History

- Formerly housed in a number of buildings dating back to original campus construction (1967) totaling 13,000 GSF
- 15+ year planning, funding cycle
Building Facts

- 87KSF two building complex
  - South Building - one story, high-bay labs, classrooms and offices
  - North Building - two story, low-bay labs, classrooms and offices
  - Multipurpose spaces/auditorium between the two buildings

- Supplied with utilities (power, CHW, HW, DHW, Telecom) via existing campus infrastructure)
Building Features

- Exposed, color-keyed MEP/FP Distribution Systems
- Exposed Mechanical and Electrical Rooms
- Storefront Partitions on Laboratory Spaces
- Extensive Collaborative Learning Spaces
- Building Envelope Mock-ups Displayed
- Low e Double Pane Ar Glazing used through out
- High Efficiency Reflective Roofing and Insulation
- Tunnel connects to Campus Distribution Areas
- Loading Dock
- Bridge over Bio-Swale
- Fire access Roads/sidewalks to all buildings
Mechanical Systems

- VAV re-heat air distribution systems
- Energy Recovering units supply outside air to fan coil units
- Variable volume refrigerant DX systems in some areas
- Geothermal in select areas
- Pressure Independent Characterized Control Valves for all cooling and heating coils to precisely control flow
Electrical Systems

- Very Low loss “Amorphous core” Medium Voltage 1500 kVA 2x Transformers supply complex with 480 vac electrical power
- Very Low Loss Low Voltage Distribution Transformers used through out
- High Efficiency LED lighting used through out
- Computerized control systems used for Lighting
- Exterior High Efficiency LED lighting through out
- Premium Efficiency Motors used through out
- ECM motors used in VAV boxes
Plumbing Systems

- Lavatory Fixtures use 0.5 GPM with sensor control
- Urinals use 0.125 GPF with sensor control
- Toilets use 1.28 GPF with sensor control
- Utilize Trap Guards instead of Trap Primers
- Natural Gas Lab shut off systems
- Irrigation systems utilize 95+% drip distribution
- Irrigation systems controlled by computerized District wide system using local high end weather station for (ET) Evapo-Transpiration localized calculated data
- Various Planting Areas have tailored irrigation routines utilized
- Irrigation software detects leaks then isolates zone
Building Automation Systems

- Full DDC BACNet system
- Latest energy saving sequences of operations utilized
- Latest occupancy sensor technology utilized
Measurement and Verification Systems

- Extensive Electrical Metering
  - Overall Usage
    - Lighting Usage Sub Group
    - Mechanical Usage Sub Group
    - Process Usage Sub Group
    - Every Switchboard/Panel and specific loads as needed
  - Overall Renewable Generation
    - PV Generation Sub Group
    - PV Grid Tie Individual Inverters
    - Wind Turbine Inverter
  - Natural Gas Emergency Generator
Measurement and Verification Systems

- Extensive Thermal Energy Metering
  - Chilled Water BTU’s
  - Heating Water BTU’s
  - Domestic Hot Water BTU’s
- Natural Gas MCF and equivalent BTU’s
  - Sub metering can be easily added if needed
- Water Consumption
  - Water Usage by building subsections
  - Domestic Hot Water Usage by building subsections
  - Irrigation Water Usage
- Data collection systems on UPS/Generator Power
- Full Trending every15 minute to server in data center
Site Features

- Bio-Swale treats storm water runoff
- Natural grasses and flowers in turf areas
- Plants chosen for drought hardiness
Renewable Energy Features

- Approximately 106 kW peak DC PV generation
- 12.5 kW Wind Turbine to be installed soon
- Reflective light tubes with diffusers and dampers supplements lighting with daylight harvesting system
- Extensive fenestration to supplement lighting in large labs with daylight harvesting system
LEED Certification Goals

- Platinum
Academic Programs

- (DRAFT-Placeholder by DLH)
- HVAC
- Building Automation Systems
- Refrigeration
- Building Construction Management
- Certification Programs ...
- ...

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