

NASA LANGLEY RESEARCH CENTER INTEGRATED ENGINEERING SERVICES BUILDING

HAMPTON, VA | INSTITUTIONAL ARCHITECTURE



The Integrated Engineering Services Building is a high profile, active facility at the heart of the existing NASA Langley Research Center. This LEED-NC Gold-Certified building represents Phase II of a master planning effort aimed at consolidating and modernizing existing aging facilities in the sprawling NASA LaRC campus into a smaller, state-of-the-art, core campus environment. Designed to consolidate previously disconnected departments and services into one building to bring creative groups of people together for 'information exchange' and for the delivery of employee services, the IESB enlivens the center of campus, and serves as a catalyst for new ideas and collaboration. The program includes conference, meeting, and computer training spaces; an engineering collaboration suite; an auditorium, 230-seat theater, and audio-visual production suites; the LaRC TV Production Studio; and the new cafeteria with a terrace for outdoor dining. It combines the Research Directorate, Engineering Directorate, and the Systems Analysis and Concepts Directorate offices on one floor.

The historic NASA Langley Campus is characterized by low one-, two-, and three-story red brick clad buildings, white metal high-tech industrial wind tunnels and research structures, mature trees and plantings, and nearby wetlands. Located at the center of campus, the two-story IESB respects, and is shaped by, the landscape and site conditions, as well as the campus culture and functional needs of the program. The exterior composition incorporates glass, metal, and terracotta curtainwall, providing a palette of materials and colors to achieve a harmony and balance with the new Headquarters Building, the existing core campus fabric, and the historic context.

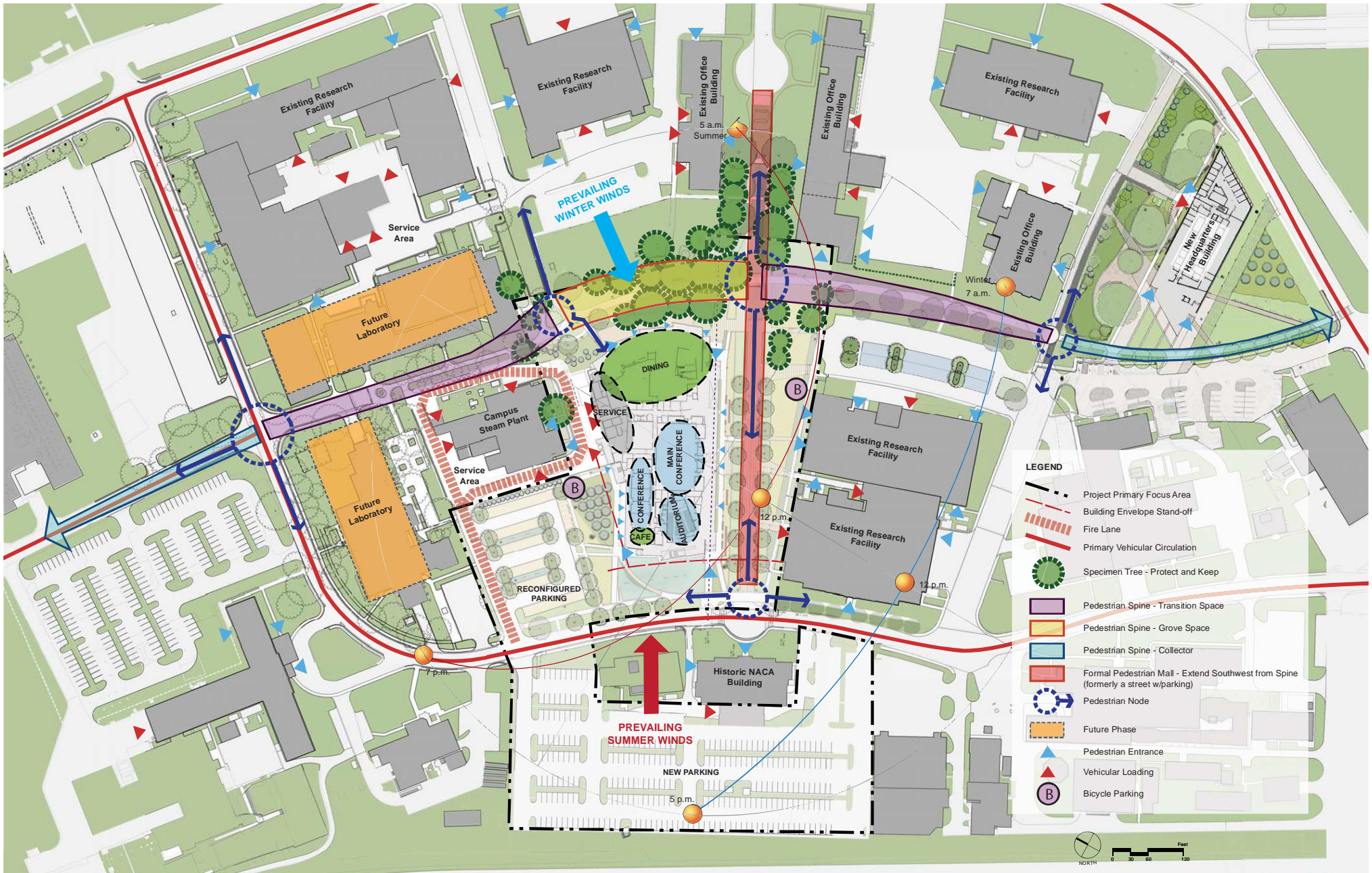


Existing White Metal High-Tech Research Structures and Red Brick Clad Buildings

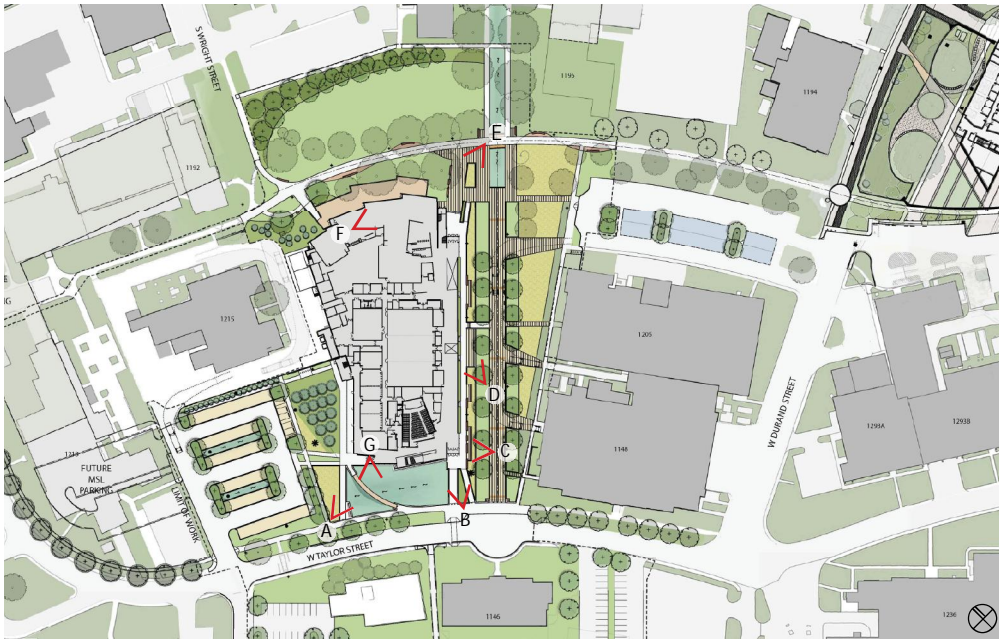
Existing Pedestrian Mall - East of the Spine
Existing Pedestrian Spine - Grove Condition

Adjacent Red Brick Clad Research Buildings

New Headquarters Building



| DESIGN PLANNING DIAGRAM



| EXTERIOR



| SOUTH FACADE

SHADING SYSTEM DESIGN

- Visual cues taken from the white research structures' exo-skeletons
- High-efficiency windows and solar shading system
- Layered horizontal and vertical shading devices to respond to the southeast orientation
- Combination of 'major' and 'minor' horizontal and vertical elements tuned to respond to the solar needs and program within





| VIEW FROM EAST



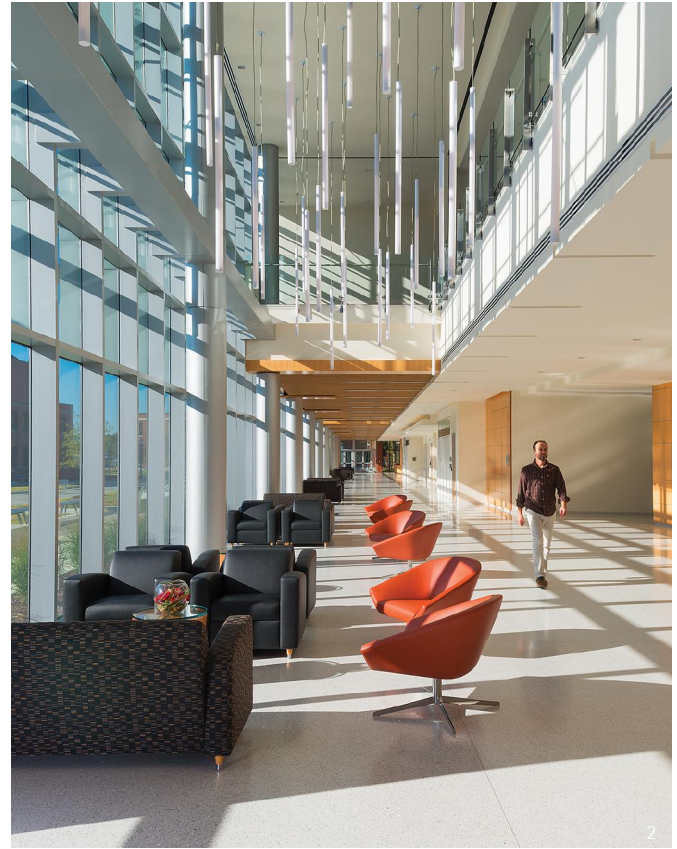
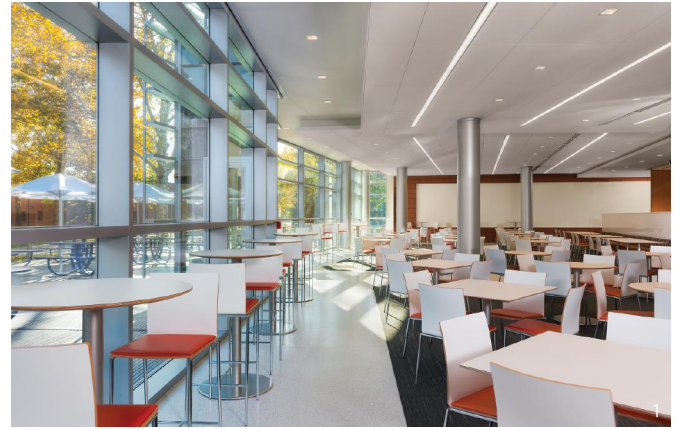
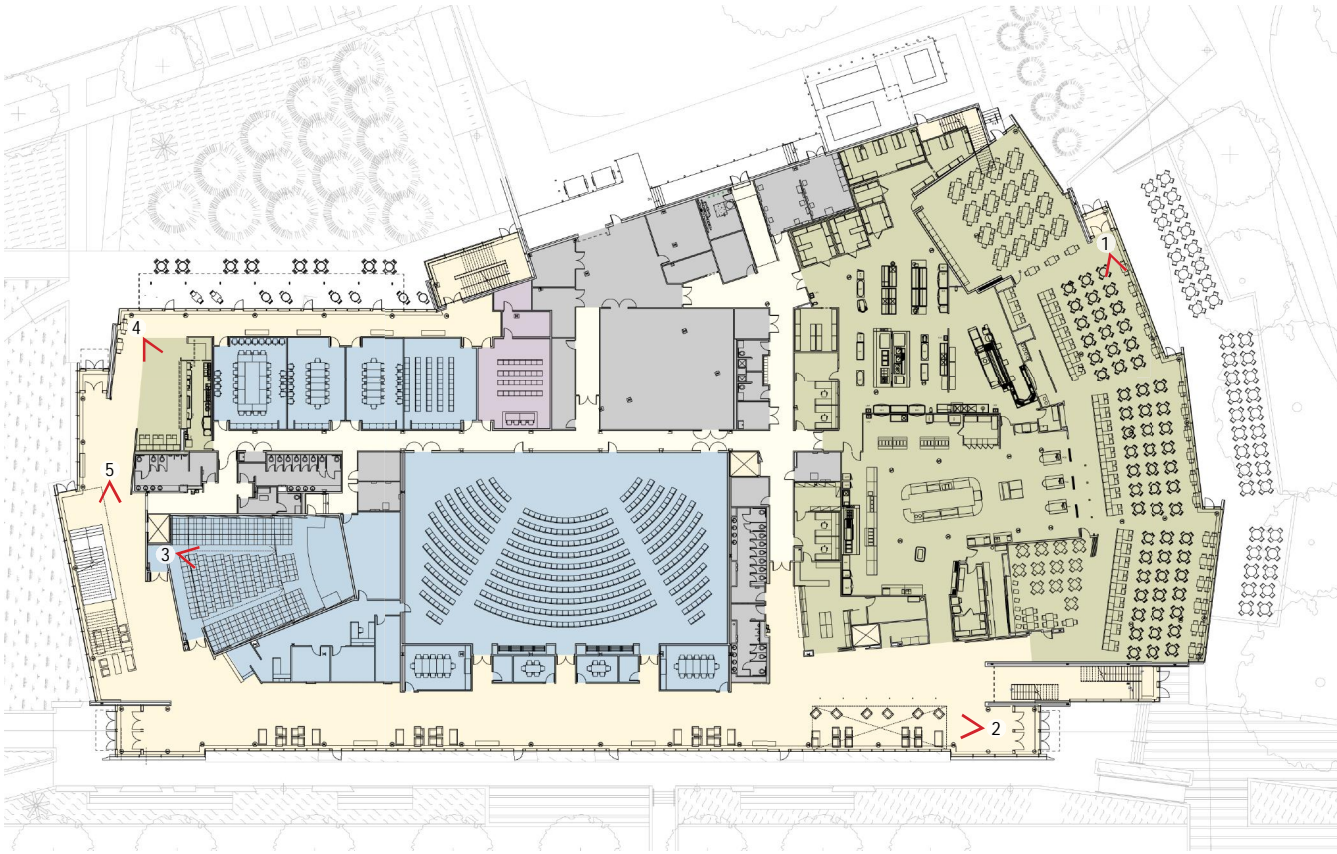
| SECOND FLOOR EAST TERRACE

SUSTAINABILITY AND PERFORMANCE

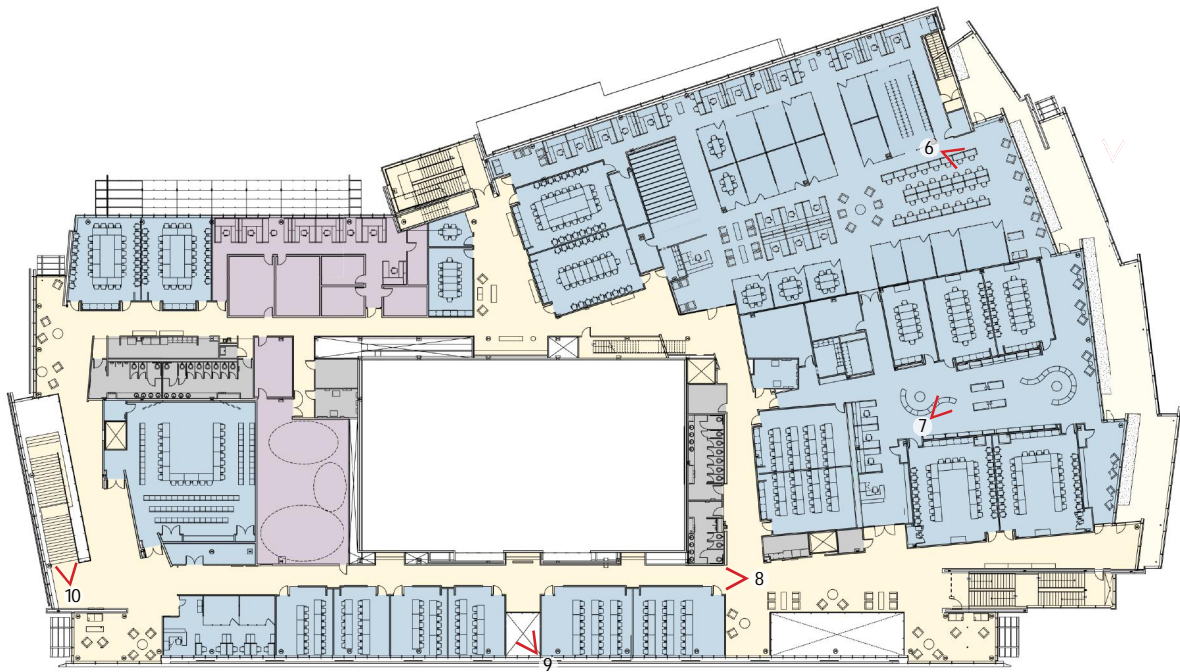
- Hybrid geothermal heating and cooling system
- High-efficiency windows and solar shading panels
- Daylighting of interior spaces
- Daylight harvesting controls
- Low-flow plumbing fixtures in restrooms and break rooms
- Low-emitting interior architectural finishes
- Bicycle racks and showers on site
- Water-efficient landscaping requiring no irrigation
- Bio-swale areas and pervious pavers for addressing runoff water
- Innovative experiments utilizing the natural soil additive biochar
- Incorporation of materials and artifacts from existing historic structures into new facility



| WEST BOARDWALK & BIO-SWALE



| FIRST FLOOR



| SECOND FLOOR



| AUDITORIUM LOBBY