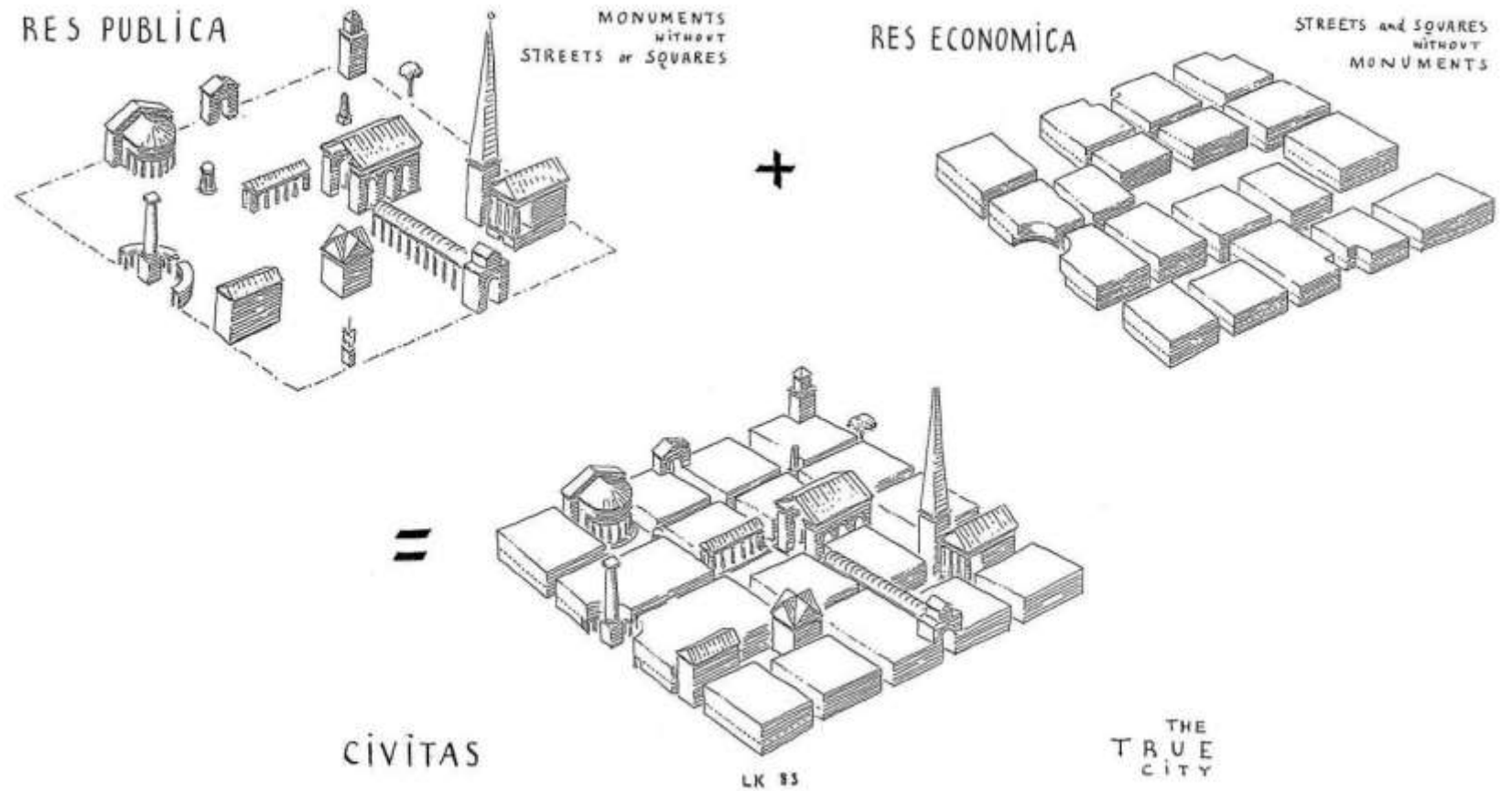


Public Realm Implementation Strategy for Boynton Yards

December 2019

“Public Realm”



simply put, external urban spaces that are publicly accessible

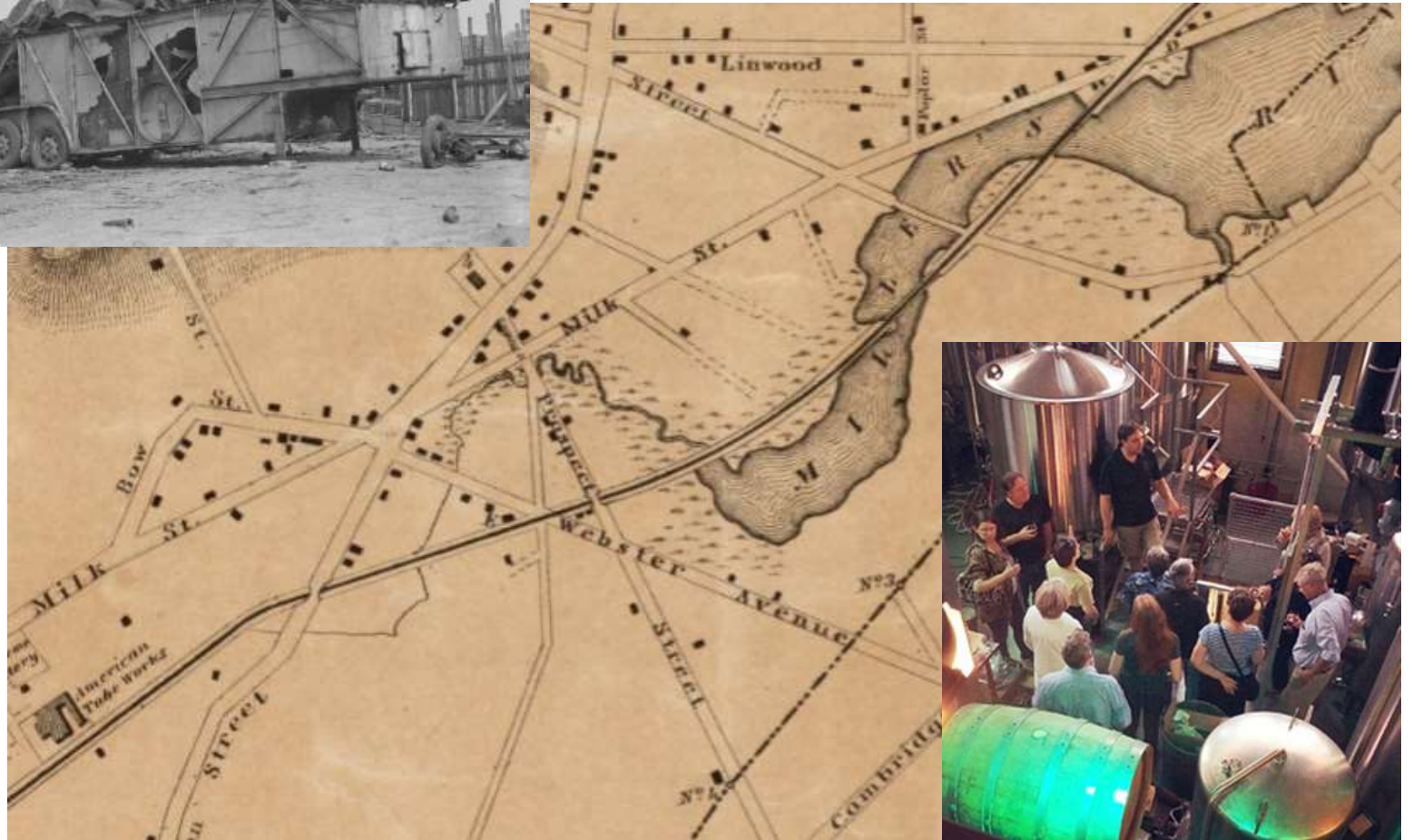
Public Realm – a critical role in character and function

- **Circulation and Access.** The public street rights-of-way provide for circulation within and through the community—accommodating pedestrians, bicycles, and buses, in addition to automobiles and trucks.
- **Development Framework.** The public street rights-of-way provide the fundamental structure that contains and organizes individual developments into a cohesive whole.
- **Public Open Space.** In addition to the community’s parks and plazas, public street rights-of-way play an important role as public open space—allowing for light, air, landscaping within developed areas, and serving as the “living room” for community life—places where people meet, interact, and linger.
- **Visual Character.** While buildings are important visual elements, the physical design of the public realm is critical in establishing the community’s identity and overall character.

Industrial History of Boynton Yards



With the growth of the automobile industry in the 20th century, many businesses opened to serve auto-related uses including repair shops and parts dealers





Neighborhood Plan

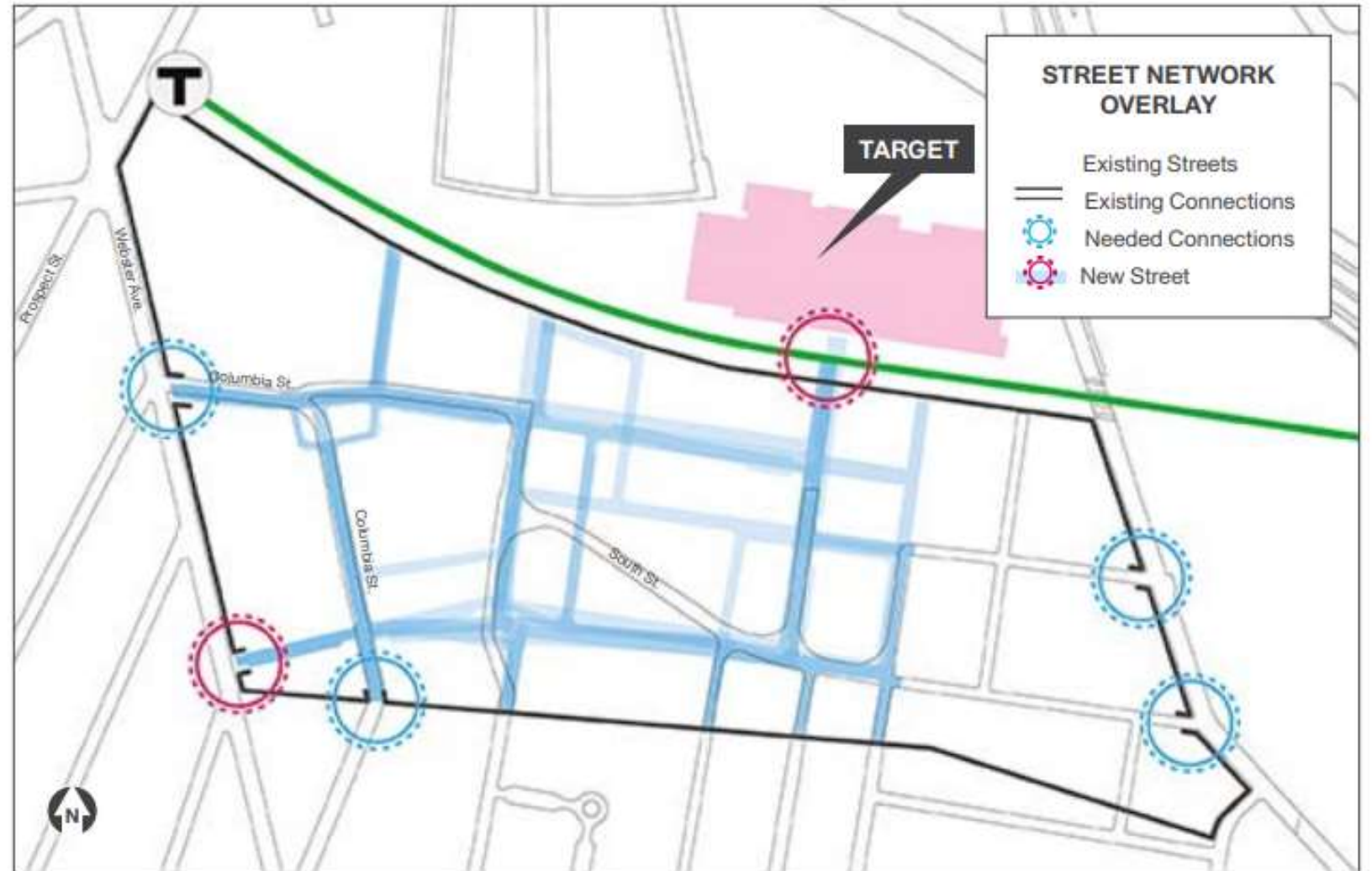
Boynton Yards in Union Square Neighborhood Plan

BELOW: Boynton Yards design with 4.68 acres of open space.



Union Square Neighborhood Plan

Union Square Neighborhood Plan - proposed street network



Union Square Neighborhood Plan

Union Square Neighborhood Plan - proposed open spaces

Development in Boynton Yards

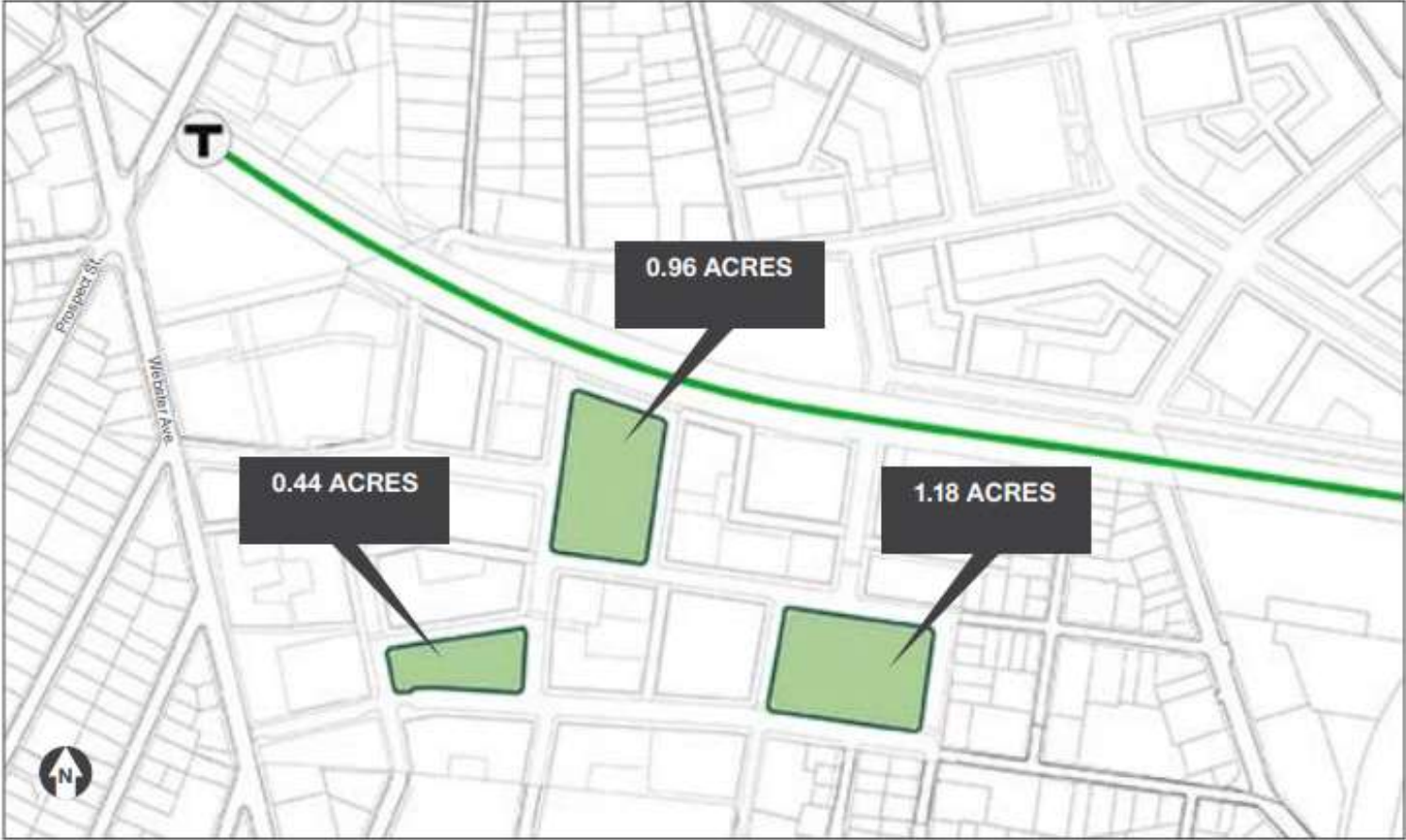


ABOVE: The original scheme presented for Boynton Yards in the first draft of the Union Square Neighborhood Plan provided for 1.8 acres of public space.

TOTAL PROPOSED = 1.8 acres

Union Square Neighborhood Plan - proposed open spaces

BELOW: This 'Savannah Squares' scheme provides 2.58 acres of new public space.



TOTAL PROPOSED = 2.58 acres

Union Square Neighborhood Plan

Union Square Neighborhood Plan - proposed open spaces



ABOVE: With some adjustments to the street network, the original scheme (shown at left) can be adapted to provide almost 3 acres of new public space.

TOTAL PROPOSED = 2.99 acres

Union Square Neighborhood Plan - Boynton Yards design goals

The design goals for Boynton Yards are relatively simple:

- create a street network that gives access with blocks appropriately sized for modern commercial buildings
- design complete streets
- provide 2.59 acres of open space
- create enough residential development for a mixed-use neighborhood.
- the existing context of the neighborhood including land ownership patterns and outdated infrastructure create hurdles to development in Boynton Yards



Union Square Neighborhood Plan – implementation recommendations

Recommendations

- Require 15% of the land in transformational areas to be designed as civic space in the Somerville Zoning Ordinance.
- Require transformational areas to provide at least two types of civic space and prioritize the creation of spaces with a high percentage of landscaping.
- Secure easements from the MBTA and property owners in Boynton Yards abutting the Fitchburg rail line for a new community path.
- Require redevelopment in Boynton Yards to design a portion of the new street network as shared streets in the Somerville Zoning Ordinance.
- Establish a cost effective, public engagement methodology for the design and programming of public spaces focused on placemaking.
- Continue the Neighborhood Street Reconstruction Program to repair priority sidewalks and curb ramps in the plan area.
- Recalibrate pedestrian crossing times to three feet per second for all signalized intersections in the Union Square plan area.
- Consider the needs of seniors in streetscape design projects, paying particular attention to providing inviting places to sit.
- Release a Request for Information (RFI) to learn what public realm furnishings and features could be designed and fabricated by local vendors.



Existing Conditions

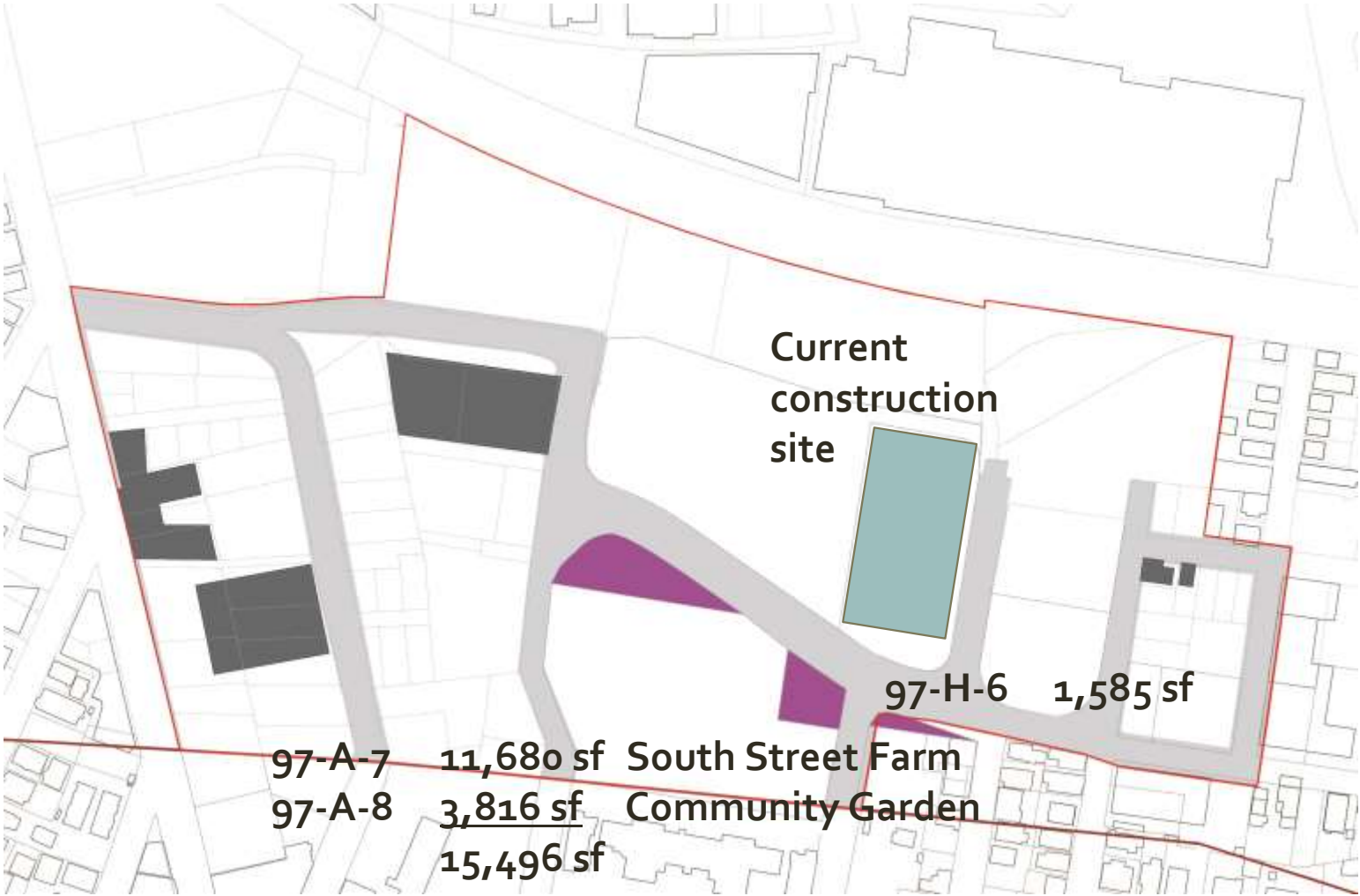
Existing
conditions



District
boundary and
existing
contributing
buildings



Publicly-controlled parcels





Mobility

Existing streets, construction sites, and publicly-controlled parcels



Keep in mind that the goals from the neighborhood plan include creating a street network of complete streets that gives access with blocks appropriately sized for modern commercial buildings

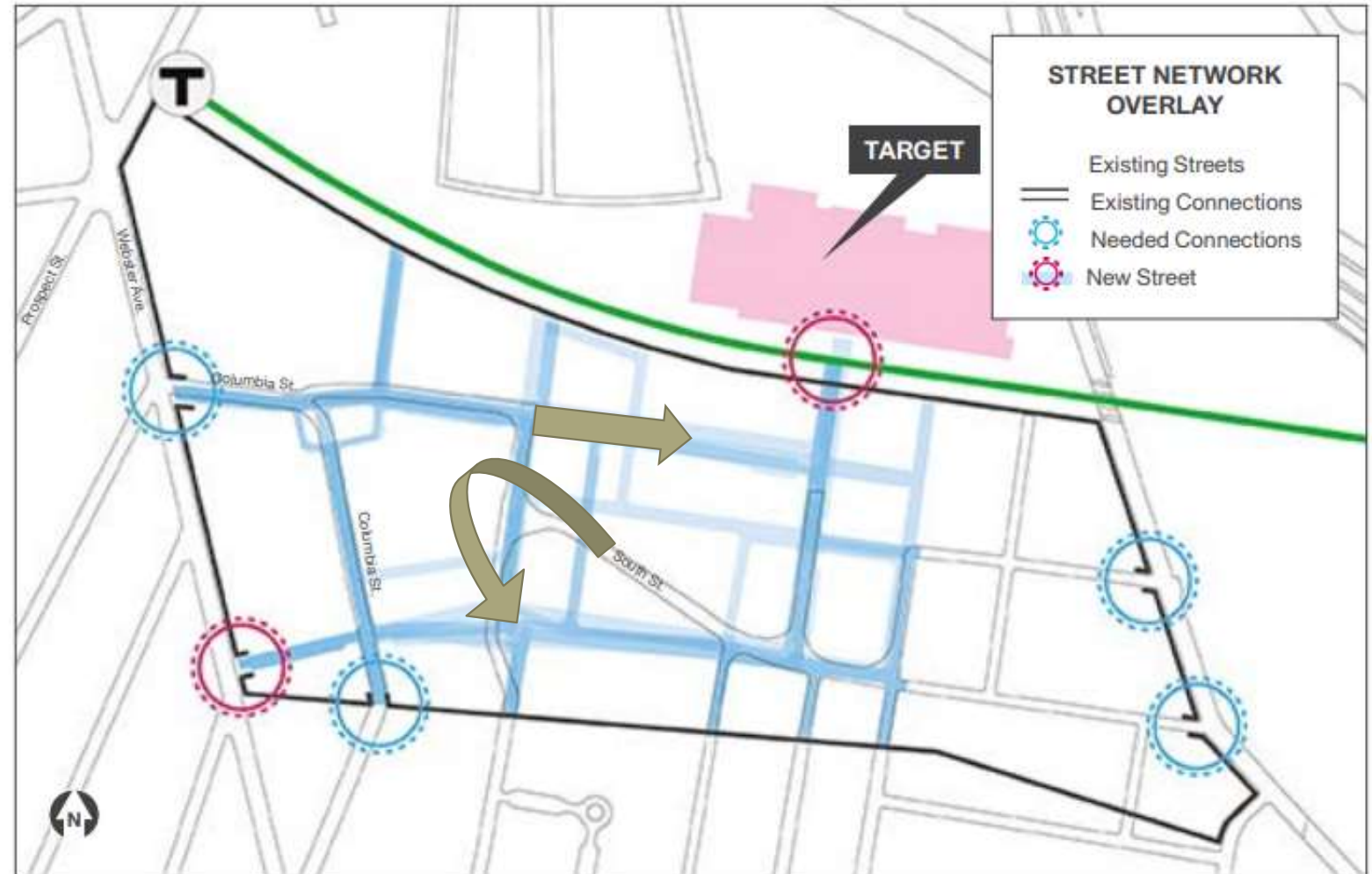
Union Square
Neighborhood
Plan –
South Street
connection

Development in Boynton Yards

CONNECTING SOUTH STREET



Union Square Neighborhood Plan - proposed street network



Boynton Yards in Union Square Neighborhood Plan



Proposed street alignments



Preferred street network



Proposed streets and SRA/City-controlled parcels



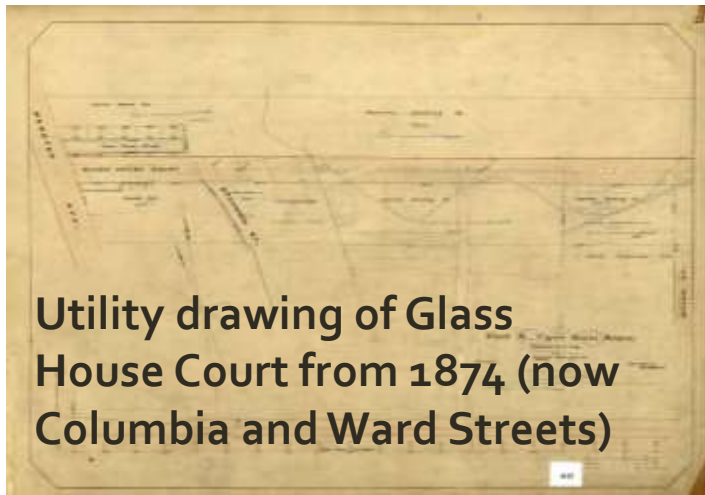


Subsurface Infrastructure

101 South Street

(formerly 2 Earle Street)

As the development pressure for life-science lab buildings increases across the city, it became clear that Boynton Yards was a prime location but with limited capacity due to the age of the infrastructure – such as the combined sewer and stormwater system. Virtually all subsurface infrastructure is likely to be upgraded or replaced.



Sewer separation and flood mitigation analysis

2.7 million gallons

To achieve the 2.7MG of storage required, a rectangular tank is conceived based on the footprint of the proposed Community Garden. The interior dimensions of the tank would be approximately 76-ft wide, 135-ft long, and 35-ft deep (See Figure 5). This allows for a buffer zone between the outer wall of the tank and the adjacent parcel property lines of approximately 20-ft, but takes up a significant portion of the Community Garden parcel. The tank would in turn be installed approximately 45-ft below existing grade.



Figure 5 – 2.7MG Storage Tank Footprint

Perspective:

750,000 gallons of water flow over Niagara Falls in one second. At that rate, it would take nearly 4 seconds for a 2.7 million gallons to go over the falls.

OR

4 Olympic-sized swimming pools
(each takes about 660,000 gallons)



Stormwater storage tank needed at low point of district



Proposed size
and location
of stormwater
storage tank



Initial estimate of tank cost

Description	Quantity	UOM	Unity Price	Base Price	Rock or Full Depth	Contingency & Overhead & Escalation	Total Price	Total Price
Gravity Pipes	1	LS	\$3,767,800	\$3,767,800	8%	55%	\$6,308,617	
DMH/SMH	1	LS	\$951,000	\$951,000	8%	55%	\$1,592,307	
Tank	1	LS	\$16,311,200	\$16,311,200	8%	55%		\$27,310,664
Pump Station	1	LS	\$800,000	\$800,000	8%	55%		\$1,339,480
Force Main	1	LS	\$930,000	\$930,000	8%	55%		\$1,557,146
GRAVITY SYSTEM TOTAL							\$8,000,000	
PUMP SYSTEM TOTAL								\$30,300,000

This is a very schematic estimate based on rules of thumb so there is much detail work left to be done and questions to be answered . . .

When is this investment required?

Who pays for it?



Open Space

Union Square Neighborhood Plan - proposed open spaces

Development in Boynton Yards

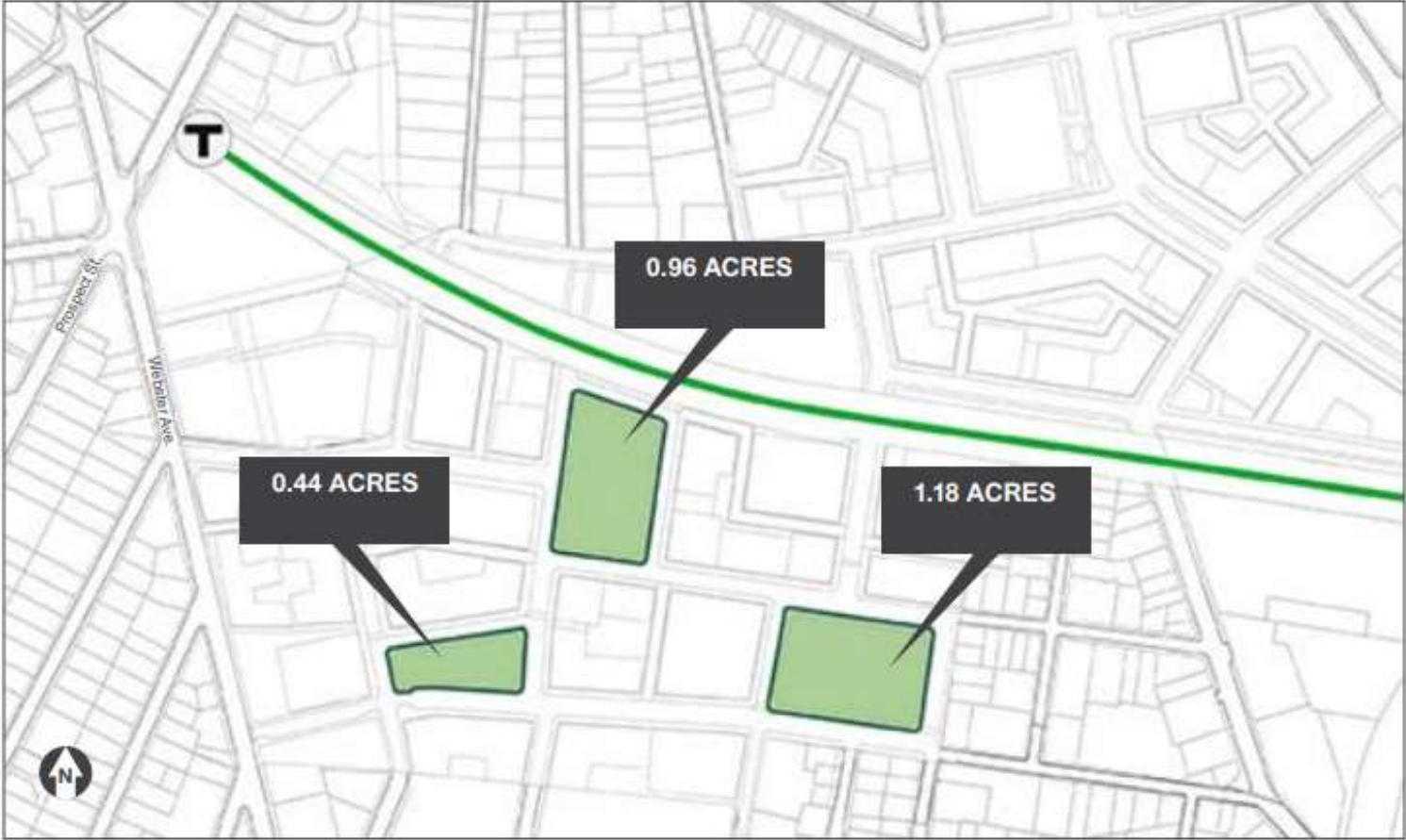


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Union Square Neighborhood Plan

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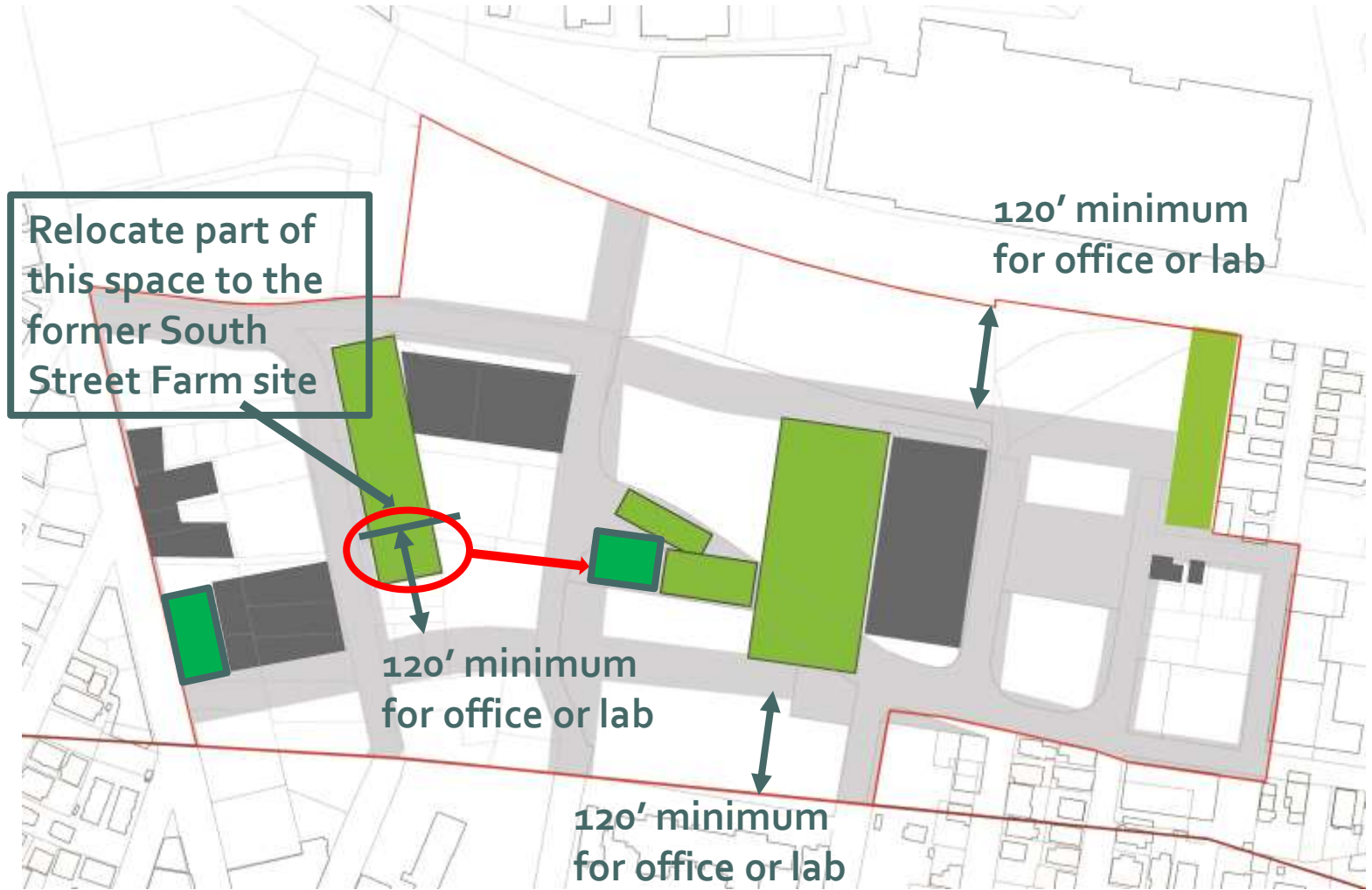
TOTAL PROPOSED = 2.99 acres

Union Square Neighborhood Plan - proposed open spaces & tank over public realm



If we overlay the neighborhood plan open spaces over the public realm diagram, we have a few misalignments. We've also heard through the conversations around the Union Square D parcels that a large open space is desired by the larger neighborhood.

Relocated Union Square Neighborhood Plan proposed open spaces



By moving those same spaces shown in the neighborhood plan, we can start to assemble a significant central open space and begin looking at other potential spaces (such as the vacant parcel on Webster in front of the existing garage).

Consolidated open spaces



TOTAL PROPOSED =
approximately 2.66 acres
publicly-owned open space



Land Use

Union Square Neighborhood Plan



Boynton Yards was identified as an employment center in the Union Square Neighborhood Plan.

Job types?

Not just Scientists

- Research Assistants
- Medical Technologists
- Laboratory Services Technicians
- Medical & Health Services Managers
- Policy Experts
- Phlebotomists
- Therapists
- Office Managers
- File Clerks
- Schedulers
- Grant Writers & Editors

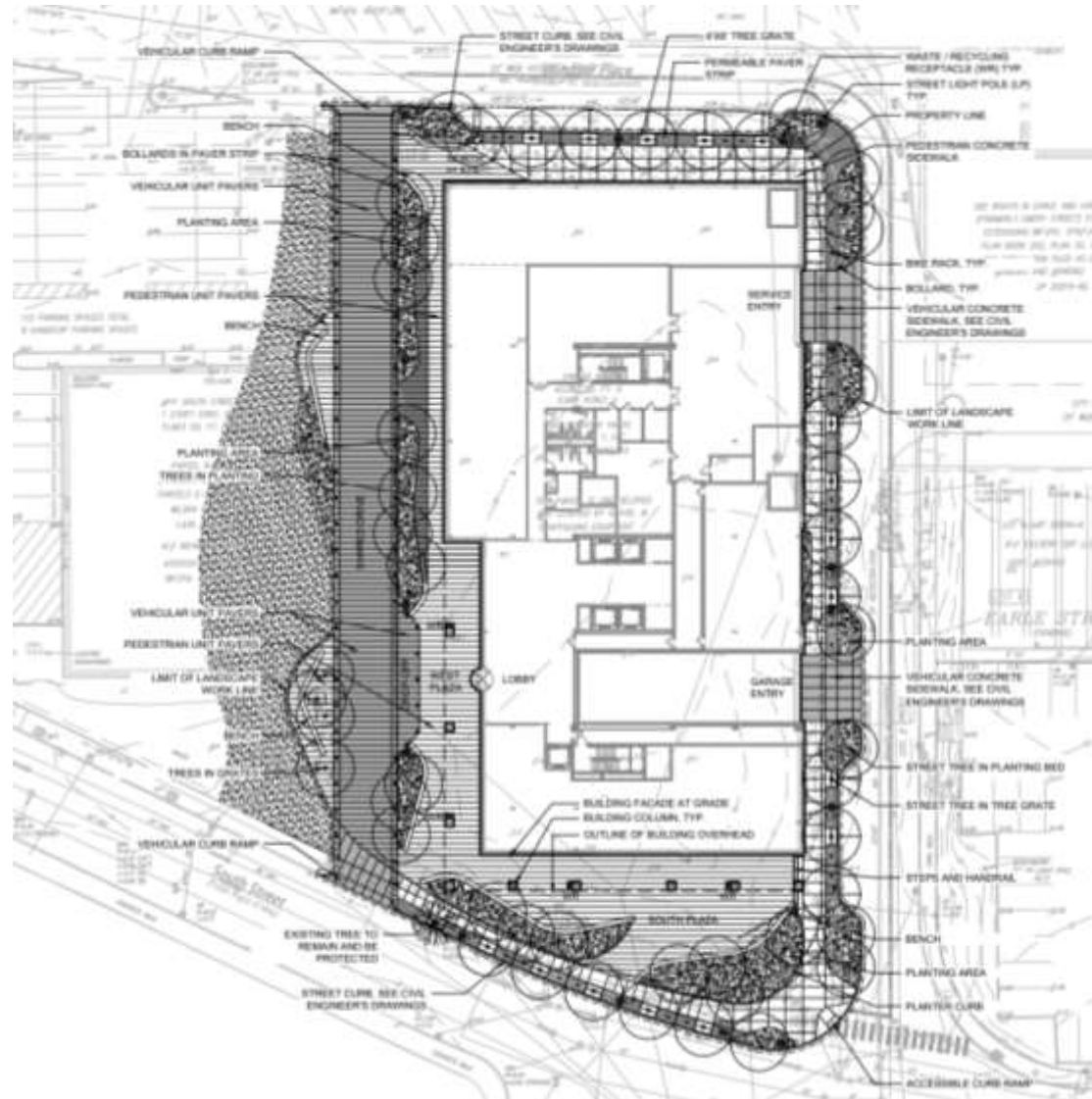


Lab buildings

Several key needs are driving the new model of laboratory design:

- Create "*social buildings*" that foster interaction and ***team-based research***;
- Achieve an ***appropriate balance between "open" and "closed" labs***;
- ***Flexibility*** to accommodate change;
- ***Design for technology*** to provide access to electronic communications systems throughout the building, which has immense implications on lab design;
- ***Environmental sustainability***; and
- ***Facilitate partnerships*** between government, private-sector industry, and academia.

Typical footprint size



Lab buildings have large footprints with widths ranging from 110' to 140'.

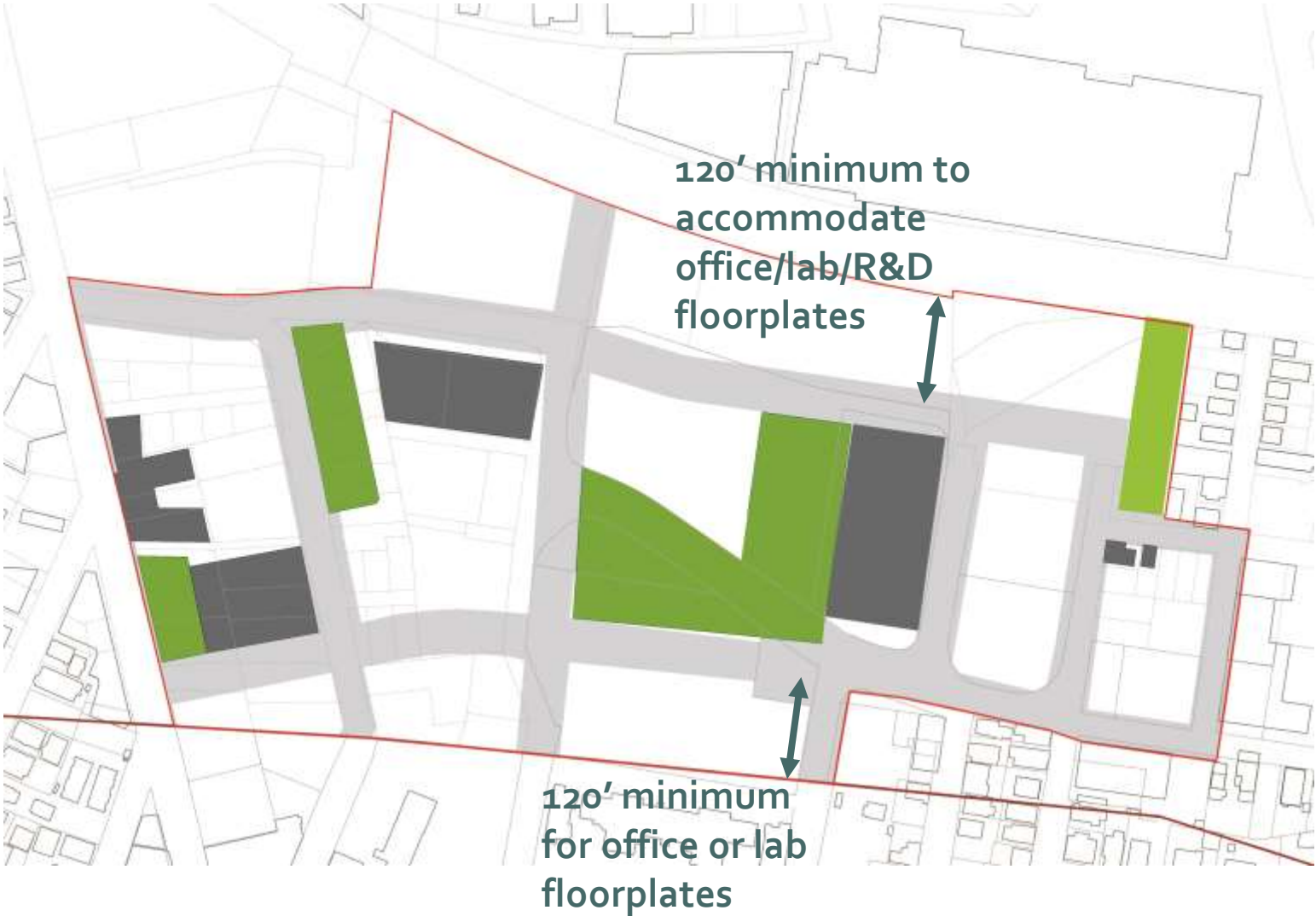
The length is variable.

For a wet lab, the height limit due to the venting equipment is usually 9 stories.

The roof equipment often requires 30' tall mechanical penthouses.

For example:
101 South Street
is 125' x 260'

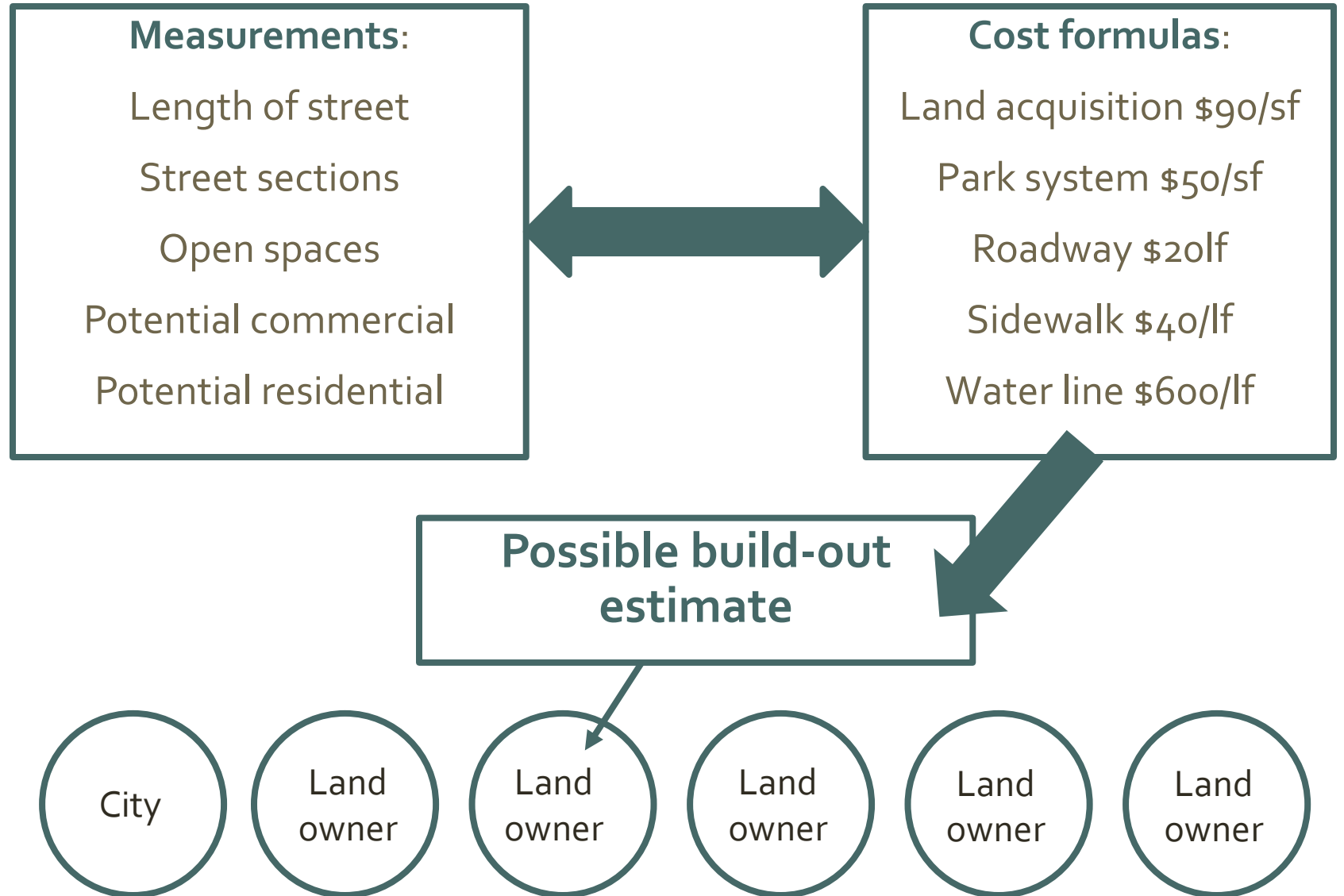
Possible public realm



Potential development sites



Next steps



Questions & Discussion

slewis@somervillema.gov