



# Banneker Academic High School

District of Columbia Department of General Services

District of Columbia Public Schools

CFA-2156 Concept Design Presentation

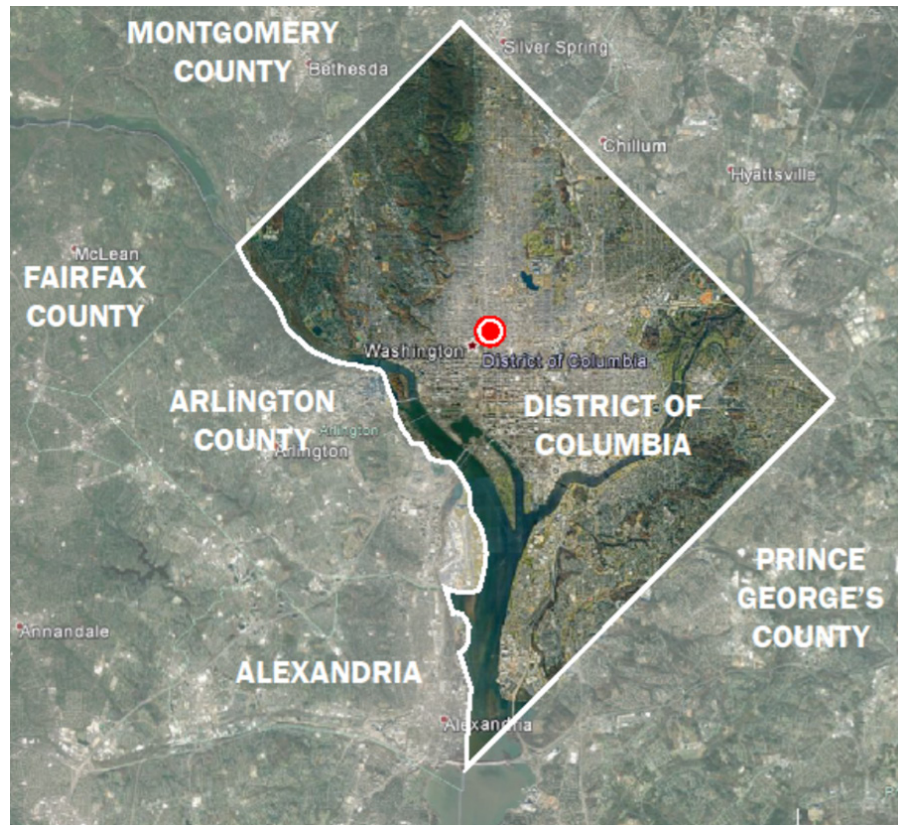
July 18, 2019



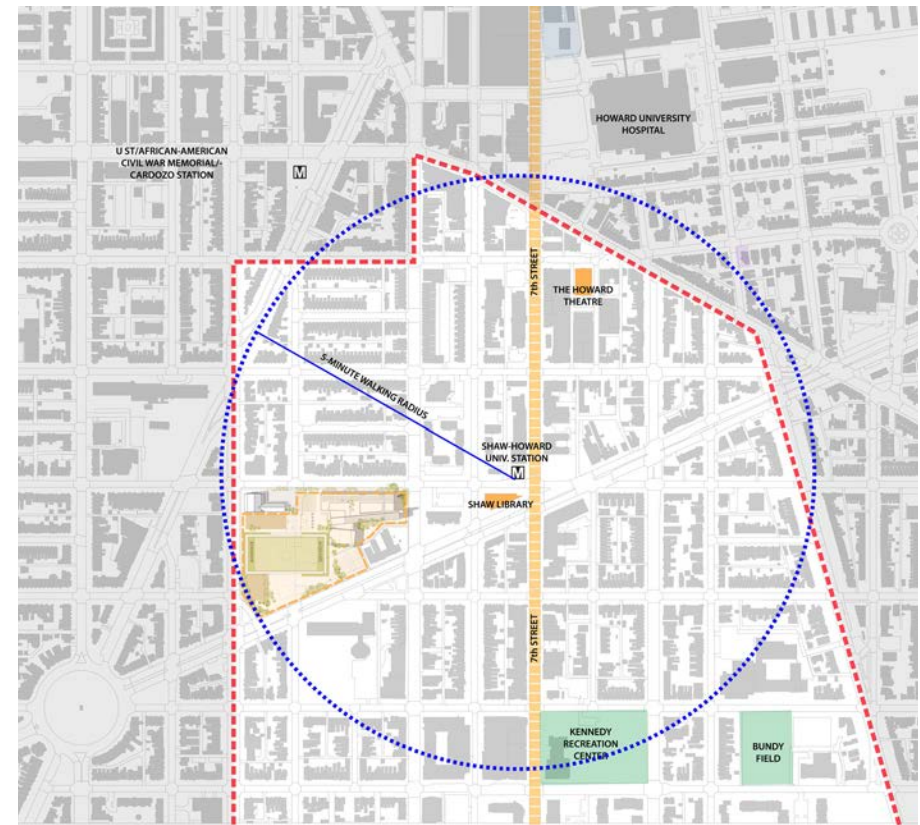
# EXISTING SITE AND CONTEXT



# site analysis

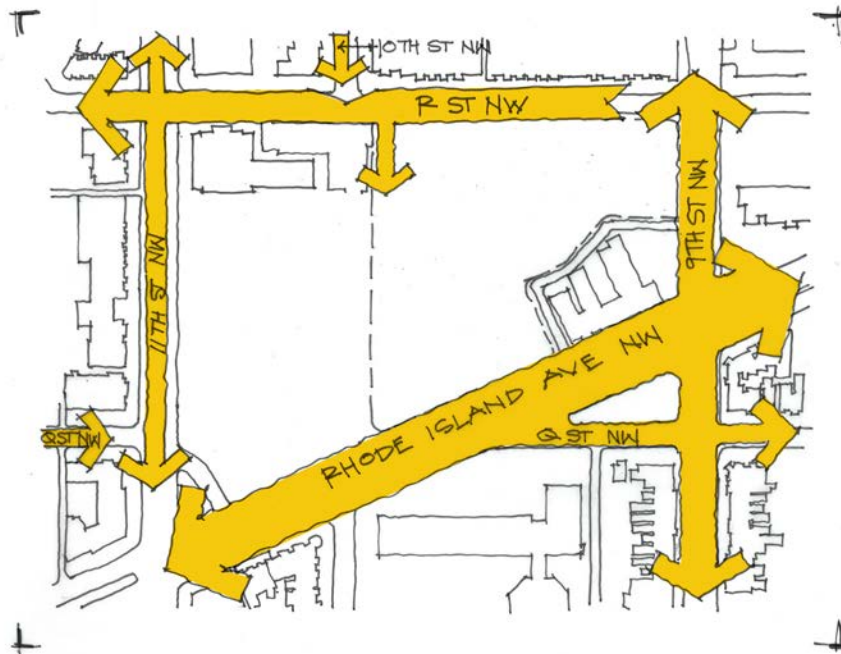


Site Location in DC/MD/VA region

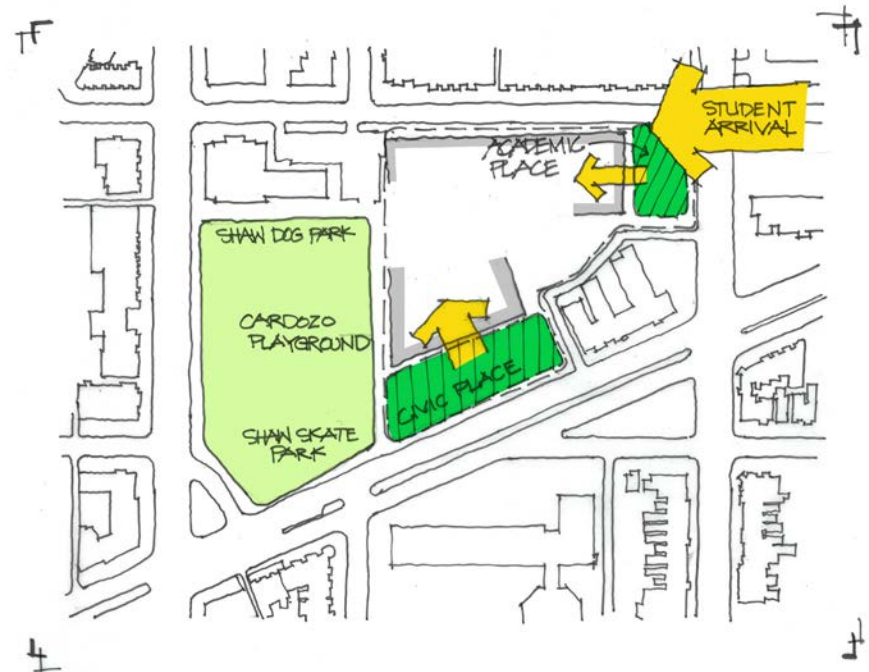


Site Neighborhood Context and Walking Radius

# site analysis



Street Grid



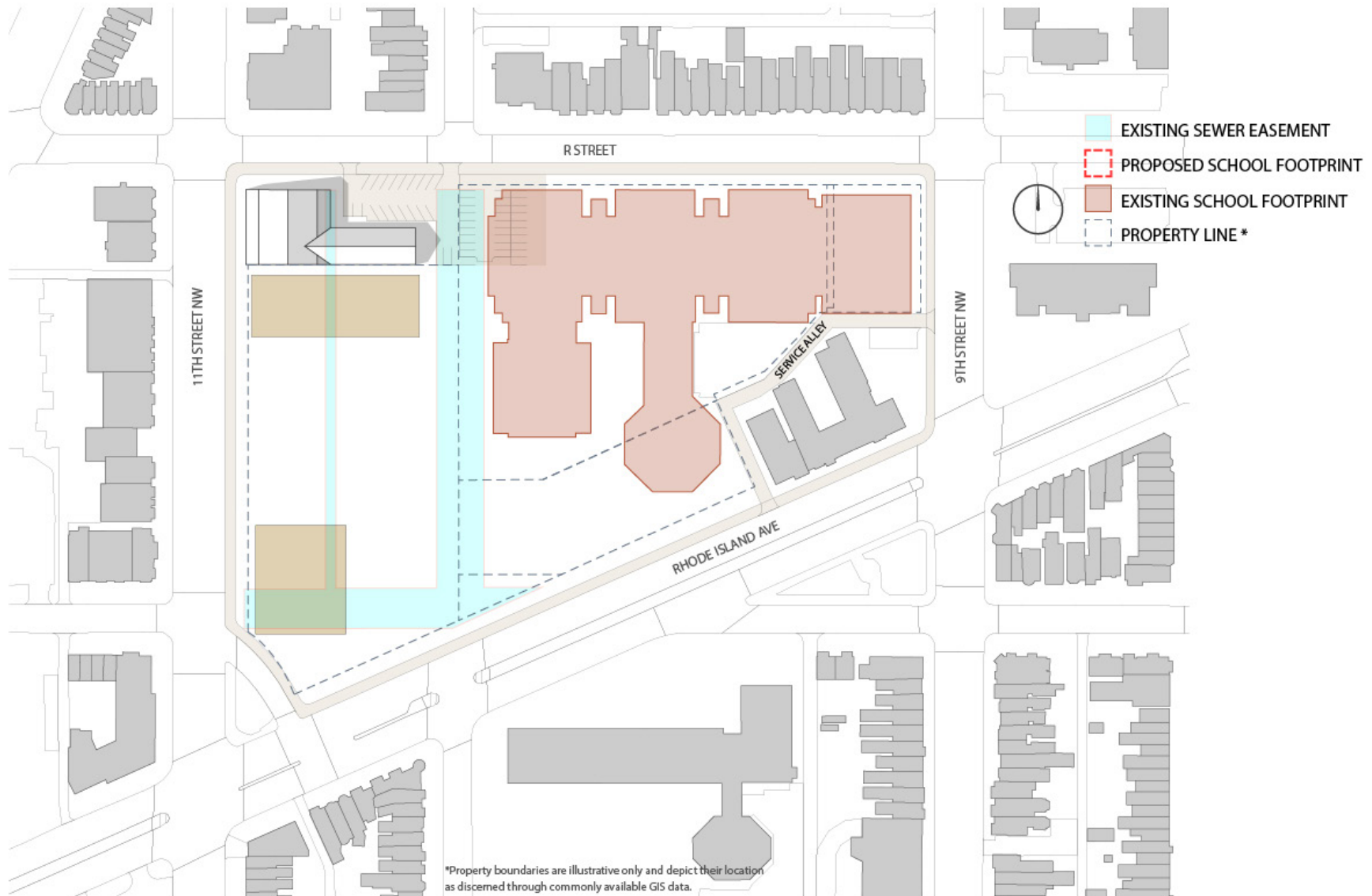
Civic Place



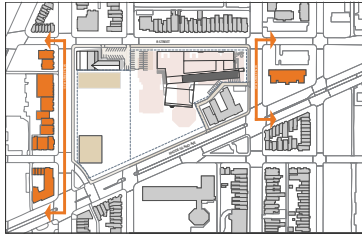
# pre-shaw middle school site plan



# existing shaw middle school site plan



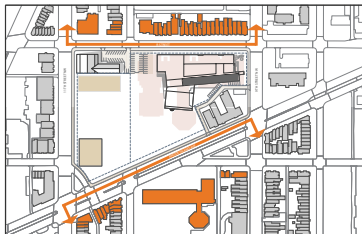
# site context



9th Street



11th Street



R Street



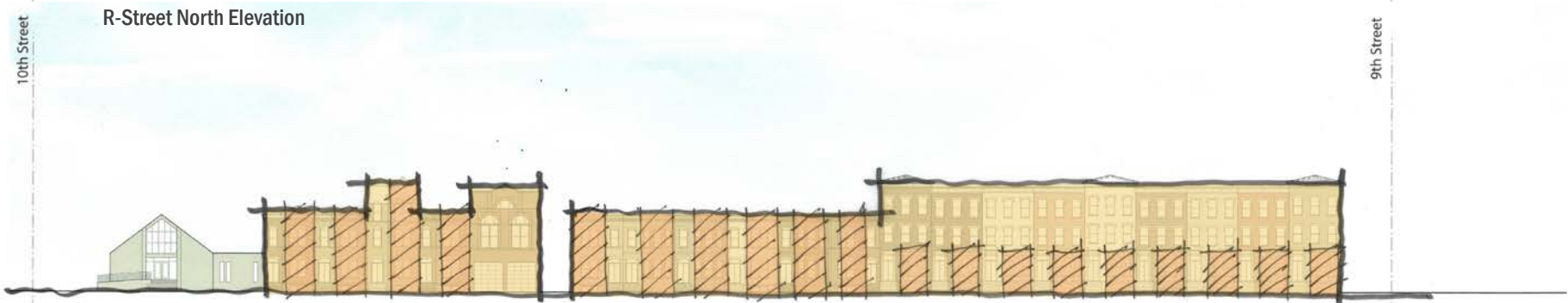
Rhode Island Ave



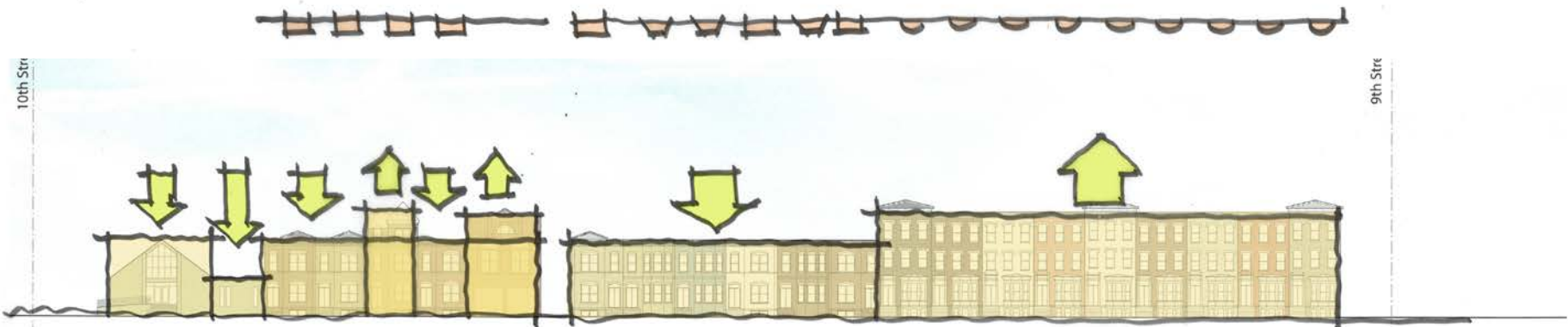
# r street streetscape analysis



R-Street North Elevation



Facade Projections



Massing



# existing building



Shaw Junior High School



# existing building



View from 9th Street and R Street



View from 10th Street and R Street



View from Rhode Island Ave and 10th Street



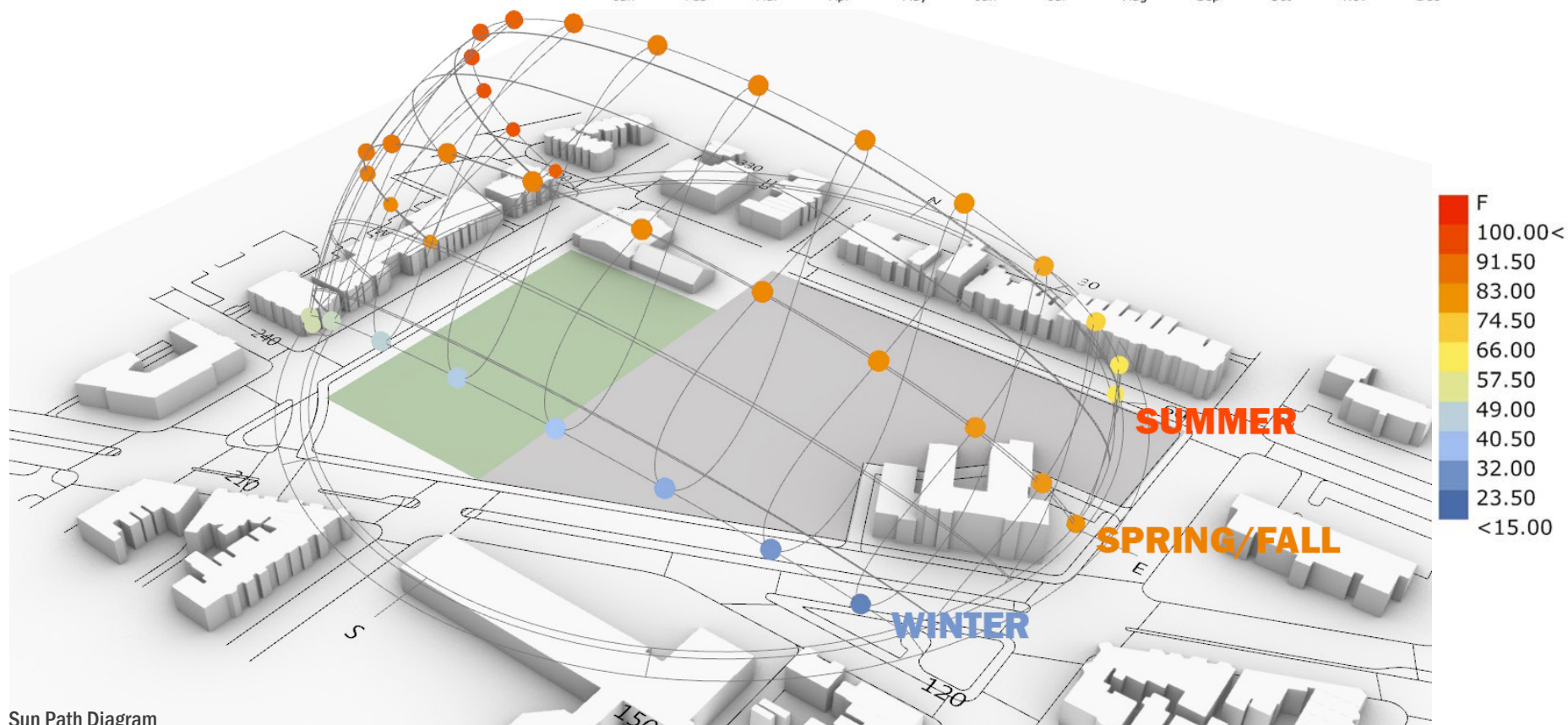
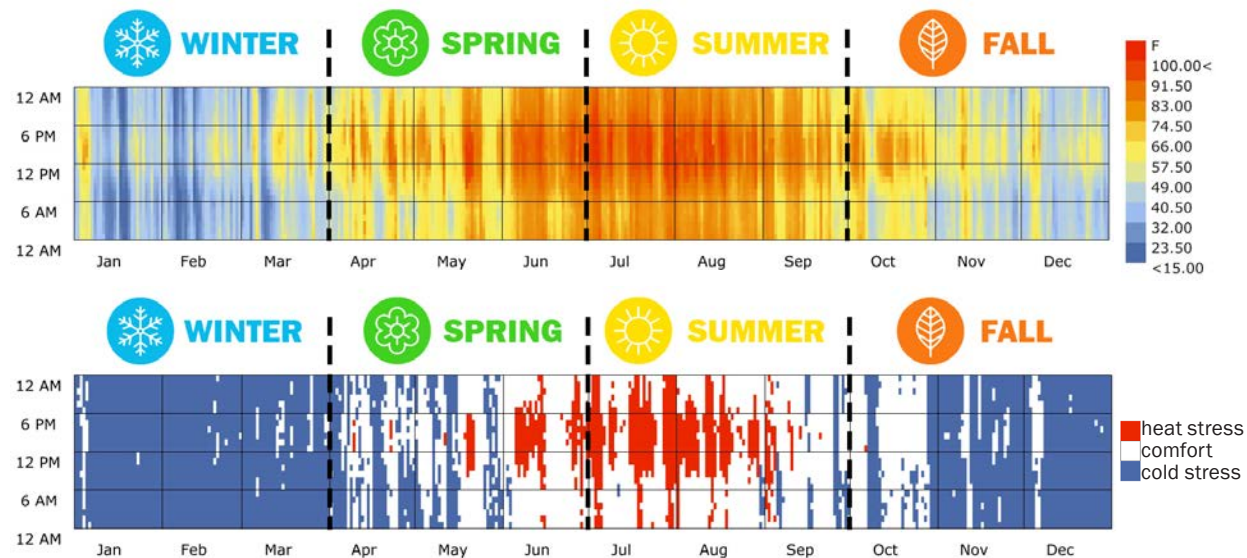
View from Rhode Island Ave



# climate analysis

Washington, DC experiences extreme weather swings, with hot humid summers and cold dry winters. It is therefore challenging to create a thermally comfortable outdoor environment, except in the swing seasons of spring and fall, but even including these seasons the outdoor environment is only comfortable around 11% of the year.

Additional measures for solar and wind control in outdoor spaces should therefore be employed to extend thermal comfort.



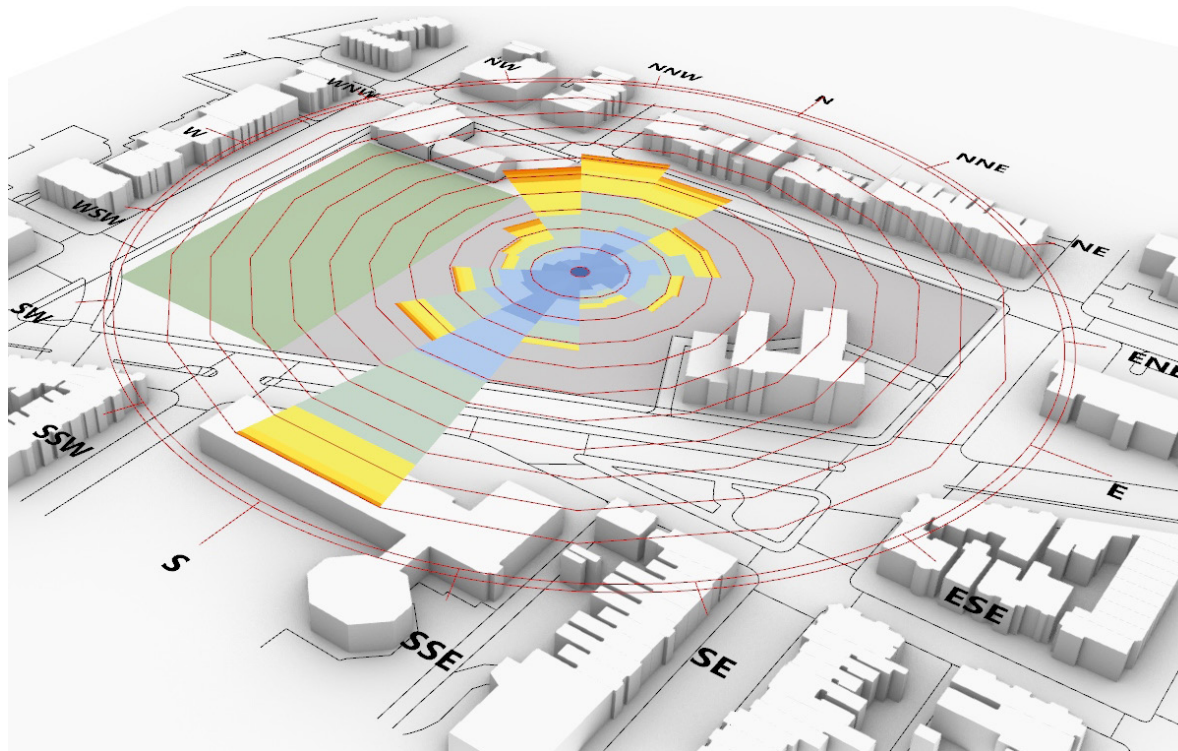
Sun Path Diagram

# wind analysis

In the Washington, DC region, prevailing winds shift by season.

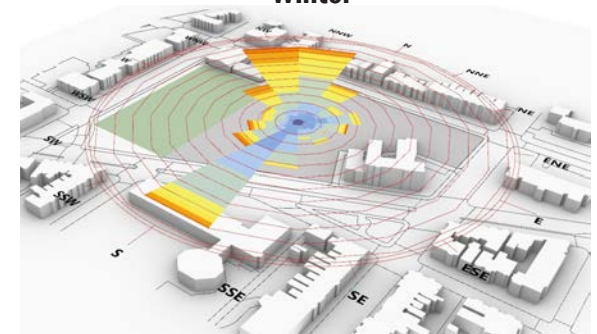
Cold winter winds tend to come from the northwest with relatively high velocity, making outdoor areas that face north relatively inhospitable.

During the rest of the year, winds come from the south primarily, especially in the summer months. These breezes are more welcome for ventilation to extend comfort.

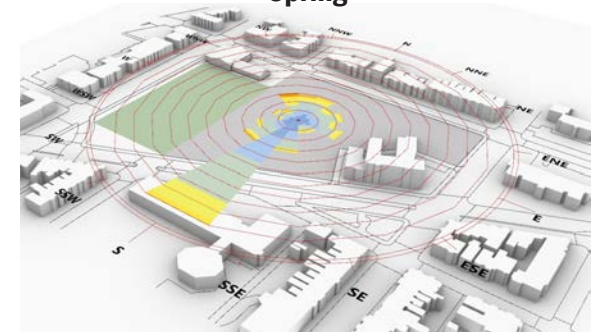


Yearly Wind Rose

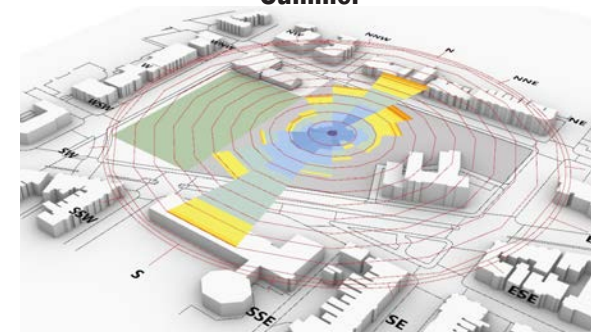
Winter



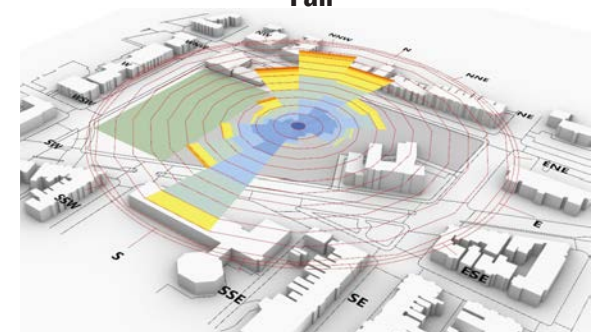
Spring



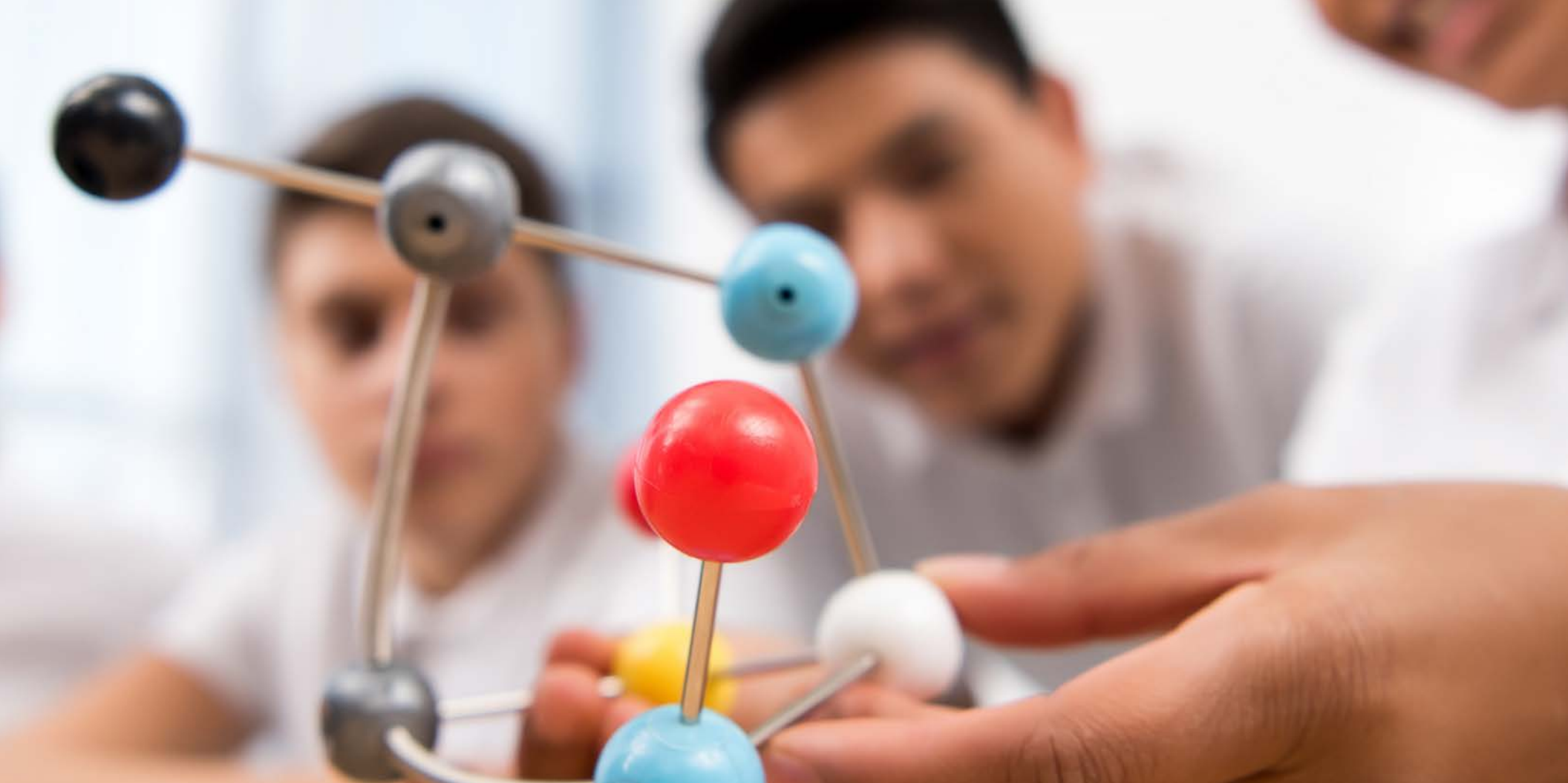
Summer



Fall







# DESIGN PRINCIPLES AND CONCEPT



# design principles



**1** Inspire life-long learning



**2** Activate Interdisciplinary Learning



**3** Expand the Learning Commons as the



**4** Celebrate the legacy of Benjamin



**5** Sculpt memorable & interactive outdoor space



**6** Compliment the Civic Center of Shaw



**7** Design for Net Zero Energy



**8** Achieve Net Positive Education

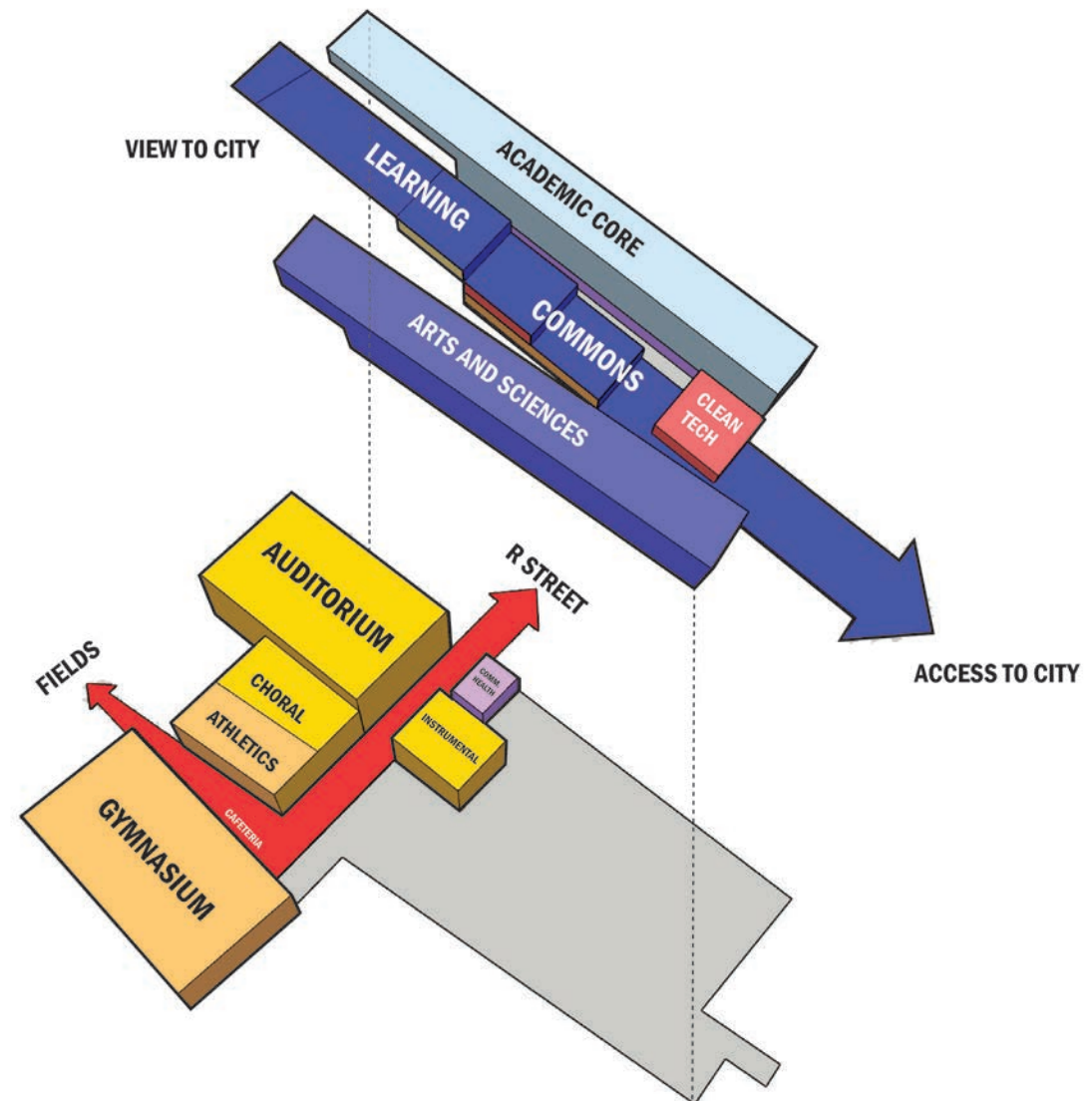
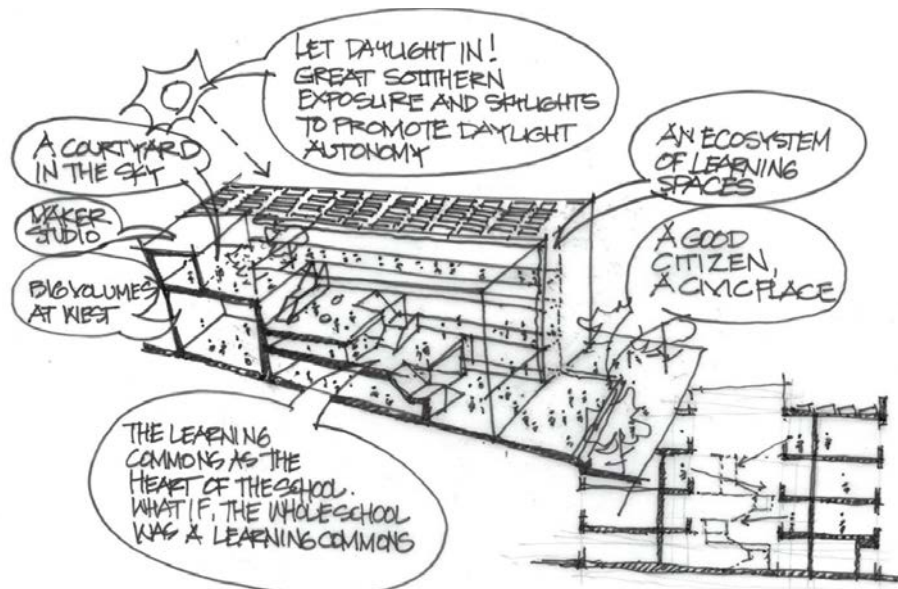


**9** Be a Good Neighbor

# big idea

The school is designed as a series of interconnected places for learning, discovery and engagement.

Programs are laid out in a way that enhance communication and community and activates interdisciplinary and cross-disciplinary learning. Centered on the learning commons, the academic wing fosters both strong discipline-based as well as interdisciplinary activities. The gym and cafeteria are organized for active community use.

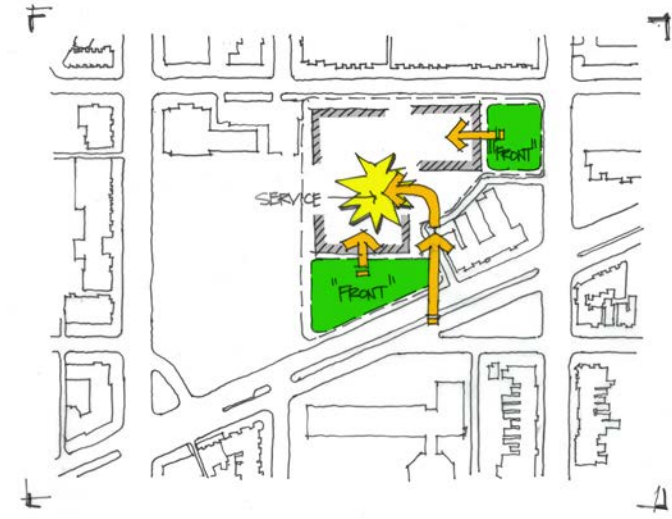




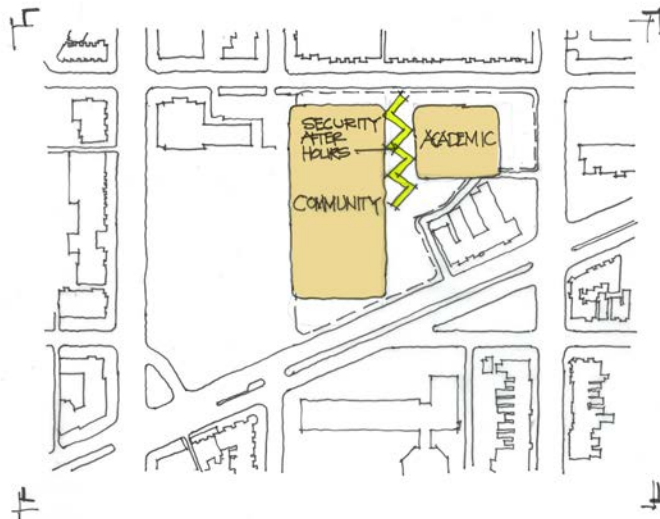
# big idea



Important Sides



Service



Security



Heart of the School



# big idea







# LANDSCAPE AND SITE DESIGN



# materials

- Outdoor spaces defined in part by textural elements
- Hardscape will reflect character of building and surrounding neighborhood
- Green buffers and creative screening techniques to separate active recreation spaces where necessary.



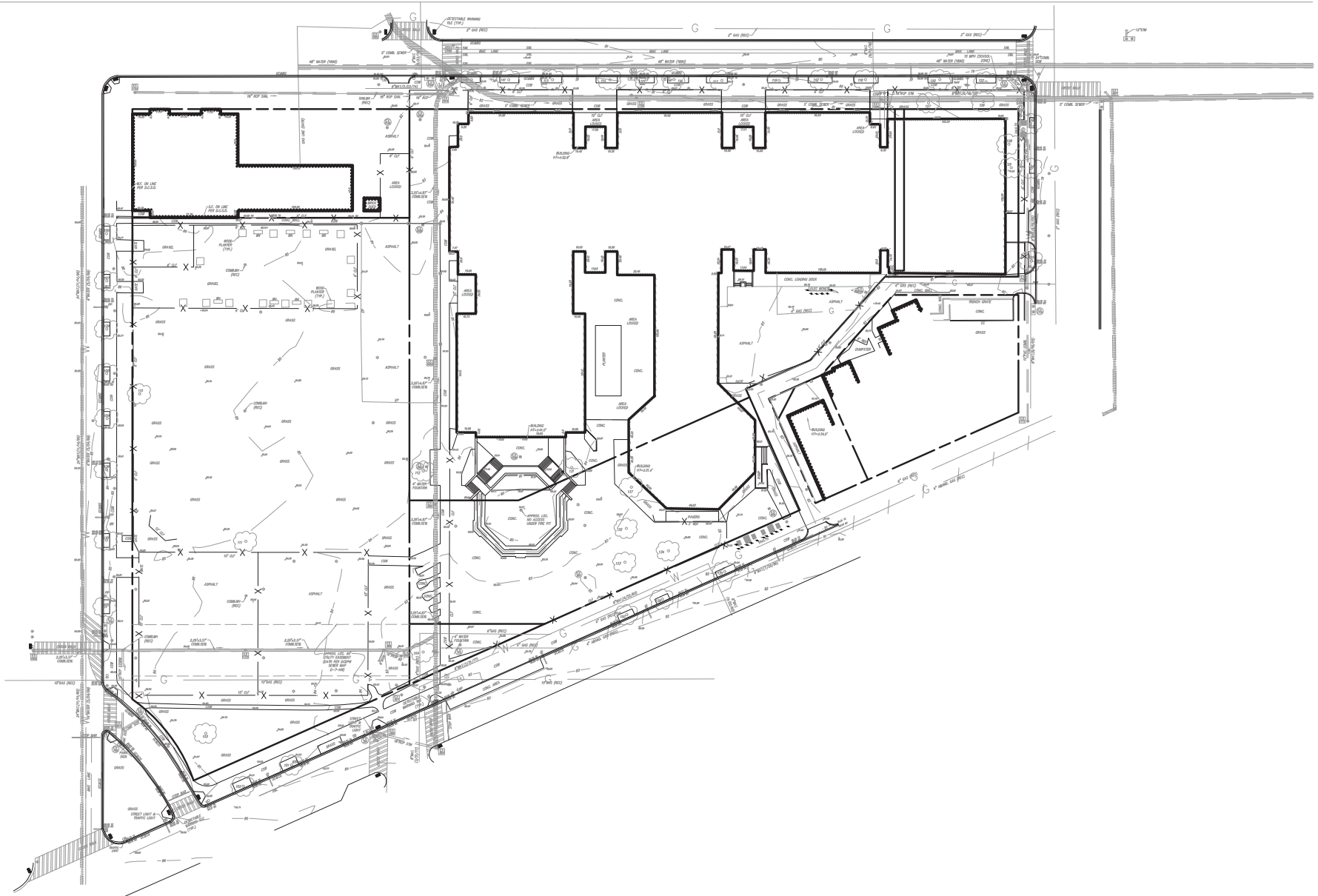


# history and community

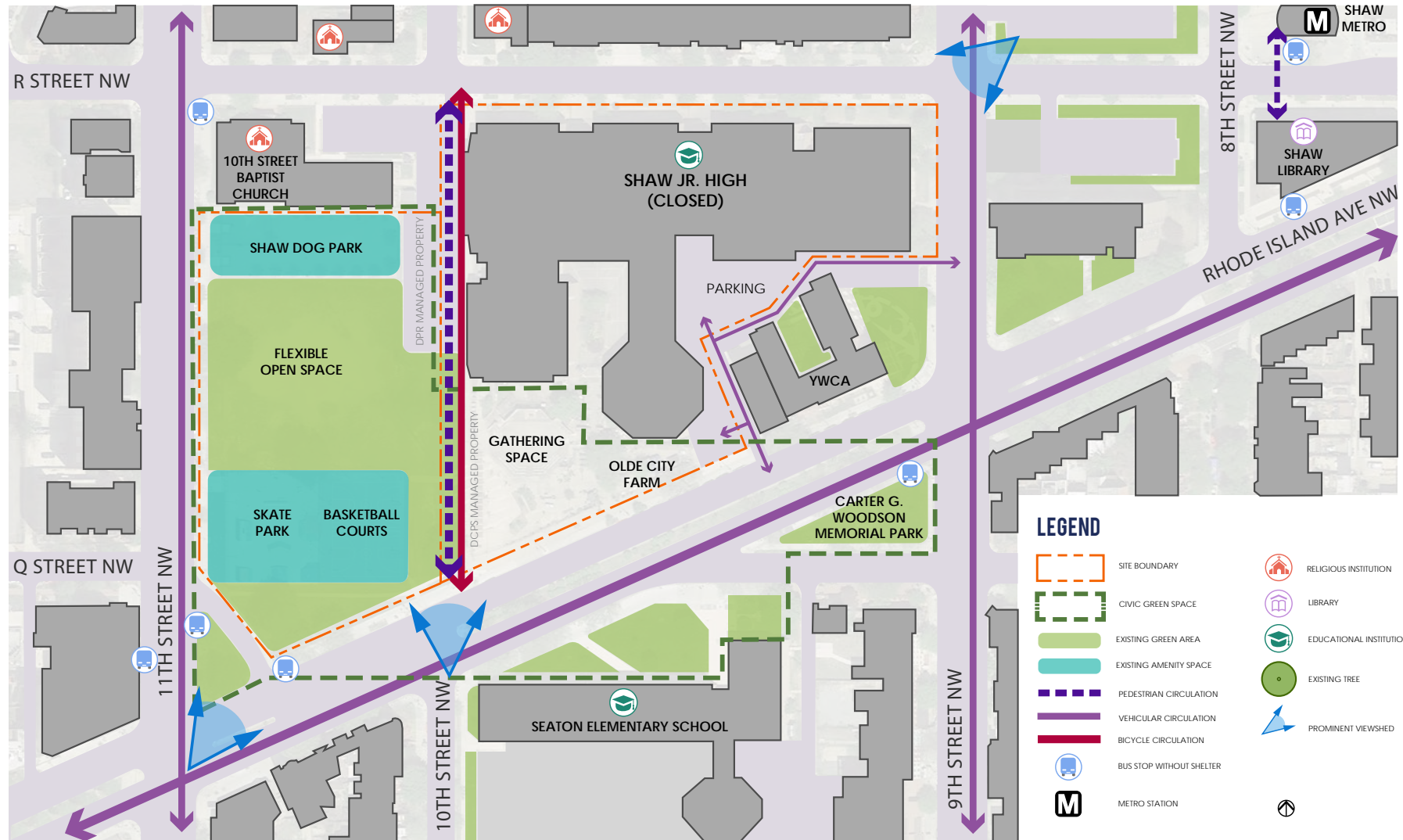
- Site entry from streets emphasized by portal-like structures to provide sense of arrival and distinction.
- Central position within Shaw Historic District increases potential as a place of inclusive learning and recreation.
- Specialty plaques, pavers, public art and other elements of historical celebration will be used to incorporate Banneker's legacy, and Shaw neighborhood history into site.
- 10th street corridor through campus will allow direct neighborhood access community-defined elements



# existing site survey

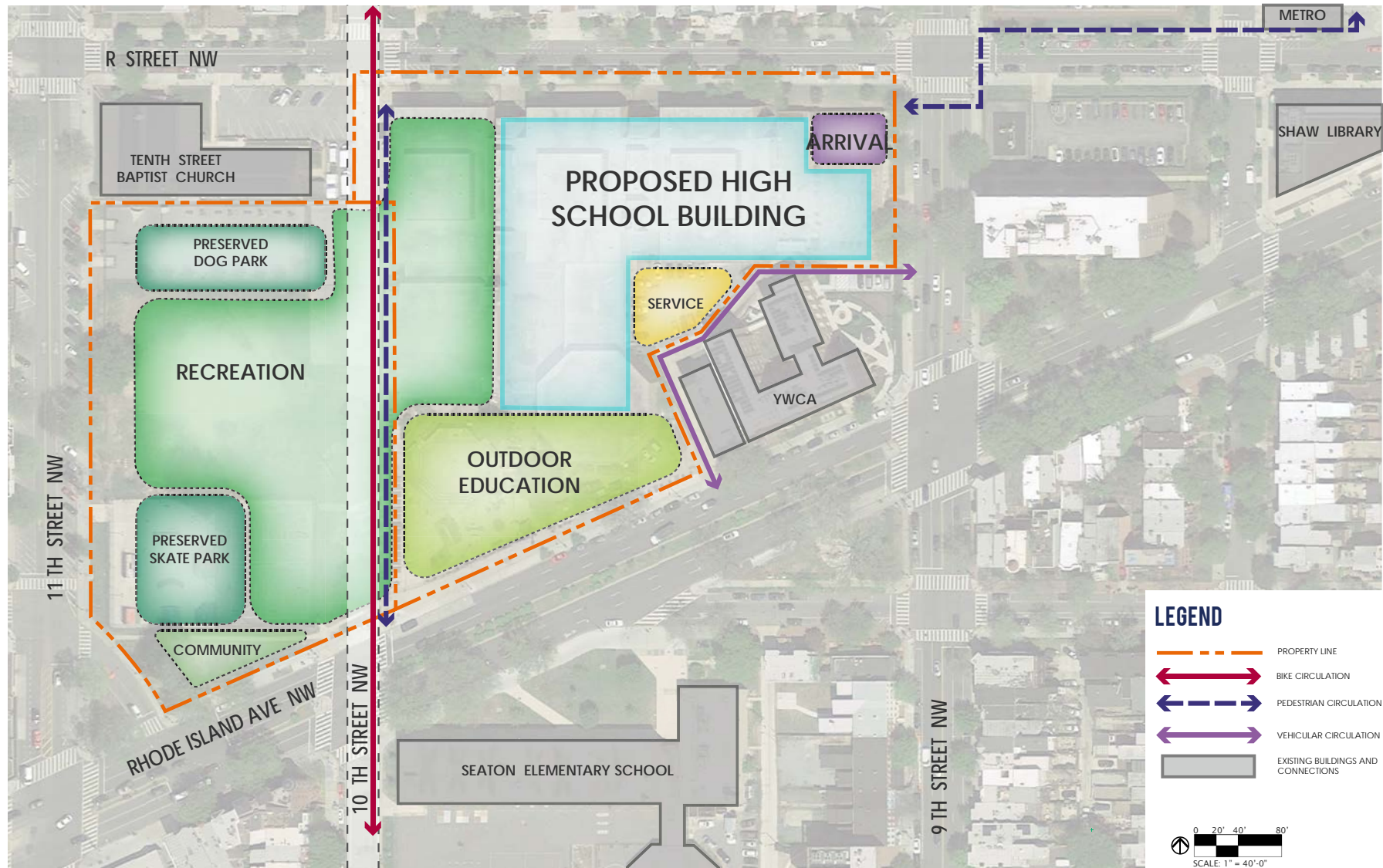


# site analysis

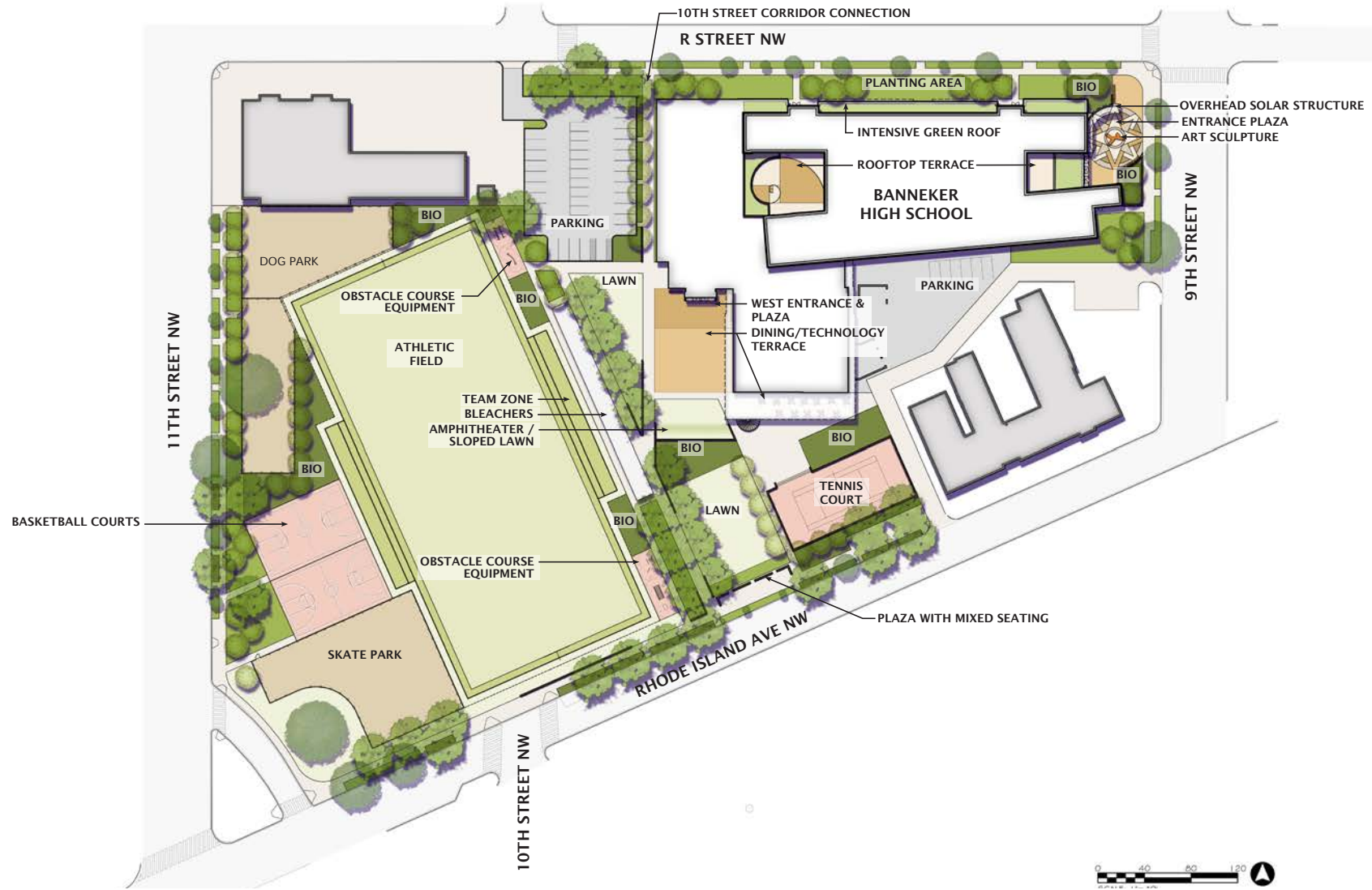




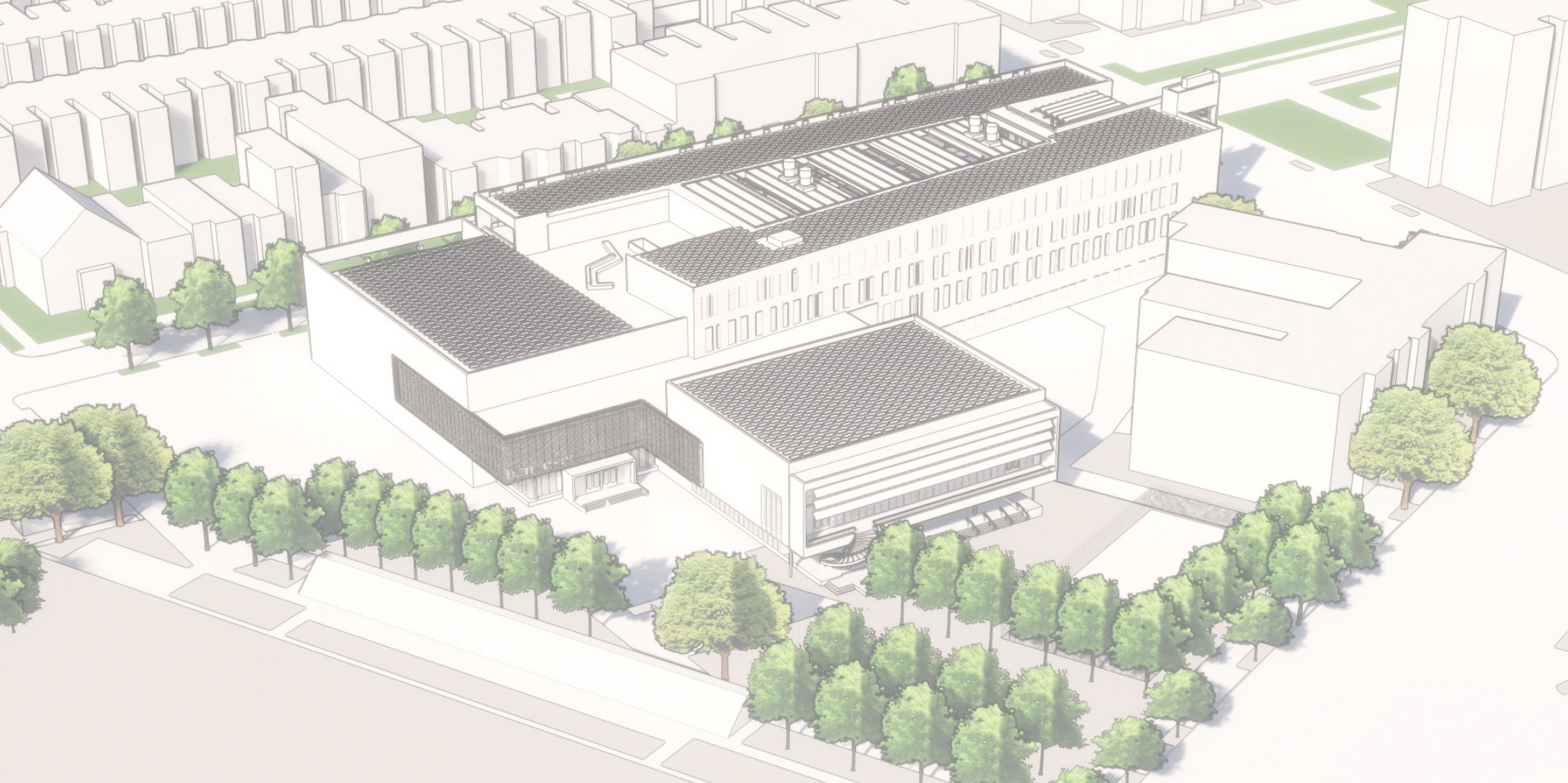
# site organization



# landscape design







# EXTERIOR DESIGN SCHEME

# facade design principles



## 1

## CIVIC PRESENCE

- The building massing, and the articulation of the facades, should be of appropriate civic and urban scale and character.
- The articulation of massing and materials should clearly designate public entrances.
- The building should be situated in relation to urban context and enhance existing site relationships.
- Quality of materials should be appropriate for civic building. They should be durable, particularly where the building meets the ground.



# facade design principles



## 2

## RESPONSE TO CONTEXT

- Massing and scale respond to adjacent residential rowhouse scale and rhythm
- Fenestration uses vertical proportions that relate to residential context
- Material palette relates to immediate and regional context

# facade design principles



## 3

## ENERGY PERFORMANCE

- Punched architectural windows that provide high performance related to air infiltration and thermal performance
- Integration of windows and weather barrier
- WWR and daylighting respond to building orientation
- Balance performance and cost; consider life cycle
- Systems and installation support QA/QC for high performance goals



# overall site view southwest





# overall site view northeast





# preliminary exterior material selections



**1** Panelized rainscreen facade



**2** Masonry



**3** Curtainwall and storefront



**4** Perforated screen panels



**5** Prefab. aluminum sunshades



**6** Skylights



**7** Photovoltaic panels

# 9th street entrance

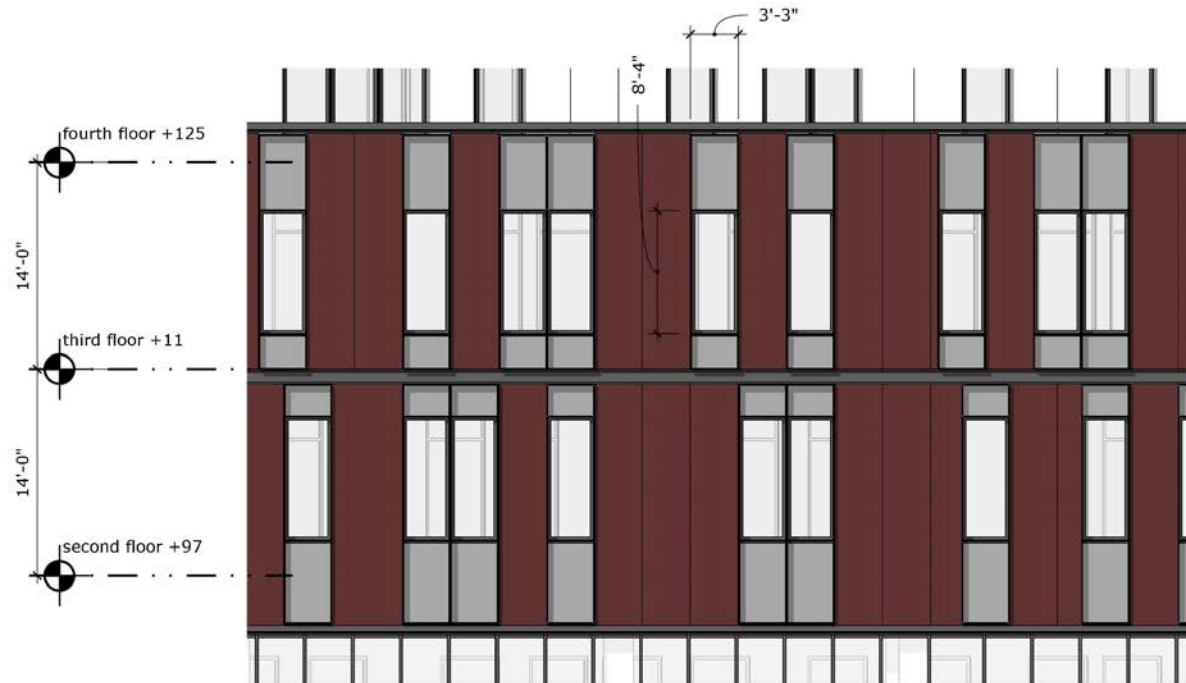




# R-Street view



# facade cladding concept

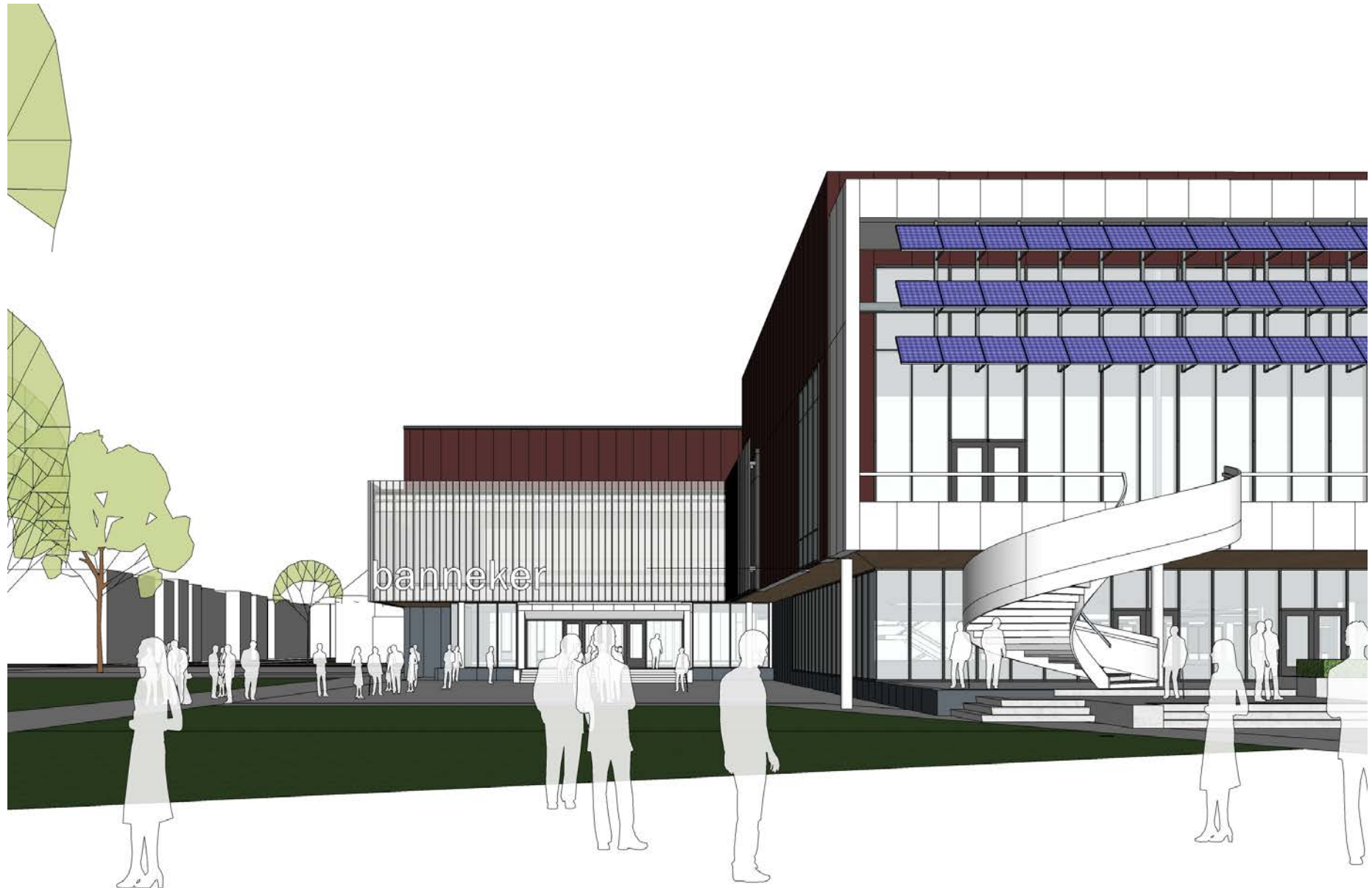




# R-Street facade concept

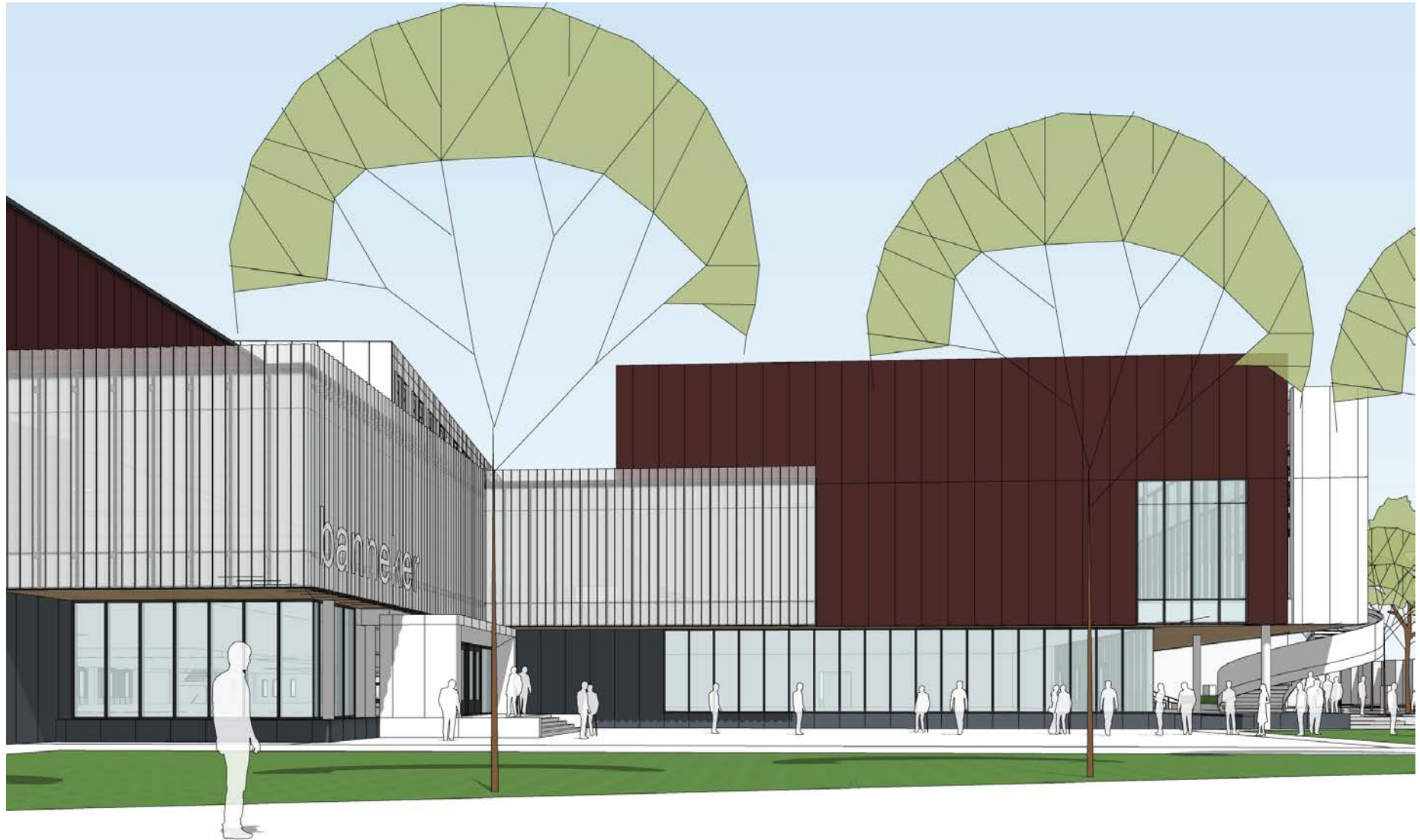


# approach from Rhode Island Ave





# view east from athletic field



# site massing model





# site massing model



View Northwest



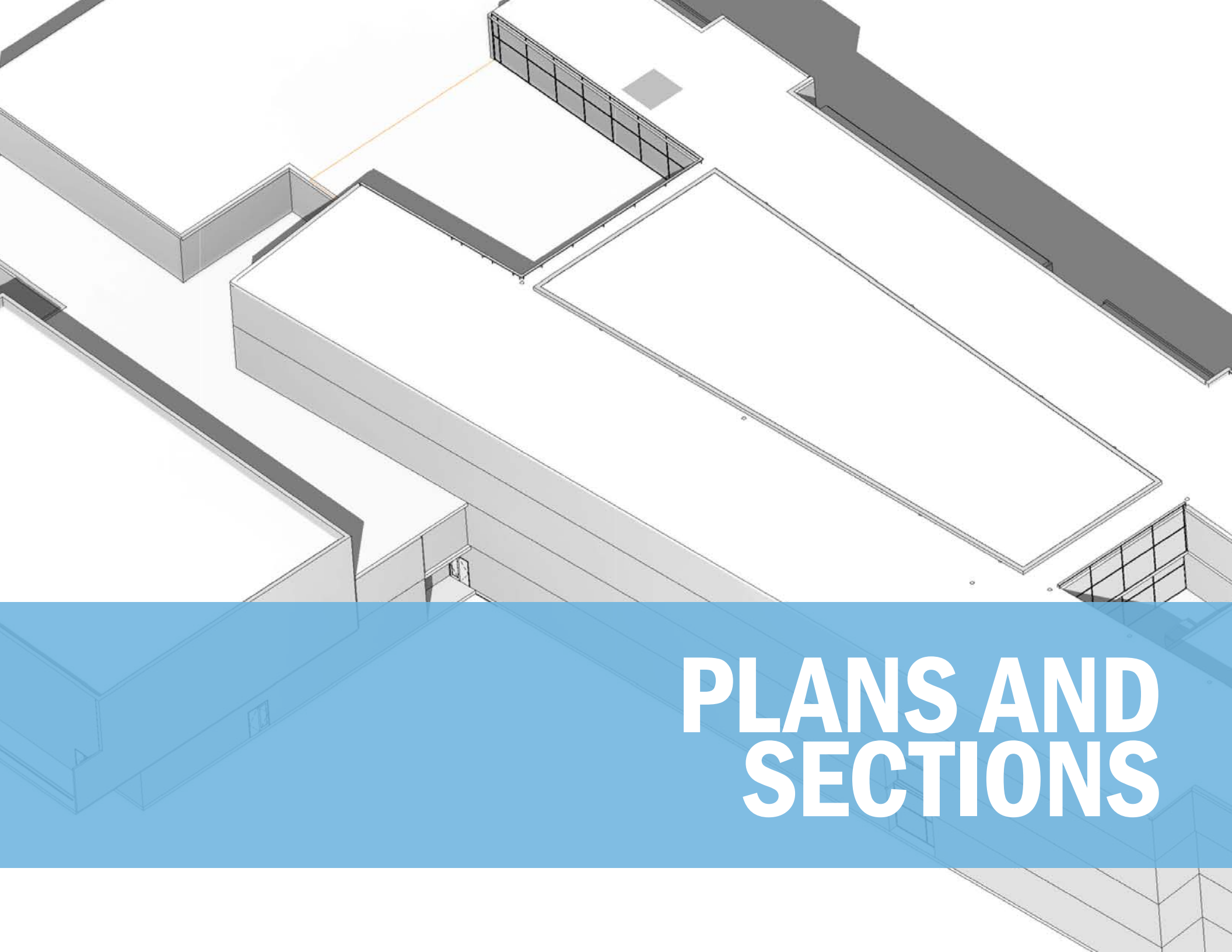
View Northeast



View Southwest



View Southeast

An isometric architectural drawing of a building complex. The drawing shows several interconnected rectangular volumes. A large, central rectangular volume is prominent, with a smaller, similar volume to its left. To the right, there's a long, narrow volume. The drawing uses light gray for the main walls and darker gray for some structural elements and shadows. A blue semi-transparent band runs across the bottom third of the image, containing the text 'PLANS AND SECTIONS' in white. The overall style is clean and technical, typical of architectural presentations.

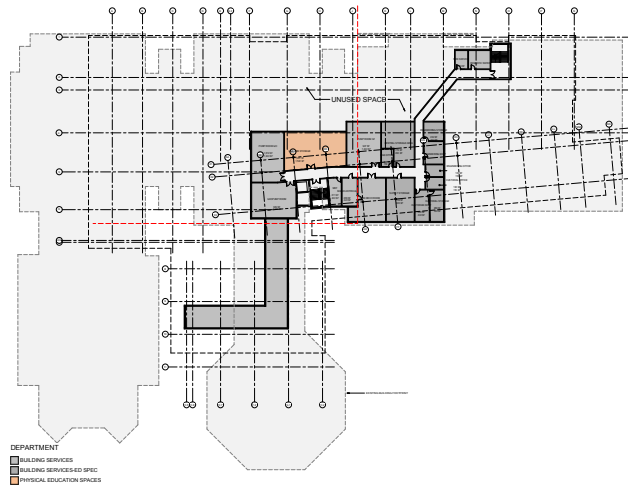
# PLANS AND SECTIONS



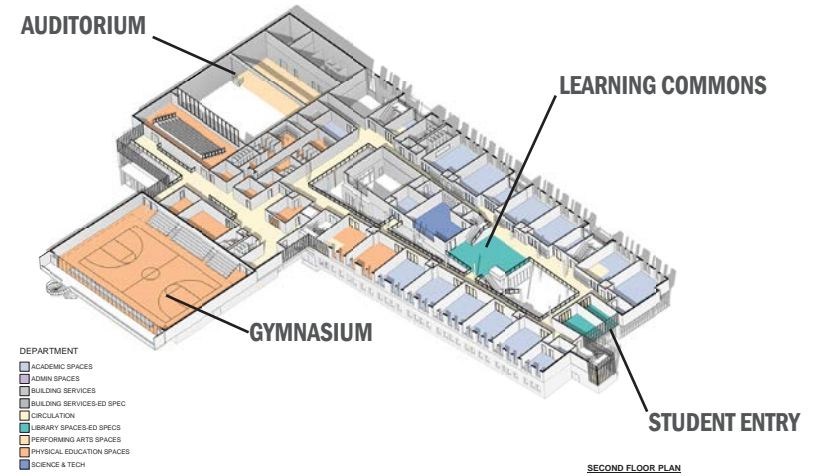
# floor plans



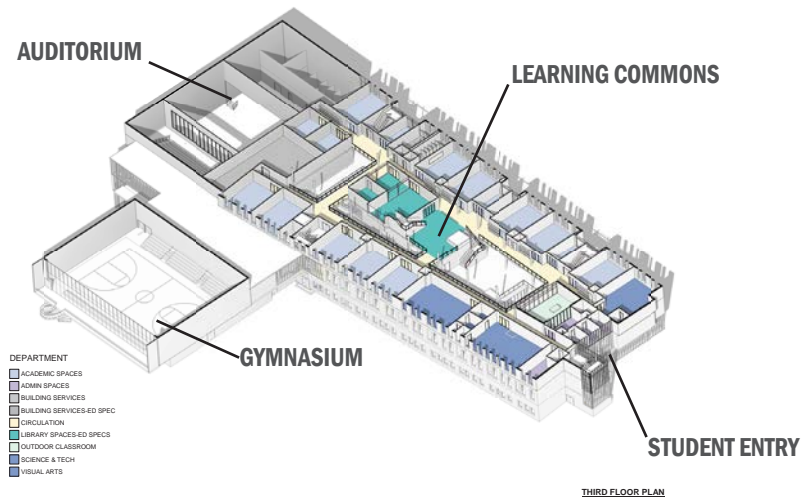
# floor plans



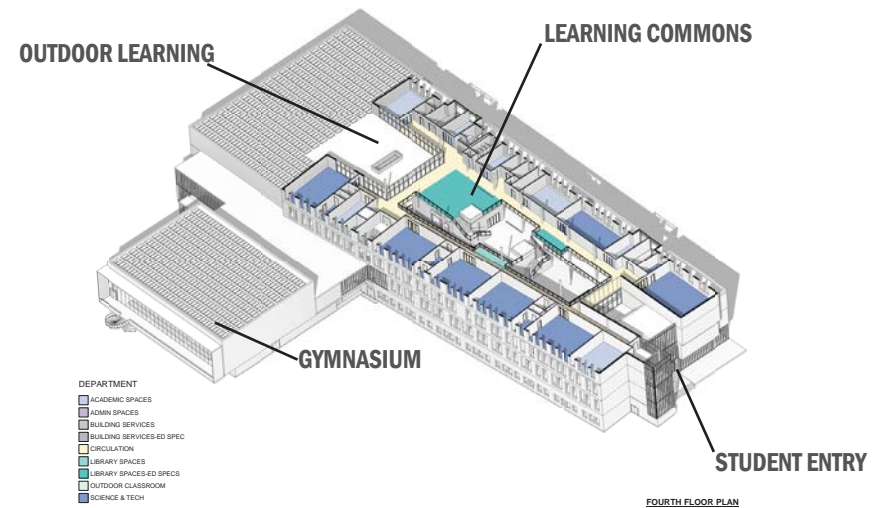
Basement Plan



Second Floor Plan



Third Floor Plan



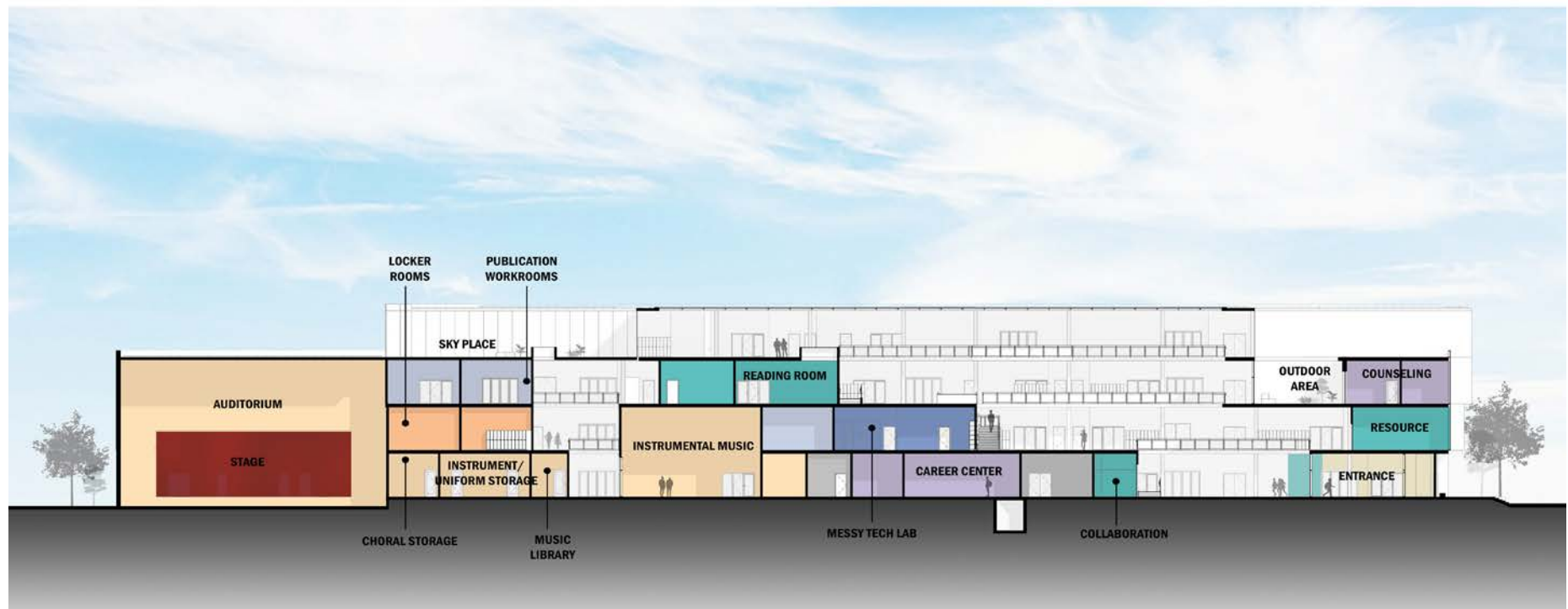
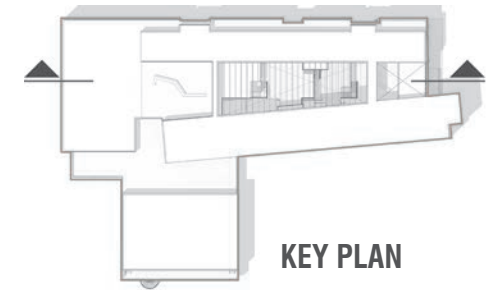
Fourth Floor Plan



# west-east longitudinal section

Note: The preliminary building sections presented in this report are not to scale and are intended to suggest general design intent for building massing and spatial relationships. Material color selections are not final.

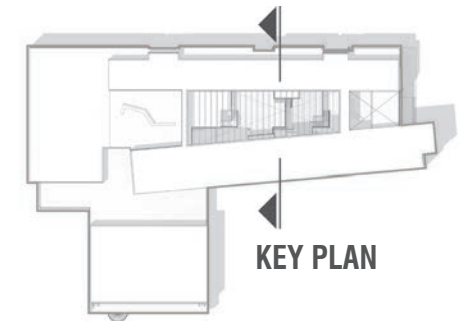
Refer to Schematic Design drawing set, issued in conjunction with this report, for scaled architectural drawings.



# north-south cross section

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# north-south cross section

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