Neilson Library Construction

Open Forum, Weinstein Auditorium
April 2, 2018
Major Project Milestones

- **Summer 2016- Summer 2018**: Department and occupant moves
- **Summer 2017**: Relocation of books, salvage of existing millwork, and relocation of existing utilities
- **Fall 2018**: Shoring of earth and dewatering
- **Fall/Winter 2017-18**: Demolition of library additions and interiors
- **Spring 2018**: New building foundations and structural steel
- **Fall 2018**: New building construction and interior fit-out
- **Fall 2020**: New Neilson opens
Work to Date

Significant work has already been completed, including relocation of the following utilities:

- Fiber optic and communication systems
- Electrical distribution
- Water mains and fire services
- Chilled water piping
- Steam and condensate piping
Work Highlights

- Steam Work
- Chilled Water
- Electrical
- Telcom
What has occurred over the past months?

New Utility Vault
Micro Pile Installation
Micro Piles – South Basement
Micro Pile Testing
Micro Piles

3D cross section
– Building
Information
Modelling
Temporary Steel Bracing
Dewatering - Storm Water Protection
Shoring of Earth North Foundation

- 50’ steel sheeting driven to refusal
- Bracing wale trail is a W36x247 beam
- Seismic & electronic monitoring employed
- Interior excavation done with smaller excavator
- Dewatering with sumps, pumps and wells
- Concrete barriers protect excavation
- Wire safety fencing is used at top of excavation
Discoveries

- Electrical duct bank in concrete site stair
- Gas company line drilled through electrical duct bank and drain line
- Metal sheeting from previous construction remained below grade
- 1934 geological benchmark
- Poor condition of masonry and mortar
Demolition - North
Demolition - Core
Demolition - Core
Demolition - South
Smith College Neilson Library Demolition Video 1: North Demo - Spring 2018
Neilson Library

Smith College Neilson Library Demolition Video 2: Brock - Spring 2018
Neilson Library

Smith College Neilson Library Time Lapse of Demolition: Fall 2017-Spring 2018
Neilson Library

Smith College Neilson Library Construction Drone Flyover - March 28, 2018
Mitigation of Construction Impact

- Dust: Misting water jets and hoses will be utilized to keep dirt down and control dust
Safety & Security

- Transparency, safety and security are paramount
- Webcams monitor the project site continuously
- Shawmut, Smith College and the City have reviewed all traffic routes both on campus and through the City.
- Campus Public Safety and Northampton Police, Fire and EMS are apprised of all access and construction activities.
- Construction gates are monitored when construction traffic is both arriving and departing the project.
- The team manages the interface of construction and Smith pedestrian and vehicular traffic; oversight of the project perimeter is critical
Campus Logistics Plan

Smith Neilson Library
Phase II Site Logistics

Legend

10/23/2017

Truck and pedestrian traffic
Mitigation of Construction Impact

• Large numbers of trucks will be required to remove dirt and debris, as well as to bring in new materials
• Traffic control and scheduling are critical activities
Site Logistics

• Safety and security are paramount
• Site access considerations include trucks, vehicles, safe pedestrian routes, clear signage and emergency access
• Consistent ongoing management of the construction perimeter and vehicle traffic is critical
Tree Protection

Significant efforts are being made to protect trees; particularly heritage trees.
Safety Controls - Buildings

- Construction coordination to minimize impacts
- Seismic monitoring
- Crack monitoring
- Tilt analysis
Hatfield Hall

Monitoring

- Pre construction surveys conducted
- Interior & exterior elements have been photographed
- Existing cracks in plaster & masonry are being monitored
- Laser Inspection & monitoring of 18 points
  - Fresh Air intakes are protected
  - Sound barriers are employed
- Chain link fencing and concrete barriers secure the work area
- Adjacent foundations are underpinned
Wright Hall

Safety Modifications and Improvements

• New emergency exits
• Reconfigured offices & copy area in new exit hall
  • New walkway from Wright Hall to campus center
  • New handicapped parking spaces
• Work coordinated with staff and events
• Neilson to Wright connector removed for installation of new curtain wall
  • Seismic monitoring
  • Sound barriers (as needed)
History
Neilson Library

North & East Façades / Seelye Lawn - 1909
March 9
West Cornice Overturn

• Inherent risk to construction
• Building elements exposed
• Process of discovery regarding the integrity of the masonry facade
Team Response
West Cornice

- Safety controls have been implemented to safe off the work area
- Temporary bracing is being augmented
- Laser survey and seismic monitoring are ongoing
East Cornice

- Process in place to counter balance the front façade cornice
- Temporary bracing is being augmented
- Laser survey and seismic monitoring are ongoing
Schedule
## Past Construction

<table>
<thead>
<tr>
<th>Dates</th>
<th>Planned Construction</th>
<th>Academic Calendar</th>
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<tbody>
<tr>
<td>Nov. 9-16</td>
<td>Install Sheet Piles</td>
<td>Classes</td>
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<tr>
<td>Nov. 17 – Dec. 14</td>
<td>Depressurization</td>
<td>Classes/Thanksgiving Break</td>
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<tr>
<td>Dec. 15-18</td>
<td>Demolition of North Additions</td>
<td>Pre-exam Study Period</td>
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<tr>
<td>Dec. 19-22</td>
<td></td>
<td>Mid-year Exams</td>
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<tr>
<td>Dec. 19 – Jan. 1</td>
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<td>Winter Recess</td>
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<tr>
<td>Jan. 2-23</td>
<td></td>
<td>Interterm</td>
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<tr>
<td>Jan. 25 – Mar. 8</td>
<td>Demolition of South Additions</td>
<td>Classes</td>
</tr>
<tr>
<td>Mar. 9-18</td>
<td>Construction of Foundations and Structure</td>
<td>Spring Recess</td>
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Planned work will be coordinated with campus activities to the extent possible.
## Near-Term Construction

<table>
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<th>Dates</th>
<th>Planned Construction</th>
<th>Academic Calendar</th>
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<tbody>
<tr>
<td>Apr. 2-May 3</td>
<td>Complete Demolition and Prepare for Construction</td>
<td>Classes</td>
</tr>
<tr>
<td>May 4-7</td>
<td>Install Micro Piles and Set Formwork for Concrete</td>
<td>Pre-exam Study Period</td>
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<tr>
<td>May 8-11</td>
<td>Construction of Foundations and Structure</td>
<td>Examinations</td>
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<td>May 20</td>
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<td>Commencement</td>
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<td>May 21-Sep. 2</td>
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<td>Summer Programs &amp; Activities</td>
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<tr>
<td>Aug. 17</td>
<td></td>
<td>SSW Commencement</td>
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<tr>
<td>Sep. 3</td>
<td>Prepare for Receipt of Steel</td>
<td>Classes Begin</td>
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<tr>
<td>Oct. 7-10</td>
<td>Receive Steel and Initiate Steel Installation</td>
<td>Fall Break</td>
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</tbody>
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* Oct. 13-15 – Family Weekend

Planned work will be coordinated with campus activities to the extent possible.
The Vision
Neilson Library

North & East Façades / Seelye Lawn - 1909
Neilson Library

East Façade / Seelye Lawn - 2020
Neilson Library

Day & Night Views – Looking South (Student Center)

Neilson Library | North Elevation

Smith College

MAYA LIN STUDIO || Shepley Bulfinch
Neilson Library

Day and Night Views – Sunken Courtyard / Amphitheater

Neilson Library | Birdseye View of Sunken Courtyard and Amphitheater

Smith College

MAYA LIN STUDIO | Shepley Bulfinch
Neilson Library

Day and Night Views - Looking North (Green Street)
Neilson Library

Rendering – Level 1 in 1909 central pavilion - South

Level 1 in 1909 central pavilion looking south
Neilson Library

Rendering – Level 2 in 1909 central pavilion - south
Neilson Library

Rendering – Level G in north jewel box - north
Neilson Library

Rendering – Level 3 in north jewel box - north

Level 3 of north jewel box looking north.
Neilson Library

Rendering – Level 3 in south jewel box - east
Questions and Answers

Open Forum, Weinstein Auditorium
April 2, 2018

Neilson Library | West Elevation (Burton Lawn)

Smith College

MAYA LIN STUDIO || Shapley Bulfinch
Neilson Library Traffic Management Plan
Construction Traffic Routes Points North
## Smith Neilson Library Project - Master Schedule - Shewmut Design and Construction

### Updated 27-Mar-18

<table>
<thead>
<tr>
<th>Activity ID</th>
<th>Activity Name</th>
<th>Start Date</th>
<th>Finish Date</th>
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<tr>
<td>140818</td>
<td>SMITH PRECONSTRUCTION</td>
<td>28-Jan-18</td>
<td>21-Jan-19</td>
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<td>NEILSON LIBRARY CONSTRUCTION</td>
<td>06-Feb-18</td>
<td>18-Aug-20</td>
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### Neilson Library

#### Phase 2: Neilson Library Demolition & Abatement

- **1909 Library Interior Structural Demolition**
  - Start: 06-Feb-18, Finish: 26-Apr-18
- **Demolition of Center Block of 1909 Building**
  - Start: 26-Feb-18, Finish: 19-Apr-18
- **South Addition**
  - Start: 15-Apr-18, Finish: 15-Apr-18
- **Depressurization, Anchoring, Site Power & Demolition**
  - Start: 06-Feb-18, Finish: 20-Feb-18
- **Removal of Tenant Improvement Party Walls**
  - Start: 16-Mar-18, Finish: 02-Apr-18

#### Phase 3: Neilson Library Foundation and Structural Steel

- **Neilson Library Foundation Walls & North Addition**
  - Start: 11-Apr-18, Finish: 03-Apr-19
- **Earthwork, Roads, & Sidewalks**
  - Start: 17-Apr-18, Finish: 19-Oct-18
- **Foundations Walls & South Addition**
  - Start: 08-Aug-18, Finish: 08-Aug-18

#### Phase 4: Neilson Library Construction

- **Steel fabrication & storage**
  - Start: 06-Nov-18, Finish: 03-Apr-19

### Notes

- **Phase 2** Demolition Completion & Inspection
  - Mat Slab & Foundations
  - Earthwork for Mat Slab and Foundations
  - Excavation of Lower Level Basements - Underground MEPS, Pile Caps, & Slabs
  - Tunnel connection to Alumni
  - Underground Free Cooling Dual Vault
  - Sequence 1: Level 0 to Level 1 (South Atrium) and Orange Zone
  - Sequence 2: Mat Slab Pile/Wall/Special Columns Including New Area
  - Sequence 3: 1909 Level 0 (1909 Central Core North End) and Yellow Zone
  - Sequence 4: 1909 Level 0 (East and West Pavilions) and Green Zones
  - Steel trusses and slabs
  - West Creation of 1909 Building
  - Slab on Decks and Slab on Grade
  - Phase 2 Completion Completion & Inspection

### Additional Information

- Actual Work
- Remaining Work

**Updated: REMOND 27-Mar-18**

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