

# EDUCATION CENTER REUSE

David M. Brown Planetarium  
1426 North Quincy Street

ARLINGTON PUBLIC SCHOOLS

1426 N QUINCY ST

# JOINT MEETING 4: AGENDA

BUILDING LEVEL PLANNING COMMITTEE  
PUBLIC FACILITIES REVIEW COMMITTEE

1. Welcome
2. Project Parameters
3. Updates
  - a. Educational Specifications
  - b. Defining base project scope and alternates
4. Proposed Schematic Design
  - a. Transportation recommendations
  - b. Committee discussion
  - c. Site and building design
  - d. Committee discussion
5. Public Comment
6. Next Steps and Adjourn

A woman with long, wavy blonde hair, wearing a white lace top and a lanyard, is smiling warmly at a young child with curly hair. They are seated at a table. On the table, there is a can of 100% Orange Juice, a container of TruMoo Chocolate Gel-Free Milk, and a small bowl. The background shows other people seated at tables, suggesting a social gathering or meeting. The entire image has a warm, orange-toned overlay.

# 1 Welcome

# Building Level Planning Committee - BLPC

1. Based on Policy Implementation Procedure F-5.7 PIP-2
2. School Board approved BLPC Charge found at: <https://www.apsva.us/wp-content/uploads/2018/09/C-4-Education-Center-BLPC-Charge-083018-SB-approved.pdf>
3. Primary role is to serve as the principal communication liaison with community stakeholders
4. Solicit comments from constituency groups and share with the BLPC for consideration
5. Assist APS Staff during schematic design phase by reviewing:
  - a. Site amenities
  - b. Adjacencies between interior spaces and site amenities
  - c. Community use of the building and site
  - d. Impact of project on surrounding community

# Public Facilities Review Committee - PFRC

1. PFRC Charge (June 18, 2014) found at: [https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/5/2014/06/PFRC\\_Charge\\_June2014.pdf](https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/5/2014/06/PFRC_Charge_June2014.pdf)
2. Mission: to ensure that the highest quality of land use planning, design, transportation planning, and other important community aspects are incorporated into civic projects as assigned to the Committee by the Arlington County Board.
3. Key responsibilities:
  - a. Provide a forum for advisory commission and committee input
  - b. Ensure highest quality of land use planning and design
  - c. Promote compliance with County Comprehensive Plan and other County planning policies
  - d. Provide means for broad-based public participation
  - e. Provide advice to County Board and County Manager



## 2 Project Parameters

# Project Parameters

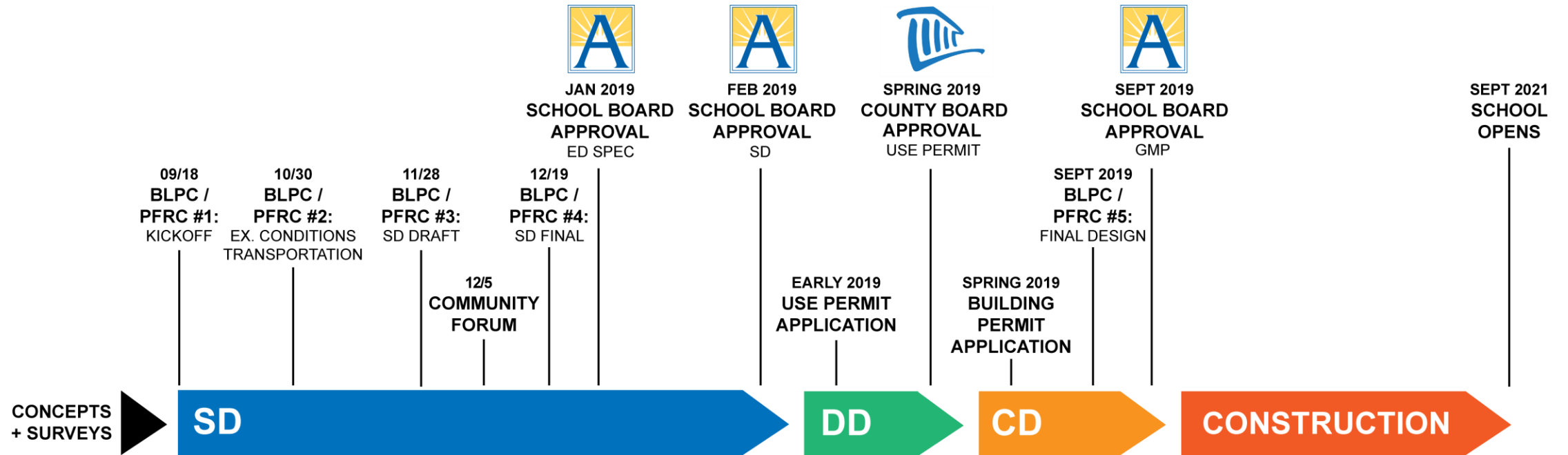
- Project included in the FY2019-28 Capital Improvement Plan (CIP)
- Renovate the Education Center to both increase the capacity of Washington-  
Lee initially, and later to adapt to possible future instructional and grade level  
changes
- Support APS Strategic Plan Goals, specifically for Healthy, Safe, and  
Supported Students
- Address capacity by providing 500-600 high school seats
- Open by start of school 2021
- Spend a maximum project cost of \$37 million, using every effort to spend less



# 3 Updates



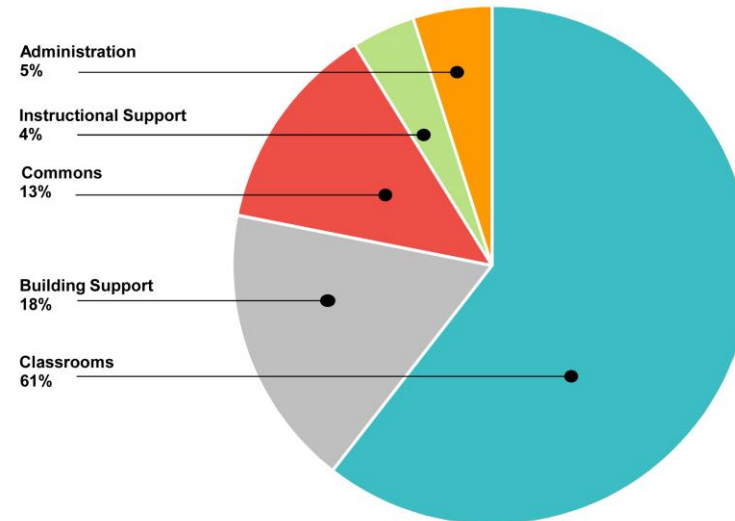
# Project Timeline



UPDATES

# Educational Specifications + Space Program

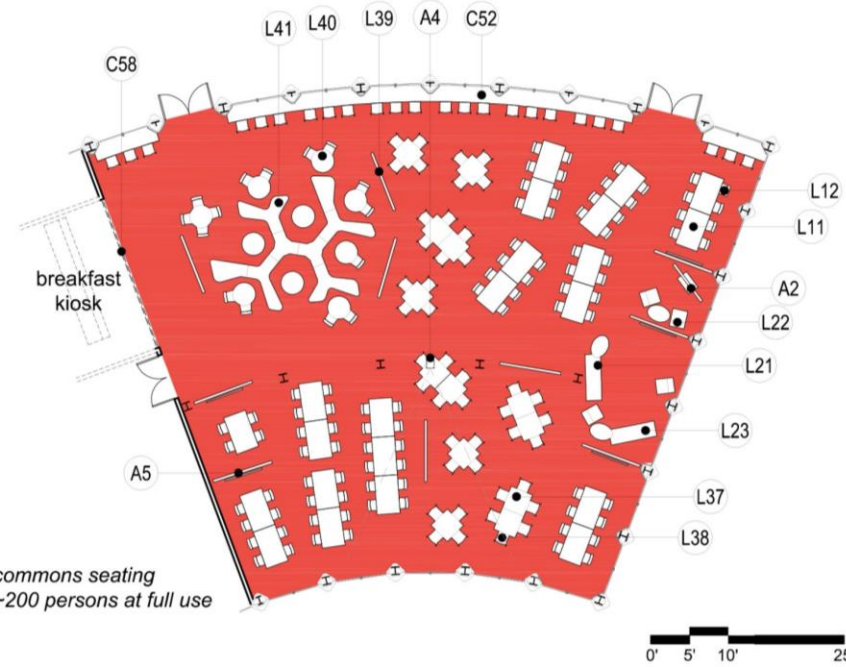
- School Board info item December 20<sup>th</sup> 2018 and action item January 10<sup>th</sup> 2019
- Presentation: [https://www.boarddocs.com/vsba/arlington/Board.nsf/files/B7FR6Q697DFB/\\$file/E-4%20Ed%20Center%20Reuse-Ed%20Spec%20Presentation.pdf](https://www.boarddocs.com/vsba/arlington/Board.nsf/files/B7FR6Q697DFB/$file/E-4%20Ed%20Center%20Reuse-Ed%20Spec%20Presentation.pdf)
- Education Specifications document: [https://www.boarddocs.com/vsba/arlington/Board.nsf/files/B7FR6N697DCF/\\$file/E-4%20ED%20Center%20Reuse%20-%20Ed%20Specifications.pdf](https://www.boarddocs.com/vsba/arlington/Board.nsf/files/B7FR6N697DCF/$file/E-4%20ED%20Center%20Reuse%20-%20Ed%20Specifications.pdf)



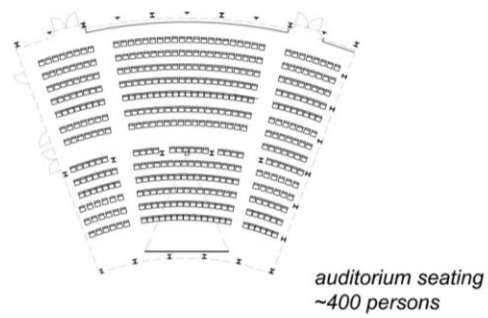
# Educational Specifications Example

## LEGEND

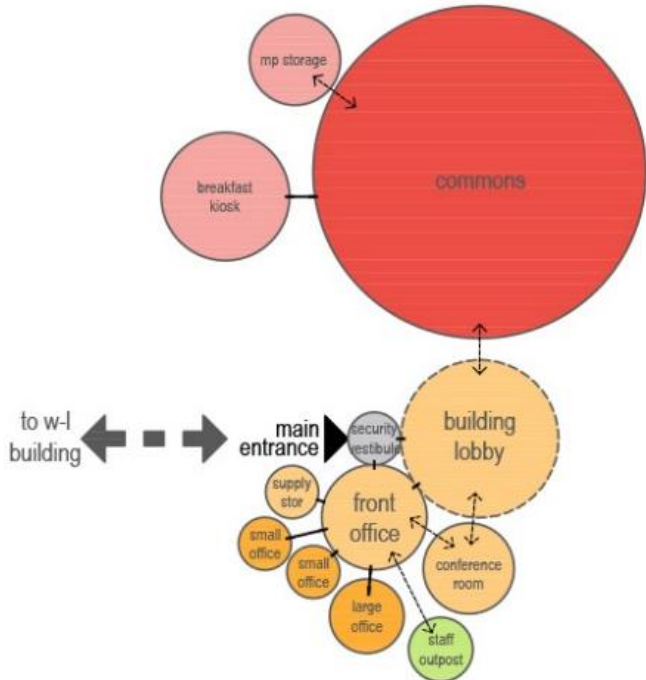
- LEARNING SPACES
- LEARNING SUPPORT
- COMMON SPACES
- ADMINISTRATIVE SPACES
- BUILDING SUPPORT



commons seating  
~200 persons at full use



auditorium seating  
~400 persons



## COMMONS

### Description

A flexible and adaptable space to accommodate meals, individual and group work, large group gatherings and small assemblies.

### Size

4,000 SF

### Capacity

400 learners, staff

### Related spaces / floor level

Direct access to breakfast kiosk  
Near commons storage

### Loose furnishings

- L11 folding table for four (22)
- L12 high-density stacking chairs (400)
- L21 mobile, small worksurface (3)
- L22 lounge chair (4)
- L23 lounge couch (2)
- L37 bar-height table for four (13)
- L38 bar-height stool (73)
- L39 mobile partition (5)
- L40 café table for 4 (10)
- L41 coated foam modular bench (8)

### Casework, display boards + equipment

- C52 café bar (3, length varies)
- C58 lockable roll-up gate

### Audio Visual

- A4 projected display with automated screen (1)
- A5 mobile partition with mounted tv display (5)

### Information Technology

Wireless access points and charging stations

### Environmental Considerations

- E1 access to daylight, ventilation + views from one or more exterior walls

UPDATES

# Defining Base Scope and Alternates

- Preliminary total project cost estimates for the base scope consistent with CIP project budget
- Updated and more detailed total project cost estimates will be prepared using the schematic design documents and shown to the School Board for info/action in February
- Base scope
  - Building renovation
  - Plaza and Roof Terrace improvements
  - Ramp to W-L
- Alternate scope
  - Enhanced site improvements
  - Bridge

# 4. Schematic Design

David M. Brown Planetarium  
AEC  
1426 North Quincy Street



# 4.a. Transportation Recommendations

# What we heard last meeting

General agreement on overall strategy

General agreement on vehicular and bicycle parking recommendations

Concerns expressed on conflicts between bicycle lanes and parents dropping-off and picking-up students

Varying comments in response to the options for improving pedestrian crossings on North Quincy.



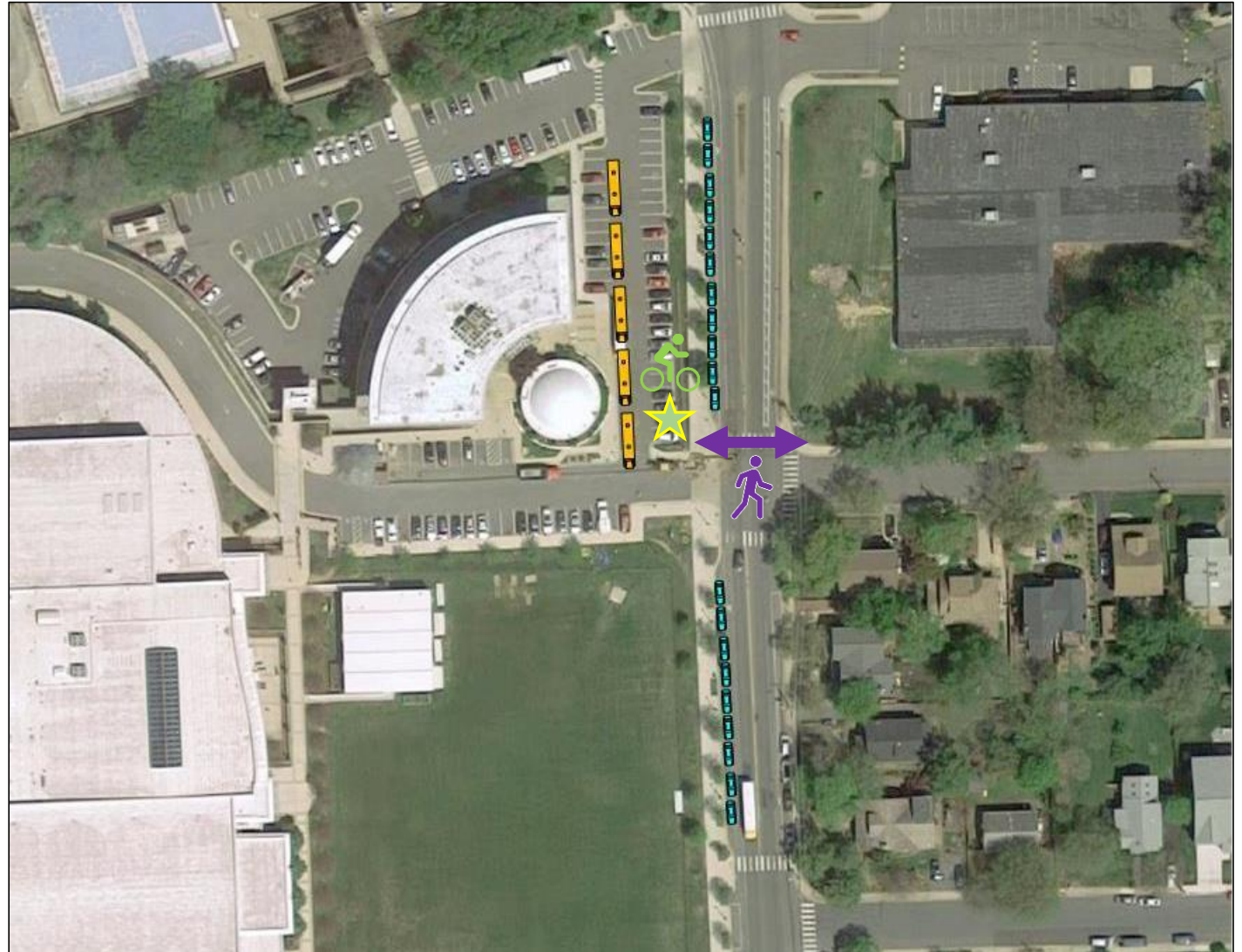
# Overall Strategy

Add secondary student pick-up/drop-off and bus loading/unloading areas to N Quincy St side

Use currently closed parking adjacent to Ed Center lot to increase parking supply to meet expected demand

Add more exterior bicycle parking in proximity to Ed Center building

Consider options to add secure staff bicycle parking within the Ed Center building



TRANSPORTATION



# Parking Recommendations

## Student/staff parking

- Reopen some spaces in the Ed Center lot for staff use, and convert some spaces in the parking garage to general use (staff or student)
- Open as many spaces as needed so that parking supply just exceeds demand if people continue to park at current rates
- At least 70 spaces should be reopened in Ed Center lot (up to 58 can be repurposed)
- Continue APS Go! programs to help reduce parking demand even further

## Visitor parking demand

- Depending on where visitor entry points are in the future, mark/sign more spaces for school visitors near those entry points

## After-school & events parking

- Explore adding signs directing drivers to use the parking garage after school or for events
- Increase marketing/directions on website and other materials provided to visitors and event attendees to increase use of parking garage

## Bicycle Parking

- Add more bike racks in proximity to Education Center building, at a minimum of around 20% of the current demand for W-L, which is approximately 16 racks (32 spaces)
- Explore enhancing staff bicycle parking, through secured, indoor facilities.

# N Quincy St – Bike Lane Conflicts – Potential Solutions

Cycle track: Move bike lane to other side of the street



**Pros:**

- Removes conflict adjacent to Ed Center

**Cons:**

- Adds other conflicts on opposite side of street
- Difficult transitions

Switch parking and bike lanes



**Pros:**

- Removes conflict between cars and bikes

**Cons:**

- Adds conflicts between students and bikes
- Needs more room curb-to-curb
- Doesn't work well with curb extensions

Enhanced markings (green paint)



**Pros:**

- Lowest cost
- Already done in Arlington County

**Cons:**

- Doesn't fully remove any conflicts

# N Quincy St – Pedestrian Crossings

## Recommending installing a Rectangular Rapid Flash Beacon (RRFB)

- Best fit for context
- Latest industry research confirms it the most appropriate solution

## Recommending monitoring

- Check driver compliance as part of regular monitoring of traffic, parking demand and mode splits
- Revisit other solutions if RRFB isn't working well



TRANSPORTATION

# Summary of N Quincy St Recommendations



See handout for detailed recommendations



Alternative is on the other side

# Transportation Next Steps

## Our to-do list:

- Publish draft MMTA
- Receive comments on draft MMTA
  - APS
  - County staff
  - BLPC/PFRC
- Transportation Commission
- Finalize MMTA



TRANSPORTATION



## 4.b. Committee Discussion on Transportation Recommendations



## **4.c.** Site and Building Design

# Arlington County Principles of Civic Design

- Intended to inform the design of civic facilities
- Ensure facilities meet community goals and are attractive, durable, & functional
- Supplement existing County planning documents & policies
- Each project reviewed individually- certain principles may be stressed over others

## Civic Values

- Context
- Bold Architecture
- Sustainable Design
- Universal Design
- Adaptive Reuse
- Open Space
- Mixed Use

## Siting & Orientation

- Building Entrances
- Emphasize Pedestrians, Bicycles, Mass Transit
- Circulation
- Outdoor Spaces

## Building Form

- Massing
- Scale
- Hierarchy

## Building Details & Materials

- Pedestrian Scale
- Public art & Architecture
- Durable Materials
- Consistency
- Sense of Place



# BLPC / PFRC Committee Discussion Points for Schematic Design

## General

- Adherence to Arlington County principles of civic design

## Site Layout

- General character and location of amenities
- Pedestrian circulation
- Quantity and location of vehicle and bicycle parking
- Bus pick-up and drop-off area
- Vehicular pick-up and drop-off area
- Traffic operations improvements

## Building Appearance

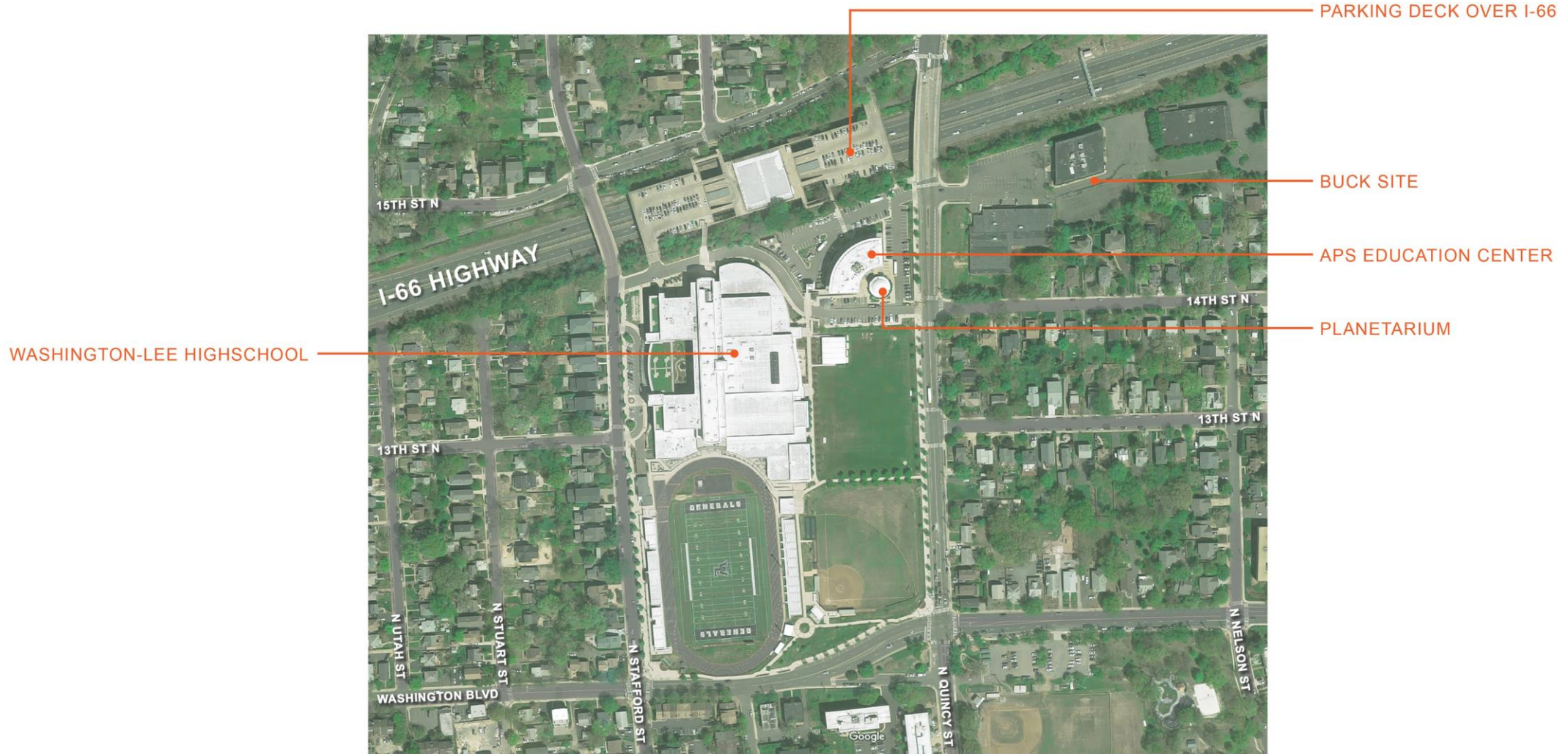
- Character and strategy for glazing replacement

## Building Layout

- Location of entrance(s)
- Location of major public space(s)

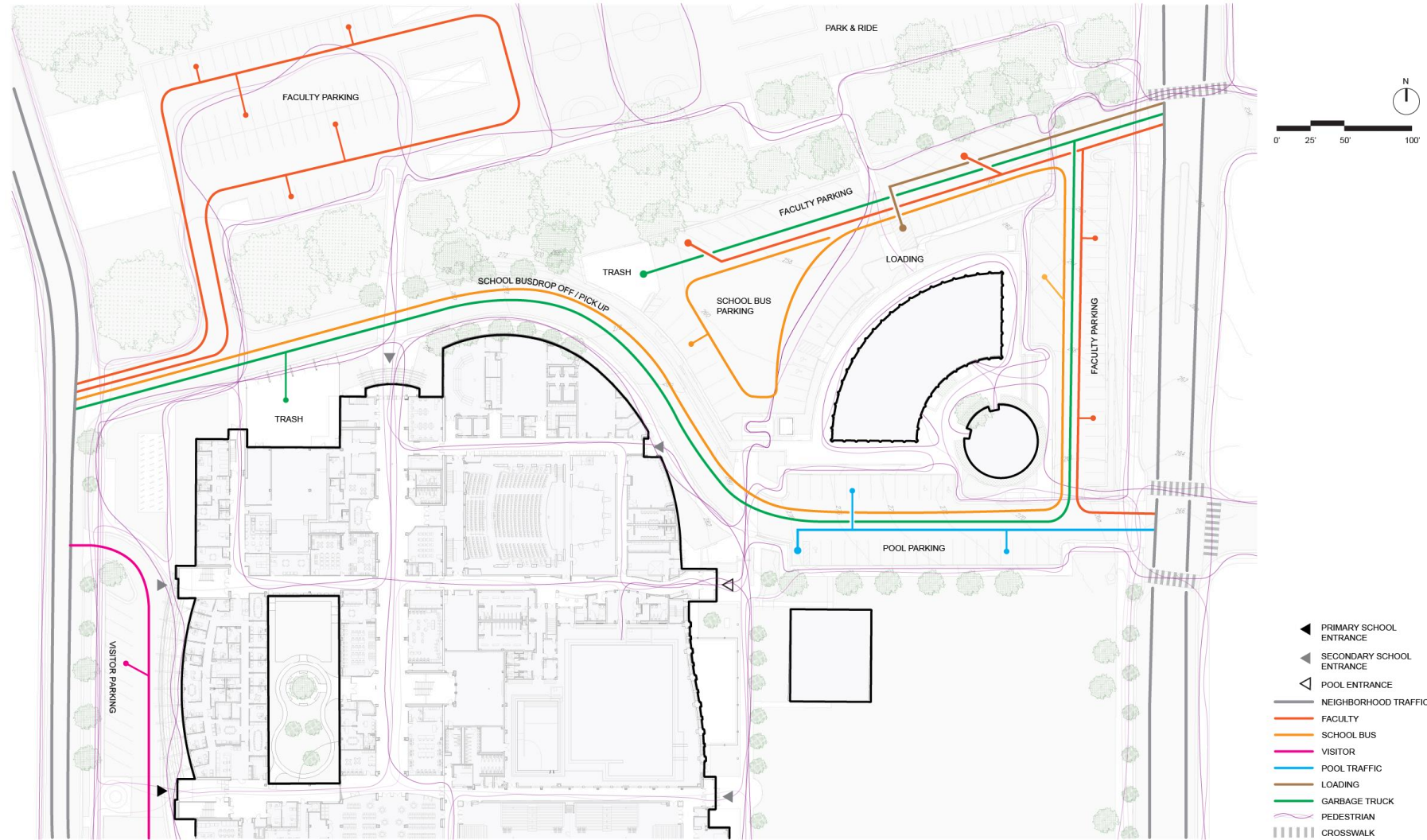
# Site Design

# Existing Campus



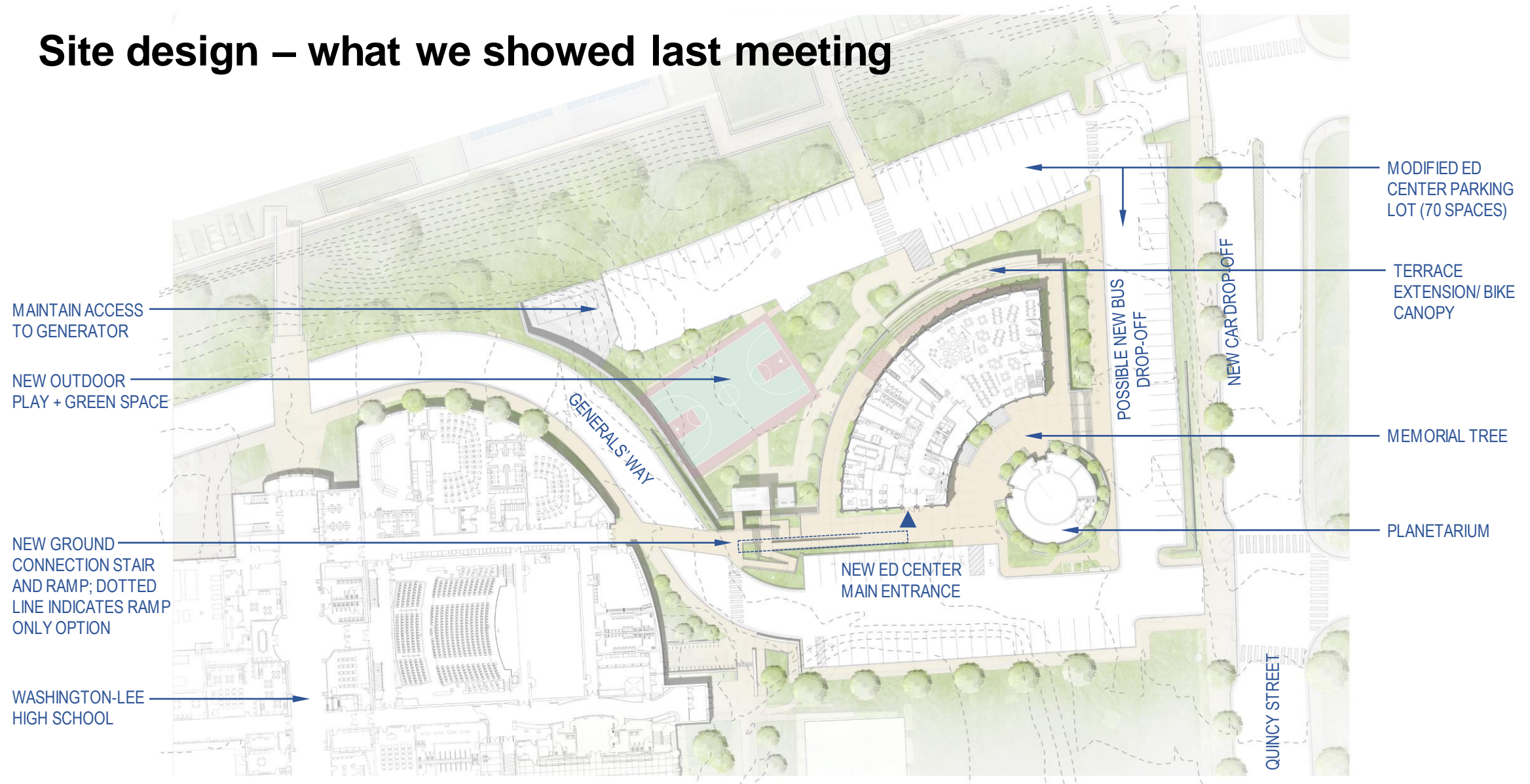
SCHEMATIC DESIGN

# Existing Site Circulation



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# Site design – what we showed last meeting

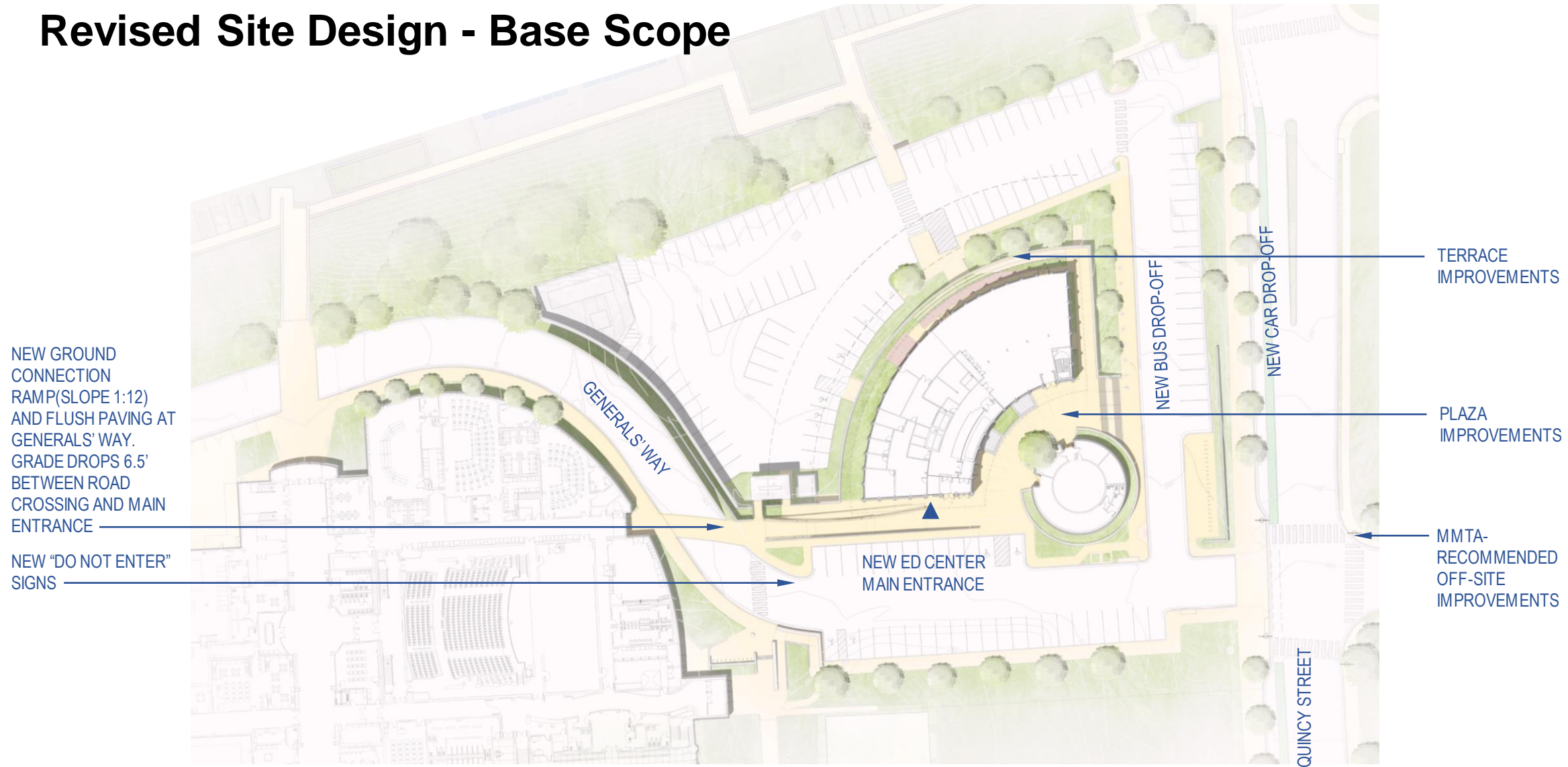


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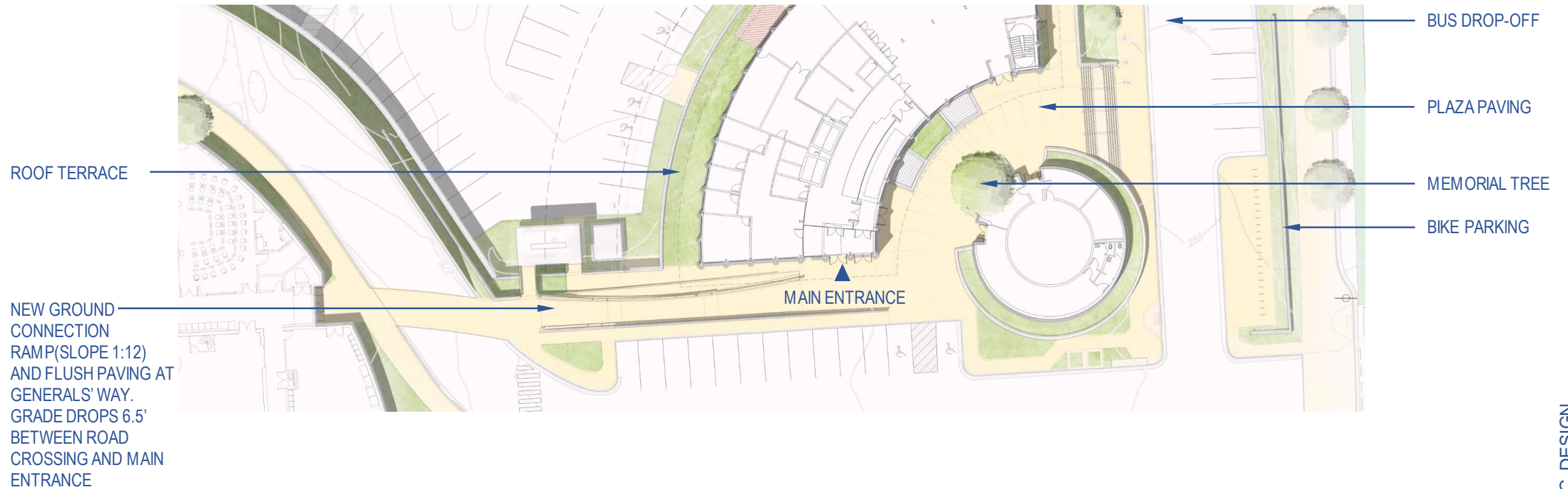
# What we heard about site design last meeting and subsequently

- Ramp and Stair to W-L
  - Need to make it large enough to accommodate student volume between classes
  - Ramp should be the primary access to support Universal Design
- Replace Parking lot with 70 spaces and bus drop-off
  - Consistent with Transportation Recommendations
- Recreational Opportunities – Additional Capacity for 500-600 New Students
  - Consider building multi-use court & upgrading adjacent unimproved space to irrigated rectangular athletic field
    - Supports school fitness curriculum by providing a flexible space for students to play multiple sports
    - Provides activity space for all ages
    - Consistent with PSMP Update guidance to create flexible spaces accommodating different recreational activities
    - Consistent with CFS guidance to encourage joint or shared use of facilities as improvements would also benefit nearby schools and community
  - Must accommodate fire truck access to building
- Terrace extension and bike canopy
  - Desirable bike parking cover
  - Undesirable addition to the building
- Adherence to Budget requires base scope and alternate scope

# Revised Site Design - Base Scope



# Proposed Main Entry Area - Base Scope

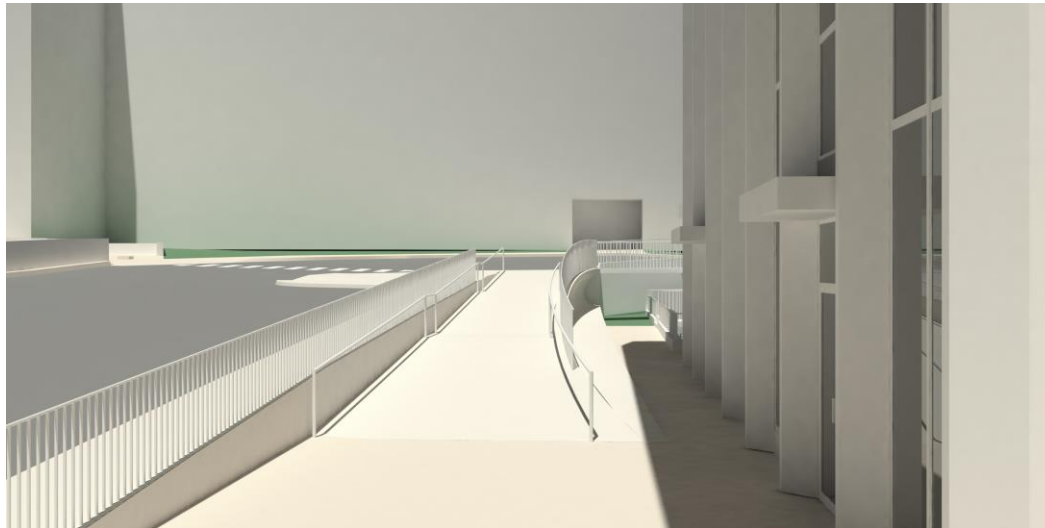


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# Proposed Main Entry Area - Base Scope

- Ramp 9' wide at narrowest point, similar to a high school corridor



NEW FLUSH PAVING  
NOT SHOWN

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# Proposed Roof Terrace - Base Scope

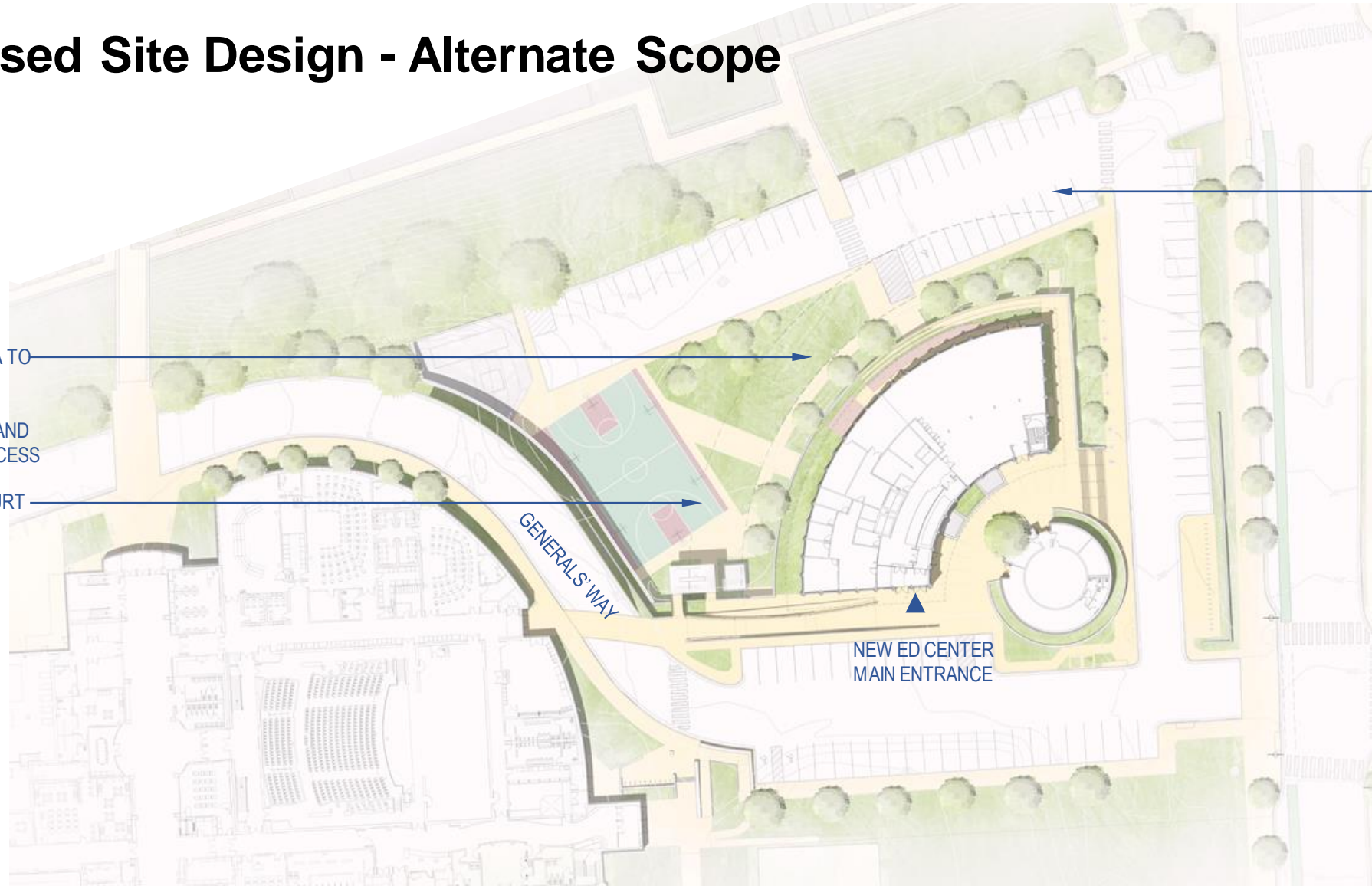
- Existing roof assembly replaced with inverted roof membrane assembly, including paving and planting at top layer of the roof assembly



# Revised Site Design - Alternate Scope

PERVIOUS AREA TO ADDRESS STORMWATER MANAGEMENT AND FIRE TRUCK ACCESS

MULTI-USE COURT



REPLACE 152-SPACE PARKING LOT WITH 70 PARKING SPACES AND MULTI-USE COURT AND PERVIOUS SURFACES

NEW ED CENTER MAIN ENTRANCE

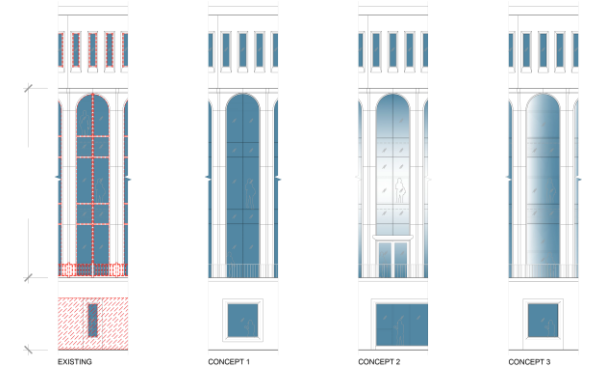
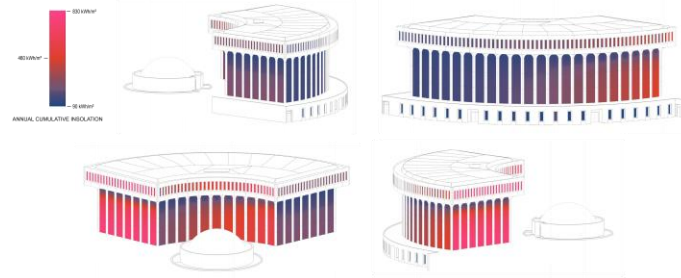
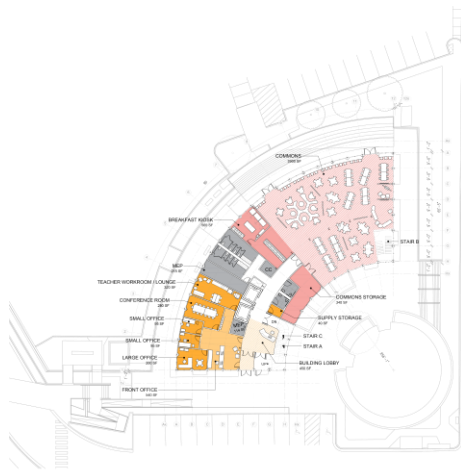
GENERAL'S WAY

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# Building Design

# Building design – what we showed last meeting

- Proposed community uses on first floor
- Existing building does not account for exposure to solar heat gain (SHG) and glare
- Maintaining existing architectural image while replacing glazing, including operable vents for natural ventilation and a frit pattern to mitigate SHG and glare, to accommodate school use
- Enlarging openings at ground level to accommodate school use
- Bridge concept to enhance safety and security



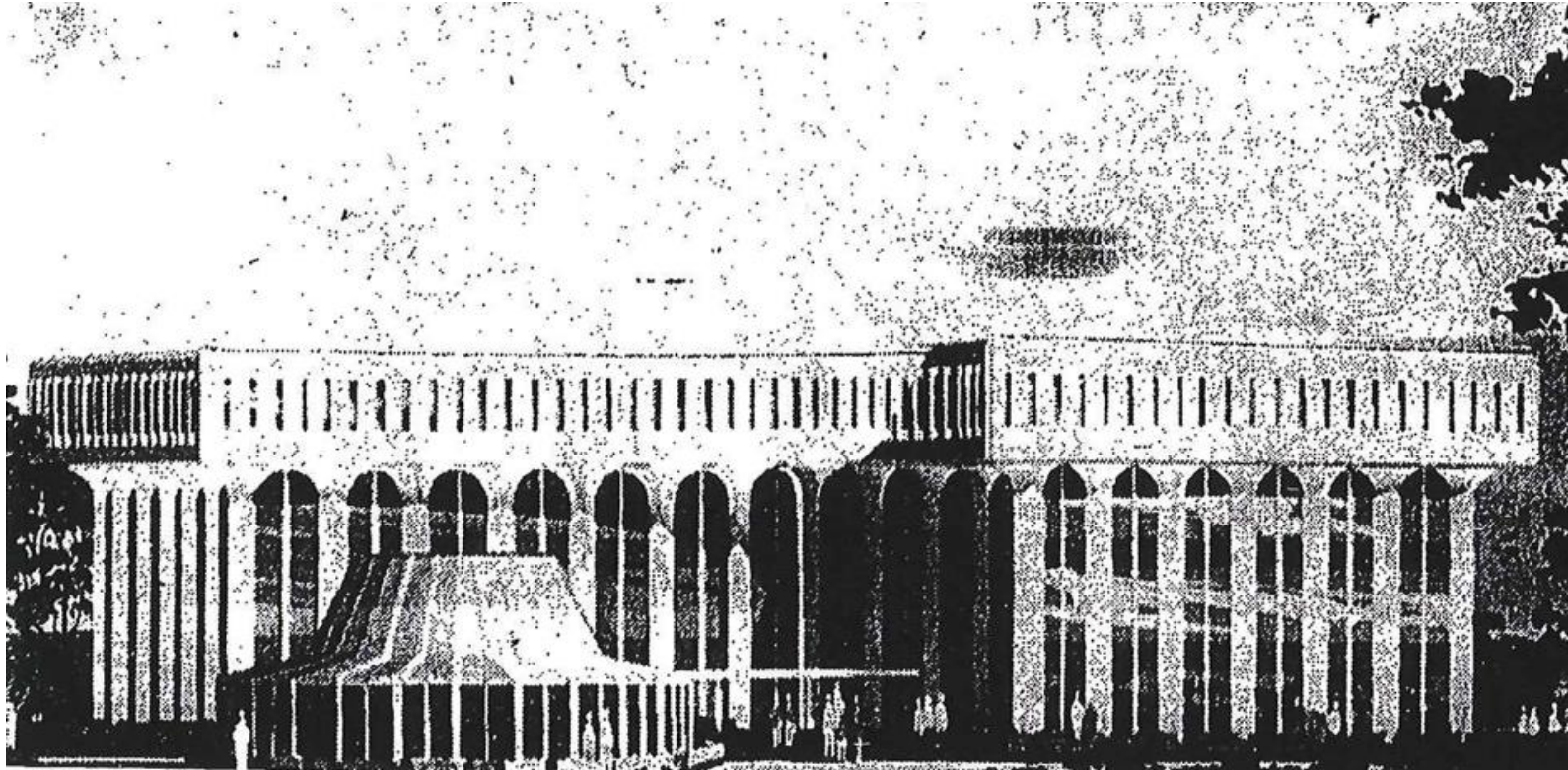
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# What we heard about building design last meeting and subsequently

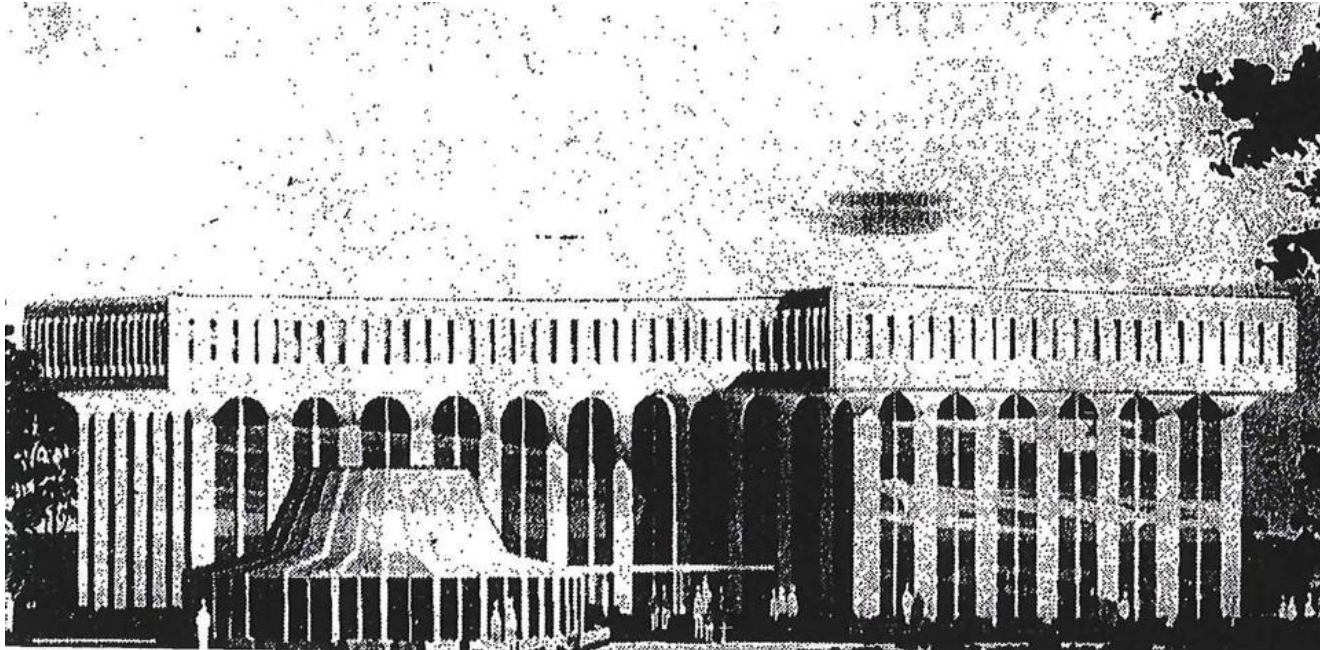
- Proposed community uses on first floor are generally appropriate
- Overall exterior
  - Solar exposure is a serious problem for creating High Performance Learning Environments and the new glazing should address it
  - The Education Center existing Energy Use Intensity (EUI) is over 200 while the County use permit typically requires much less. As an example, an EUI range of 26 to 56 was required for the recent New Elementary at Reed project.
  - Relief that that the concrete panels are stable and require minimal repair
  - Concern about the overall impact of operable vents and frits on the architectural image
- Enlarging openings at ground level to accommodate school use
  - Mixed comments some recognizing that it was desirable for school use and some concerned about the impact on the historic character
- Adherence to budget requires carrying the bridge concept must be an alternate as it was not in the CIP project budget

# Architectural Image: Original Renderings

- Dramatic contrast between bright white concrete surfaces and dark voids between
- Glazing expressed as a single vertical line within the voids between columns



# Architectural Image: Original vs. Current Condition

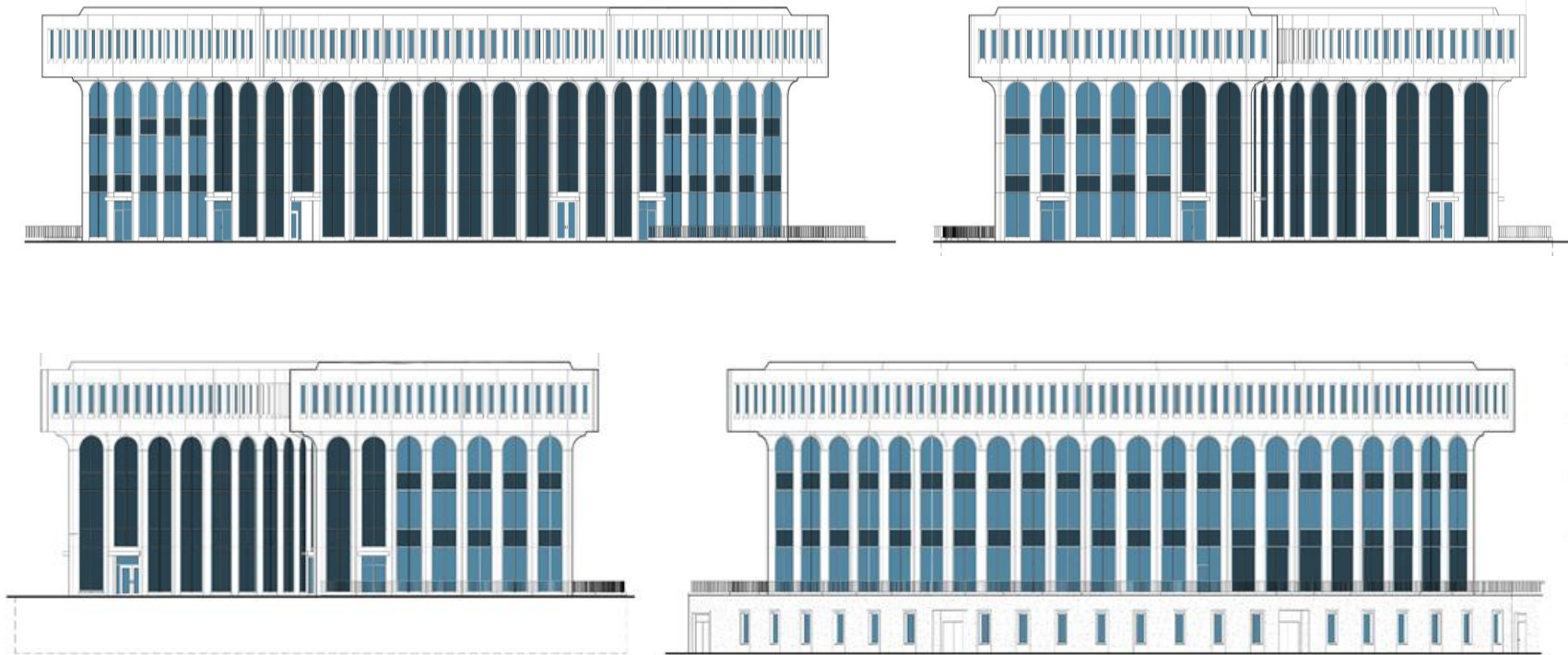


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# Current Glass Painted Black

- Some of the original single-pane glazing has black paint covering the interior glass surface
- Example locations are first floor restrooms and the stairs
- The black paint acts as a heat sink, radiating heat to the interior



# High Performance Learning Environments

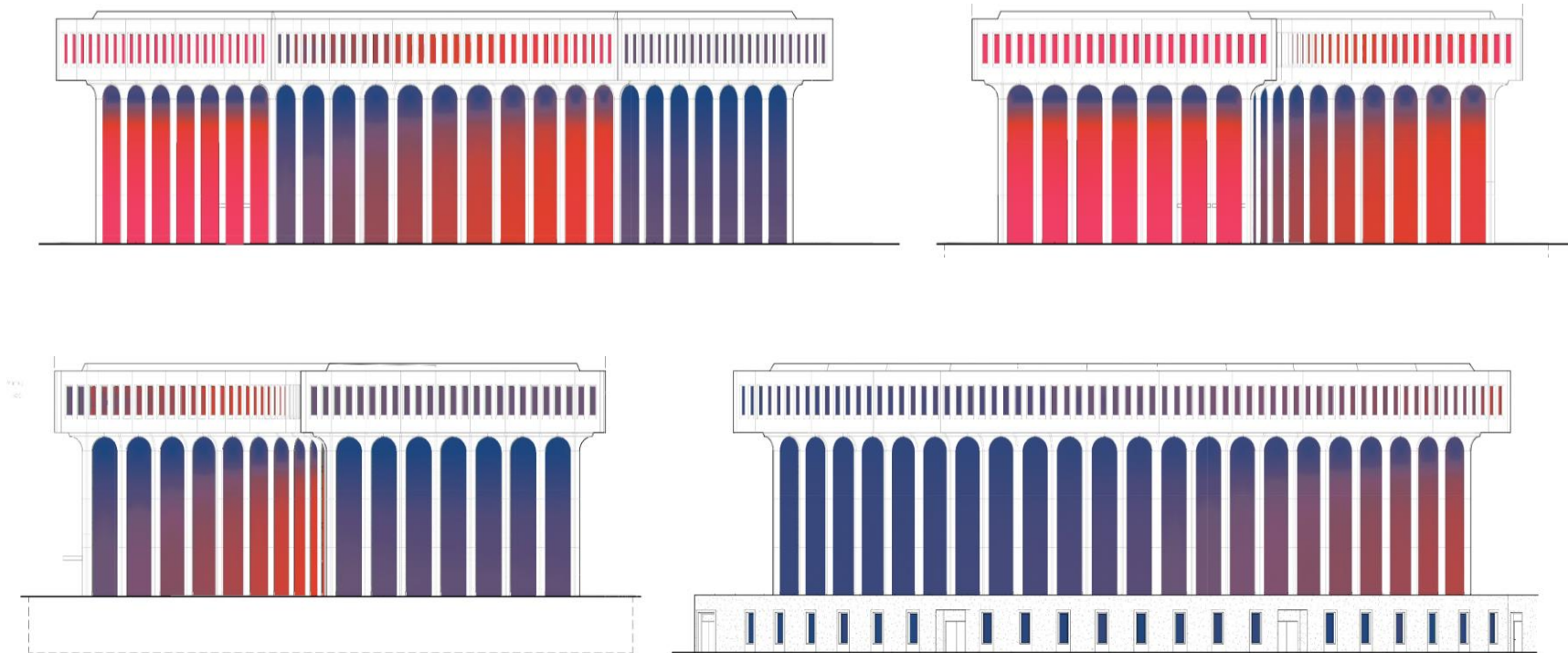
Spaces are to perform at the highest levels for the following:

- Thermal comfort
  - Indoor air quality
  - Acoustics
  - Daylight and views
  - Transparency
  - Technology
  - Community use
  - Active schools
- Daylight and views boost learning capacity, but not all daylight and views are the same.
    - The benefits of daylight and views are related to the perception of time of day
    - Natural daylight shifts color over the course of a day from cool to warm. The body and brain sense this.
  - To realize high performance daylight and views:
    - The color of glass should be as clear as possible for good color rendering
    - Glare, and the need for blinds obscuring the daylight and views, should be minimized



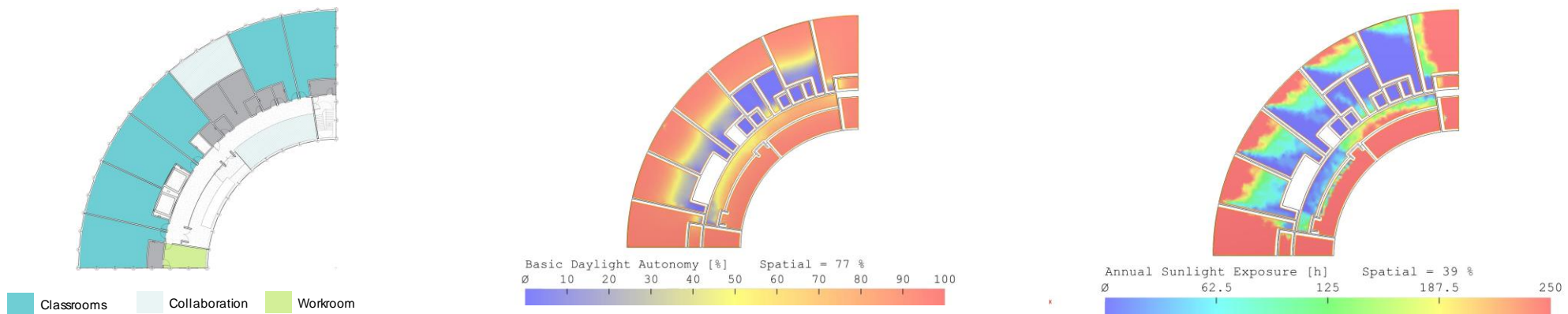
# Solar Insolation

- This diagram shows the cumulative annual sun exposure on each façade
- Impacts Energy Use Intensity through heat gain
- Impacts Daylight and Views through glare



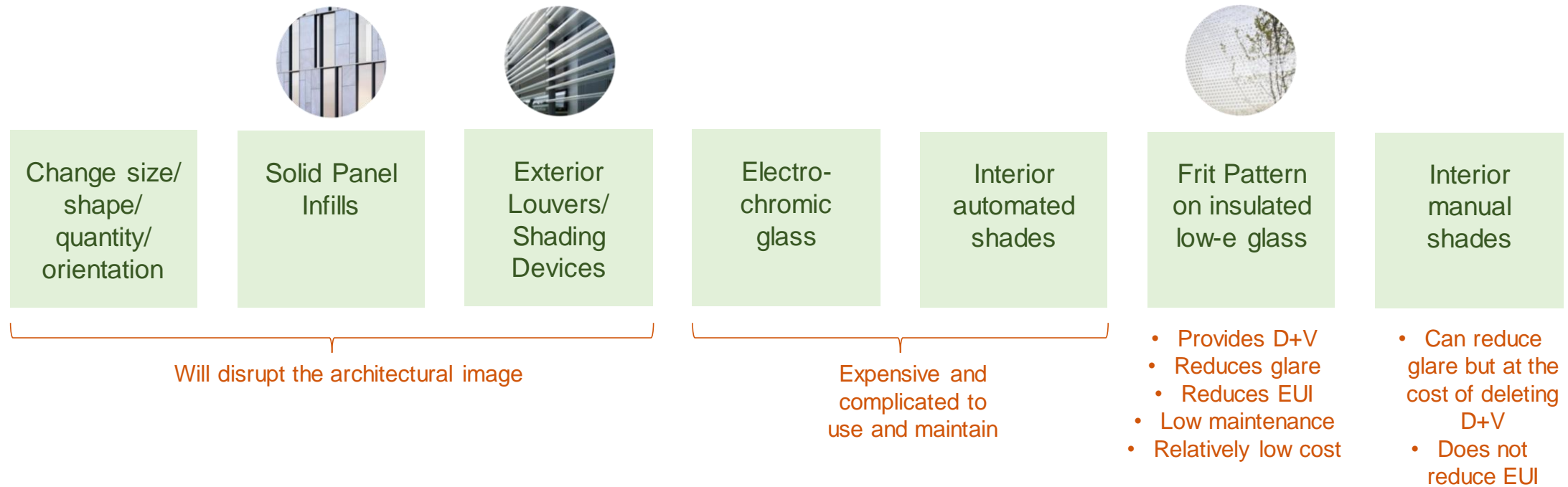
# Daylight and Views

- Spatial Daylight Autonomy (sDA)
  - sDA correlates to getting sufficient daylight for the space
  - sDA is what % of the floor receives 300 lux (27.87 foot-candles) of daylight for at least 50% of the time between occupied hours (8AM-6PM) for the entire year.
- Annual Sunlight Exposure (ASE)
  - ASE represents glare or too much daylight.
  - ASE is what % of floor area received 1000 lux (92.9 foot-candles) or more for at least 250 occupied hours.
- The preferred balance is higher sDA with lower ASE
- These diagrams show preliminary modeling of sDA and ASE in the 2<sup>nd</sup> floor spaces



# Options to mitigate energy use and glare while providing daylight and views

- In last presentation we identified strategies for mitigating solar heat gain and glare. This slide shows additional options not presented previously
- Frit patterns have the potential to reduce Energy Use Intensity (EUI) by mitigating solar heat gain while providing daylight and views (D+V).



# Frit Pattern Example

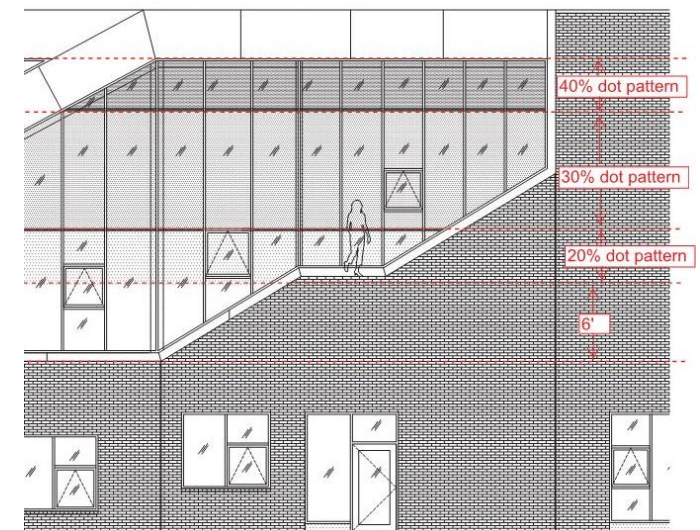
- Achievement Prep Middle School in the District with frit on the south-facing glass
  - Located at 908 Wahler Place SE, Washington DC
- The frit is subtly visible as it shifts in a gradient from 40% to 0%
- Frits allow for relatively clear glass while mitigating solar heat gain



DAY VIEW



NIGHT VIEW

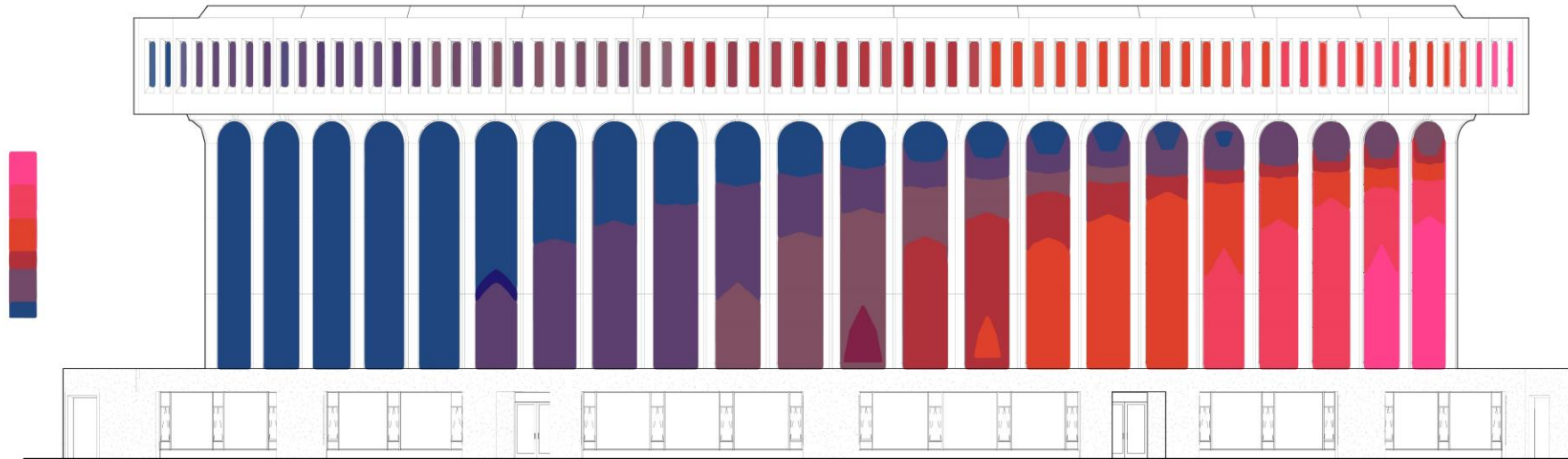


GRADIENT DIAGRAM

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# Frit Pattern Approach

- The frit density varies: each color in the diagram below represents a different frit density.
- The density gradient responds to solar exposure across each façade.
- The pattern provides a learning opportunity for students.



# Mullions and Vents

- Frameless mullions and vents are preferred at horizontals



Standard Vents with Standard Mullions



Frameless Vents with Standard Mullions

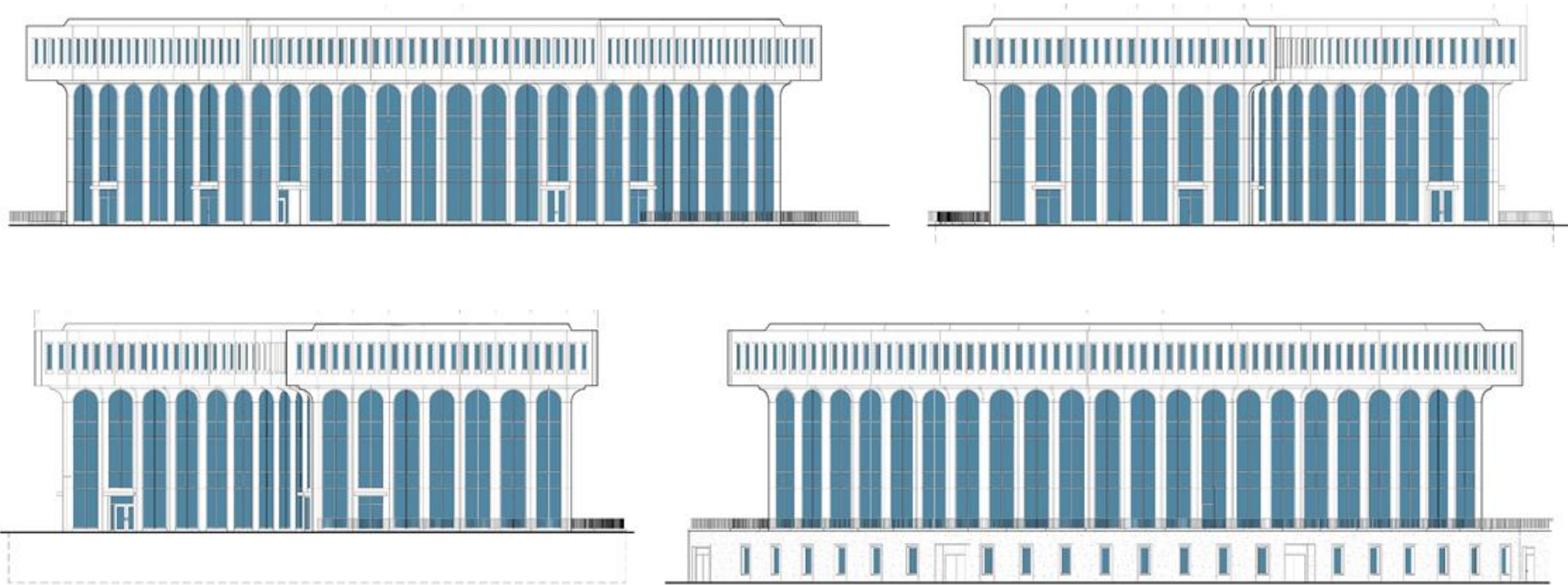


Frameless Vents with Frameless Mullions



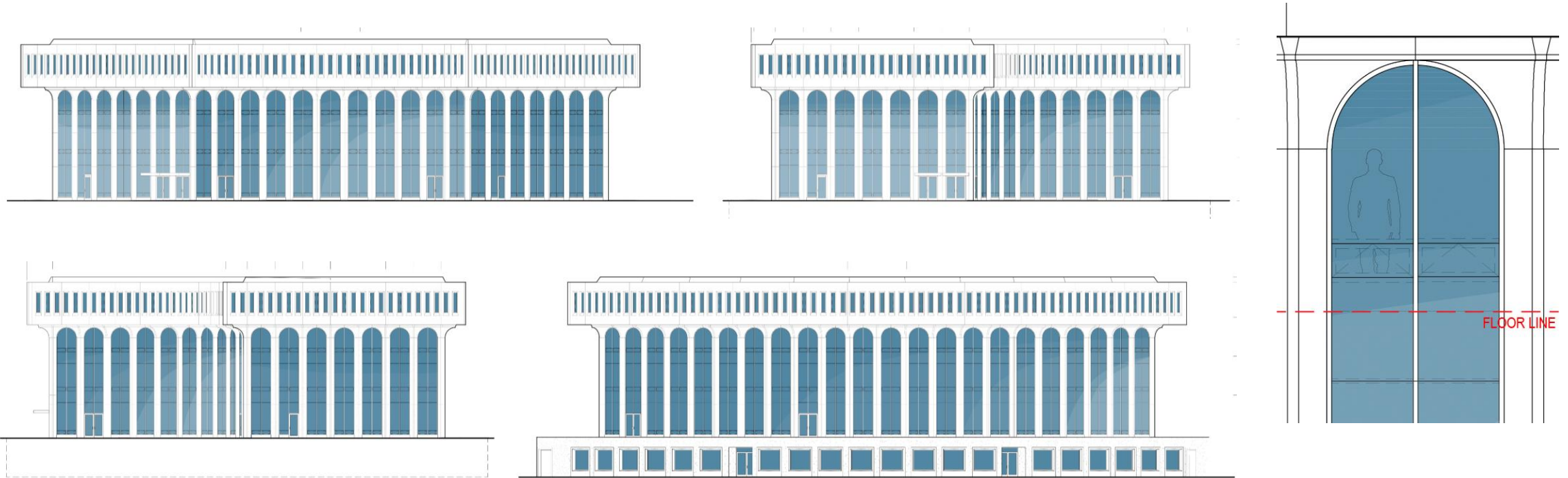
# Elevations - Existing

- No operable windows at G, 1, 2, 3



# Revised Elevations – Option A

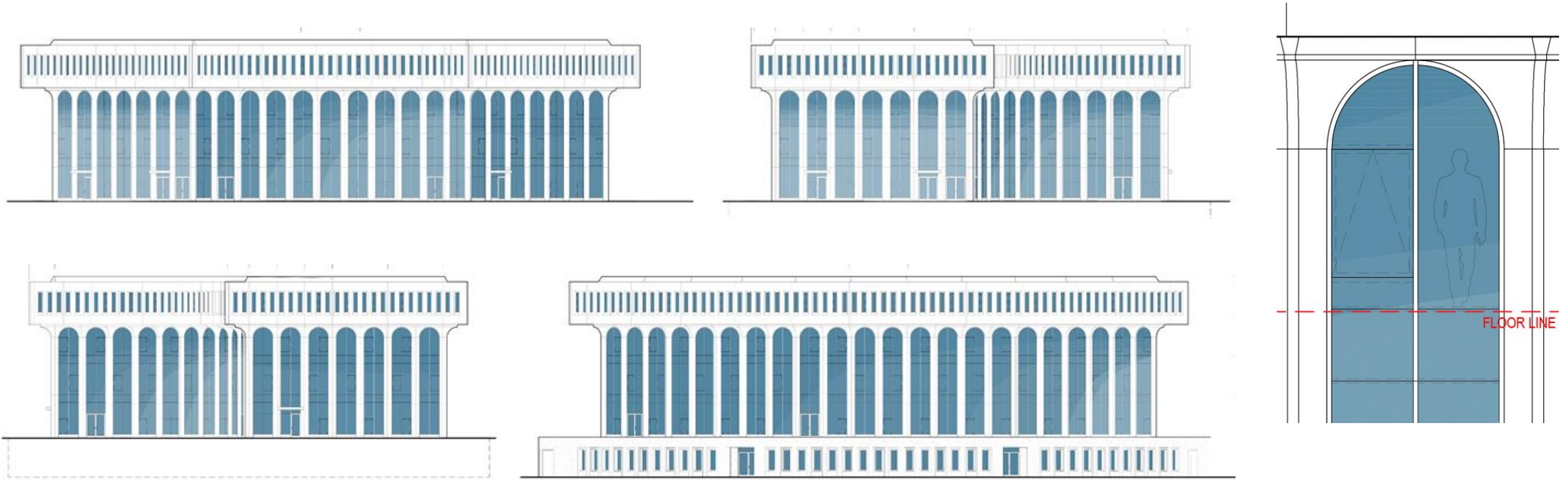
- Frit pattern
- Operable awning windows from 15” to 30” above the floor
- New entry canopy over main entrance doors only



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# Revised Elevations – Option B

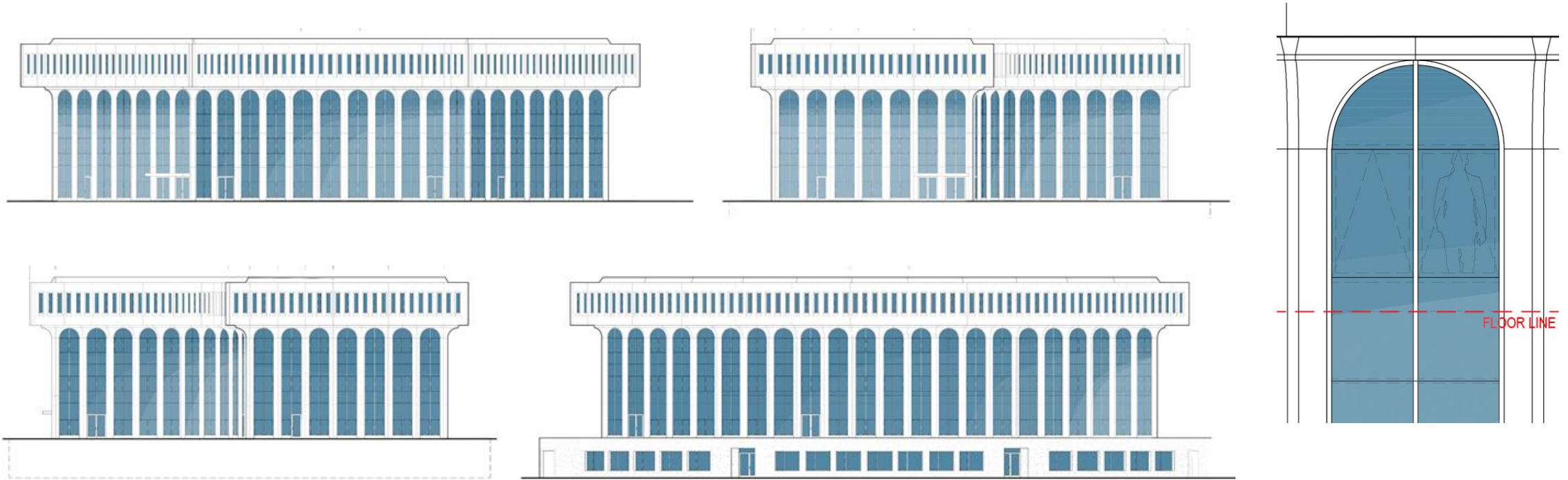
- Frit pattern
- Operable awning windows from 15” to 72” above the floor
- Replace canopies at south and east facades



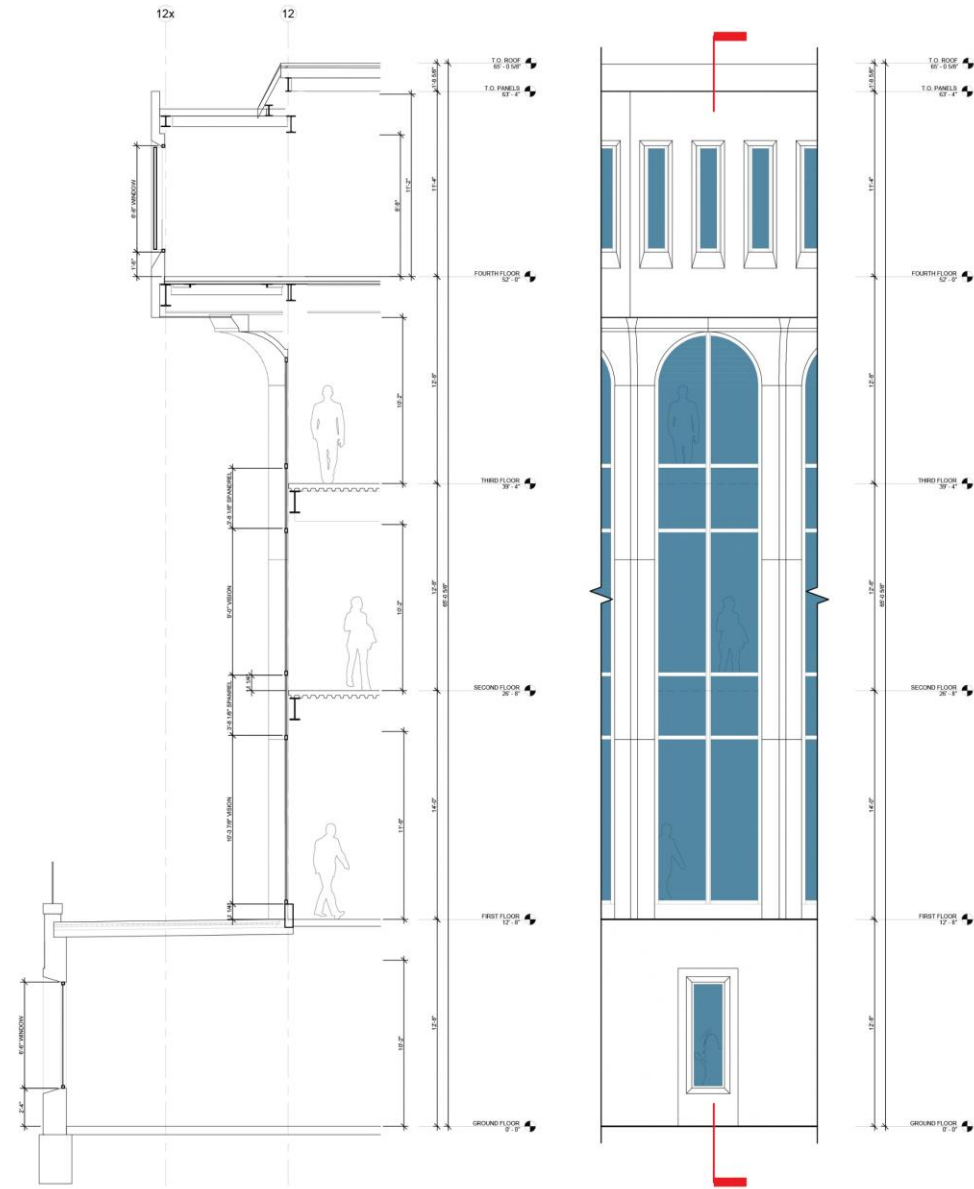
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# Revised Elevations – Option C

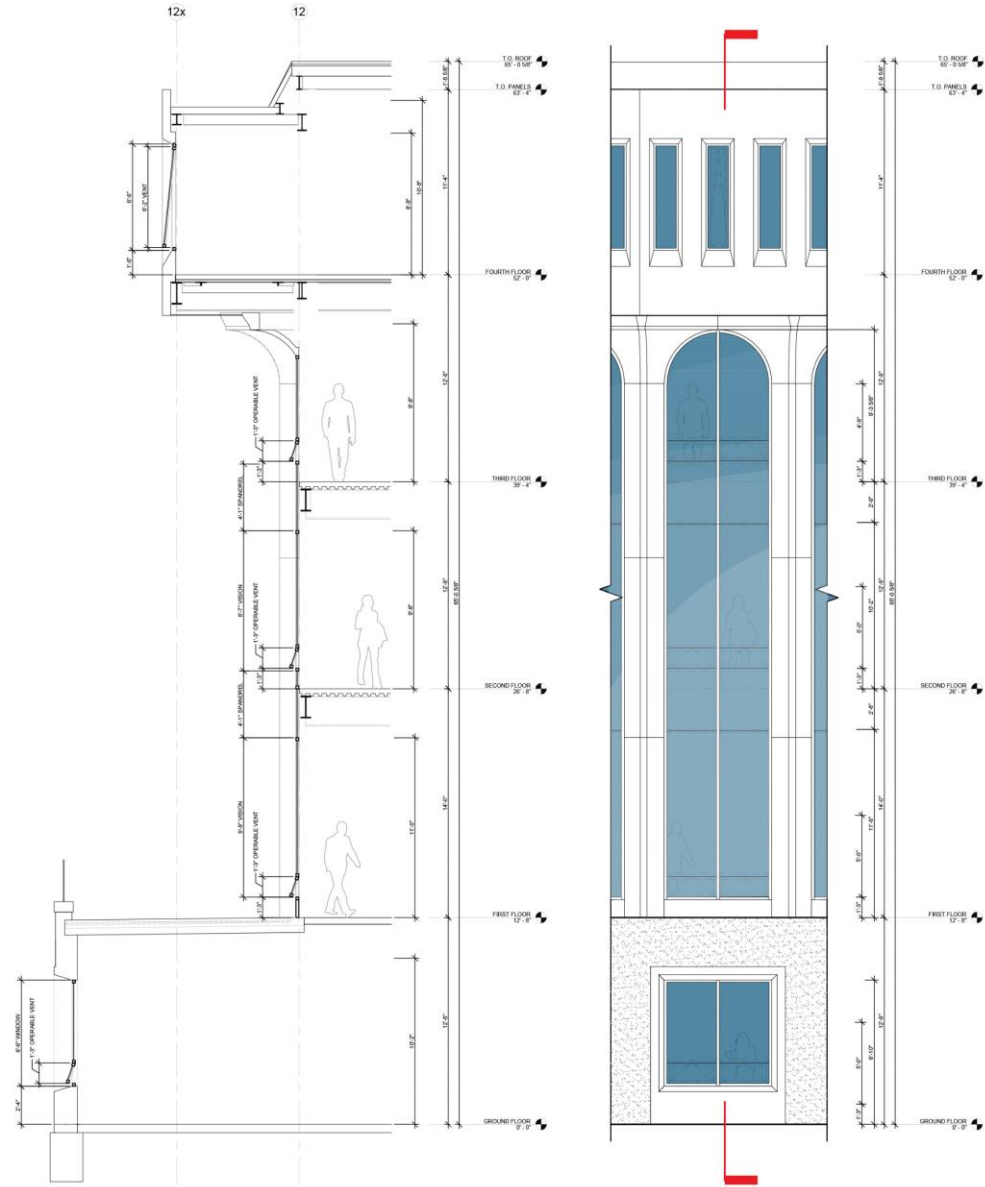
- Frit pattern
- Operable awning windows from 15” to 72” above the floor
- New entry canopy over main entrance doors only



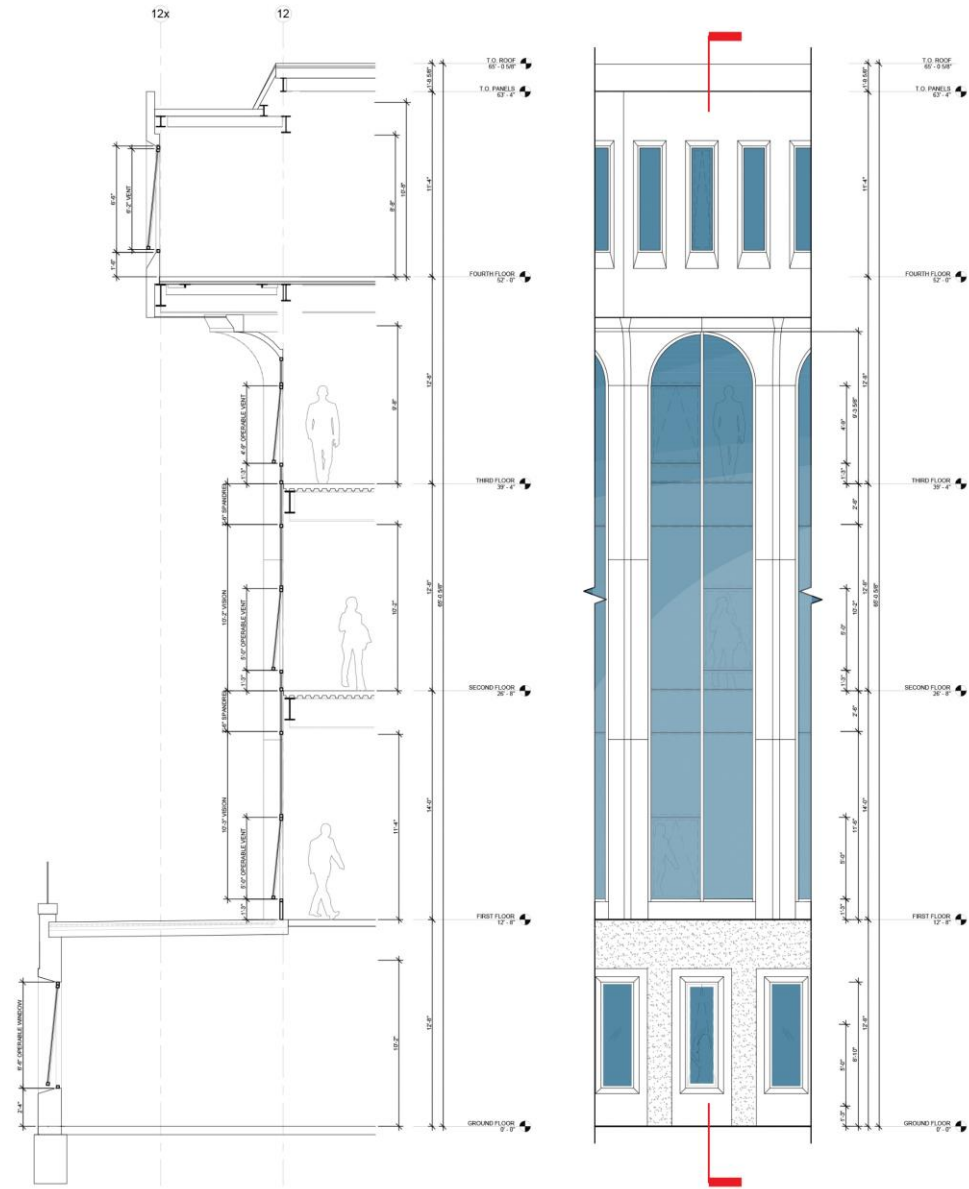
# Elevation Detail - Existing



# Elevation Detail – Option A

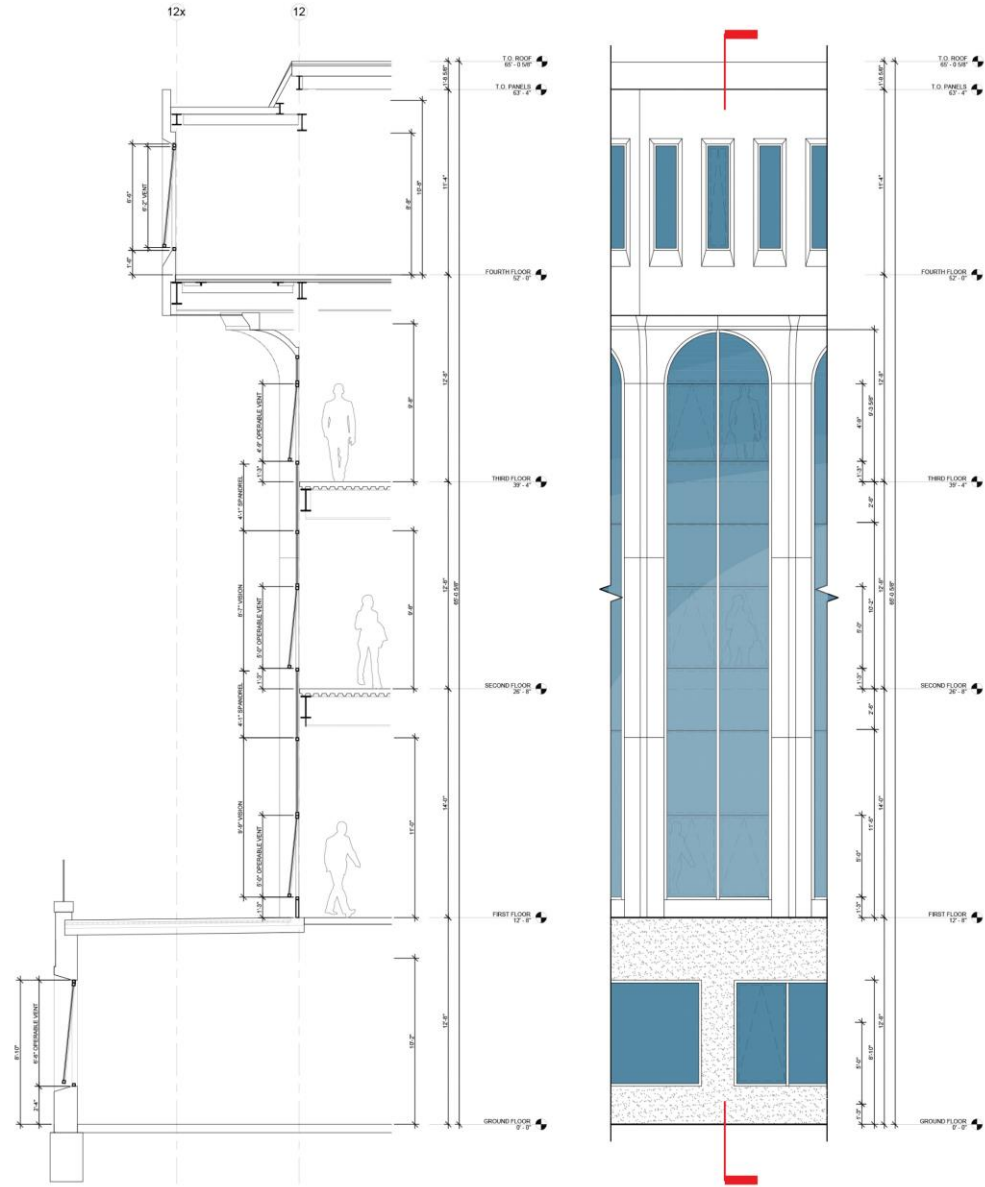


# Elevation Detail – Option B



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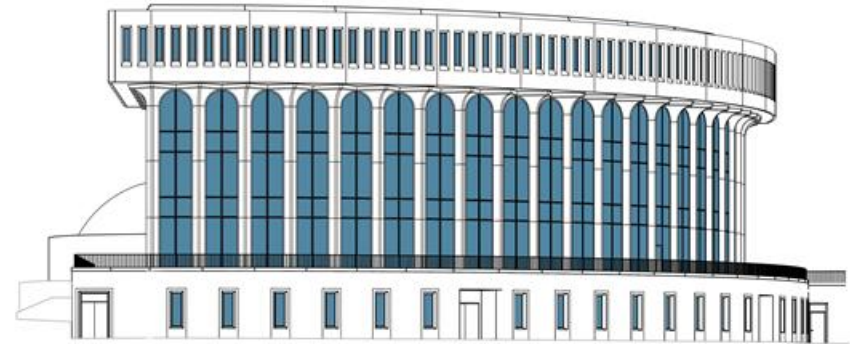
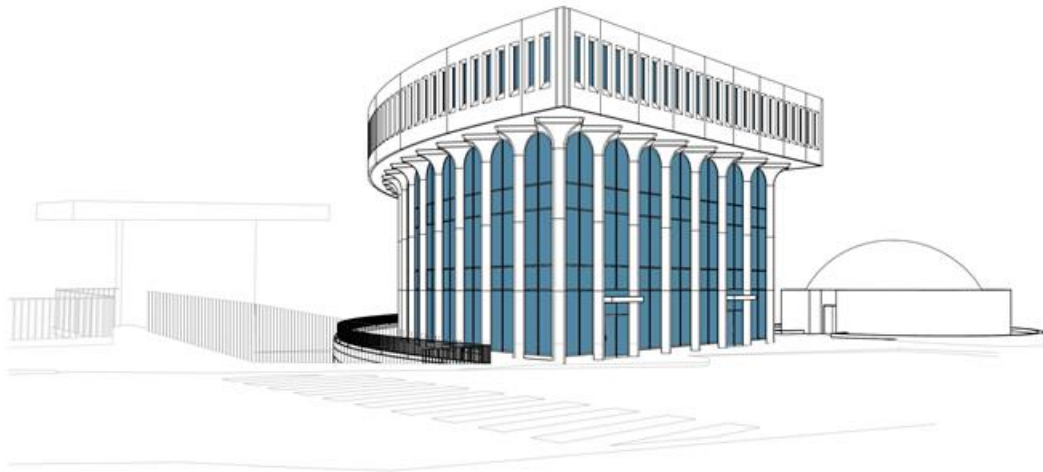
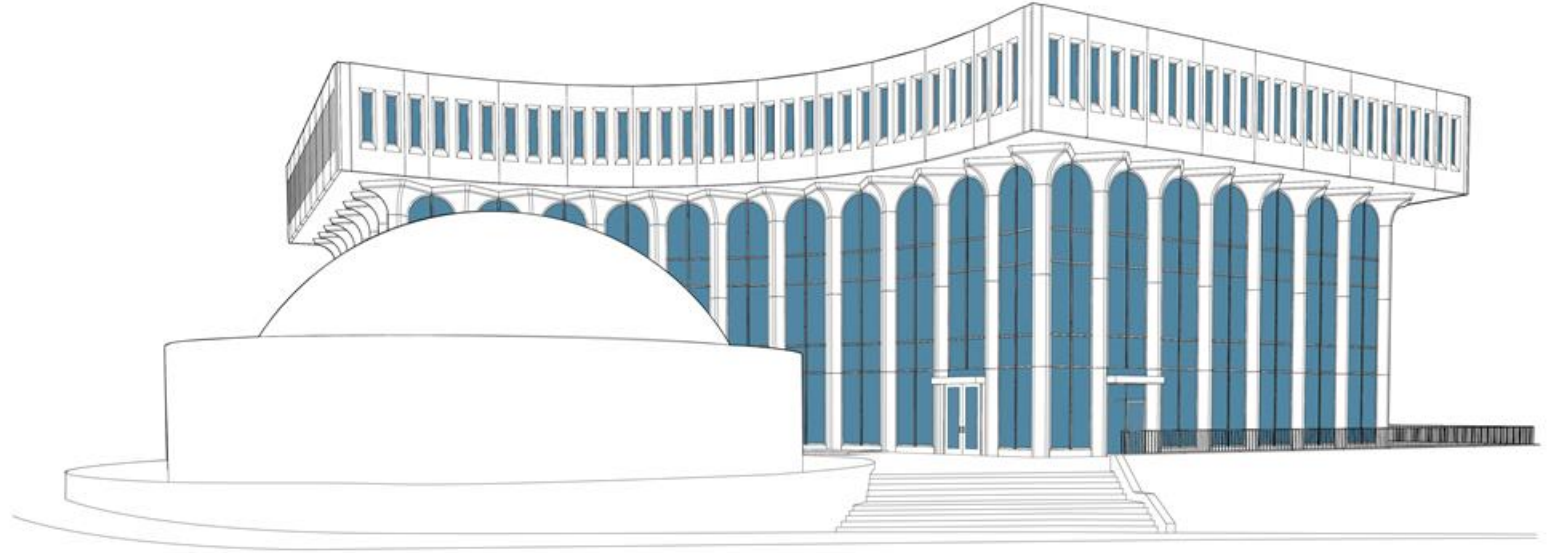
# Elevation Detail – Option C



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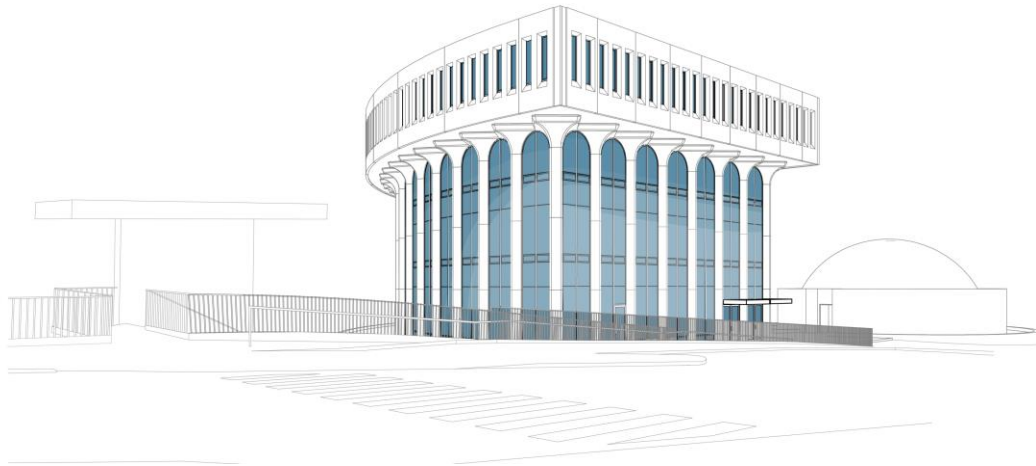
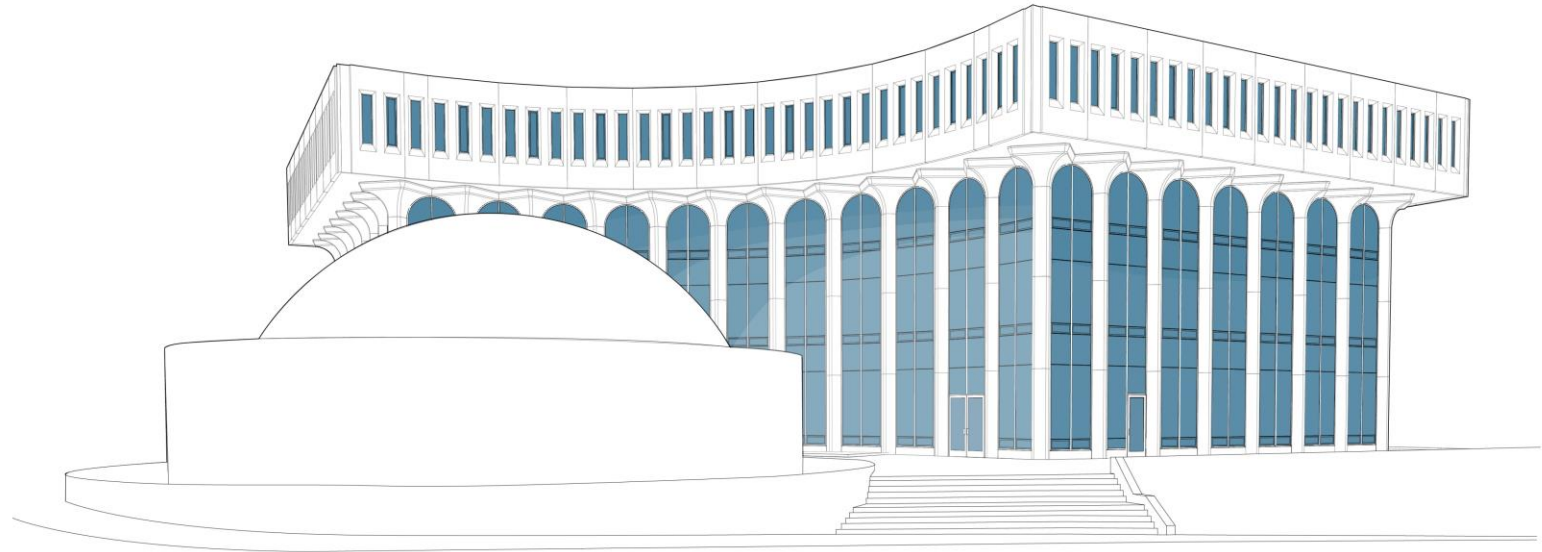


# 3d views – Existing



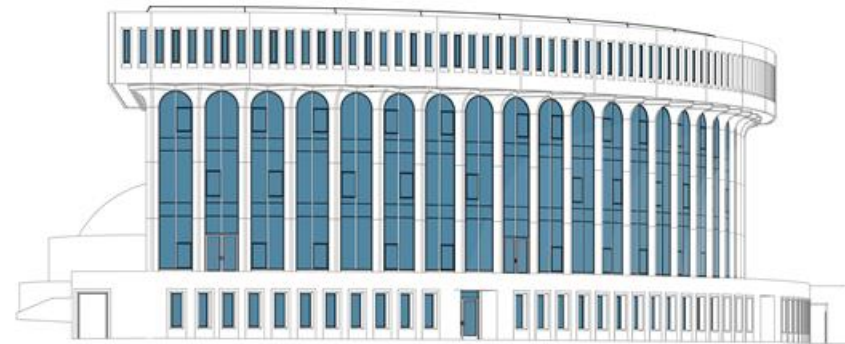
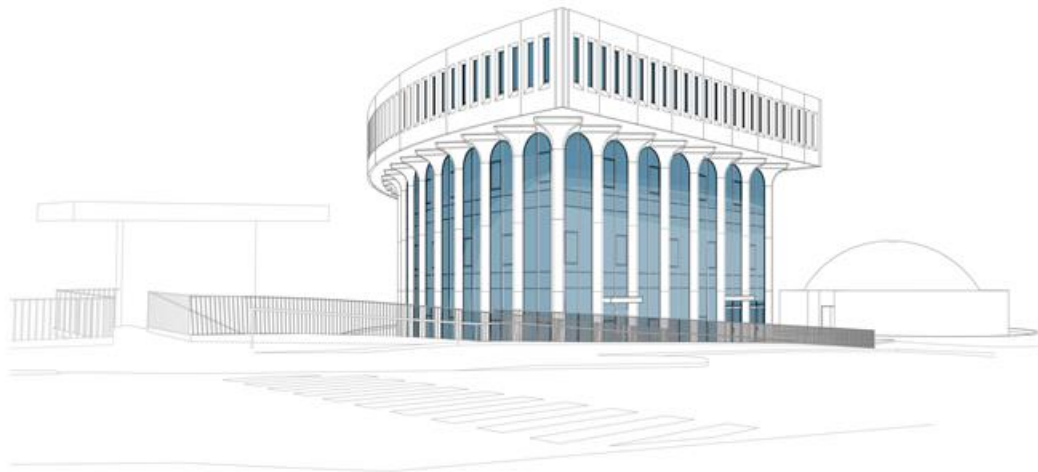
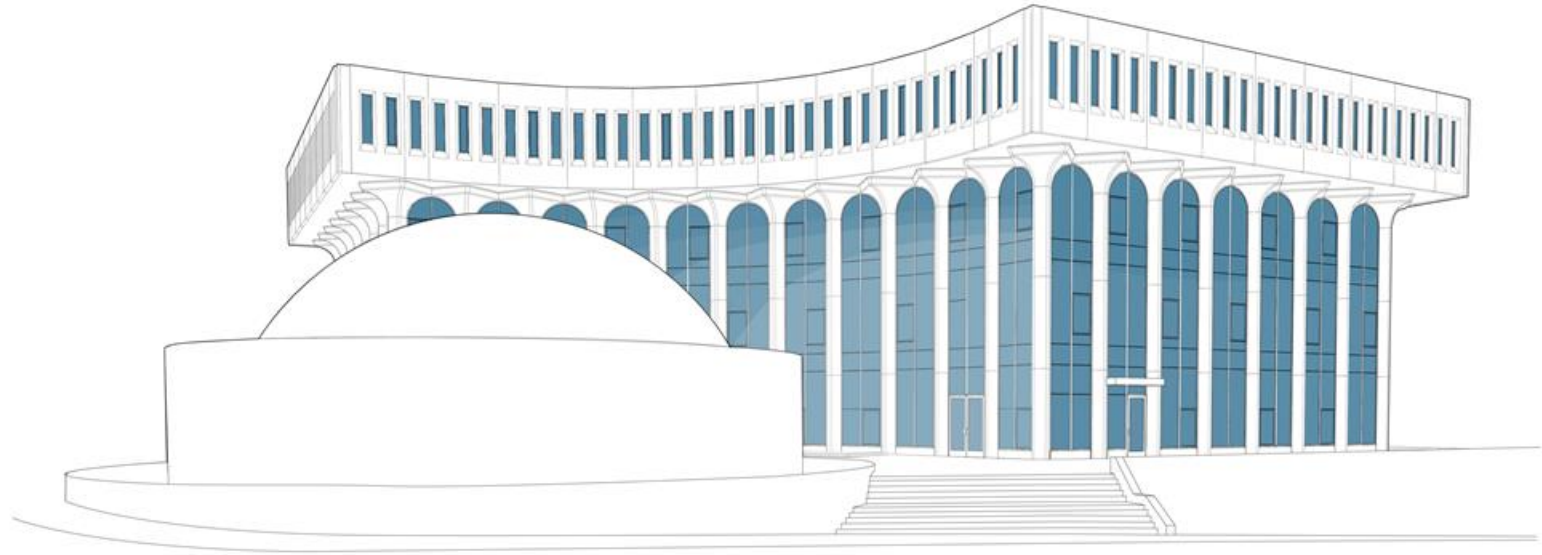
SCHEMATIC DESIGN

# 3d views – Option A



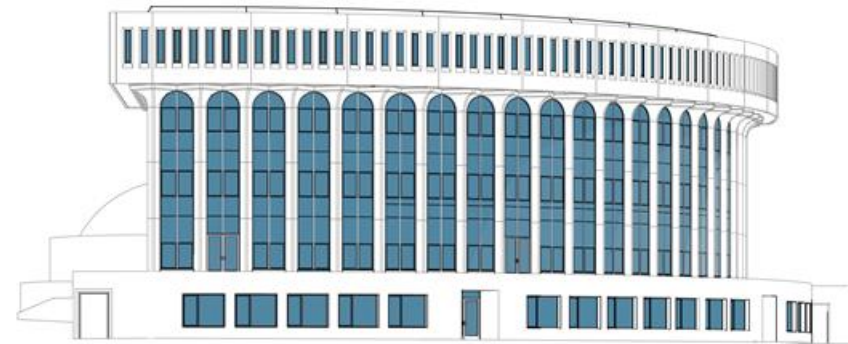
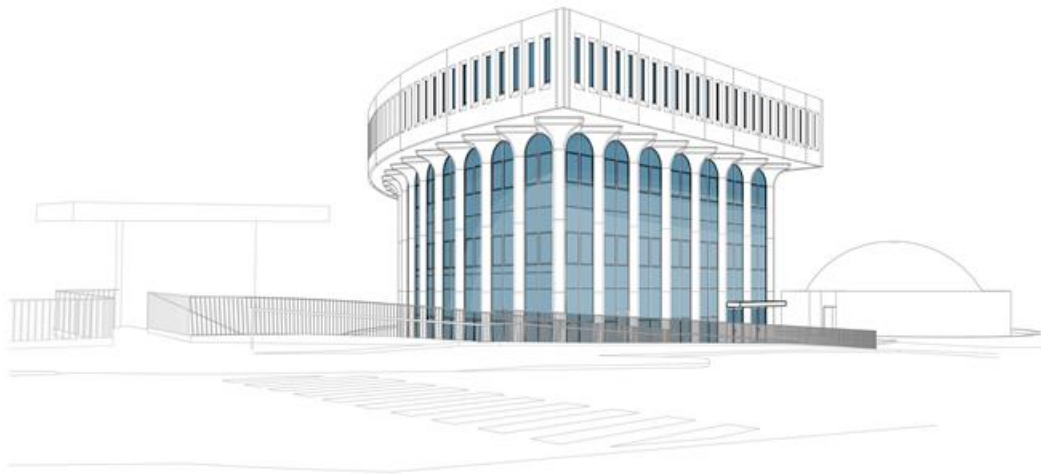
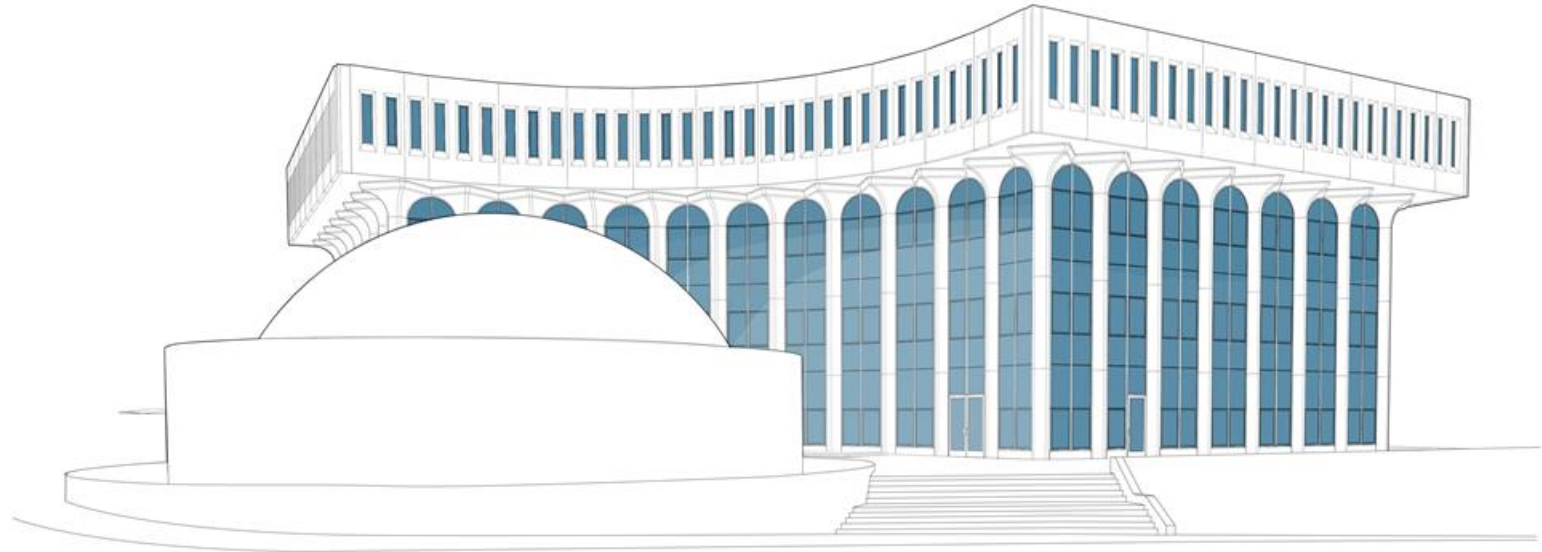
SCHEMATIC DESIGN

# 3d views – Option B



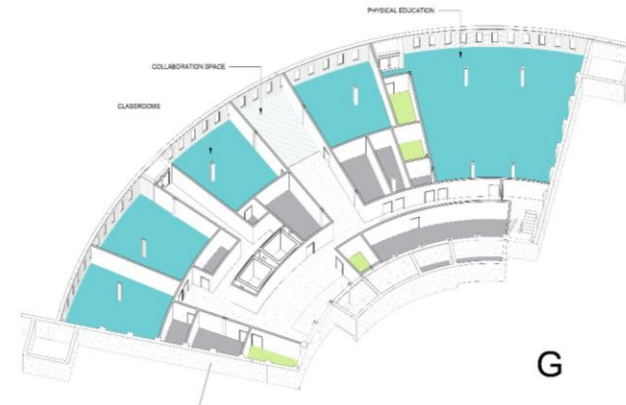
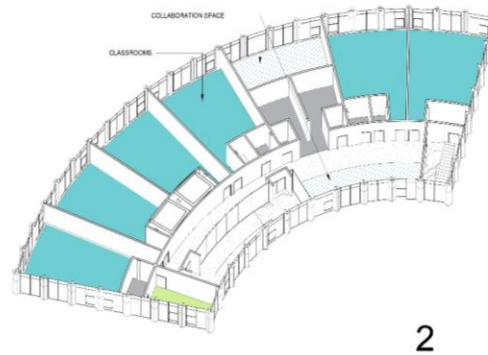
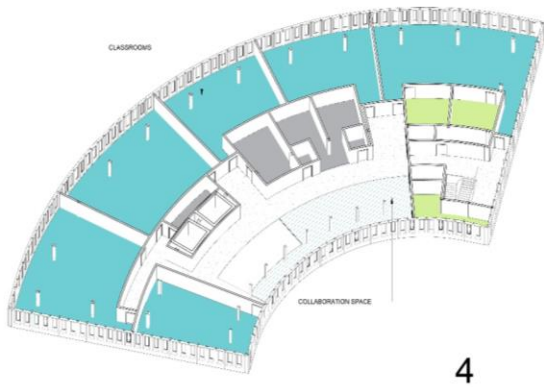
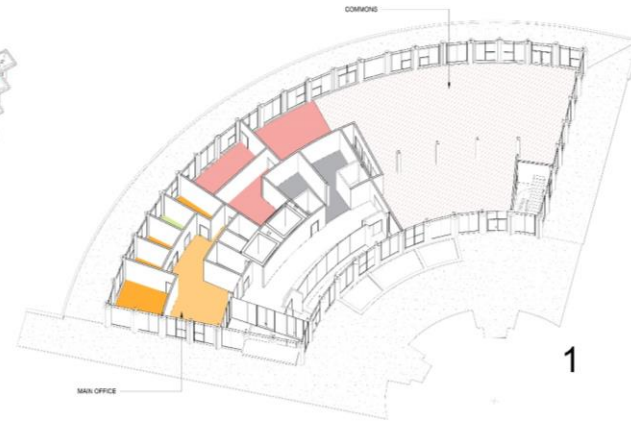
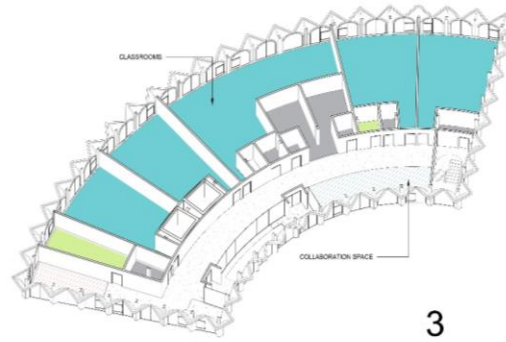
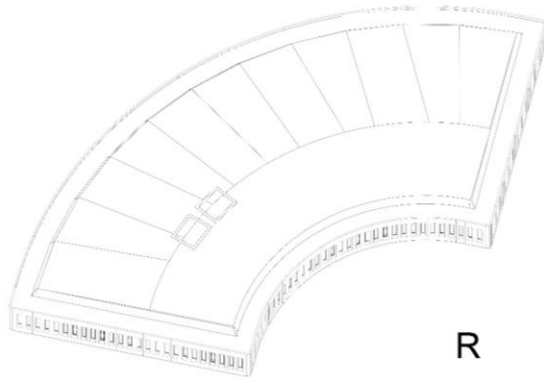
SCHEMATIC DESIGN

# 3d views – Option C

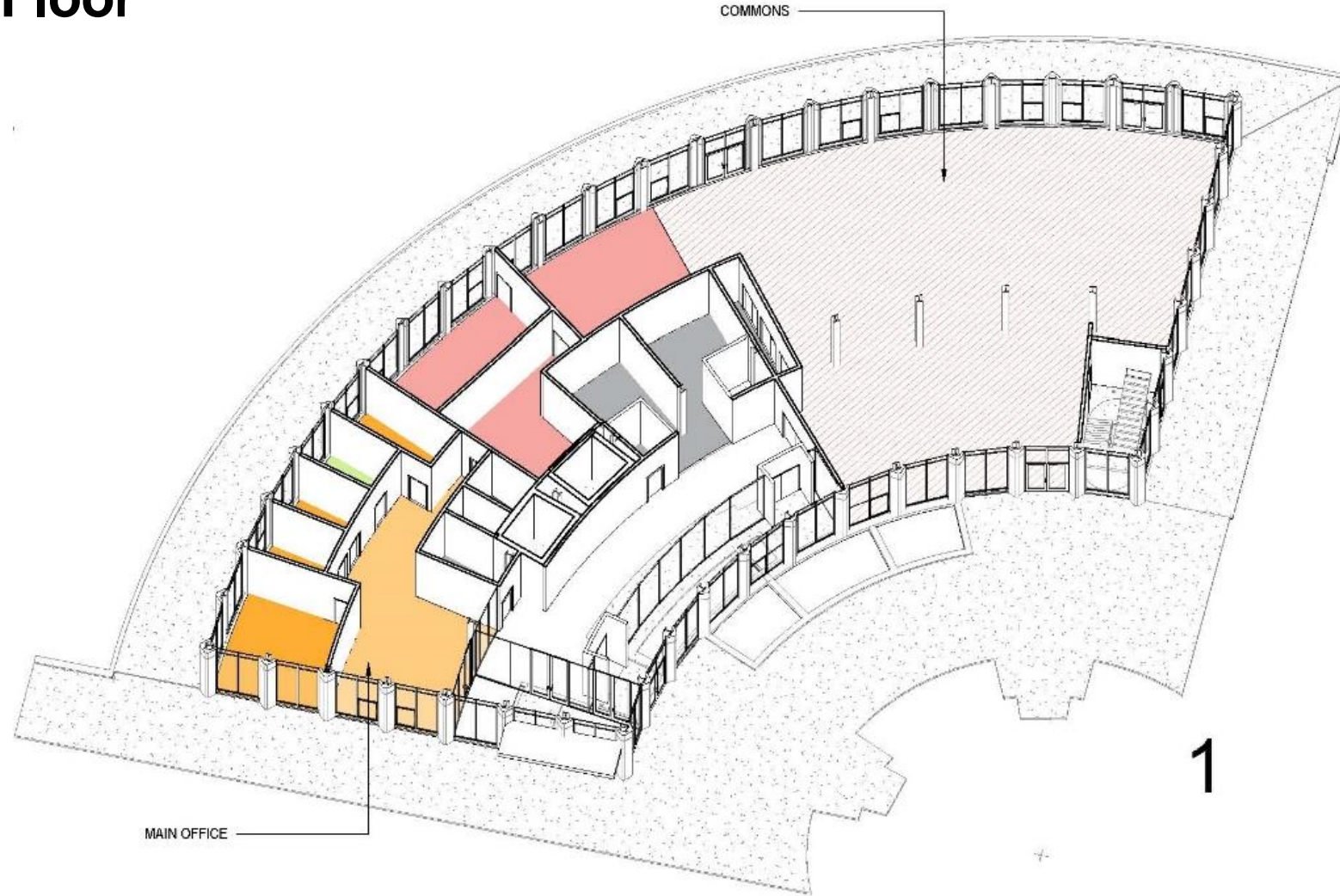


SCHEMATIC DESIGN

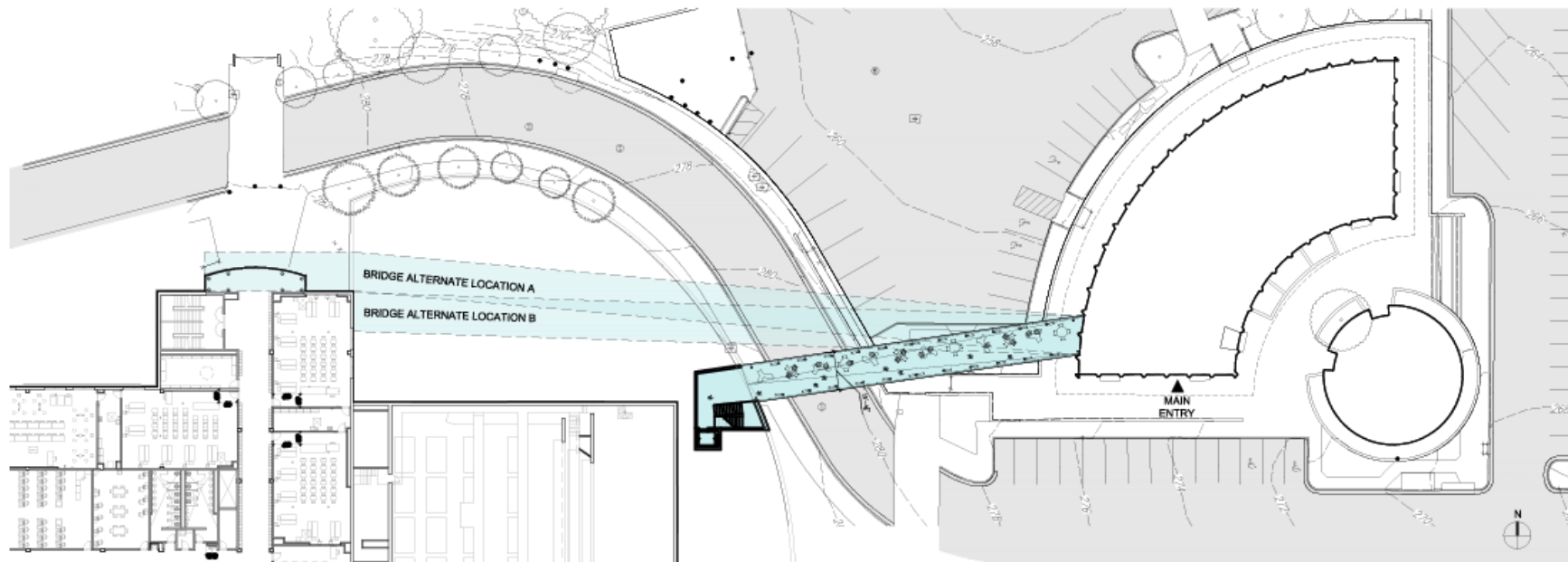
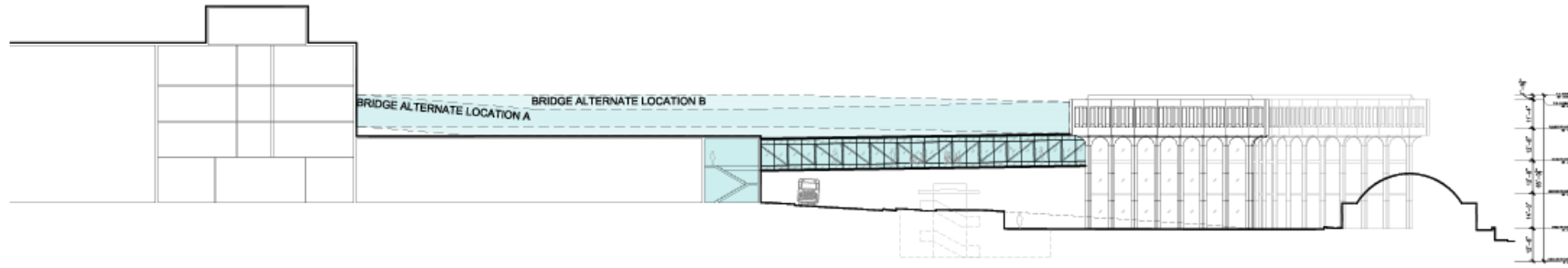
# Floor Plans



# First Floor



# Alternate Scope: Bridge Concepts





# 8 Committee Comment on SCHEMATIC DESIGN



A photograph of two children sitting at a table with laptops in a classroom. The child on the left is a girl with glasses, and the child on the right is a boy. They are both looking at their laptops. The background shows a chalkboard with the words "Parents Assoc" written on it. The entire image has a blue tint.

## 9 Public Comments

# 10 Next Steps + Adjourn

David M. Brown Planetarium  
1426 North Quincy Street

# Next Steps

- December 20, 2018 – Ed. Specs. School Board Info Item
- January 10, 2019 – Ed. Specs. School Board Action Item
- January 10, 2019 – Transportation Commission Info Meeting (tentative)
- January 2019 – Develop Schematic Design Cost Estimates
- February 7, 2019 – Schematic Design School Board Information Item
- February 21, 2019 – Schematic Design School Board Action Item

# Adjourn

1. As a reminder the APS Project Manager is:  
**Steve Stricker**  
(703) 228-7749  
[steven.stricker@apsva.us](mailto:steven.stricker@apsva.us)
2. Public meeting dates and past presentations are posted on the APS project website:  
<https://www.apsva.us/education-center-reuse/>
3. To provide feedback and/or comments to APS use: [engage@apsva.us](mailto:engage@apsva.us)