, the two segments of the replacement network have been completed. This raceway system begins at Building 17 and loops around the south end of the campus dropping off communication services to Building 28 (ITC) and Building 29 (Science Building).

Since much of the short term expansion involves new buildings located on the west side of the campus, the extending of this new loop is necessary to support three new major building projects on this west side. The nearby parking lots could be used to provide a clear and unencumbered pathway for these new segments of the campus communications backbone and as result, minimize installation and landscape patching costs.

Recommended Improvements

C1 Extend Campus Backbone Segment from Building 29 to the new Allied Health Building:
Estimated Cost $60,000 to $75,000.

C2 Extend Campus Backbone Segment from the Allied Health Building to the new LRC and relocate Campus Fiber Optic Hub and Main Distribution Frame (MDF) currently housed within a small room attached to Building 14.
Estimated Cost: $100,000 – $125,000

C3 Extend Campus Backbone Segment from the LRC to the Child Care Facility and reroute communication services to Building 6 due to collapsed existing raceway system.
Estimated Cost $75,000 to $90,000.