



EXCEPTIONAL CARE. WITHOUT EXCEPTION.



Institutional Master Plan Amendment

Boston Civic Design Commission Meeting #1

August 06, 2013



Introduction

The purpose of this IMP Amendment is to obtain approval for modifications to projects previously approved in the 2010 Institutional Master Plan (“IMP”) and the addition of approximately 17,136 square feet for Boston Medical Center. These modifications will allow for critical campus alignment and growth, the reduction of ambulance traffic and materials deliveries along Albany Street, and the replacement of the existing yellow utility tube spanning Albany Street with a simple bridge to handle patient transfer and materials handling.

On June 22, 2010, the BRA approved the Boston University Medical Center Institutional Master Plan Renewal. As outlined in the approved 2010 IMP, BMC recognizes an immediate need to address space and physical constraints of its existing campus and respond to clinical trends through new construction, demolition and renovation. BMC seeks to amend the approved 2010 Institutional Master Plan to incorporate minor modifications consisting of:

- ◆ An addition to the existing Moakley Cancer Center (to facilitate the relocation and expansion of outpatient services);
- ◆ Minor footprint, massing, and phasing revisions to the 2010 IMP New Inpatient Building (to include the expansion of the Emergency Department and Trauma Center);
- ◆ Relocation of the 2010 IMP Energy Facility;
- ◆ Replacement of the existing yellow utility tube across Albany Street with a new Bridge (to service patient transport and materials handling); and
- ◆ Inclusion of the acquisition of the Perkin Elmer site.

The proposed IMP project modifications are consistent with BMC’s previously stated planning assumptions in the approved 2010 IMP. These modifications are necessary to consolidate and right-size clinical services to support new trends in health care delivery and patient volume, upgrade and expand the Emergency Department and Trauma Center, and move the core of the clinical campus to the west. The benefits of these modifications include:

- ◆ Elevated quality of care as a result of new and upgraded facilities and technology;
- ◆ Increased organizational efficiencies due to centralized services and improved operational adjacencies;
- ◆ Improved energy infrastructure that increases energy efficiency and reliability, reduces environmental impact, and lowers operating costs;
- ◆ Refined pedestrian experience along Albany Street through site improvements, reduction of curb cuts, and the replacement of the yellow utility tube with a new bridge; and
- ◆ Improved delivery of patient care and reduced operational costs through significantly decreasing patient transfers by ambulance and construction of a new patient transport bridge.

Summary of IMP Project Modifications

Project	2010 Approved IMP (in square feet)	2013 IMP Amendment (in square feet)	Change (in square feet)
Moakley Cancer Center Addition	0	27,800	27,800
New Inpatient Building Phase 1	0	78,800	78,800
New Inpatient Building Phase 2	405,000	323,000	-82,000
Energy Facility	48,000	38,500	-9,500
New Patient Transport Bridge	0	7,100	7,100
Administration / Clinical Building	160,000	219,000	59,000
Demolition of Power Plant	0	-64,064	-64,064
Totals	613,000	630,136	17,136

Guiding Principles and Planning Assumptions

The approved 2010 Institutional Master Plan allows the Proponents to create a campus supportive not only of the institutions’ common goals, but also of their unique needs and individual missions now and in the future. BMC endeavors to sustain the highest expected standard of patient care while BU Medical Campus strives to maintain an exceptional environment for students interested in basic science, clinical investigation, or public health and health services oriented research, and medical educational programs. Aging buildings, deficient infrastructure components, and inefficient operational adjacencies create challenges for each institution to

keep up with current advancements in health care and academic trends. As a result, campus modifications will be necessary over the next 10 years, including but not limited to, constructing new facilities, demolishing obsolete buildings, renovating existing structures, and improving infrastructure.

Shared Planning Assumptions and Objectives

The following challenges play a role in addressing the Proponents’ program needs:

- ◆ Building age (and obsolescence);
- ◆ Traffic demands;
- ◆ Parking needs;
- ◆ Open space preservation; and
- ◆ Utilities, power plant, and other energy infrastructure up grades.

The Proponents acknowledge the following planning design drivers as elements critical to the successful realization of their objectives:

- ◆ Planning for long-term future growth and transformation;
- ◆ Transformation of the Albany Street campus image;
- ◆ Sensitivity to context through massing, scale and materials;
- ◆ Creation of a clear and welcoming sense of arrival;
- ◆ Implementation of unified site signage and enhanced way finding;
- ◆ Development of pedestrian-friendly street edges; and
- ◆ Enhance accessibility to parking and existing buildings.

Urban Design

The primary urban design objective of Boston University Medical Center is to create a cohesive medical campus thoughtfully integrated into the surrounding urban fabric and neighborhoods. Since the merger of Boston City Hospital and University Hospital in 1996, sensitive design, careful open space planning, and conscientious site and streetscape enhancements along the campus periphery have supported this objective.

Various improvement projects, implemented under the previous Institutional Master Plan, refined the presence and aesthetic of the BUMC Campus, specifically along Harrison Avenue and Albany Street.

Additional master planning design goals to support future development on the BUMC Campus include:

- ◆ Transform the Albany Street campus image.
- ◆ Complement the existing context massing, scale, and materials.
- ◆ Create a clear and welcoming sense of arrival.
- ◆ Enhance open spaces on the campus, both short and long-term.
- ◆ Develop pedestrian friendly street edges.
- ◆ Enable connectivity between parking and existing buildings.
- ◆ Integrate sustainable design principles and operations.
- ◆ Plan proactively for future growth and transformation.

Access and Connectivity

An individual’s experience with the BUMC Campus begins with their approach. The arrival sequence must be clear and the architecture and open spaces should impart an immediate and welcoming sense of arrival and place. The arrival experience should also convey the image and identity of the institution as a leader in healthcare, education, and research.

The BUMC Campus is well connected to regional and district roadways while several MBTA bus and rapid transit routes service the area. The intersections of Massachusetts and Harrison Avenues and Massachusetts Avenue and Albany Street form key entry points to Boston University Medical

Center. About half of the visitors arriving at the BUMC Campus by car will go directly to the parking garage located on Albany Street.

Currently the arrival experience along Albany Street consists of a ragged edge of buildings of varying styles, ages, and conditions. This is also the primary Trauma Center access route for both East and West campuses. As previously stated, transforming and refining the Albany Street edge is essential to the future development of the BUMC Campus.

Once on the campus, users encounter a range of choices for navigating to their destinations. Wayfinding must be clarified through the careful design and manipulation of building massing and materials, tree planting, sidewalk improvements, and a unified signage system

Massachusetts Avenue, East Concord Street, East Newton Street, and East Brookline Street are the major north/south vehicular and pedestrian thoroughways that connect the campus to the neighborhood. East Concord Street is the most important north/south pedestrian connection due to its axial relationship with the public parking garage at 710 Albany Street and its central location to the east and west medical campuses and the medical school.

Harrison Avenue and Albany Street are the major east/west vehicular and pedestrian thoroughways that connect the campus to Massachusetts Avenue (and I-93) and the neighborhood. Albany Street will provide connectivity to the BU Albany Fellows Graduate Student Housing and link future developments and medical and bio-tech clusters to the east and west as envisioned in the Harrison/Albany Study.

The relocation of the Emergency Department entrance for pedestrians and passenger vehicles will change local circulation patterns. Passenger vehicles headed for the Emergency Department are proposed to use the Shapiro Courtyard. At the new entrance, drivers will be met by a valet who will transfer their vehicle via East Concord Street and across Albany Street to a valet-only parking lot proposed to the east side adjacent to the existing Power Plant.

The relocation of the passenger vehicle pick-up and drop-off along with relocation of the existing loading dock on the north side of Albany Street to an interim location in front of the existing Power Plant to the south side will enable closure of three curb cuts in front of the existing Emergency

Department entrance. The resulting one-way circulation scheme will reduce traffic conflicts on the north side of Albany Street and will enlarge space available for ambulances. On the south side of Albany Street, the existing curb cut located between the existing Power Plant and Finland Building will be reduced to one lane. The existing curb cut in front of the Power Plant for truck access will be relocated to better align with existing loading docks. The curb cut consolidation in conjunction with proposed sidewalk improvements similar to those associated with the Shapiro Ambulatory Care Center will foster a more unified, continuous, and pedestrian friendly streetscape.

With the construction of the new Bridge and Energy Facility, the shuttle bus access to the Woods-Mullen Shelter from the driveway between the Power Plant and Finland Building will be eliminated. The shuttle buses will instead use the proposed new one-way entrance and exit driveways on Massachusetts Avenue with right-in/right-out only curb cuts. The proposed new shuttle bus drop-off will be more efficient than the existing condition and will reduce traffic on Albany Street. Currently, the shuttle bus arrives at Woods-Mullen Shelter by traveling north on Massachusetts Avenue and turning east on Albany Street and then south on the driveway in between the existing Finland Building and Power Plant Building.

On the southern perimeter of the BUMC Campus, pedestrian pathways facilitate staff movement between the 610 Albany Street parking garage, BioSquare, and the main medical center. The South Bay Harbor Trail also joins the network of BUMC connections where it intersects with Massachusetts Avenue.

Additionally, Boston University Medical Center has a very active bicycle program that further promotes movement and connectivity throughout the medical center.

Open Space

Open spaces play a pivotal role in clarifying way finding and enhancing the user’s experience. They furnish visual cues for circulation and effective linkages between city streets and campus pathways. One of the unique characteristics of Boston University Medical Center is the amount and quality of its open spaces, virtually unprecedented on urban hospital campuses.

While examining equivalent medical institutions within the City of Boston, it is evident that the amount of green space on the BUMC Campus is comparable and in some cases much greater than what is being provided elsewhere. Over recent years the completion of Master Plan improvements have significantly expanded the green space throughout the campus further defining and enhancing the pedestrian experience

The existing network of open spaces features various nodes where the campus and community come together. Examples include the Moakley Green and landscaped public street edges along the Talbot Building, BioSquare, and Harrison Avenue. The open spaces also provide gathering areas for students, faculty, and staff. In particular, the lawn between the Talbot Building and the BU School of Medicine enables multi-purpose programming for campus events and accommodates pedestrians, bicycles, and vehicles.

With the completion of the Moakley Building and renovations to the BCD and FGH buildings in 2006 and 2007, an enhanced arrival sequence and landscaped open spaces improved the north edge of the West Campus. These modifications benefit both the campus and surrounding neighborhoods through better design, welcoming aesthetics, and greater connectivity. The location of the new Moakley Building, with its three-story atrium facing the green to the north, also reinforces an existing east/west pedestrian link. This further unifies the campus both physically and symbolically.

As per the institutional design goals and objectives, the Boston University Medical Center will continue to complement and animate its open space network through additional streetscape refinements and landscaped areas along the Albany Street corridor.

Campus Evolution

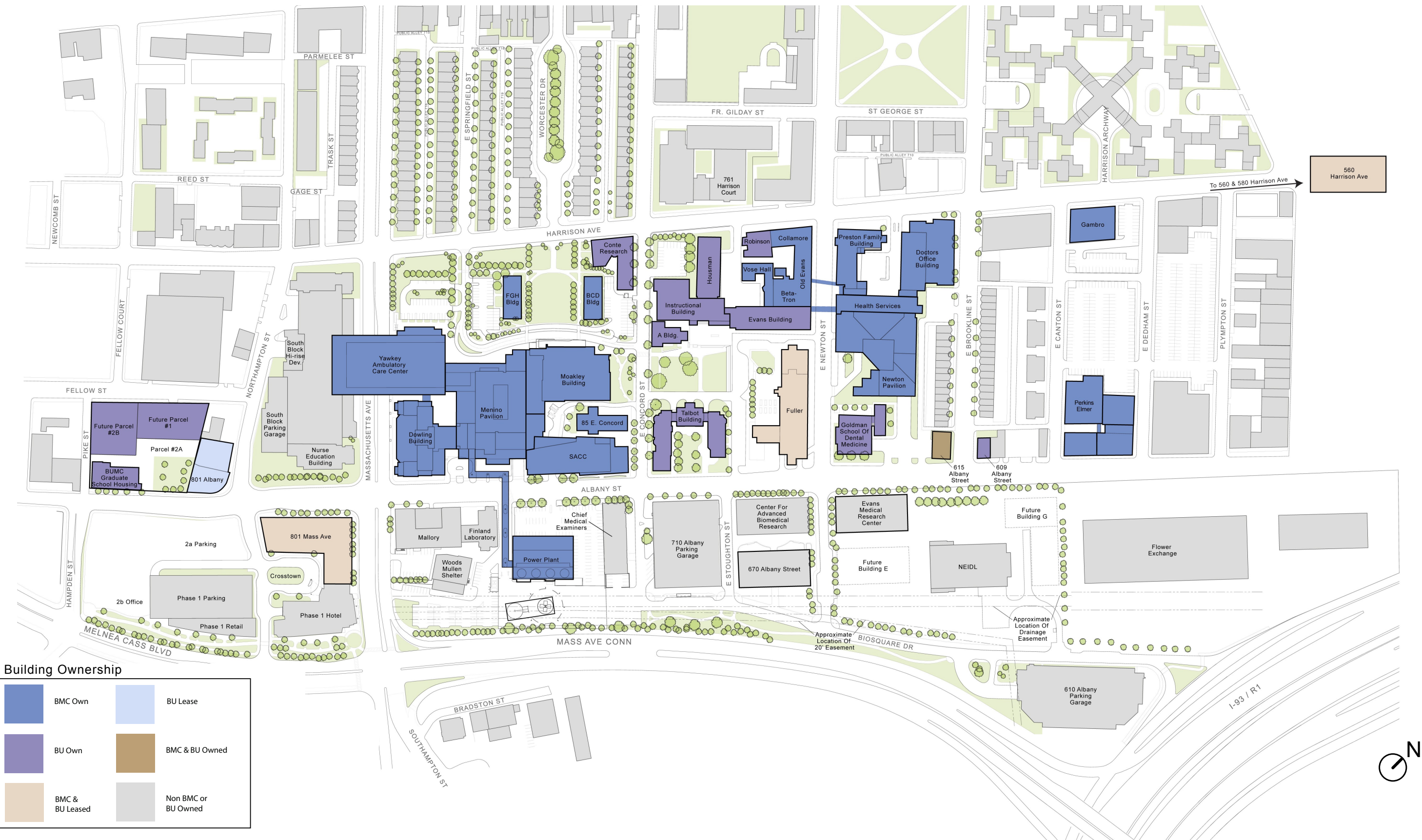
As clinical care trends have evolved over the years, so have the physical parameters necessary to support them. Buildings with larger footprints and uninterrupted floor plates are often required. These large-scale designs sometimes result in unfortunate impacts on the urban fabric, such as the elimination of roadways and open spaces. While addressing the ever-changing aspects of clinical care, the BUMC Campus utilizes a balanced master planning approach with minimal collateral loss to existing infrastructure through its commitment to historical precedents and open space strategies.

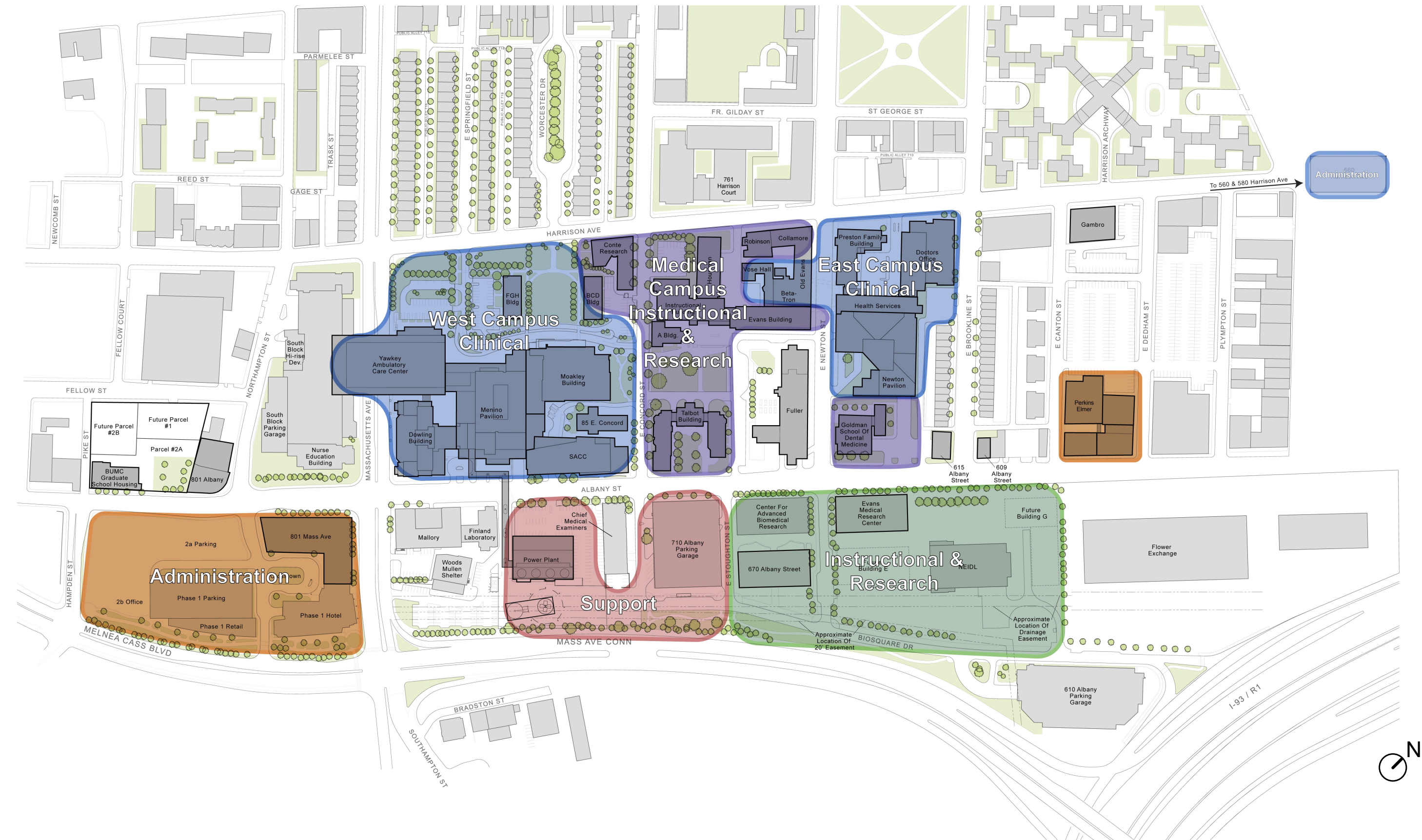
Recent planning initiatives sensitively maintain the integrity of the urban fabric and the surrounding neighborhoods while continuing to define a sense of campus and meet the institution's primary mission of healing and education. As a result, many of the original streets of the historic urban fabric have been retained and enhanced to better integrate the campus with the neighborhood.

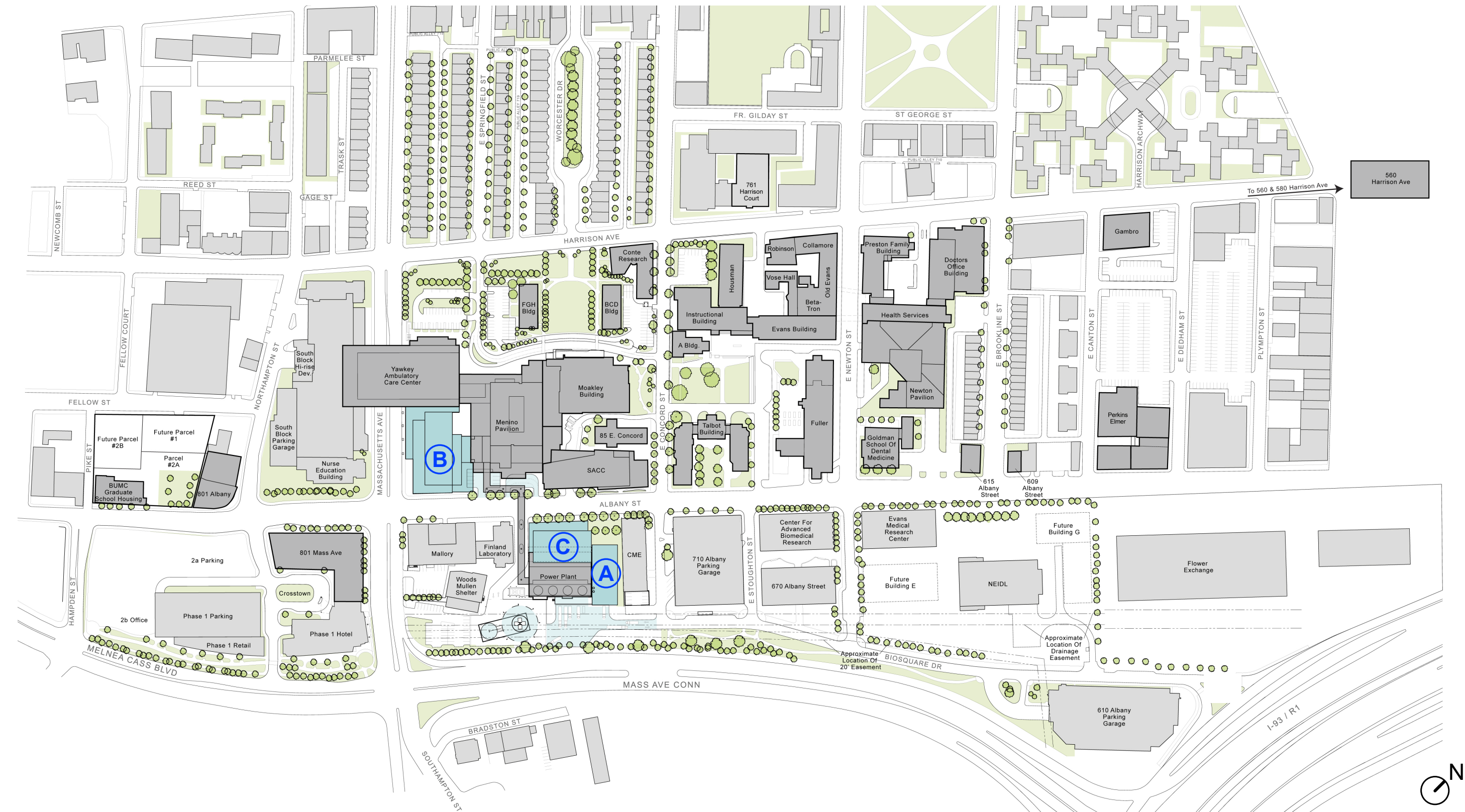
The Moakley Building is a recent example of careful campus planning. This structure was strategically located and oriented to reinforce the significant pedestrian connection between the east and west campuses and the centrally positioned medical school. Moakley Green, located north of the Moakley Building, strengthens the urban axis of Worcester Square and provides a landscaped transition between the campus edge and the residential neighborhood. Moakley Green is accessible to the public and provides pedestrian access to the campus from the north.

Campus Improvement Projects

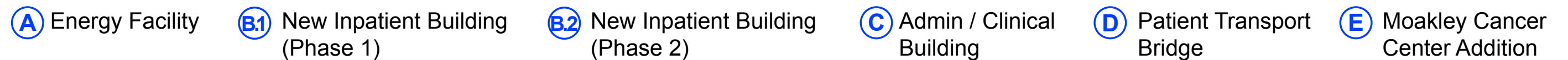
Overall urban landscape improvements will include new planters, trees, and pavers, consistent with the recent enhancements as part of the Shapiro Ambulatory Care Center to further integrate and enhance the Albany Street experience.

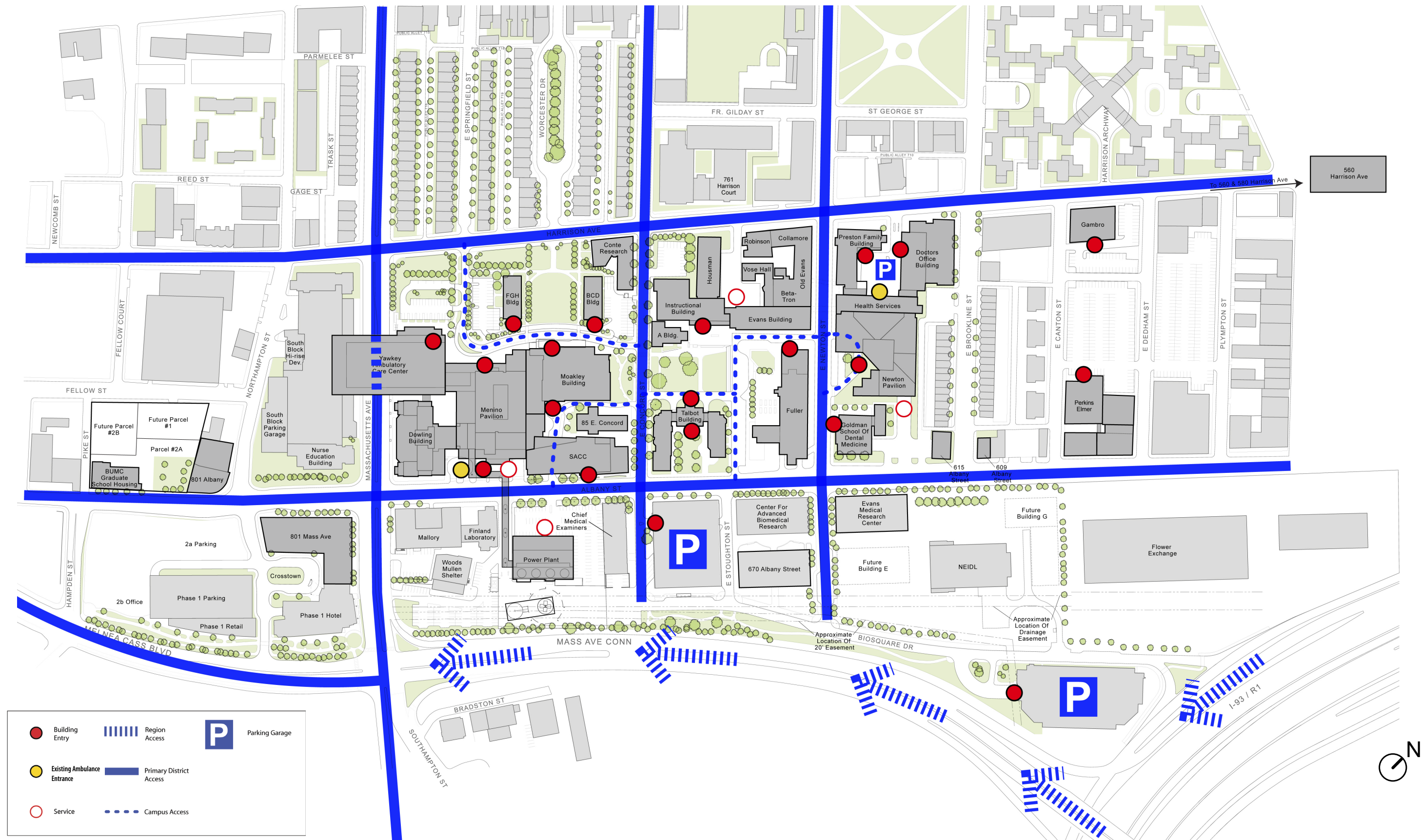


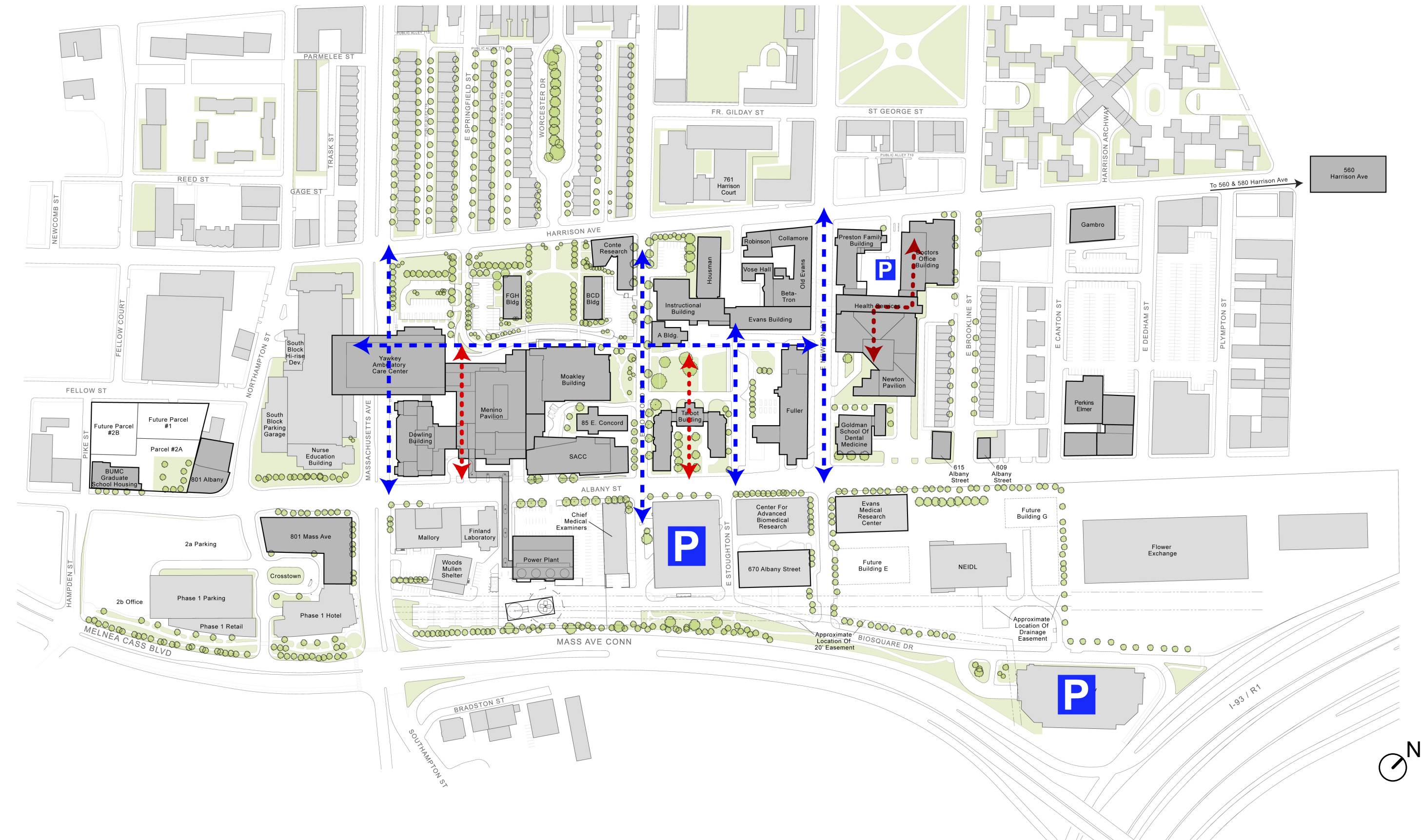


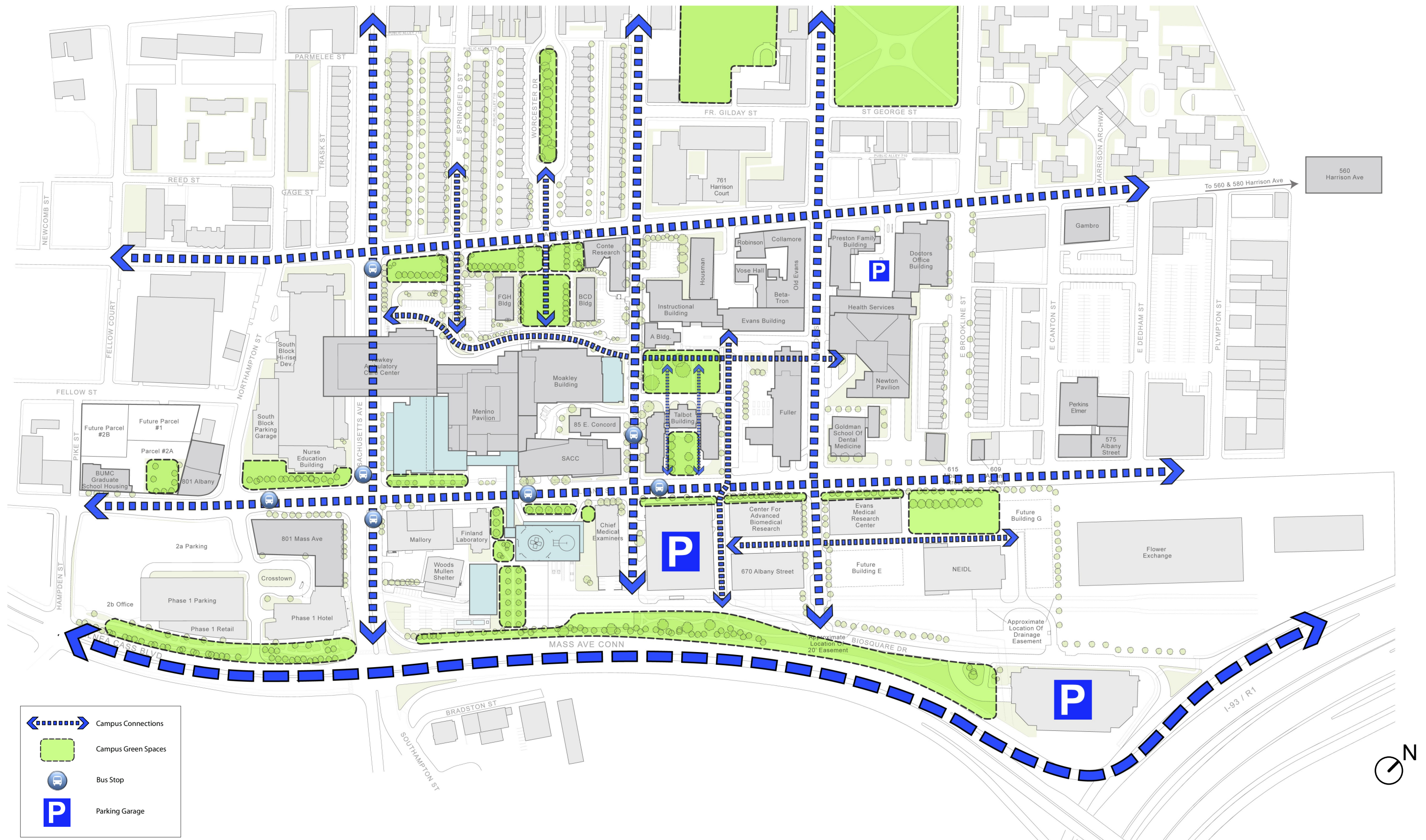


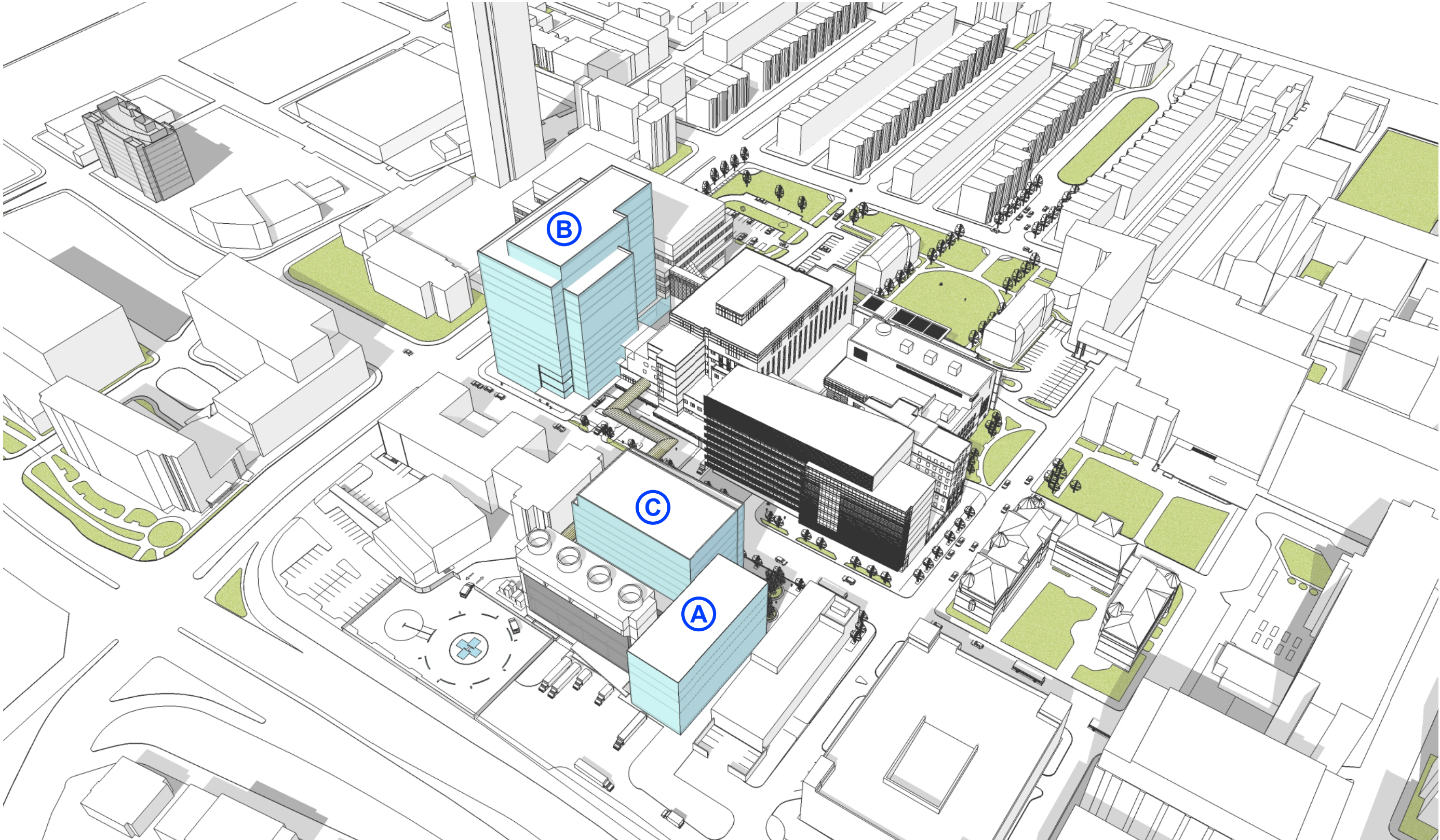
- (A) Energy Facility
- (B) New Inpatient Tower
- (C) Admin / Clinical Building



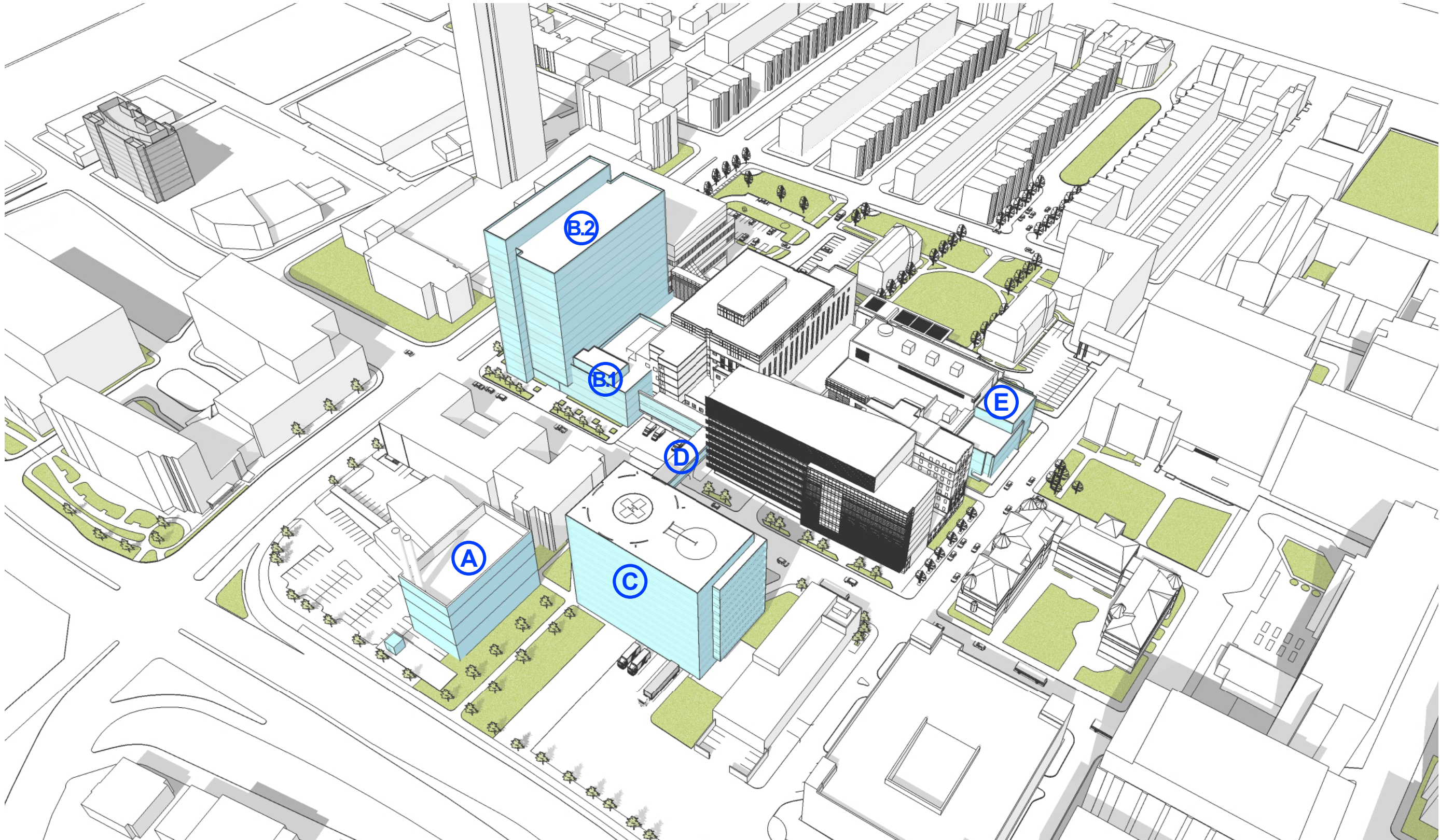




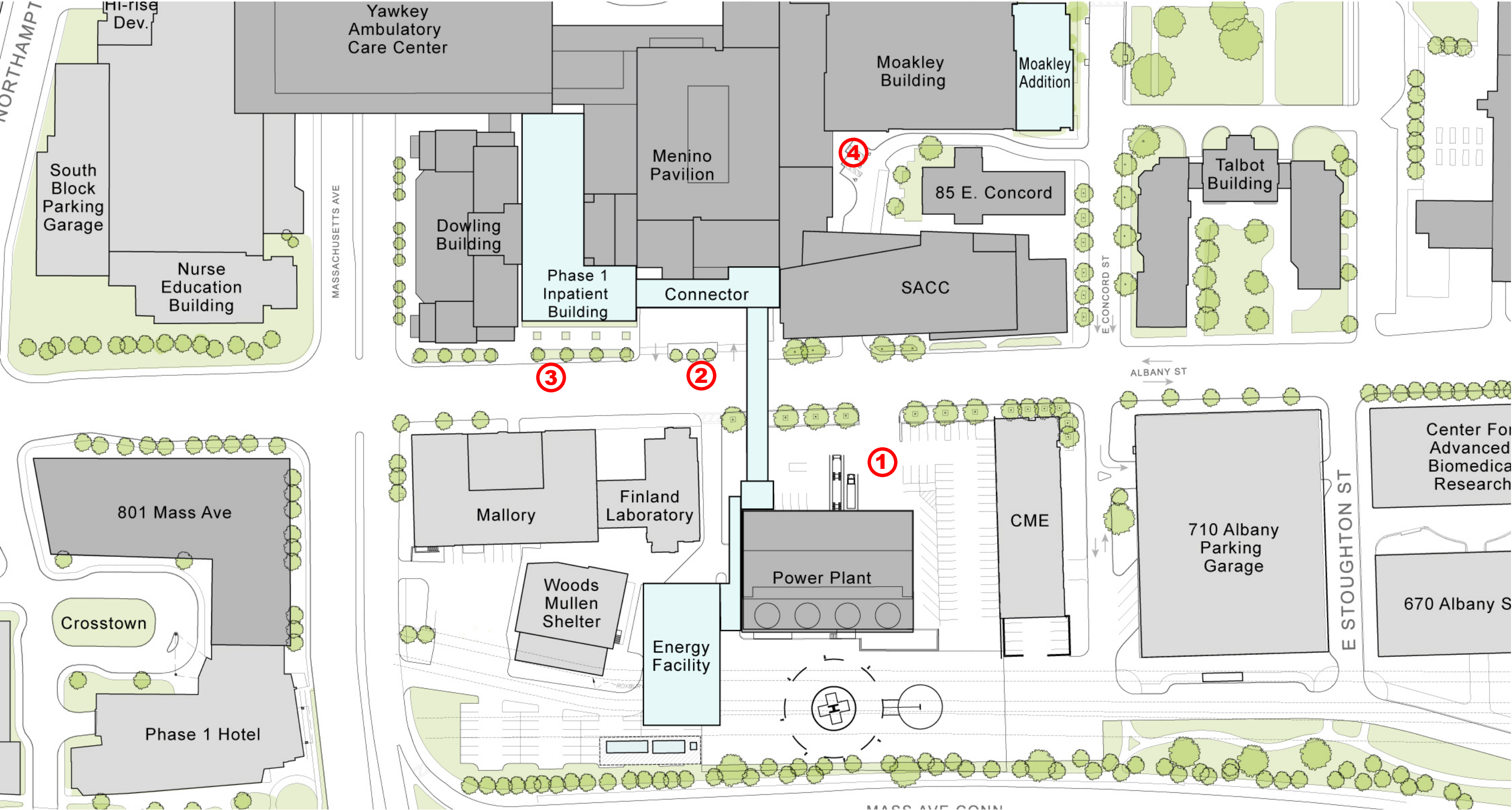




(A) Energy Facility **(B)** New Inpatient Building **(C)** Admin / Clinical Building



A Energy Facility **B1** New Inpatient Building (Phase 1) **B2** New Inpatient Building (Phase 2) **C** Admin / Clinical Building **D** Patient Transport Bridge **E** Moakley Cancer Center Addition



- ① RELOCATED LOADING ② REDUCED CURB CUTS & SIMPLIFIED DROP-OFF ③ ENHANCED STREETScape ④ RELOCATED ED ENTRANCE

Moakley Cancer Center Addition

The proposed Moakley Cancer Center Addition is the enabling project for all the proposed IMP projects. The project is comprised of departments displaced by the proposed expansion of the Emergency Department and the Trauma Center as well as the Centralized Surgical Department. The addition will house the displaced departments including Endoscopy and Digestive Disorders. It will also provide for increased volume in outpatient services. Minor renovations will be made to the existing Moakley Cancer Center to allow circulation within the building. The Moakley Cancer Center Addition will be approximately 27,800 square feet and approximately 66 feet in height from grade to the top of the roof screen.

New Inpatient Building Phase 1

The New Inpatient Building Phase 1 site is located on the north side of Albany Street and is proposed to replace the 3-story section of the existing Dowling Building and the current Emergency Department drop-off adjacent to the Menino Pavilion. Phase 1 of the New Inpatient Building is an 4-story infill project bordered directly on the north, east, and west sides by the Yawkey Ambulatory Care Center, Menino Pavilion, and remaining Dowling building respectfully. The 2-story connector wing will be located on the south edge of the Menino Pavilion over the existing Emergency Department entrance, ambulance parking, and loading area. Overall the New Phase 1 Inpatient Building will be approximatley 78,800 square feet.

The new Phase 1 Inpatient Building will provide expanded space for the relocation of the Radiology Department as a result of the expanded Emergency Department and Trauma Center located in the existing Menino Pavilion and Moakley Cancer Center building. The new Phase 1 Inpatient Building will enable the relocation of the Emergency Department Drop-off and Entrance to the rear of the Moakley Cancer Center, accessed via Shapiro Drive. This action will further remove vehicular traffic from the north side of Albany Street, minimizing potential conflicts with pedestrians and fostering a more user-friendly experience. Phase 1 will also supply space for the consolidated Surgical Department and Interventional Procedures Platform on level two, and additional Intensive Care Unit Beds located on the upper floors.

While providing neccesary program adjacency for expansion, the New Inpatient Building Phase 1 also provides the existing streetscape with a needed sense of organization. The current Albany Street edge is composed of varying building setbacks, scales and styles. As a major arrival point on the BUMC Campus the streetscape lacks a vital sense of clarity and organization. The New Inpatient Building Phase 1 project will begin to better define the north edge of Albany Street and align with Boston University Medical Center’s strategic urban design goals stated previously to enhance the Albany Street image.

Patient Transport Bridge

The proposed new Bridge will be located within the Boston University Medical Center West Campus spanning over Albany Street.

The project site is located both on the south and north sides of Albany Street. The project is proposed to cross south to north over Albany Street in the approximate location of the existing yellow utility tube connecting to the New Inpatient Building Phase 1 over the existing Emergency Department Entrance, Ambulance parking, and loading area.

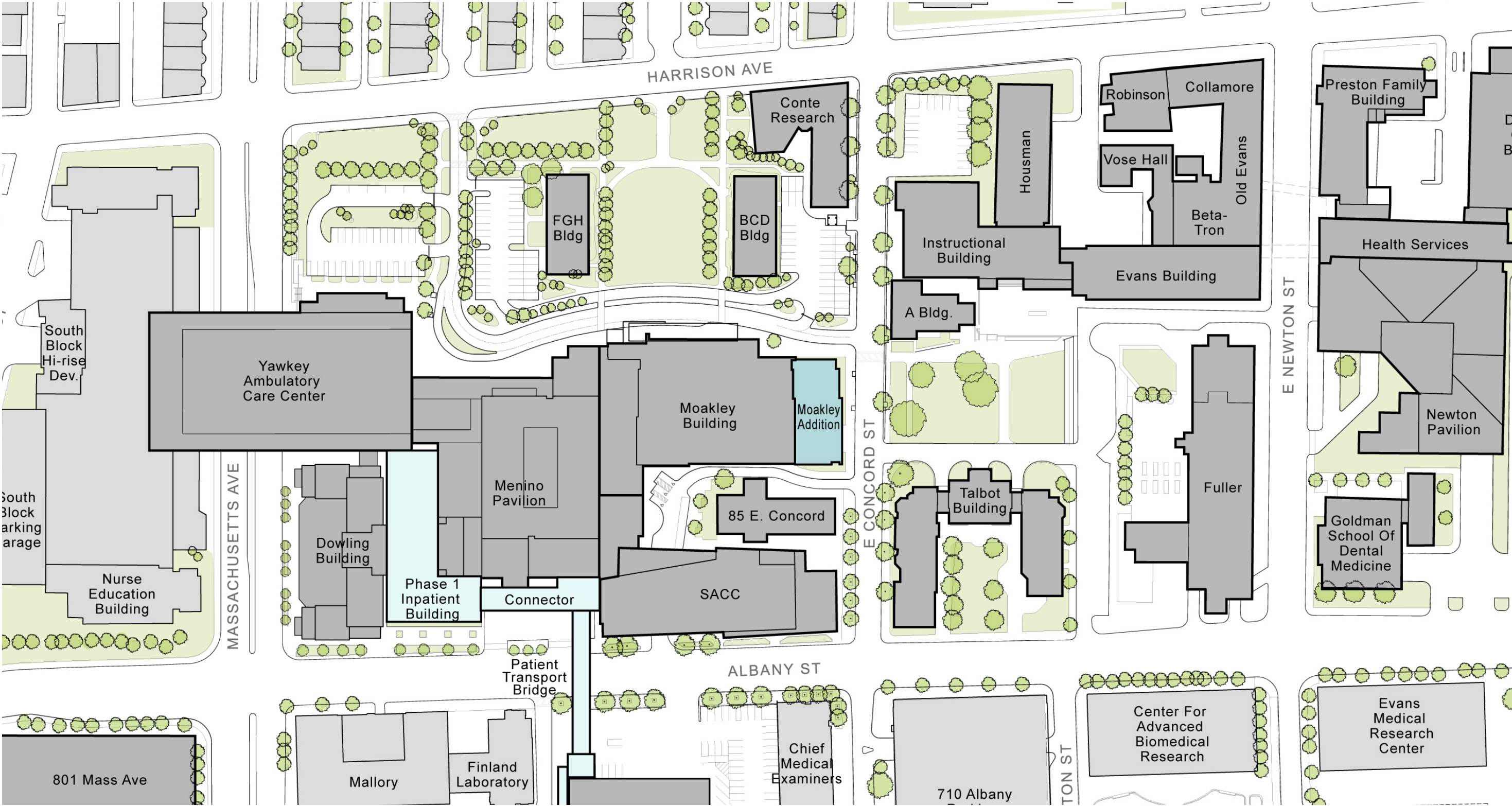
The new Bridge will be comprised of spaces for patient transport, clean material handling, and utility connections. The new Bridge will also consist of 1-story corridor located at grade adjacent to the existing Power Plant to provide access for the Med Flight patients from the helipad connecting to a new elevator and stair tower in the Bridge. The new Bridge will be approximately 7,100 s.f. and approximately 43 feet in height from grade. The elevator overrun will be approximately 50 feet in height from grade. (The Bridge mass begins 27 feet from grade and will be 16 feet in height.) The 1 story corridor will be approximately 16 feet in height from grade.

Energy Facility

A 48,000 square foot state-of-the-art combined heat and power facility was approved by the BRA on June 22, 2010. This new Energy Facility was propsed to be located to the east of the existing Power Plant. Since that time, BMC has reevaluated the location and other project data of the

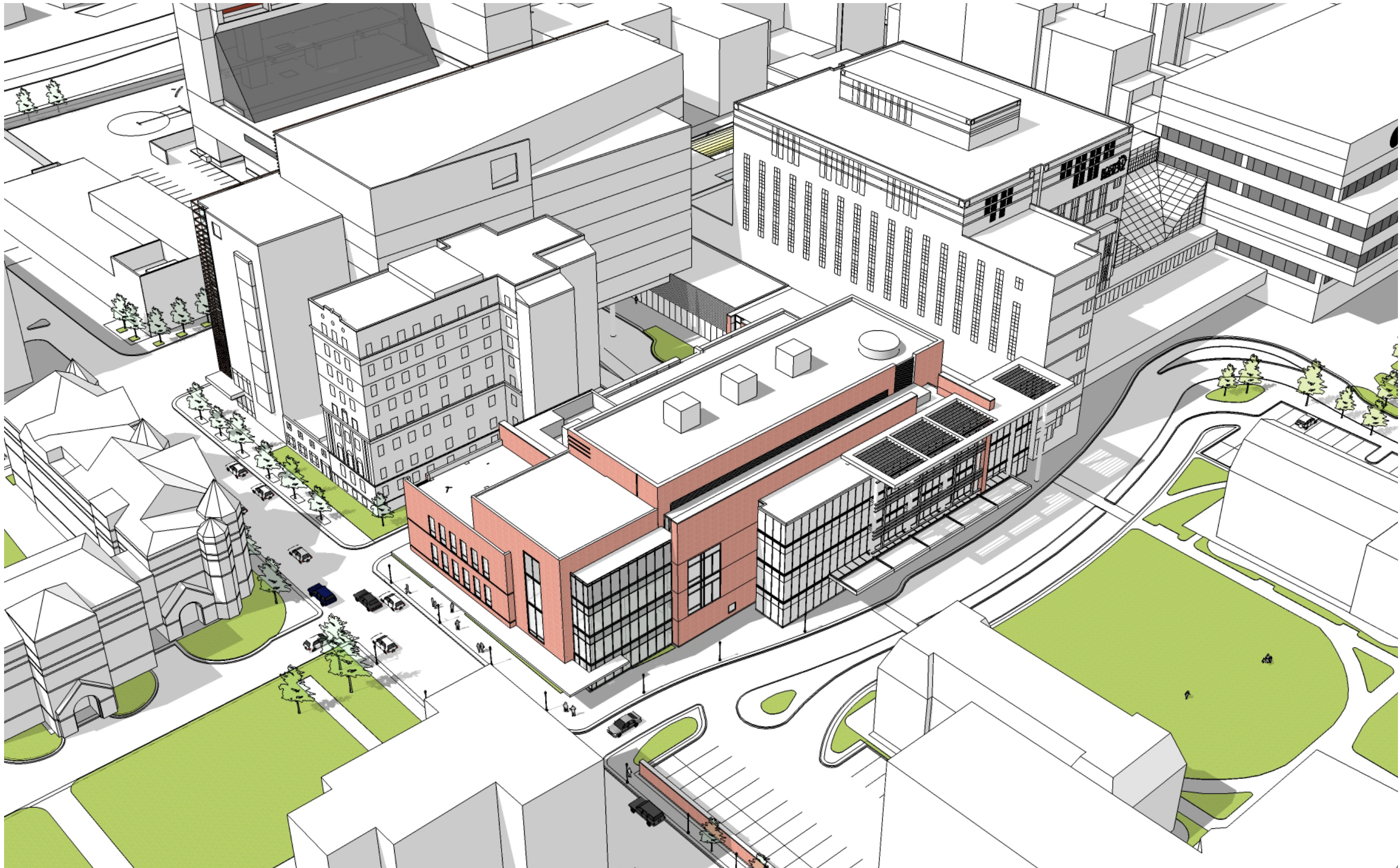
approved Energy Facility and now proposes to relocate it to the west side of the exisiting Power Plant to take advantage of existing utility connections. The Energy Facility is proposed to be slightly smaller at approximatly 38,500 square feet.

MOAKLEY CANCER CENTER ADDITION



- Moakley Cancer Center Addition
- Other 2013 IMP Projects

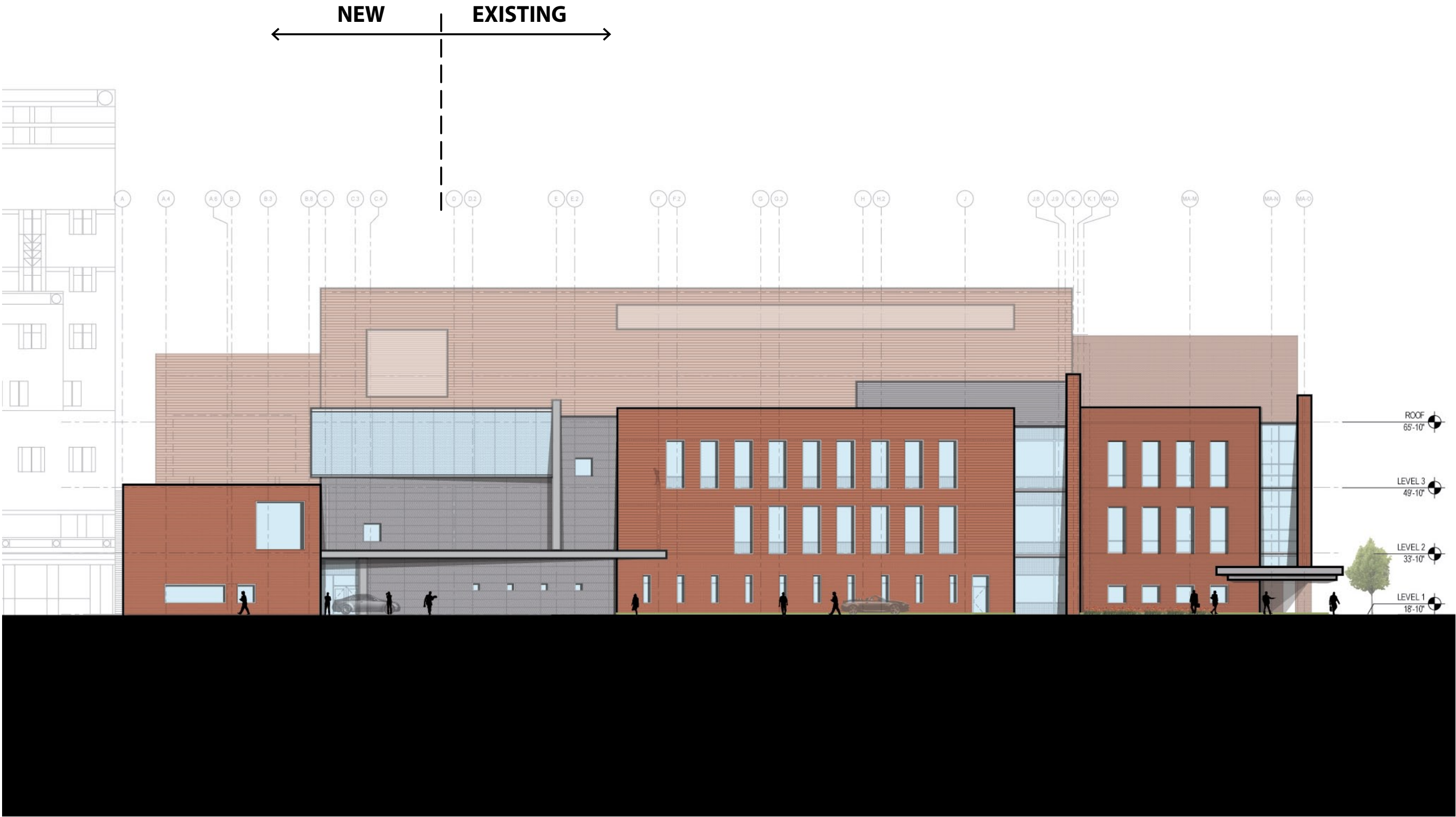










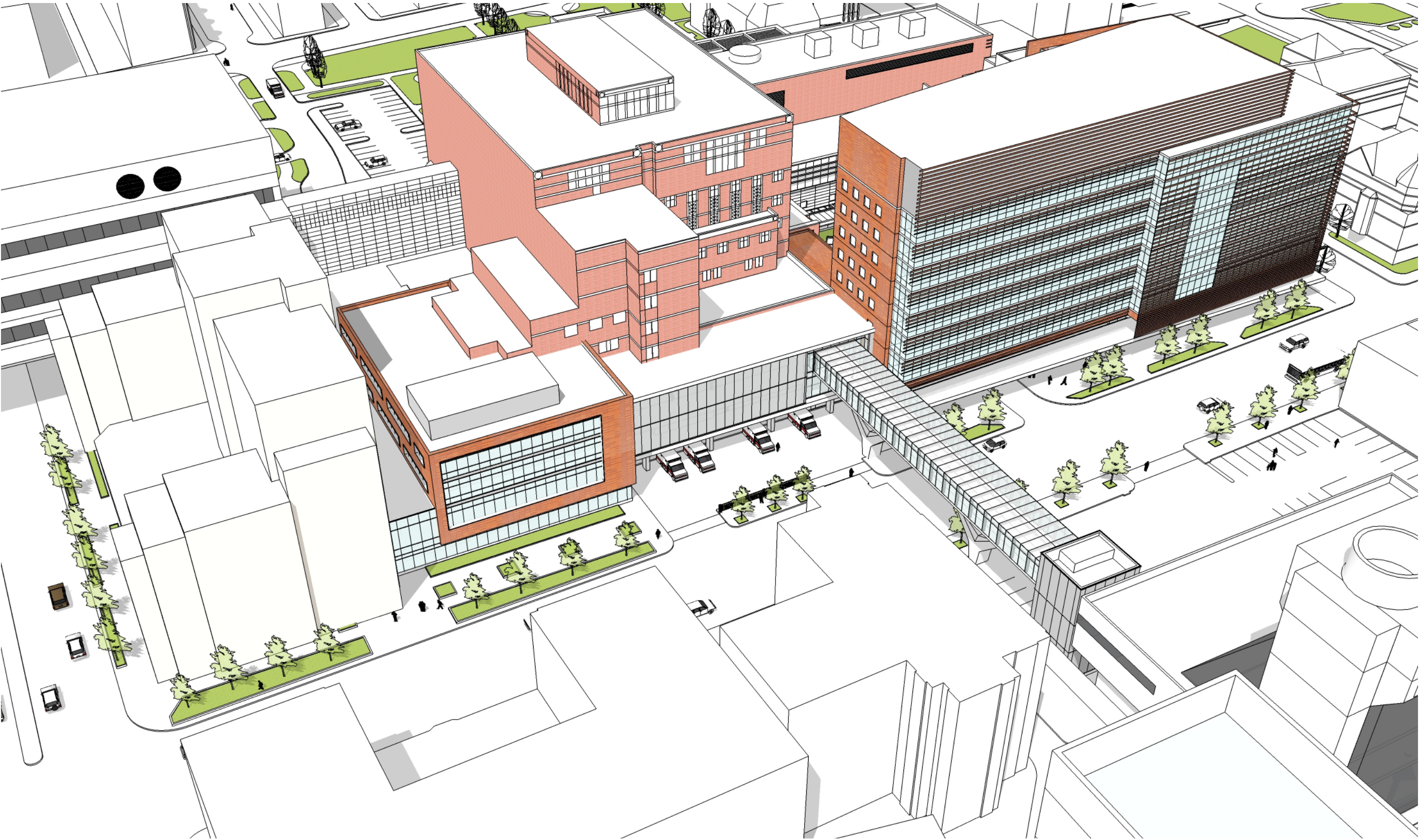


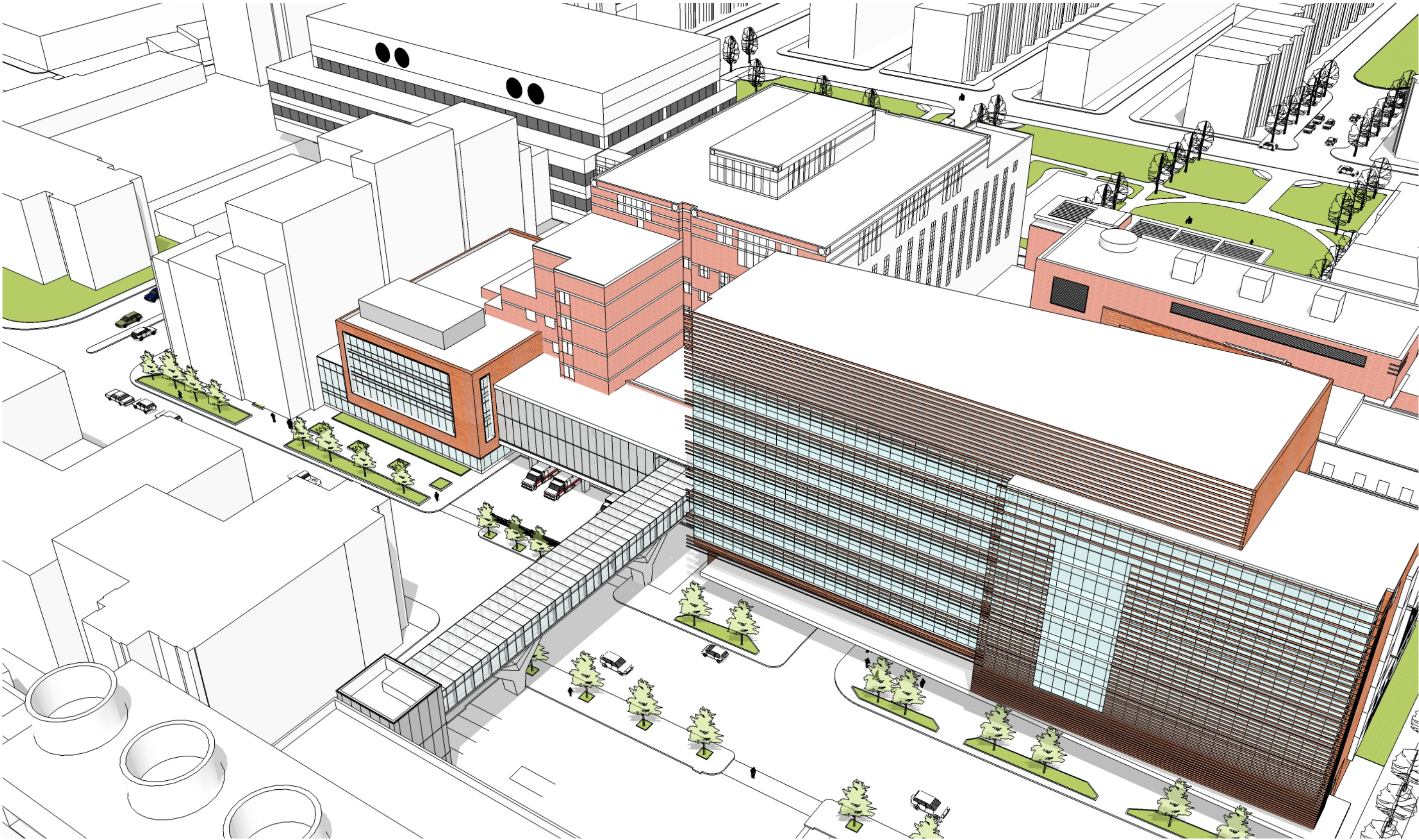
INPATIENT BUILDING (PHASE 1) AND PATIENT TRANSPORT BRIDGE

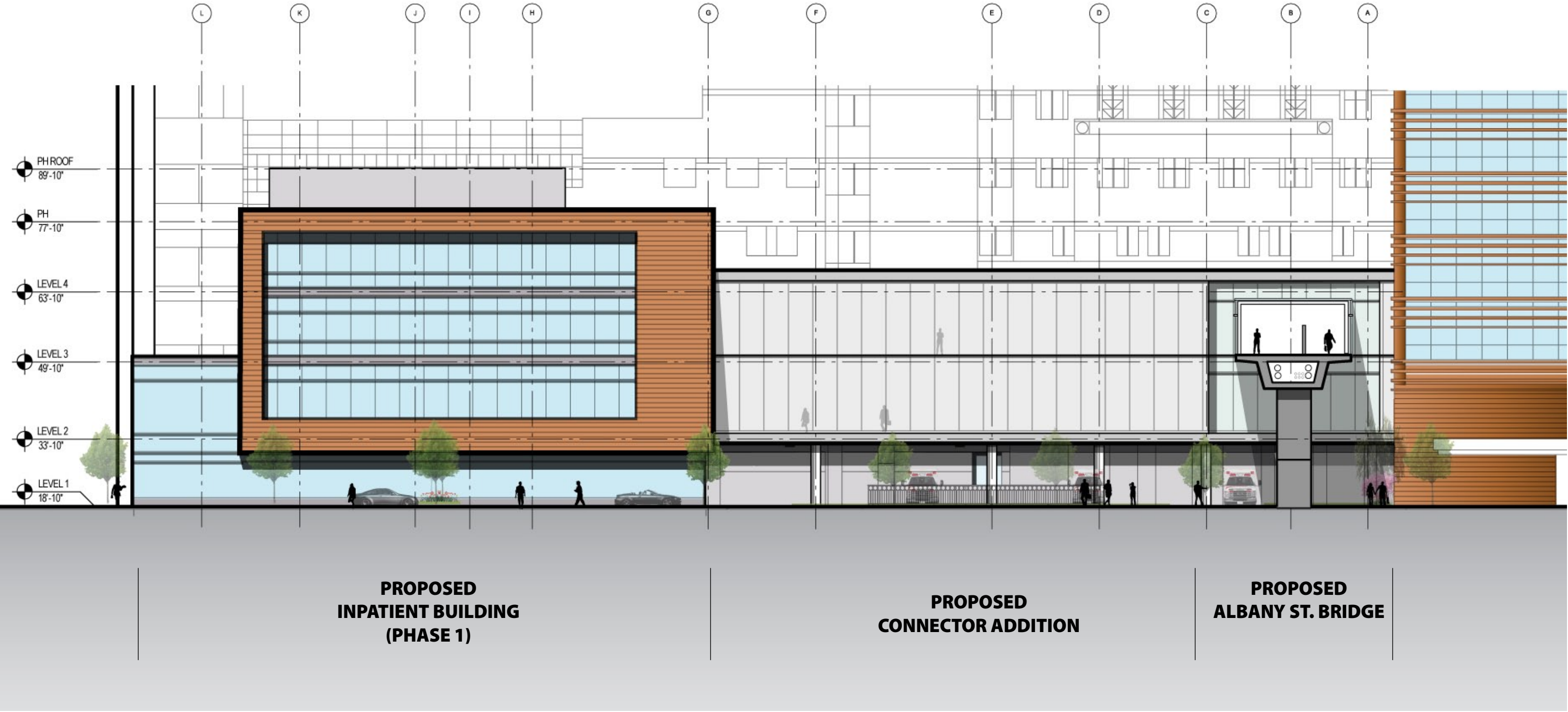


- Inpatient Building (Phase 1)
- Other 2013 IMP Projects









ENERGY FACILITY



- Energy Facility
- Other 2013 IMP Projects

