10 utilities

CHILLED WATER

GOAL 1: To provide efficient, reliable, chilled water service to all buildings on campus via district energy distribution system

The FAU Boca campus consists of central loop plants, and dedicated housing/ athletics plants at various locations. A breakdown of the plant capacities is as follows:

Building 5:

- Two (2) 1500-ton Trane Centrifugal (approximately 7 years old)
- One (1) 1500-ton Trane Centrifugal (approximately 23 years old)
- One (1) 1280-ton Trane Centrifugal (approximately 27 years old)

Satellite Plant:

- Two (2) 750-ton York water cooled centrifugal (approximately 20 years old)
- One (1) 1500-ton Trane Centrifugal (approximately 15 years old)

Building 67: (Not connected to loop)

- One (1) 300-ton Trane water cooled centrifugal (approximately 4 years old)

Building 38: (Not connected to loop)

- One (1) 300-ton Trane water cooled centrifugal (approximately 2 years old)

The engineering and utilities (E&U) loops consist of the main building 5 distribution and the satellite plant distribution loops. These plants serve the majority of the buildings on campus with the exception of the housing facilities.

Proposed facility growth to year 2028 indicates a potential increase in chilled water demand of approximately 6000 tons, including housing which is estimated at 2,000,000 sq-ft. Without the housing component the proposed facility growth is approximately 1800 tons.

Objective 1A: Provide adequate chilled water capacity and redundancy for existing and future needs.

- **Policy 1A-1:** The current net connected load should not exceed the plants ability to provide cooling to the campus in the event of a chiller failure (N+1 redundancy). The current net load with 20% diversity is approximately 3200-tons, which is within the limits of this policy.
- **Policy 1A-2:** Increase total available plant capacity to accommodate future growth. The proposed facility growth to year 2028 with 20% diversity is approximately 5000-tons.

Objective 1B: Provide adequate chilled water capacity and redundancy for existing and future needs.

- **Policy 1B-1:** Connect Satellite and building 5 plants near the intersection of university drive FAU boulevard. This loop connection will increase the available capacity and satisfy the requirements of policy 1A-2.

GOAL 2: Extend chilled water to the Henderson School.

Objective 2A: Provide the Henderson School with a reliable and constant cooling source while eliminating excess maintenance and lowering life cycle cost.

- **Policy 2A-1:** Provide extension of the main chilled water loop across East University for service to Henderson School. Chilled water would route below grade from the main loop over to the existing chiller plant and connect to the buildings existing primary pumps.

GOAL 3: To provide efficient operation and maintenance of building systems through a centralized intelligent building automation system.

Objective 3A: Develop a state of the art building automation platform that includes integration of work order management and other enhancements to improve the efficiency of campus operations.

- **Policy 3A-1:** Upgrade building automation systems so they integrate with work order management systems.
- **Policy 3A-2:** Upgrade building automation systems so they include automatic fault detection, trending of key performance indicators, and alarm management.

GOAL 4: Independent housing chiller plants.

Objective 4A: Maintain the current independent operations of stand-alone chiller plants that serve the student housing facilities.

- **Policy 4A-1:** Continue to provide independent, reliable, and efficient cooling plants for the housing facilities on campus through third party operations providers.