

Wake Technical Community College Capital Project Descriptions

New Capital Projects FY 2017 to 2028:

Technology Acquisition and Infrastructure (2017 – 2026)

Total Project Budget/Construction Cost: \$78,632,000/\$63,822,690

This project will include various campus wide improvement projects to increase the capacity to teach online courses, including the following equipment and systems; new server hub at the RTP Campus, addition of redundant alternate fiber connectivity, loop all campuses together, additional wireless access points, additional servers and storage equipment, smart classroom upgrades and infrastructure software upgrades.

Campus Classroom Building 2 @ RTP (04/2017 – 07/2020):

Total Project Budget/Construction Cost: \$43,994,800/\$28,645,600

80,000 GSF building. In addition to the classroom building, this project includes the construction of a 315 space temporary parking lot and a 200 space permanent parking lot. This building will be supplied with chilled water and heating water from the existing energy plant in RT1 but will pay for new boilers, chillers, pumps, etc. to be added to the existing energy plant for the additional capacity. The energy plant in RT1 will provide enough cooling and heating capacity for RT1, RT2 and RT3. Programs: **Pervasive Computing** with IT Network Management and IT Storage & Visualization; **Interactive Gaming and E-Learning** with IT Computer Programming, IT Software & Web Development, Mission Critical Operations and Simulation & Game Development; **Informatics** with Business Analytics and IT Data Science & Programming Support; **Defense Technologies** with Cyber Security and IT Information Systems Security; **Cleantech** with Business Administration, Business Analytics, IT Computer Programming and IT Software and Web Development; **Corporate Solutions**. This building will be connected to the energy plant provided in RTP 1 but will also need to purchase a chiller and cooling tower that will be housed in the RTP 1 energy plant.

Automotive & Collision Repair @ NWC (05/2017 – 07/2021):

Total Project Budget/Construction Cost: \$41,800,400/\$30,503,234

Project consist of 90,000 GSF buildings comprising of 70,000 GSF of automotive/collision repair lab space and 20,000 GSF of classroom space. Programs include, but not limited to; Automotive Systems Technology including diagnostics and repair of electrical/electronic systems, emissions, brakes, engine performance, steering, suspension, transmission, climate control, diesel fuel systems, alternative fuel systems, collision repair and general education classes.

Campus Wide Repair & Replacement (R&R) Projects (05/2017 – 11/2026):

Total Project Budget: \$45,790,766

This project will include various campus wide repair & replacement projects including the following equipment and systems; HVAC Equipment, HVAC Controls Upgrades, Elevator Repairs, Building Envelope Upgrades, Electrical Systems, Life Safety Equipment (Fire Alarms & Sprinkler Systems), Library Building Restroom Upgrades, Minor Capital Equipment Replacements and Building Alterations.

Campus Wide Infrastructure Upgrades (01/2017 – 11/2023):

Total Project Budget: \$34,031,175

This project will include various campus wide infrastructure upgrade projects including the following; Security Camera Upgrades and Additions, Addition of Building Access Card Readers, Installation of Cellular Signal Repeaters, Mass Notification System, Exterior Wayfinding Signage Upgrades, Pedestrian and Vehicular Accessibility Upgrades on the Main and Perry Health Sciences Campuses, Main Campus Northern and Southern Loop Road Extensions, Main Campus Parking Lot & Roadways Repaving, Extension of the Chilled & Hot Water Distribution Piping at Northern Wake Campus and Main & RTP Campuses Land Acquisition.

Facilities Management and Warehouse Building @ SWC (05/2017 – 04/2020):

Total Project Budget/Construction Cost: \$18,997,400/\$14,118,110

Project includes 35,000 GSF of facilities management shop/office space and 12,000 GSF of warehouse/office space. Programs: Facilities management including carpentry shop, metal shop, HVAC repair, plumbing repair, electrical repair, paint booth, key shop, landscaping equipment repair, outdoor/indoor storage, warehouse, inventory control and office space.

Advanced Industries Building @ SWC (02/2018 – 08/2023):

Total Project Budget/Construction Cost: \$93,531,300/\$76,378,800

A new classroom building estimated at 70,000 GSF that includes a new 1,000 space parking deck with associated parking lot and roadway work. The programs planned are, but not limited to; Advanced Manufacturing, Critical Operations, 3D Printing, Mechatronics, Machining, Architectural/Mechanical/Civil Engineering Technologies, Geomatics, and Electronics Engineering Technology. The specific site location is to be investigated and determined during the advance planning phase.

Health Sciences Building @ PHS (02/2019 – 08/2023):

Total Project Budget/Construction Cost: \$82,292,800/\$77,442,633

A new classroom building estimated at 120,000 GSF that includes the construction of an 850 space parking deck, extension of utility infrastructure and roadways. Programs include, but not limited to; nursing, medical laboratory/pharmacy/human services/surgical technologies, medical assisting, radiography, emergency medical science, and phlebotomy. This building also has more site costs as it will create the Quad for that part of the campus.

Emergency Simulation & Tactical Response Center @ PSEC (02/2022 – 02/2024):

Total Project Budget/Construction Cost: \$45,658,700/\$32,735,290

A new classroom building estimated at 60,000 GSF that includes the construction of a 220 space parking lot. Programs include, but not limited to; general instructor/law enforcement/medical and fire services training, 4D Immersive Interior with simulated urban response training labs, Multiple Integrated Laser Engagement System (MILES) training/equipment, fire and rescue simunition training, multistory repelling area, and computer crimes/evidence labs.

Campus Classroom Building 3 @ RTP (02/2022 – (02/2026):

Total Project Budget/Construction Cost: \$117,759,300/\$96,261,510

A new classroom building estimated at 80,000 GSF that includes a new 1,200 space parking deck and extension of utility infrastructure/roadways.

Campus Classroom Building 4 @ RTP (02/2023 – 02/2027):

Total Project Budget/Construction Cost: \$114,093,200/\$94,333,900

80,000 GSF building. In addition to the classroom building, this project includes the construction of a central energy plant and extension of chilled water and heating water piping system.

Campus Classroom Building 5 @ RTP (02/2025 – 02/2029):

Total Project Budget/Construction Cost: \$106,662,200/\$92,500,510

80,000 GSF building. In addition to the classroom building, this project includes the construction of an 800 space parking deck, extension of chilled water and heating water piping system and the extension of the northern loop road to Watkins Road.

Wake Technical Community College Multi-year Capital Improvement Program

Below are descriptions of each project within the categories of New Building Projects, Repair and Renovation/Life Cycle Projects, and Infrastructure Projects. **Estimated total project budget is \$15,228,000.**

New Building Projects (Permit Funding) FY 2018:

Campus Classroom Building 2 @ RTP – Total Project Budget \$327,000: This project will provide the second building for the RTP Campus. The building will be an 80,000 sf classroom building with offices and laboratories. The project will include the construction of a 250 space temporary parking lot and a 250 space permanent parking lot. Programs envisioned for this building include: Center for Excellence in Analytics and Logistics; Business Partnership Center; Center for Teaching Excellence; Biopharmaceutical Technology; Career and Work-based Learning Center; Physics. IT programs will be expanded in RT1 as general education courses relocate to RT2.

Repair & Renovation/Lifecycle Projects FY 2018:

Power Mechanics Building Renovation @ SWC - Total Project Budget \$1,934,000: This will be a partial Renovation of the Power Mechanics building, a 10,460 sf classroom/laboratory facility as well as relocating the HVAC Labs from Power Mechanics to the Ready Hall Addition, a new 34,000 sf classroom and laboratory building that is currently under design and will be bid this summer. Power Mechanics houses the Residential HVAC Program where the instruction is on how to troubleshoot, maintain, repair or replace residential heating, ventilation and air conditioning (HVAC) equipment. Relocating the HVAC Labs to the Ready Hall Addition will enable the college to add commercial HVAC instruction to the program.

HVAC Equipment Replacement - Total Project Budget \$800,000: This project will replace various HVAC equipment and systems primarily at the Southern Wake and Perry Health Sciences Campuses, but may also include work at the other campuses. The Master Plan Update in 2015 identified HVAC and plumbing equipment and systems needing replacement, over the next seven years, that have reached the end of their useful life and are not functioning as originally designed and installed. The replacements will include items such as chillers, boilers, pumps, air handling units, cooling towers, air-cooled condensers, VAV terminal units, ductwork, plumbing, etc. This project will be funded over a multiple year timeframe.

HVAC Controls - Total Project Budget \$800,000: This project will replace various building automation control systems primarily at the Southern Wake (Main) and Perry Health Sciences Campuses. HVAC control systems needing replacement have been identified that have reached the end of their useful life and are not functioning as originally designed and installed. The replacements will include items such as head end systems, controllers, actuators, thermostats, sensors, etc., as well as upgrading and replacing older pneumatic and digital control systems to newer open source systems. This project will be funded over a multiple year timeframe.

Building Envelope Upgrades - Total Project Budget \$700,000: This project will upgrade the building envelope components primarily at the Southern Wake (Main), Northern Wake and Perry Health Sciences Campuses. The upgrades will include upgrading system components for roofs, windows, walls, floors, caulking, flashing, etc. This project will be funded over a multiple year timeframe.

Infrastructure Projects:

Security Cameras - Total Project Budget \$876,000: This project will upgrade existing and provide additional new security cameras across all campuses. The Master Plan Update in 2015 identified existing analog type security cameras that will be upgraded and/or replaced with new digital type security cameras to provide better visual and memory capabilities. Areas of the college were also identified as needing additional security cameras installed to provide better visual coverage of the campus buildings and grounds.

Card Readers – Total Project Budget \$1,742,000: This project will provide card readers for exterior doors and select interior doors on all existing buildings throughout the college. The card readers will provide better security for the buildings with the ability to control who is permitted to enter buildings after regular work hours. The card readers will be interlocked with the security camera system to provide a visual record of usage.

Cellular Signal Repeaters - Total Project Budget \$1,583,000: This project will provide additional new cellular signal repeaters primarily at the Southern Wake, Perry Health Sciences and Western Wake Campuses, but may also include work at other campuses. The Master Plan Update in 2015 identified existing buildings where the cellular signal needs to be boosted to provide better mobile device capabilities. Those areas will be provided with additional cellular signal repeaters to increase the signal strength in those buildings.

Mass Notification System – Total Project Budget \$1,039,000: This project will provide for a college wide mass notification system that will provide the capability to alert the faculty, staff and students of an active shooter situation as well as unexpected impending serious weather situations. The system will utilize the audio portion of existing and new building fire alarm systems to transmit voice messages and warning signals that will be activated by the Campus Police. This project will be funded over a multiple year timeframe.

Accessibility Upgrades - Total Project Budget \$600,000: This project will provide upgrades to the site pedestrian walkways primarily at the Southern Wake and Perry Health Sciences Campuses, but may include work at other campuses. The Master Plan Update in 2015 identified site pedestrian walkways that do not meet current ADA handicapped standards and work will include replacing sidewalks, stairs, ramps, curb cuts, handicapped parking spaces in order to meet the new standards. This project will be funded over a multiple year timeframe.

Southern Loop Road & Paving @ SWC - Total Project Budget \$4,365,000: This project will construct a new road and repave existing roadways and parking lots at the Southern Wake Campus, but may include work at other campuses. The Master Plan Update in 2015 identified a new two lane road that will connect the recently paved Parking Lot R with Highway 401. The College will be losing one of its entrances on Highway 401 when the new I-540 Toll Road is built and the new road will provide an additional entrance to make up for this. A new traffic signal will be provided at the intersection with Highway 401. Also identified was 710,000 sf of existing paved parking lots that are in disrepair and these areas will be repaved with new asphalt paving utilizing the Full Depth Reclamation (FDR) process.

Exterior HW & CHW Piping @ NWC:- \$1,846,857 This project will provide for new chilled water and heating water piping to connect Building H at the Northern Wake Campus to the Regional Energy Plant #2. When Building H was constructed in 2016, the project funding did not allow for this connection and a standalone chiller and boiler were installed to serve this building. This project will, in addition to the new piping connections, relocate the chiller and boiler in Building H to Regional Energy Plant #2.