Construction and Planning Projects
Brown Bag Presentation

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UMass Boston Campus in 1974
Substructure and Legacy Infrastructure

• 1974 campus was designed for 10,000 students

• Campus fortress with Substructure parking garage beneath buildings

• Utilities suspended from ceiling of Substructure garage UL and LL

• Concrete issues began in 1980s

• Substructure closed in 2006

• Interim stabilization and shoring installed

• Critical decision point for campus: invest in repairing the existing infrastructure or reimagine a modern campus on Columbia Point
Campus Master Plan
Campus Master Plan

• Adopted in 2007

• Flexible Framework for campus growth

• Elimination of Substructure and associated issues as an opportunity for new campus aesthetic and development

• New interior and exterior environments for teaching, research, student life, and student success

• Focused on better connecting campus to the environment and community

• Principles include sustainability and universal design
25-Year Campus Master Plan Implementation

Interim Substructure Stabilization (2011)

ISC (2015)

University Hall (2016)

Monan Park (2016)
25-Year Campus Master Plan Implementation

- Fox Point Dock (2017)
- Residence Hall (2018)
- West Garage (2018)
- UCRR (2018)
Critical Repair and Maintenance Projects

New Fence to Calf Pasture Pumping Station (2018)

Wheatley Exterior Ramp and Stair (2018)

Elevator Upgrades (2018)

Clark Gym Roof Replacement and Envelope Repairs (2018)
Critical Repair and Maintenance Projects

Healey Roof Replacement and Building Envelope Repairs (2016)

New Harborwalk (2015)
Critical Repair and Deferred Maintenance

The Commonwealth and DCAMM have a deferred maintenance funding request process:

• Campuses submit a prioritized list of projects to be partially funded by DCAMM

• UMass Boston’s list for the next five years totals $29.7M, 56% to be paid by DCAMM and 44% by the campus

• Projects include sprinkler installations and fire alarm upgrades, roof replacements, exterior door replacements, and HVAC, plumbing electrical systems repairs.

• Work to begin as early as FY19 and continue through FY23
## Critical Repair and Deferred Maintenance

### DCAMM CRITICAL REPAIR PROJECTS, FY19-FY23

<table>
<thead>
<tr>
<th>Building/Area</th>
<th>Project</th>
<th>Projected Cost</th>
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<tbody>
<tr>
<td>Campus Center</td>
<td>Garage Concrete Repairs and Top Coating</td>
<td>$413,000</td>
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<tr>
<td>Campus-wide</td>
<td>Building Controls and Building Management System Upgrade</td>
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<td>Clark</td>
<td>Air Handling Unit Replacements</td>
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<td>Fire Protection Sprinkler Installation andFire Alarm System Upgrade</td>
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<td>Clark</td>
<td>Hot and Chilled Water Circulating Pump Replacement</td>
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<td>Clark</td>
<td>Ice Rink Centrifugal Chiller Replacement</td>
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<td>Clark</td>
<td>Replace Exterior Doors</td>
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<td>Harborwalk</td>
<td>Pavement and Bollard Repairs</td>
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<td>Healey</td>
<td>Fire Protection Sprinkler Installation andFire Alarm System Upgrade</td>
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<td>Healey</td>
<td>Primary Transformer Replacement</td>
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<td>Replace Air Handling Unit and Duct Work Repair in Healey Library</td>
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<td>Healey</td>
<td>Replace Exterior Doors</td>
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<td>McCormack</td>
<td>Hot Water System Storage Tank Replacement</td>
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<td>Stairwell Fan Coil Unit Replacement</td>
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<td>Quinn</td>
<td>Fire Protection Sprinkler Installation andFire Alarm System Upgrade</td>
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<td>Roof Replacement</td>
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<td>Quinn</td>
<td>Secondary Transformer and Main Electrical Panel Replacement</td>
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<td>Saltwater Pump House</td>
<td>Discharge Line Cleaning and Manhole Installation</td>
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<td>Saltwater Pump House</td>
<td>Secondary Transformer Replacement</td>
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<td>Service &amp; Supply</td>
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<td>Wheatley</td>
<td>Façade Repair and Repointing</td>
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**Total 5 Year Total Cost**: $29,700,000
Ongoing and Upcoming Construction:

Vacating the Science Center and Preparing for Demolition
Renovations to Existing Academic Buildings (REAB)
Renovations to Existing Academic Buildings (REAB)

Project Goals

▸ Relocate academic programs out of Science Center before Spring Semester 2020
▸ Utilize campus space to highest and best use
▸ Meet current needs of departments, growth wherever possible

Project Constraints

▸ Budget: limited capital budget
▸ Scope: large infrastructure-intensive programs in Science
▸ Space: limited vacant space available across campus
▸ Schedule: academic schedule inflexible
▸ Schedule: Science Center Demolition funded, planning underway
Renovations to Existing Academic Buildings

- University of Massachusetts Building Authority is managing the project on behalf of UMass Boston
  - Owner’s Project Manager: Hill International
  - Designer: Cannon Design
  - Construction Manager: Consigli Construction

- Phase 1: McCormack and Wheatley
- Phase 2: Healey and Quinn

- REAB is a collaboration between Master Planning, Academic Affairs, Stakeholder Departments, Facilities, OEHS, Human Resources, and UMBA
Renovations to Existing Academic Buildings

**Wheatley Hall**
- Biology Teaching
- CSM Student Success
- Engineering Teaching
- Honors College
- Math
- Physics

**McCormack Hall**
- Anthropology
- Computer Science
- Biology Teaching
- Engineering
- School for the Environment

**Quinn Building**
- CNHS Dean’s Office
- Exercise & Health Sciences
- Nursing

**Healey Library**
- Advancement
- IT Staff
Renovations to Existing Academic Buildings

• Construction Impacts
  • To report construction related issues/impacts/concerns, please contact Facilities Service Response via email at Facilities@umb.edu or by calling 617-287-5450. Facilities Department Project Management staff (Paul North/Ernie Taylor) are providing day-to-day coordination with the REAB project team.
  • Abatement work and the most disruptive demolition work has been performed after hours and generally try to end very noisy construction activities by 8:00 AM in areas where instruction could be impacted. The project budget and schedule does not allow having all noise generating work performed after hours.
  • Indoor Air Quality is monitored throughout the construction and inquiries or issues are addressed as they arise.
  • Contractor presence will be seen through to spring 2020 semester.
Vacating the Science Center: Infrastructure Hub, Data Center, and IT Staff Move

• The University’s data center, currently located in the Science Center, serves as a hub for the University’s centralized IT infrastructure hardware (Switches, Firewalls, APC units) and servers for a variety of end-users including IT, researchers/faculty, and departments

• The data center relocation is an enabling project for SDQD

• Current data center functions are to be split between a new on-campus location for IT infrastructure hardware and the co-location of servers to the main UMass data center in Shrewsbury

• The new on-campus location for IT infrastructure (IHUB) will be on the Upper Level of Quinn in current telecommunications space

• Construction work has started and will be completed in Fall 2019

• 26 IT staff currently in Science Center, to move to Service and Supply as well as Healey Library Lower Level
Vacating the Science Center:
CSM Machine Shop

• The College of Science and Mathematics machine shop, currently located in the Science Center, supports teaching and research by fabricating and repairing metal objects used in the lab or in the field

• The machine shop relocation is an enabling project for SDQD

• The new location for the machine shop will be in the Service & Supply Building and will require relocating Facilities department MEP shops and Project Management

• Planning and design for the new machine shop is being performed by NBBJ, the designer for the SDQD project and construction work will be performed by Consigli, the REAB Construction Manager
Substructure, Science Center, Pool Demolition and Quadrangle Development (SDQD) Project
Substructure, Science Center, Pool Demolition and Quadrangle Development (SDQD) Project

Project Team

- University of Massachusetts Building Authority is managing the project on behalf of UMass Boston
  - Owner’s Project Manager: AECOM
    - Licensed Site Professional (environmental monitoring): Vertex
  - Designer: NBBJ
    - Structural Engineer: ARUP
    - Geo-technical Engineer: Haley and Aldrich
    - Civil Engineer: Nitsch
    - Landscape Architect: Michael Van Valkenburgh Associates
    - MEP Engineer: ARUP
  - Construction Manager: Gilbane Building Company
Substructure, Science Center, Pool Demolition and Quadrangle Development (SDQD) Project

- **Challenges and Goals**

1. Science Center Programs to be relocated into existing buildings
2. Replacement of catwalks is critical
3. McCormack & Wheatley will have additional structural support added and repairs to LL/UL slabs
4. Science Center, Pool, Garage & portions of the Plaza to be demolished
5. Need to provide on-campus parking, eliminate satellite parking shuttle & enable Bayside development
6. A better Campus focal point and gathering space
Substructure, Science Center, Pool Demolition and Quadrangle Development (SDQD) Project

Anticipated Schedule Milestones

• Academic Year 2019-2020: Catwalk construction begins
• January 2020: Science Center fully vacant, interior demolition begins
• Spring 2020: Repairs to UL and LL of McCormack and Wheatley
• Summer 2020: Catwalks complete
• Summer 2020: Bulk demolition of Science Center, Pool and Plaza begins
• Late Fall 2020: Approximate completion of demolition activity
• Fall 2020 – December 2021: Quad, new portions of plaza, and parking established
Existing Catwalk Circulation
Catwalk design arrived at through design process involving senior leadership

The construction of new catwalks will precede demolition to maintain an indoor circulation path across campus
Catwalk

New and existing catwalk at Healey
Catwalk

New catwalk between McCormack and Healey
Catwalk

Existing Catwalk Entrance to McCormack
Catwalk

New Catwalk Entrance to McCormack
Catwalk

New catwalk between Wheatley and McCormack
Healey Elevator and Catwalk Stair

New elevator and stair to provide access from the plaza to the catwalk and Healey library.

Catwalk (level 2) plan
Healey Elevator and Catwalk Stair

Rebuilt Staircase

New Elevator

View of elevator and stair from Plaza
Areas to be demolished
SDQD – Preliminary Proposed Site Plan
Landscape and Technical Objectives

• Universal accessibility and easy campus connections
• Space for informal recreation and intramural activities
• Variety of gathering spaces for large and small groups
• Planting inspired by coastal landscapes
• Collect and filter stormwater in the landscape
• Connect new car park and Beacon’s Walk at 24’ elevation to the plaza level at 49’ elevation
• Reuse existing landform and demolition material
• Work with existing structural system
• Select flexible materials to account for natural settlement
SDQD – Current View
SDQD – Proposed View
New Quad with Existing Buildings and Landform
Bird’s Eye View of New Quad, Plaza and Catwalks
Section View of New Quad, Plaza and Catwalks

Relocated soil from current mound and crushed building materials as fill beneath quad
Substructure, Science Center, and Pool Building Demolition and Quadrangle Development

- Crush demolition debris on site
- Reuse as fill under new quad
- Raise elevation above LL grade
Layer View of New Quad, Plaza and Catwalks

Existing Conditions  

Landscape Layers

Proposed Landscape  
(Site Area: 14.5 Acres)
Substructure, Science Center, Pool Demolition and Quadrangle Development (SDQD) Budget

**SDQD BUDGET:**

Original Approved Project Budget*: $155,500,000

Science Center Relocation
REAB Budget: ($41,000,000)

SDQD Budget $114,500,000

*Project Funding: $78,000,000 from the State & $77,500,000 from University and other sources*
Substructure, Science Center, Pool Demolition and Quadrangle Development (SDQD) Project

Draft Schedule

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<thead>
<tr>
<th>SDQD PROJECT PHASES</th>
<th>FY 2019</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
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<td>Occupants fully decanted</td>
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*SDQD Completes December 2021*

*Science Decanted January 2020*
SDQD – Construction Impacts

Fall 2019: Portions of plaza to close

Spring 2020: Catwalk construction

Spring 2020: LL/UL repairs in McCormack Hall and Wheatley Hall to begin

Summer 2020: New catwalk complete

Summer 2020: Demolition to begin
Other Upcoming Projects:

Calf Pasture Pumping Station

Bayside
Calf Pasture Pumping Station

- University to explore potential private development of the site
- Vote approved by the Board of Trustees in September to have UMBA explore options for its reuse
- Work within historic designations
- University use for building, private development for adjacent parcels
Bayside Development
Bayside Development

• Bayside building demolished in 2016

• Bayside site remains campus parking for near team. Additional parking is included in the SDQD project.

• Agreement to lease has been signed, Accordia Development has completed due diligence

• Public process for planning and design to take place over next couple of years. University to undertake a consultation process to determine input for Accordia.

• Accordia will be meeting SFE faculty soon.
Bayside Development

- Campus community is invited to upcoming weekend charettes on:
  - October 26\(^{th}\)
  - November 16\(^{th}\)

- November open forum is being scheduled.

- Proceeds to be used on qualified capital investments. Approval process for qualified capital investments being put in place with UMBA and the Board of Trustees.

- Development anticipated to include a mix of academic and life science space, residential, retail and commercial uses on the site. Built-out Bayside could mimic Kendall Square.
Questions?

Additional questions or comments?

masterplan@umb.edu

Report Construction Related Issues:

Facilities Service Response
Facilities@umb.edu
617-287-5450
Service & Supply Building UL-01