University of Massachusetts Building Authority

Building Engineering Committee (BEC) for the American Council of Engineering Companies

December 4, 2015

Today's UMass Building Authority

New Leadership

- ✓ UMBA Executive Director Patricia Filippone joined UMBA in 2012 as its CFO, and became its 4th Executive Director in 2014
- > Navigating the University's most transformative period of growth
- Overseeing and managing a \$3.8 billion capital plan to modernize the five campuses with new construction and renovation
- A critical partner in economic development for the UMass system and the Commonwealth
- Evolving to meet the multitude of construction needs of each campus with on-time, cost-effective, highest-quality construction of world-class facilities

Today's UMass Building Authority



- > Pursuit of strategic real estate acquisitions to support growing demand
- Expand the umbrella of firms working with the Building Authority
 - Project Managers, Designers, Construction Managers, Commissioning
 Agents, Financial Advisors, Bankers, Real Estate Advisors, and Legal Services
- Expand UMBAs project management capacity to lower capital and life-cycle costs and provide more support to campuses
- Ensure best practices are being implemented
 - Financing approaches, Internal Controls, Project Implementation
- Collaborate with the campuses on master planning and strategic development
- Explore alternate delivery and finance models such as public-private partnerships

Working with the Building Authority

Focus on upfront planning and programming

- ✓ RFPs and goals will be more clearly defined
- Partnering with DCAM on Campus Master Planning
- Contracts reworked to provide flexibility
- Strategic Procurement: Having all project team members hired early on in the design process enables high-quality projects to be completed in an expeditious manner
- Real Estate: Prequalification for appraisal services, surveying, environmental, land use, relocation and other real estate services which will streamline much of the real estate development and purchase timelines
- Design/ Construction Services: The procurement of all design and construction services now being managed centrally and internally

Working with the Building Authority

- MBE / WBE Compliance: Enforcing compliance goals on all UMBA projects
- Expedited Contract negotiations and execution
- Deferred Maintenance University priority
- Efficiency & Effectiveness





University of Massachusetts Building Authority 47 Active Capital Projects - \$1.738 Billion

Amherst

*Commonwealth Honors College *New Training Facility - McGuirk Stadium Improvements **Champions Center Furcolo Hall Renovations Design Building** South College Academic Facility Renovation / Addition MLSC Life Sciences Buildout **Tillson Electrical Substation & Electrical Upgrades Chapel Renovations Campus Data Center** Polymer & ISB Chiller Plant Upgrades Whitmore Deferred Maintenance Isenberg School of Management Addition & Renovation Student Center Study (Student Experience Master Plan) **Residential Facilities Assessment Study** Laboratory Renovations

Dartmouth

*Tripp Fitness Center Expansion SMAST Facility Classroom, Lab & Learning Space Improvements Charlton College of Business Expansion

* Projects are Phase 9A Construction Completed

Boston

Healey Library Roof & Parapet Repairs Utility Corridor and Roadway Relocation University Hall (General Academic Building No. 1) Harborwalk and Shoreline Stabilization Bayside Utilities, Demolition & Parking Development Nantucket Field Station Laboratory Renovations Energy Producing Facility (Tri-Generation) **Renovation of Existing Academic Buildings** Residence Hall / Dining Commons Fox Point Dock Repair **Clark Envelope Replacement Elevator Upgrades** Parking Garage / Public Safety Data Center Relocation (Service & Supply Building) **Operations Center Renovations (Service & Supply Bldg)** Lowell *Emerging Technology and Innovation Center (ETIC) *University Suites *South Campus Garage *University Crossing *Renovation of Leitch and Bourgeois Halls *SAAB Pharmaceutical and Research Labs McGauvran Dining Renovations North Quad Infrastructure Renewal - Phase 1 Residence Comprehensive Renewal – Fox Hall Elevators **Tsongas Center Expansion** 6

Major Projects Recently Completed

- > Champions Center (Amherst) \$29.9M
- Harbor Walk and Shoreline Stabilization (Boston) \$3.8M
- > University Crossing (Lowell) \$97.2M
- Leitch & Bourgeois Residence Halls (Lowell) \$37 M
- SAAB Center Research Labs (Lowell) \$8 M



UMass Capital Plan Implementation

- Five-year, \$3.8 billion of cash flow
- Minimum of \$1.8 billion to be financed and managed by the UMass Building Authority

Pipeline fully programmed



UMBA Projects in Construction Phases

Phase 6: Final Design / Early Construction	Phase 7: Construction	Phase 8: Substantial Completion Phase 9A: *Construction Completed
	Furcolo Hall Renovations (A)	Champions Center (A)
Bayside Utilities, Demolition and Parking (B) Classroom, Lab & Space Improvements (D)	MLSC Life Sciences Build-out (A)	Harborwalk & Shoreline
	Tillson Electrical Substation & Electrical Upgrades (A)	Stabilization (B)
	South College Academic Fac. (A)	*Football Training Facility
	Design Building (A)	& McGuirk Stadium (A)
	Campus Data Center (A)	*Commonwealth Honors
	Chapel Renovations (A)	College (A)
	Nantucket Field Station Lab Renovation (B)	*Tripp Fitness Center Expansion (D)
	University Hall (General	*University Crossing (L)
	Academic Building No. 1) (B)	*Renovation of Leitch &
	Utility Corridor and Roadway Relocation (B)	Bourgeois Halls (L)
	Healey Library Roof & Parapet Repairs (B)	*Emerging Technology and Innovation Center (L)
	Charlton College of Business	*University Suites (L)
	Expansion (D)	*South Campus Garage (L)
	North Quad Renewal (L)	*SAAB Pharmaceutical and
	McGauvran Dining Reno. (L)	Research Labs (L)

Sampling of Projects in Construction







Furcolo Hall / Marks Meadow Renovations

- Consolidation of the School of Education into one location, through the renovation of Furcolo Hall
- □ Total Project Cost: \$22.5m
 - Spent to date: \$17.9m

Schedule

- □ Substantial Completion: Nov 2015
- Project Completion: Mar 2016



Project Phase: OPM Firm: Design Firm: CM (ch.149A): Current Status:

Next Steps:



Construction STV | DPM Perkins + Will Consigli Phase 1 complete; Phase 2 complete; Phase 3 near completed Final Commissioning; Closeout; Punch list;



Training

Design Building

 To house the Landscape Architecture & Regional Planning (LARP), Architecture + Design (A+D) and Building Construction Technology (BCT) programs in a single 89,500sf integrated facility.

□ Total Project Cost: \$52.0m

□ Spent to date: \$6.3m

Schedule

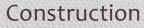
- □ Substantial Completion: Nov '16
- Project Completion: Mar 2017



Project Phase:

OPM Firm: Design Firm: CM (ch.149A): Current Status:

Next Steps:



Hill International Leers Weinzapfel Associates Suffolk Construction GMP, foundations and site utilities in progress; Wood Timber Structure







South College Academic Facility Renovation / Addition

 Renovation and addition to accommodate classrooms and various departments needing to relocate due to closing of Bartlett Hall.

□ Total Project Cost: \$65.0m

□ Spent to date: \$15.9m

Schedule

- □ Substantial Completion: Nov '16
- Project Completion: Mar 2017



Project Phase: OPM Firm: Design Firm:

CM (ch.149A): Current Status:

Next Steps:





Construction Hill International DiMella Shafer /

Klimant Halsband

Daniel O'Connell & Sons

Final GMP being reviewed; steel erection; rough carpentry & steel in the existing building continues

Execute GMP; Slabs; Rough MEP/FP



MLSC Life Sciences Buildout

- Build out for the Life Sciences Laboratories 2 shell space and installation of research equipment to enhance collaborative research with private businesses.
- Specialized laboratory equipment procured by UMA separately but coordinated with construction buildout project.

□ Total Project Costs:

- Total Project: \$95m
- Spent to date: \$48.2m
- TPC Construction Project only: \$32.2m
- Spent to date: \$16.1m

Schedule

- □ Substantial Completion: Dec 2015
- Project Completion: Apr 2016



Project Phase: OPM Firm: Design Firm:

CM (ch.149A): **Current Status:**

Next Steps:



Construction PMA Architectural Resources Cambridge Consigli Finishes, ceilings, casework, equipment continues Substantial Completion 12/2015



Tillson Electrical Substation & Electrical Upgrades

Due to growth of the campus, construction of a new 50 MV substation and electrical ductbanks, wiring and infrastructure to serve as the primary electrical service to the campus and provide more reliable power and increased capacity to meet the needs of the campus into the foreseeable future.

Total Budget (includes Western Mass Electric Company backcharges):\$40m

- □ Total Project Cost: \$29.0m
 - □ Spent to date: \$15.6m

Schedule

- □ Substantial Completion: Dec 2015
- Project Completion: Feb 2016

Project Phase: OPM: Design Firm: GC (ch.30):

Current Status:

Next Steps:



Construction UMass Amherst

CHA

Phase 1 Ductbank - MASS WEST Construction Co.; Phase 2 Substation – Dagle Electric

Phase 1 Ductbank – Complete; Phase 2 Substation – Equipment installation

Testing; Commissioning; Substantial Completion 12/2015



Chapel Renovations

- Renovate, revitalize and reoccupy the most recognizable iconic historic landmark on campus for multi-purpose space including meetings, exhibitions, lectures, musical performances and banquet events.
- Total Project Cost: \$21.0m
 - □ Spent to date: \$2.9m

□ Schedule

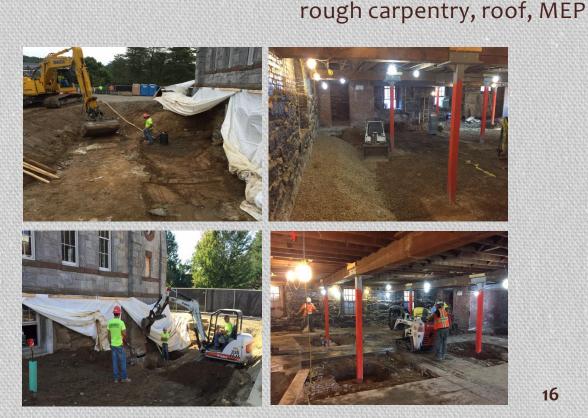
- □ Substantial Completion: Sep 2016
- Project Completion: Dec 2016



Project Phase: OPM Firm: Design Firm: CM (ch.149A): **Current Status:**

Next Steps:

Construction STV | DPM Finegold Alexander Assoc. Barr & Barr Draft GMP being reviewed; Site utilities, foundations, slab work continues Execute GMP; Commence



Campus Data Center

The new campus Data Center will be comprised of approximately 6,500 square feet of raised floor area located on the second floor of LSL2 and will provide the expected levels of redundancy and operational requirements to serve the Day-One needs and designed for ease of future expansion and modification.

Total Project Cost: \$10.1m

□ Spent to date: \$705K

Schedule

- □ Substantial Completion: Dec 2015
- Project Completion: Mar 2016



Project Phase: OPM Firm: Design Firm: GC (ch.149): Current Status:

Next Steps:

Construction UMass Amherst EYP Architect & Engineers PDS Engineering Drywall complete; MEP/FP continues; finishes commenced Equipment installation; Substantial Completion





12/2015

Boston Healey Library Roof Replacement & Bldg. **Parapet Repairs**

Phase 1: Demolition and replacement of 19,500 sf roof and Penthouse work – Completed May 2014. **Phase 2:** Parapet Repairs and roofing at roof terraces.

□ Total Project Cost: \$8.2m

- □ Spent to date: \$4.7m
- □ Schedule (Phase 2)
 - □ Substantial Completion: Nov 2015
 - Project Completion: Feb 2016



Project Phase:

OPM Firm: Design Firm:

GC (ch.149): **Current Status:**

Next Steps:

Phase 1 – Construction Completed Phase 2 – Construction Joslin Lesser Associates Simpson Gumpertz & Heger Ph. 2 – Silktown Roofing Phase 2 – Selected demo; Repairs to masonry backup & veneer continues; misc. metal & storefront work to commence

Phase 2 – Substantial Completion 11/2015





Utility Corridor and Roadway Relocation

Campus-wide utility distribution and roadway infrastructure to support build-out of the campus master plan

- □ Total Project Cost: \$184.5m
 - □ Spent to date: \$76.8m

Schedule

- □ Substantial Completion: July 2017
- Project Completion: Oct 2017



Project Phase:

OPM Firm: Design Firm: CM (ch.149A): Current Status:

Next Steps:

Construction

Joslin Lesser Associates BVH Integrated Design Bond Brothers Package 4 – Construction continues; Package 5 Landscape - Awarded Utilities to GAB1 Oct 2015;

U-Drive South opens to one-way traffic Jan 2016



University Hall - General Academic Building No. 1

New 194,355 GSF academic building with general and specialized classrooms, seminar rooms, student lounges, food service, auditorium, faculty and administrative offices

□ Total Project Cost: \$133.5m

□ Spent to date: \$98.4m

Schedule

- □ Substantial Completion: Jan 2016
- Project Completion: Apr 2016



Project Phase: OPM Firm: Design Firm: CM (ch.149A): Current Status:

Next Steps:

Construction Joslin Lesser Associates Wilson Associates Gilbane MEP, finishes, casework, site continues; Exterior envelope near complete

Final Utility Connections w/UCRR; Commissioning; Substantial Completion





Dartmouth

Charlton College of Business Expansion

New state-of-the art 21,000 square foot expansion of the existing facility to offer the best teaching and learning resources available that will contain critically needed space including classrooms, meeting spaces, an auditorium, and technology enhanced areas

□ Total Project Cost: \$15m

□ Spent to date: \$2.3m

Schedule

- □ Substantial Completion: Aug '16
- Project Completion: Oct 2016



Project Phase: OPM Firm:

Design Firm: CM (ch.149A): Current Status:

Next Steps:

Construction Compass Project Management Brunner / Cott Agostini Construction Utilities; Foundations; Steel erection to commence Slabs; Rough MEP's







Lowell

McGauvran Hall Dining Renovations

 Repurposing of existing building to the main
 South Campus Dining
 Facility and demolition
 of the existing South
 Dining

Total Project Cost: \$34m

Spent to date: \$26.1m

Schedule

- Substantial Completion: Apr 2016
- Project Completion: Jul 2016



Project Phase:

OPM Firm: Design Firm: CM (ch.149A): Current Status:

Next Steps:

Construction

Leftfield Bergmeyer Associates Shawmut Construction Finishes, Kitchen Equipment, Landscape Commissioning; Substantial Completion; Demo existing structure

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Lowell North Quad Infrastructure Renewal – Phase 1

Project Phase: OPM Firm: Design Firm: CM (ch.149A): Current Status:

Next Steps:

Construction Hill International ICON Architecture Bond Brothers GMP in progress; Utilities; Foundations near complete Execute GMP; Steel erection; Slabs





First phase of work to provide code required upgrades to existing North Quad structures including, toilets, stair towers, elevator and utilities

Total Project Cost: \$18.2m

□ Spent to date: \$3.0m

Schedule

- □ Substantial Completion: Sept '16
- Project Completion: Dec 2016



UMBA Projects in Conceptual thru Design Phases

Phase 1: Conceptual Phase 2: *Feasibility	Phase 3: OPM / Designer Procurement	Phase 4: Study / Schematic Design Phase 5: *Design
Data Center (B) Operations Center Renovation (B) Tsongas Center Expansion (L) *Residence Hall / Dining Commons (B)	Laboratory Renovations (A) ISOM Addition & Renovation (A) Whitmore Deferred Maintenance (A) Parking Garage / Public Safety (B) Gym Roof & Envelope Repairs (B) Elevator Replacement	Student Center Study (A) Residential Facilities Assessment Study (A) Renovation of Existing Academic Buildings (B) Energy Producing Facility (Tri-gen) (B) *Polymer & ISB Chiller Plant Upgrades (A) *Fox Point Dock (B) *SMAST Facility (D)
	(B) Residence Hall Comprehensive Renewal – Fox Hall Elevators (L)	

Sampling of Projects in Design







Chiller Facility Upgrades

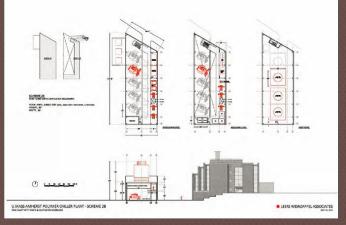
- Expansion of two regional chilled water facilities

 (Polymer and Integrated Science Building Chilled Water Plants) that serves multiple buildings on campus. Project will provide plant expansion, upgrades, new equipment, CHW piping and connect six additional buildings to the system.
- Total Project Cost: \$33.0m
 - Spent to date: \$525K

Schedule

- Substantial Completion: Aug 2017
- Project Completion: Dec 2017

🔰 Polymer Plant – Proposed Plant Options 🔘



Project Phase:

OPM Firm: Design Firm: GC (ch.149): Current Status: Next Steps:



Design

UMass Amherst RMF Engineering TBD Design Development Construction Documents; Bid Documents



Whitmore Deferred Maintenance

Building code review and systems assessment resulting in improvements or replacement of certain MEP/FP, interior and exterior architectural elements and life safety systems for the 1967, threestory concrete building.

□ Total Project Cost: \$14m

□ Spent to date: \$0

Schedule

- □ Substantial Completion: TBD
- Project Completion: TBD



Project Phase:

OPM Firm: Design Firm: GC or CM:

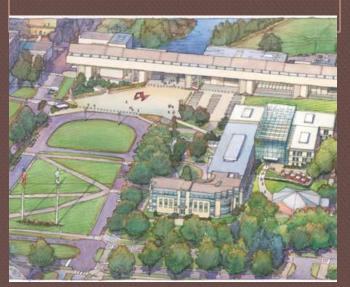
Current Status: Next Steps: Project put on Hold - OPM / Designer Procurement

UMass Amherst TBD TBD – ch.149 or ch.149A Procurement Project on Hold Campus is reviewing capital project priorities and may reduce the scope and budget

Amherst Isenberg School of Management Addition

& Renovation

- Expansion of existing facility to include space for faculty and staff, innovation center, atrium with learning commons and colloquium space, a simulated trading floor and limited renovation of existing spaces.
- Total Project Cost: \$62m
 - Spent to date: \$74k
- Schedule
 - Substantial Completion: Jun 2018
 - Project Completion: Sept 2018



Project Phase:

OPM Firm: Design Firm: GC or CM:

Current Status:

Next Steps:

OPM / Designer Procurement

Leftfield Goody & Clancy w/ BIG TBD – ch.149 or ch.149A Procurement Study validation & programming to commence Schematic Design





Energy Producing Facility (Tri-Generation)

Due to growth of the campus, construction of a new Tri-Generation Power Facility that will provide the campus with more reliable power and increased capacity to meet the needs of the campus into the foreseeable future.

□ Total Project Cost: \$32.2m

Spent to date: \$588k

□ Schedule

□ Substantial Completion: July 2017

Project Completion: Oct 2017



Project Phase:

OPM Firm: Design Firm: CM (ch.149A): Current Status: Next Steps: Study / Schematic Design

Jacobs Project Management Cambridge Seven Associates Gilbane Schematic Design Design Development; Commissioning Agent procurement





Renovations to Existing Academic Buildings

 Renovation of academic spaces and offices vacated with the completion of the Integrated Science Building and General Academic Building No. 1

Total Project Cost: \$76.4m

□ Spent to date: \$975k

Schedule

□ Substantial Completion: Nov 2017

Project Completion: Jan 2018



Project Phase:

OPM Firm: Design Firm: CM (ch.149A): Current Status: Next Steps: Study / Schematic Design

Hill International Cannon Boston Inc. TBD Study completion Oct 2015 Schematic Design



UNIVERSITY OF MASSACHUSETTS BOSTON Renovations To Existing Academic Buildings

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Fox Point Dock Replacement

 Replacement of the deteriorated existing dock for Marine Operations

□ Total Project Cost: \$1.5m

□ Spent to date: \$74k

Schedule

- Substantial Completion: May '16
- Project Completion: June 2016

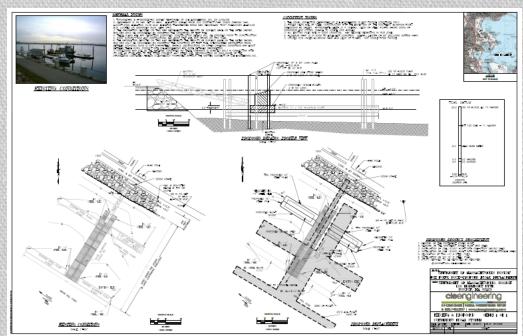


Project Phase:

OPM Firm: Design Firm: GC:

Current Status: Next Steps: Design

UMass Boston CLE Engineering TBD – ch.149 or ch.30 Procurement Design Bid 12/2015 & Construction 2/2016



Clark Athletics Center Envelope Replacement

Replace portions of the roof, curtain wall systems and masonry veneer that is in distress and in need of significant repairs

□ Total Project Cost: \$5.25m

□ Spent to date: \$ok

Schedule

- □ Substantial Completion: Dec 2016
- Project Completion: Feb 2017



Project Phase:

OPM Firm: Design Firm: GC (ch.149): Current Status:

Next Steps:





OPM / Designer Procurement

Pinck & Co. In Progress TBD Designer Proposals received 9/23/2015; shortlist & Interviews Designer Award / Contract;

Commence Schematic Design



Elevator Upgrades

Replacement of 14 elevators, various locations, all original to the campus construction. Existing elevators are increasingly difficult to maintain, parts difficult to acquire and will be replaced to improve reliability, accessibility and meet current codes

Total Project Cost: \$3.3m

□ Spent to date: \$104k

Schedule

- Substantial Completion: Dec 2016
- Project Completion: Feb 2017



Project Phase:

OPM Firm: Design Firm: GC (ch.149): Current Status:

Next Steps:

OPM / Designer Procurement

Pinck & Co. In Progress TBD Designer Proposals received 9/23/2015; shortlist & Interviews Designer Award / Contract;

Commence Schematic Design

New Parking Garage / Public Safety Unit

The project includes 1,400 space Parking Facility on campus and a new location for the university's Department of Public Safety (DPS)

Total Project Cost: \$45 m

□ Spent to date: \$ok

Schedule

□ Substantial Completion: Aug 2017

Project Completion: Oct 2017



Project Phase:

OPM Firm:

Design Firm: CM (ch.149A): Current Status:

Next Steps:

OPM / Designer Procurement

Skanska Integrated Solutions In Progress TBD

Designer proposals due 10/21/2015; Shortlist; Interviews

Designer Award / Contract; Commence Design

Dartmouth

SMAST Facility – Marine Sciences

State of the art marine research facility to relieve overcrowding of current facility; includes space for Division of Marine Fisheries

□ Total Project Cost: \$55m

□ Spent to date: \$2.4m

Schedule

- □ Substantial Completion: Jun 2017
- Project Completion: Aug 2017



Project Phase: OPM Firm: Design Firm: CM (ch.149A): Current Status: Next Steps:

<image>

Design Hill International Ellenzweig Associates Bond Brothers Construction Documents Abatement / Demolition Early Construction Packages Dec 2015

Lowell Residential Comprehensive Renewal (Fox Hall Elevators)

The two primary Fox Hall elevators are original to the building and were designed to support half of the current residents. The scope is to construct two new passenger elevators on the exterior of the existing high rise residence hall and upgrade the two existing passenger elevators.

Total Project Cost: \$15m

Spent to date: \$0

Schedule

- Substantial Completion: Jun'18
- Project Completion: Aug 2018

Project Phase:

OPM Firm: Design Firm: GC or CM:

Current Status:

Next Steps:



OPM / Designer Procurement

Leftfield TBD TBD – ch.149 or ch.149A Procurement Designer Proposals due 11/18/2015; shortlist & Interviews

Designer Award/ Contract; Commence Study / Design



Sampling of Projects in Study Phase

Student Center Study / Student Experience MP

 A Study to develop a comprehensive student life facilities plan, currently at 22 locations across campus, that may include a combination of existing building renovations / additions and new facility construction.

- Total Project Cost: \$1.7m
 - Spent to date: \$656k
- □ Schedule
 - □ Study Completion: Dec 2015

Project Phase:

OPM Firm: Design Firm: GC or CM: Current Status:

Next Steps:

Study

UMass Amherst Cannon Design NA Reviewing Final Draft of Study Study completion 12/2015



Residential Facilities Assessment Study

A study that will perform facilities assessments, review deferred maintenance and conduct a programmatic review of the housing typology. Study will help define Residential Life's capital plan goals and visions for future housing reinvestment.

□ Total Project Cost: \$2m

□ Spent to date: \$431k

Schedule

Project Completion: Dec 2015



Project Phase:

OPM Firm: Design Firm: GC or CM: Current Status:

Next Steps:

Study

UMass Amherst Brailsford & Dunlavey NA Reviewing Final Draft of Study Study completion 12/2015



Sampling of Pipeline Projects

Amherst Campus





Tobin Building Renovations

- Total Project Cost: TBD
- Target Completion TBD

Worcester Dining Commons Study

- Total Project Cost: TBD
- Target Completion TBD

Boston Campus

Residence Hall / Dining (P3) • Concept : 1,000 beds & Dining Facility

Healey Library Fire Protection

• \$8.0m Total Project Cost

Data Center Relocation (Service and Supply Bldg.) • \$1.3m Total Project Cost

New Operations Center Renovation (Service and Supply Building)

• \$2.2m Total Project Cost

Dartmouth Campus

Renovations to Residence Halls

- Concept : Renovation to four oldest residence halls
- Deferred Maintenance
- \$75m Total Project Cost

Lowell Campus



Tsongas Center Expansion

- Total Project Cost: \$35m
- UML Feasibility Study completed