

EDUCATION CENTER REUSE

David M. Brown Planetarium
1426 North Quincy Street

ARLINGTON PUBLIC SCHOOLS

1426 N QUINCY ST



STUDIOTWENTYSEVENARCHITECTURE



COMMISSION MEETING: AGENDA

PLANNING COMISSION (PC)

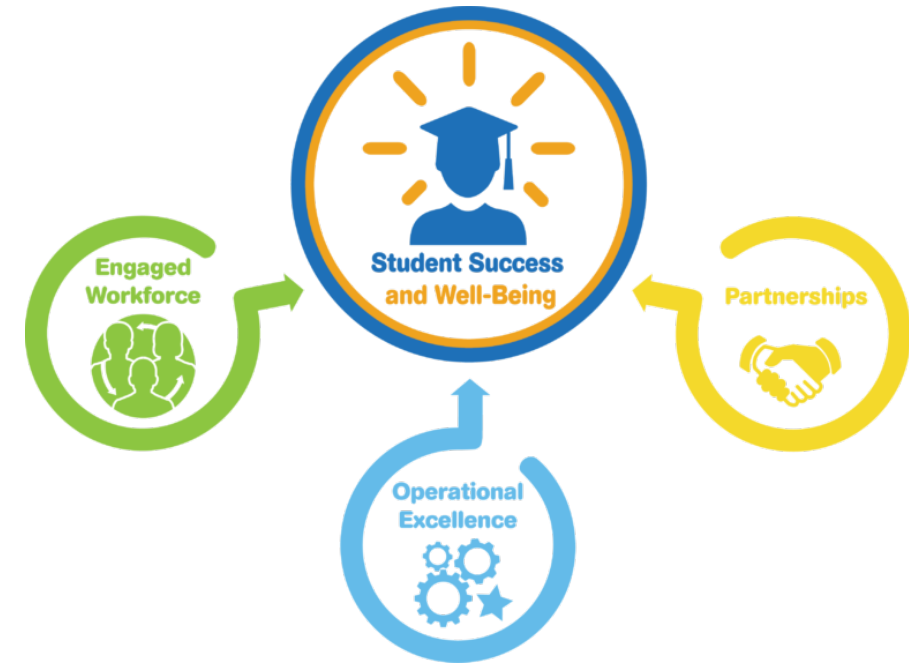
1. Overview
2. Proposed Use Permit
3. Next Steps
4. Questions



1 Overview

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



APS 2018-24 Strategic Plan

APS project website:

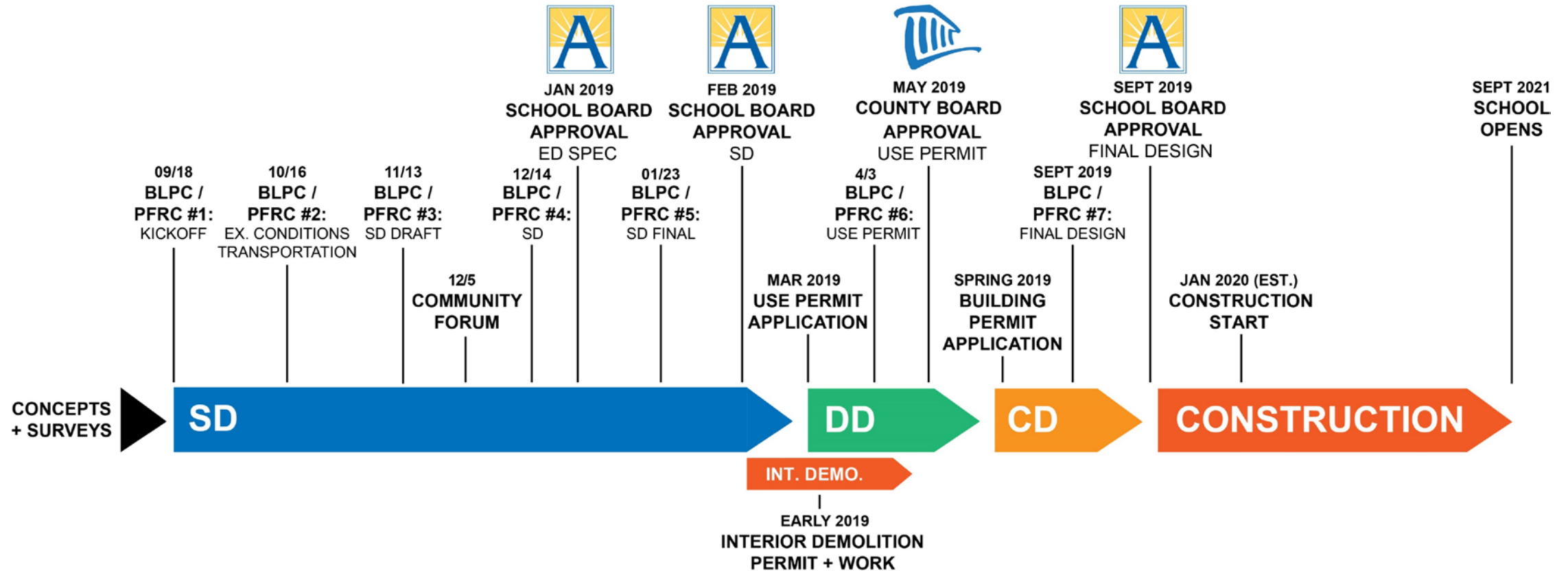
<https://www.apsva.us/education-center-reuse/>

Summary of Public Engagement

- 6 Joint BLPC/PFRC meetings
- 1 site tour
- 1 community meeting
- 4 County Commission meetings
- 4 School Board meetings to review/approve Educational Specifications and schematic design
- Additional discussions with:
 - Adjacent neighbors
 - Friends of the Planetarium
 - Aquatics users



Project Timeline



A group of seven diverse people, including a man and six women, are sitting on a wooden bench against a brick wall. They are all focused on reading books. The man on the left is wearing glasses and a white t-shirt. The women are dressed in casual summer attire. The scene is overlaid with a semi-transparent green filter. The text '2 Proposed Use Permit' is centered over the image in a white, sans-serif font.

2 Proposed Use Permit

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

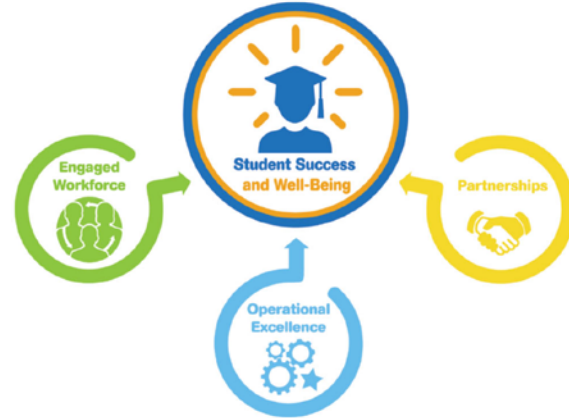
Building Form

- Massing
- Scale
- Hierarchy

Building Details & Materials

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

APS Strategic Plan - Design Principles



APS STRATEGIC PLAN 2018-2024 GOALS

Student Success: Multiple Pathways To Student Success

Student Well-Being: Healthy, Safe, And Supported Students

Engaged Workforce

Operational Excellence

Partnerships: Strong And Mutually Supportive Partnerships

DESIGN PRINCIPLES

Safety + Security

Maintain safe, secure spaces while creating environments which enrich learning and emphasize transparency and community

Short-Term Agility + Long-Term Adaptability

Create spaces which are agile in their day to day use, while being adaptable to future changes in program and learning methods

High-Performance Learning Environments

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

- Thermal comfort
- Indoor air quality
- Acoustics
- Daylight + views
- Transparency
- Technology
- Community use
- Active schools

Universal Design

Spaces should be designed and composed so they are accessible, understood and useful for all

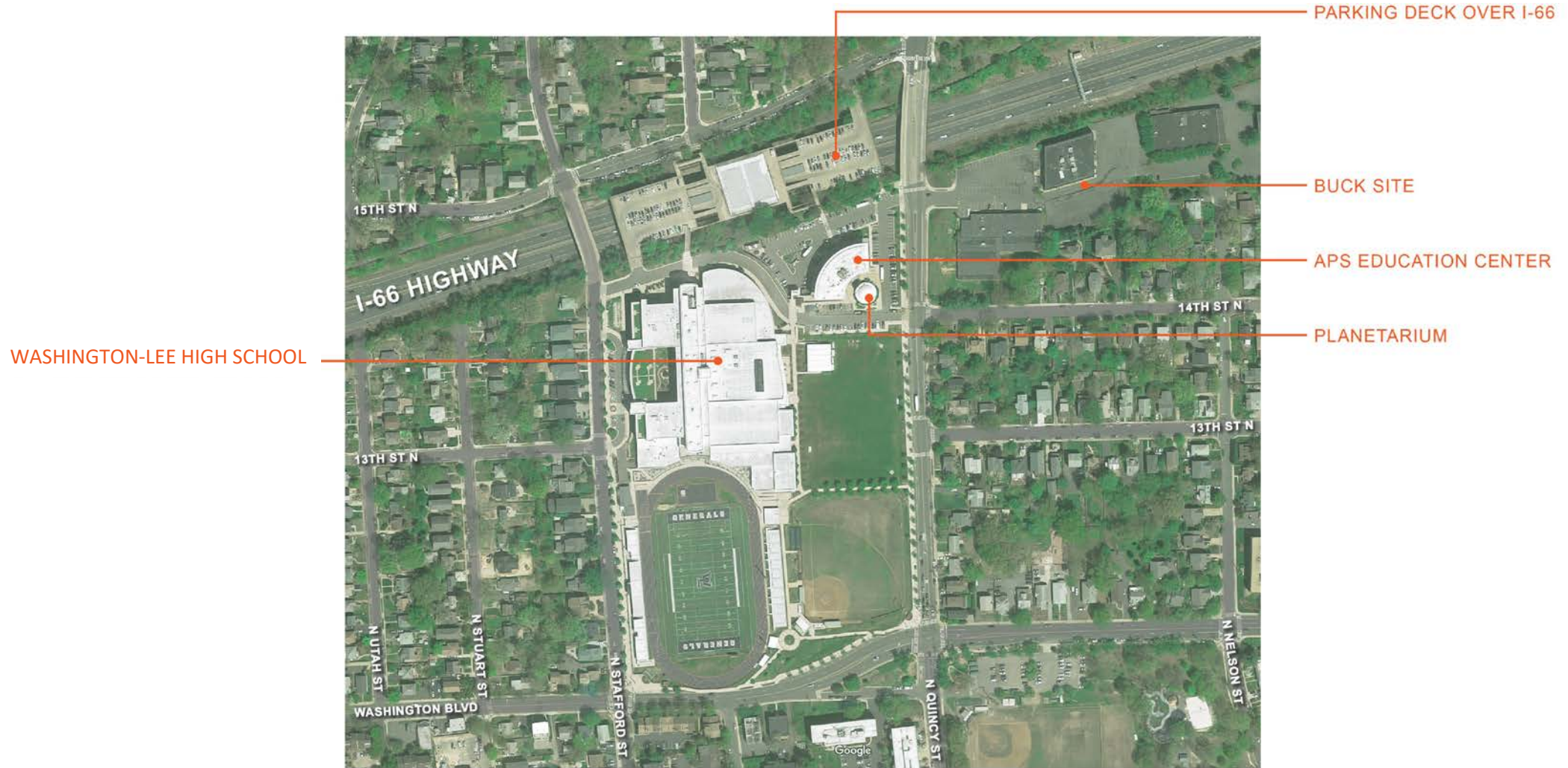
Adherence To Budget

Building elements should be assessed for meeting the required design function through economical means

Sustainability

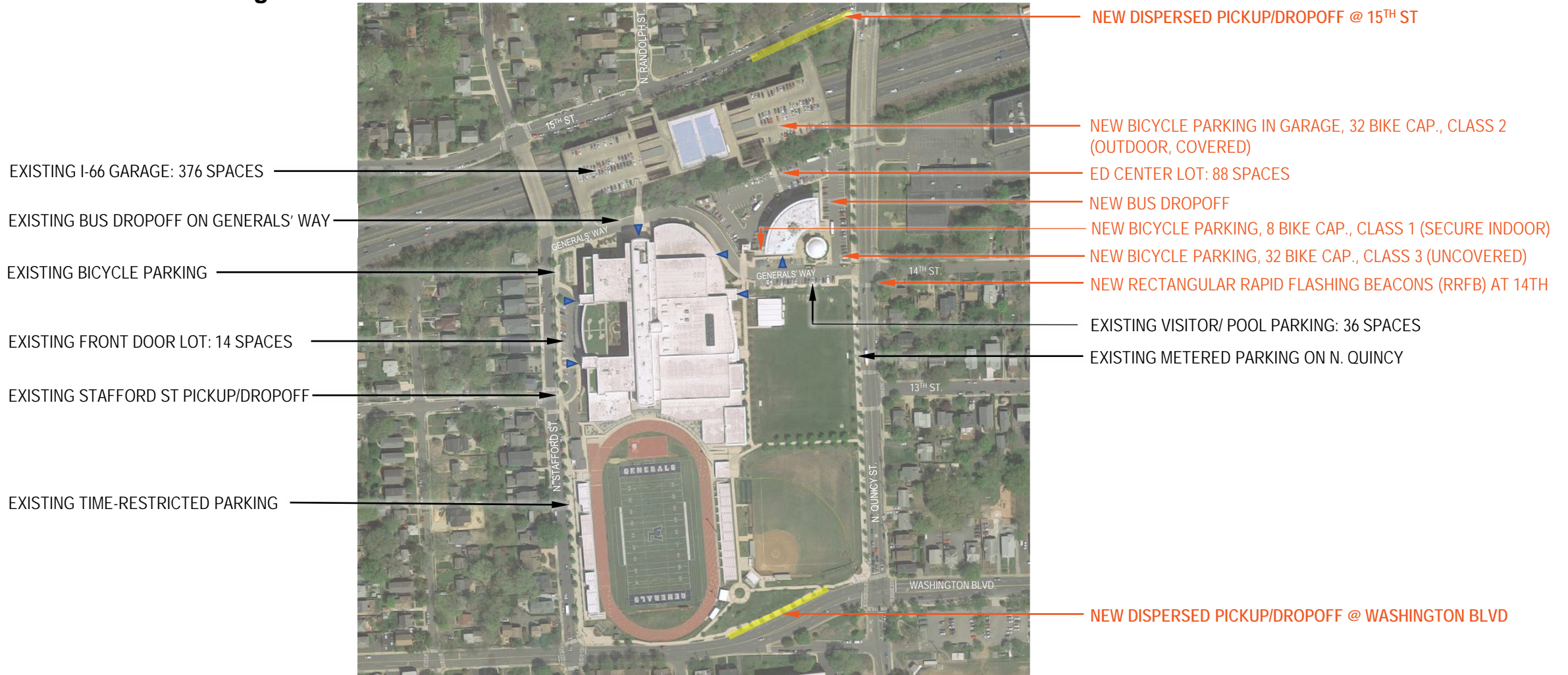
To the greatest extent possible the final design should minimize the impact on the environment through thoughtful site design, carefully managed water use, innovative energy and exterior envelope solutions, selective material use and a holistic approach to the interior design.

Campus Overview



Site Design - Campus

Based on the findings and recommendations from the MMTA



Site Design – Ed Center Area

Based on the findings and recommendations from the MMTA

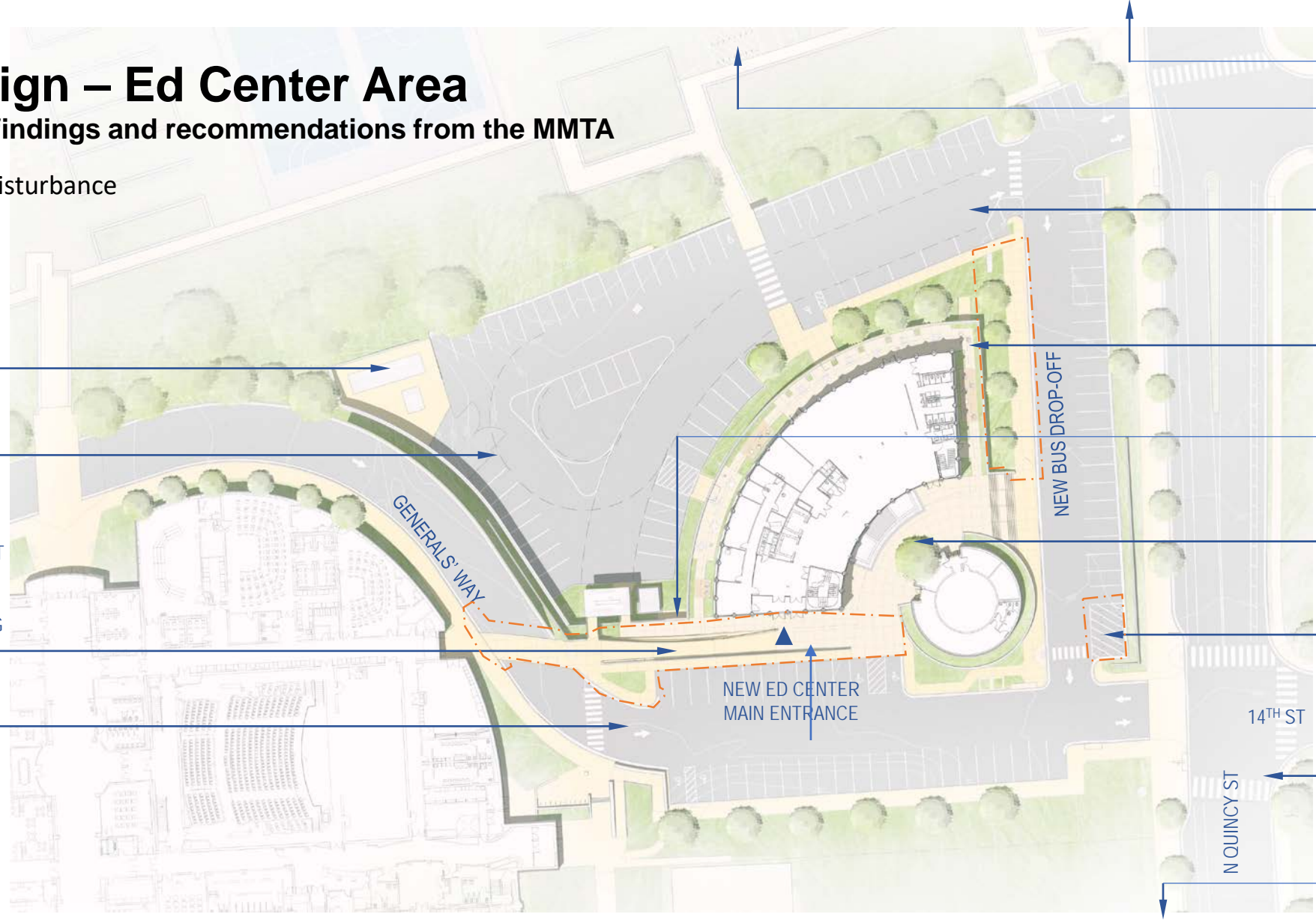
--- Limit of Disturbance

EXISTING GENERATOR, DUMPSTERS AND NEW COOLING TOWER

DASHED LINE = FIRE TRUCK ACCESS

NEW GROUND CONNECTION RAMP (SLOPE 1:12) AND FLUSH PAVING AT GENERALS' WAY. GRADE DROPS 6.5' BETWEEN ROAD CROSSING AND MAIN ENTRANCE

NEW "DO NOT ENTER" SIGNS



NEW 15TH ST. PU/DO

NEW BICYCLE PARKING IN GARAGE, 32 BIKE CAP., CLASS 2 (OUTDOOR, COVERED)

88 PARKING SPACES (18 MORE THAN ORIGINALLY PLANNED, TO OFFSET THE SPACES RESTRICTED ON 15TH ST.)

NEW TERRACE IMPROVEMENTS

NEW BICYCLE PARKING IN GARAGE, 8 BIKE CAP., CLASS 1 (INDOOR, SECURE)

NEW PLAZA IMPROVEMENTS

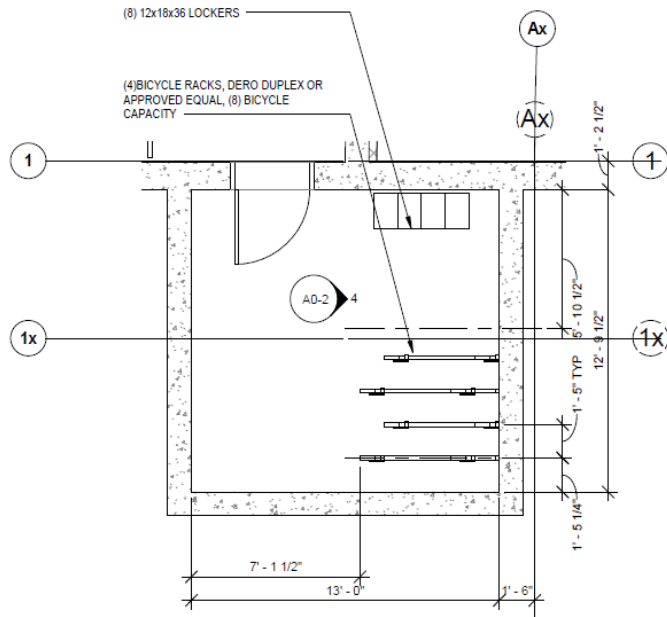
NEW BICYCLE PARKING, 32 BIKE CAP., CLASS 3 (OUTDOOR, UNCOVERED)

14TH ST

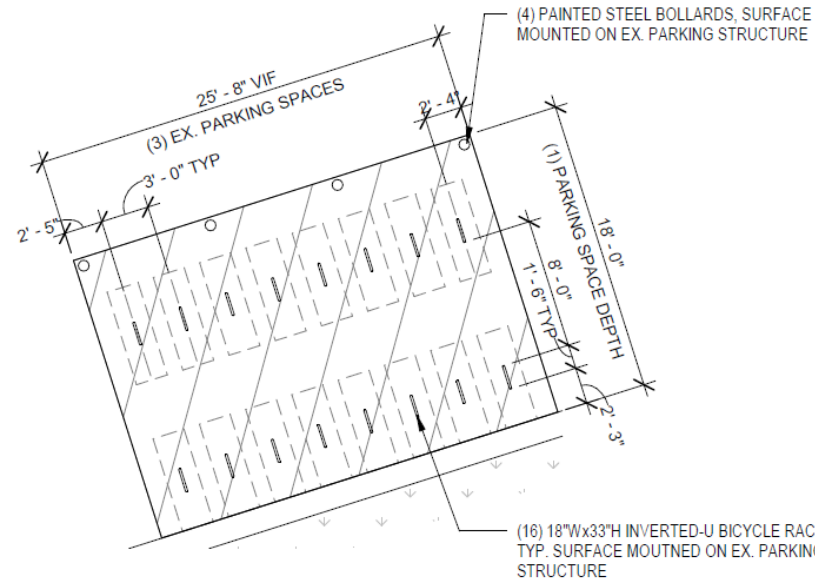
NEW RECT. RAPID FLASHING BEACONS (RRFB) AT 14TH

NEW WASH. BLVD. PU/DO

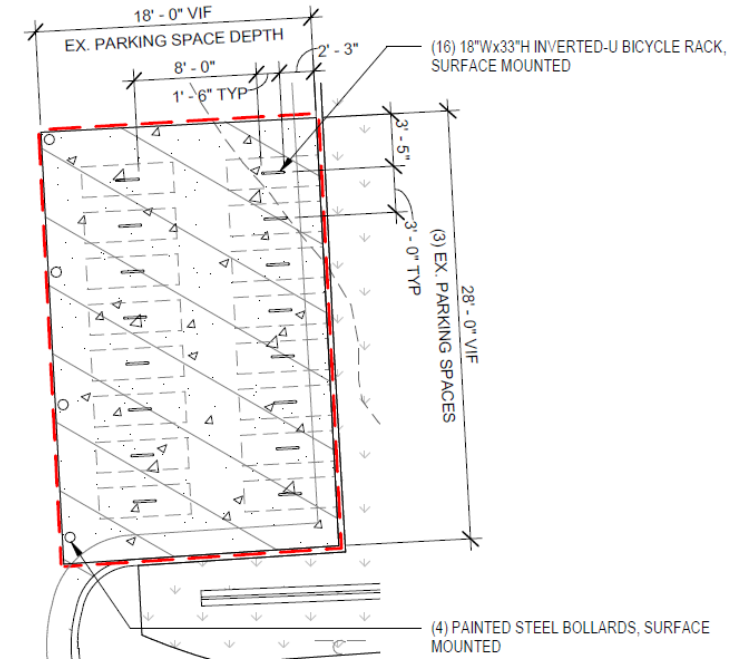
Bicycle Parking



Class I Bicycle Parking and Lockers within Ed Center (8 bike capacity, 8 lockers)



Class II Covered Bicycle Parking within Parking Garage (32 bike capacity)



Class III Bicycle Parking adjacent to Quincy Street (32 bike capacity)

Tree Preservation and Addition

- All existing trees protected, not removed
- (4) new canopy trees added

TREE PRESERVATION TABLE

TREE #	BOTANICAL NAME	COMMON NAME	TRUNK DIAMETER (INCHES)	CROWN RADIUS (FEET)	CRITICAL ROOT ZONE RADIUS (FEET)	CONDITION RATING	COMMENTS
8101	TILIA AMERICANA	AMERICAN LINDEN	8	10	8	75	GOOD CONDITION, POOR BRANCHING ANGLE, INCLUDED BARK
8102	TILIA AMERICANA	AMERICAN LINDEN	10	10	10	75	BURIED ROOT COLLAR
8103	TILIA AMERICANA	AMERICAN LINDEN	8	8	8	75	MULTIPLE LEADERS, LEANING TRUNK
8104	TILIA AMERICANA	AMERICAN LINDEN	8	8	8	45	MULTIPLE LEADERS, LEANING TRUNK
8105	TILIA AMERICANA	AMERICAN LINDEN	8	8	8	72	MULTIPLE LEADERS, VINE COVERAGE
8106	TILIA AMERICANA	AMERICAN LINDEN	10	8	10	72	SPROUTING AT TRUNK BASE, DAMAGE BY PARKING LOT (BUS) CANOPY INTERTWINED
8107	TILIA AMERICANA	AMERICAN LINDEN	4	9	4	72	SPROUTING AT TRUNK, SMALL BROKEN BRANCHES
8108	TILIA AMERICANA	AMERICAN LINDEN	8	9	8	75	MULTIPLE LEADERS, VINE COVERAGE
8109	ACER SACHARINUM	SILVER MAPLE	5	8	5	75	MULTIPLE LEADERS, LEAF OVERBARK
8110	TILIA AMERICANA	AMERICAN LINDEN	8	12	8	72	SPROUTING AT TRUNK, SMALL BROKEN BRANCHES
8111	ACER SACHARINUM	SILVER MAPLE	4	10	4	72	MULTIPLE LEADERS, LEAF OVERBARK
8112	ACER SACHARINUM	SILVER MAPLE	4	8	4	72	EPIDERMIC SPROUTING
8113	QUERCUS PHAEOLUS	WILLOW OAK	8	8	8	72	EPIDERMIC SPROUTING
8114	QUERCUS PHAEOLUS	WILLOW OAK	8	10	8	72	EPIDERMIC SPROUTING, POOR ROOT STRUCTURE
8115	QUERCUS PHAEOLUS	WILLOW OAK	8	12	8	72	SHEDDLE ROOTS
8116	ACER SACHARINUM	SILVER MAPLE	4	6	4	69	LEAF OVERBARK
8117	QUERCUS PHAEOLUS	WILLOW OAK	2	9	2	63	TRUNK LEADER
8118	QUERCUS PHAEOLUS	WILLOW OAK	8	8	8	72	SHEDDLE ROOTS, ANIMAL NEST
8119	QUERCUS PHAEOLUS	WILLOW OAK	8	10	8	75	PIECE OF ROOT BREAKING GROUND
8120	QUERCUS PHAEOLUS	WILLOW OAK	12	12	12	72	SHEDDLE ROOTS
8121	PRUNUS SP.	ORNAMENTAL CHERRY	6	10	6	72	POOR ROOT STRUCTURE, MULTIPLE LEADERS
8122	PRUNUS SP.	ORNAMENTAL CHERRY	6	8	6	72	MECHANICAL DAMAGE TO ROOTS, MULTIPLE LEADERS
8123	PRUNUS SP.	ORNAMENTAL CHERRY	4	8	4	69	ROOT SUCKERS
8124	PRUNUS SP.	ORNAMENTAL CHERRY	4	8	4	69	CANOPY OVERBARK
8125	PRUNUS SP.	ORNAMENTAL CHERRY	8	8	8	75	MULTIPLE LEADERS
8126	PRUNUS SP.	ORNAMENTAL CHERRY	8	10	8	75	MULTIPLE LEADERS
8127	ACER PALMATUM	JAPANESE MAPLE	8.5	12	8	72	MULTIPLE LEADERS, BROKEN BRANCH, LEAF SCORCH
8128	THUJA OCCIDENTALIS	ARBORVITAE	8	8	8	72	LEANING TRUNK, SAP Ooze
8129	THUJA OCCIDENTALIS	ARBORVITAE	6	8	6	72	LEANING TRUNK, SAP Ooze
8130	THUJA OCCIDENTALIS	ARBORVITAE	4, 8, 2	8	4	69	MULTIPLE LEADERS, INCLUDED BARK, LOW LIVE CROWN RATIO
8131	THUJA OCCIDENTALIS	ARBORVITAE	8	8	8	72	LEANING TRUNK, SAP Ooze
8132	THUJA OCCIDENTALIS	ARBORVITAE	8	8	8	72	SAP Ooze
8133	THUJA OCCIDENTALIS	ARBORVITAE	8	10	8	72	SAP Ooze
8134	QUERCUS TRILICANTHOS (AKA. UNEMO)	HORNET LOCUST	7	8	7	72	LEAF OVERBARK
8135	TILIA AMERICANA	AMERICAN LINDEN	4	8	4	69	EPIDERMIC SPROUTING, CANOPY OVERBARK
8136	TILIA AMERICANA	AMERICAN LINDEN	6	8	6	69	BURNING BRANCHES, DEAD LEAVES
8137	JUGLANS NIGRA	BLACK WALNUT	12, 8	15	12	69	SAP Ooze, POOR FORM, OVERBARK
8138	PRUNUS CALIFORNIANA	BRADFORD PEAR	10, 8	18	10	56	CANOPY OVERBARK, BROKEN BRANCH, SPROUTING, POOR ROOT STRUCTURE ON SLOPE
8139	TILIA AMERICANA	AMERICAN LINDEN	8	10	8	69	INDICED BARK, MULTIPLE LEADERS, EXTENSIVE VINE COVERAGE
8140	TILIA AMERICANA	AMERICAN LINDEN	8	8	8	69	BROKEN BRANCHES, VINE COVERAGE
8141	TILIA AMERICANA	AMERICAN LINDEN	8	18	8	69	MULTIPLE LEADERS, VINE COVERAGE
8142	MORUS ALBA	WHITE MULBERRY	8, 6, 4	18	8	39	MULTIPLE LEADERS, POOR FORM, VINE COVERAGE
8143	MORUS ALBA	WHITE MULBERRY	8, 6, 4	18	8	39	MULTIPLE LEADERS, POOR FORM, VINE COVERAGE
8144	DIQUETIA TRICHANTHOS	HORNET LOCUST	8	18	8	69	POOR FORM, VINE COVERAGE
8145	TILIA AMERICANA	AMERICAN LINDEN	8	12	8	69	EPIDERMIC SPROUTING
8146	PRUNUS CALIFORNIANA	BRADFORD PEAR	18	18	18	63	MULTIPLE LEADERS, OLD LARGE WOUND IN TRUNK, EPIDERMIC SPROUTING
8147	TILIA AMERICANA	AMERICAN LINDEN	8	8	8	69	SPROUTING AT TRUNK BASE, INTERFERING CANOPY WITH ADJACENT TREE
8148	PINUS TAEDA	LIMBOLLY PINE	12	15	12	69	POOR FORM, CANOPY OVERBARK
8149	PINUS TAEDA	LIMBOLLY PINE	18	18	18	63	CANOPY OVERBARK



(4) NEW CANOPY TREES

Summary of Building Improvements

- Adaptable and agile high performance learning environments
- Large commons space on the first floor available for community use outside school hours
- Extensive building envelope improvements:
 - Replace existing roof membrane and insulation
 - Adding exterior wall/soffit air barrier and insulation
 - Adding insulation below existing roof terrace
 - Replacing existing single-pane windows with energy efficient glazing
 - Adding operable windows
 - Using glazing frit that responds to annual sun exposure and solar orientation
- Modifications respect the building's architectural integrity and historic value
- Replace existing HVAC with water-source distributed two-stage/variable heat pumps
- Estimated Energy Use Intensity (EUI) between 30-40, when occupied the existing building EUI exceeded 200
- Projected LEED v4 BD+C: Schools Silver Level certification

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



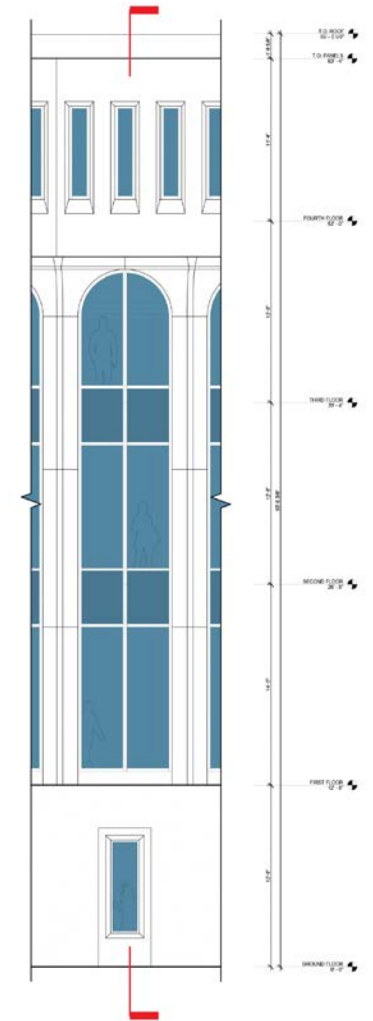
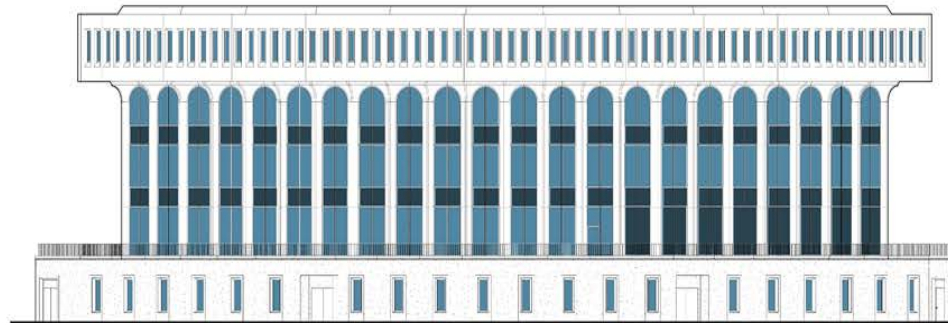
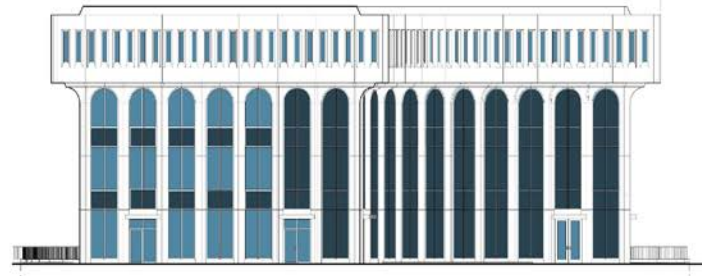
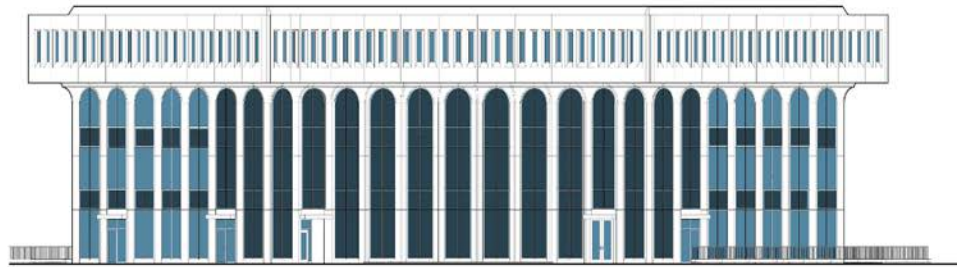
Historic Considerations

- The Education Center and David M. Brown Planetarium were nominated for consideration as an Arlington Historic District.
- On May 20, 2017, the County Board voted not to designate the site as a local historic district, however, the motion encouraged that any future renovations respect the architectural integrity and historic value of the building.
- The adaptive reuse proposes modest changes to the building's exterior, leaving the majority of the existing building integrity and character intact.
- APS is currently producing photographs consistent with Historic American Building Survey (HABS) requirements to document the existing conditions.



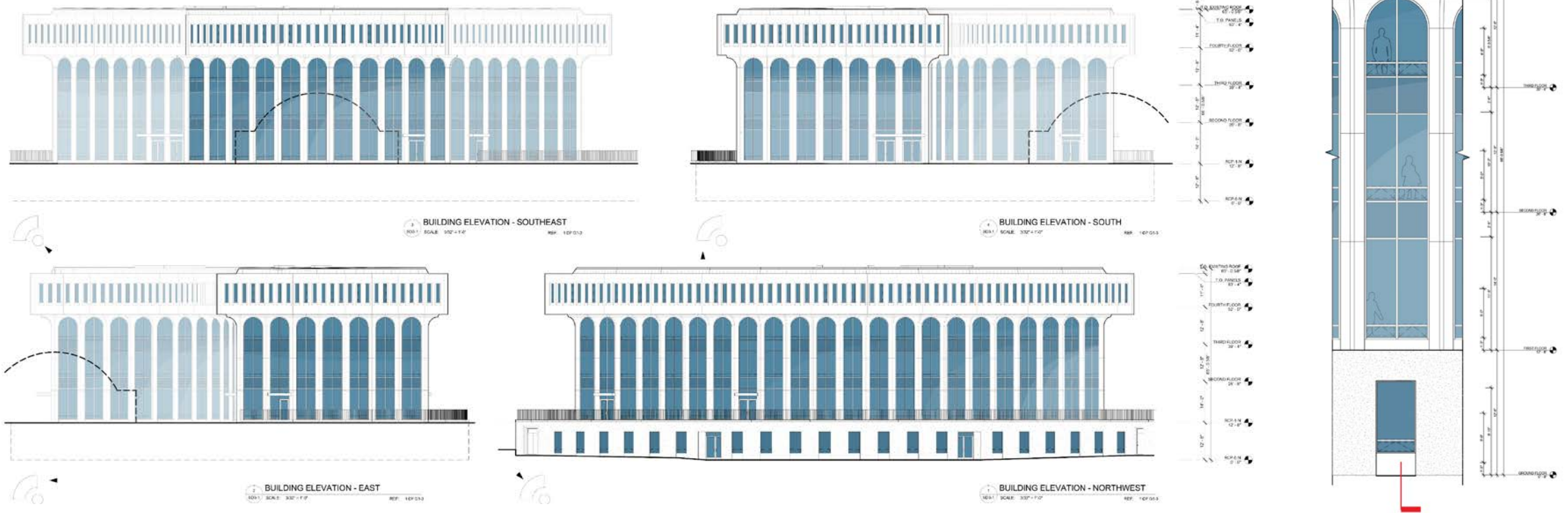
Elevations - Existing

- 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.

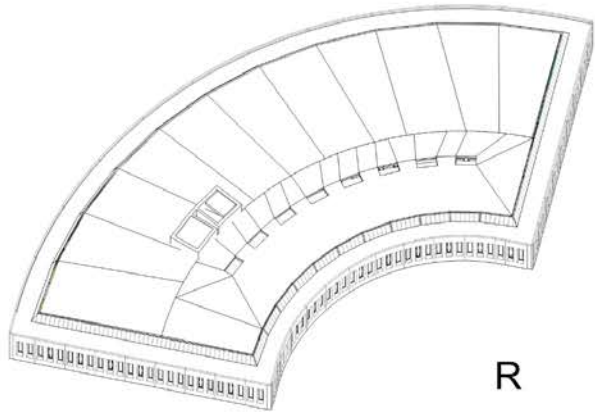


Proposed Elevations

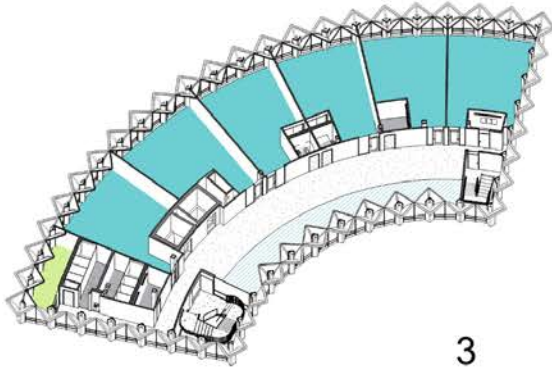
- Respects character and aesthetic of the existing windows.
- Enlarges the ground floor windows and adds operable windows on all floors to improve the educational environment.
- Uses a glazing frit that responds to annual sun exposure and solar orientation.



Floor Plans



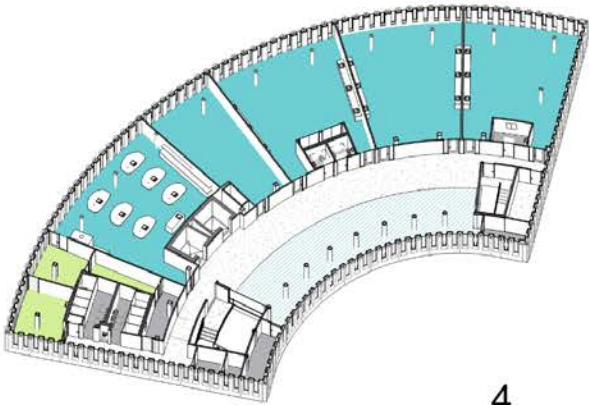
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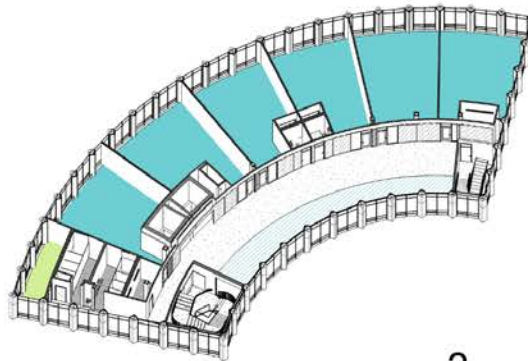
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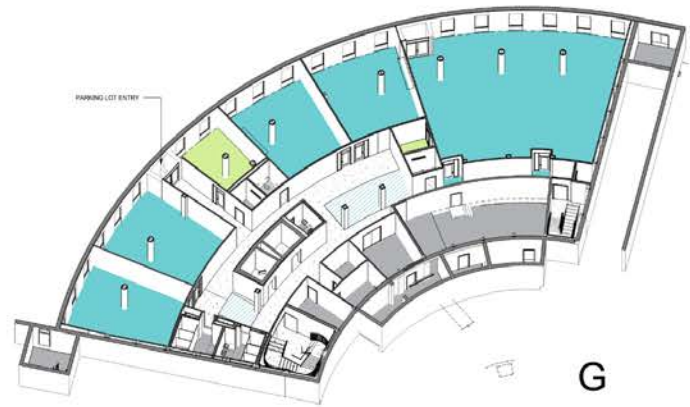
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Classrooms / Collaboration

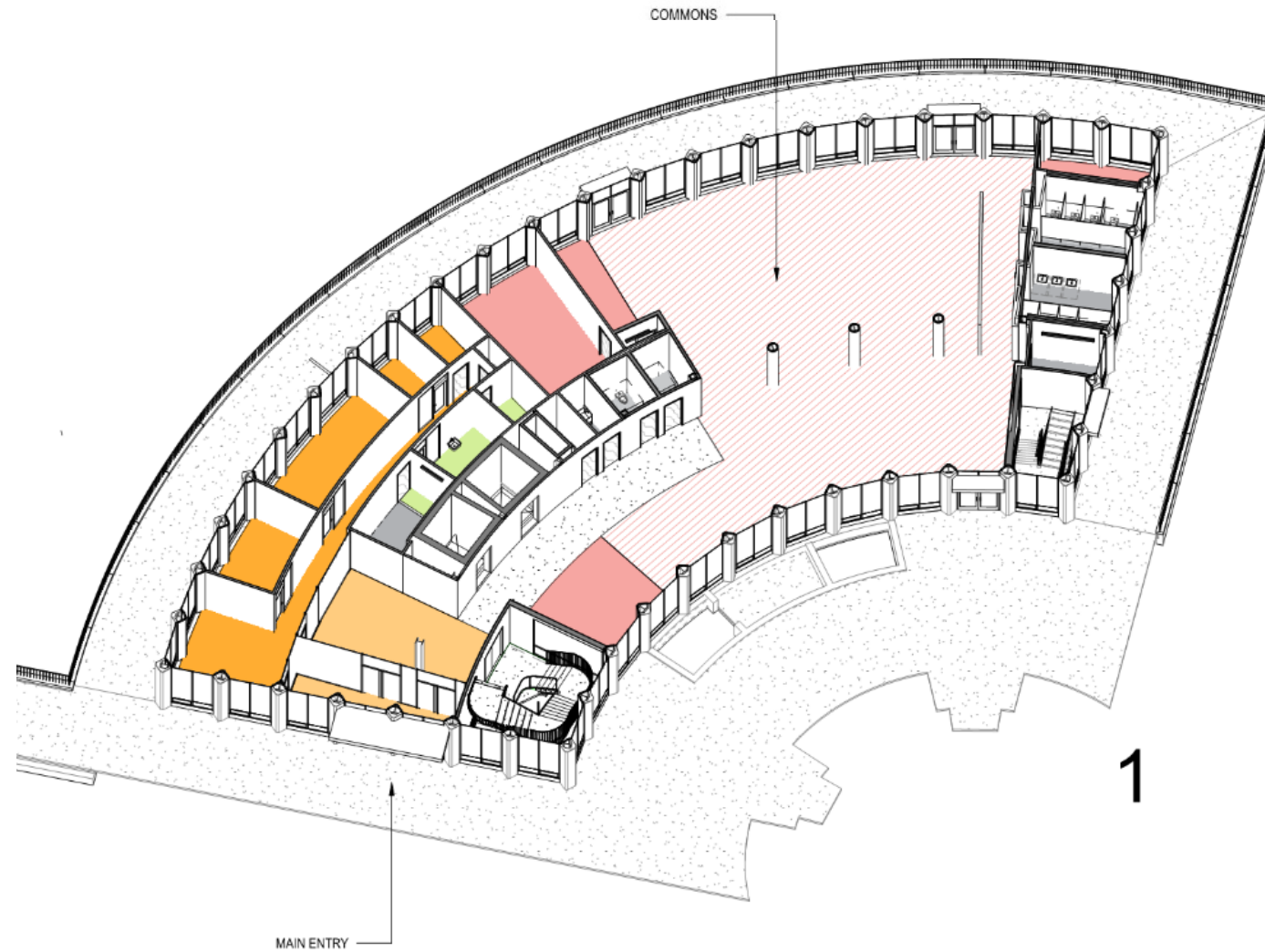
 Commons / Support

 Instructional Support

 Administration

 Building Support

First Floor



Classrooms / Collaboration Commons / Support Instructional Support Administration Building Support



David M. Brown Planetarium
1426 North Quincy Street



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NO
PARKING
FIRE
LANE
EXC.
8/15/10 02ND MAJ



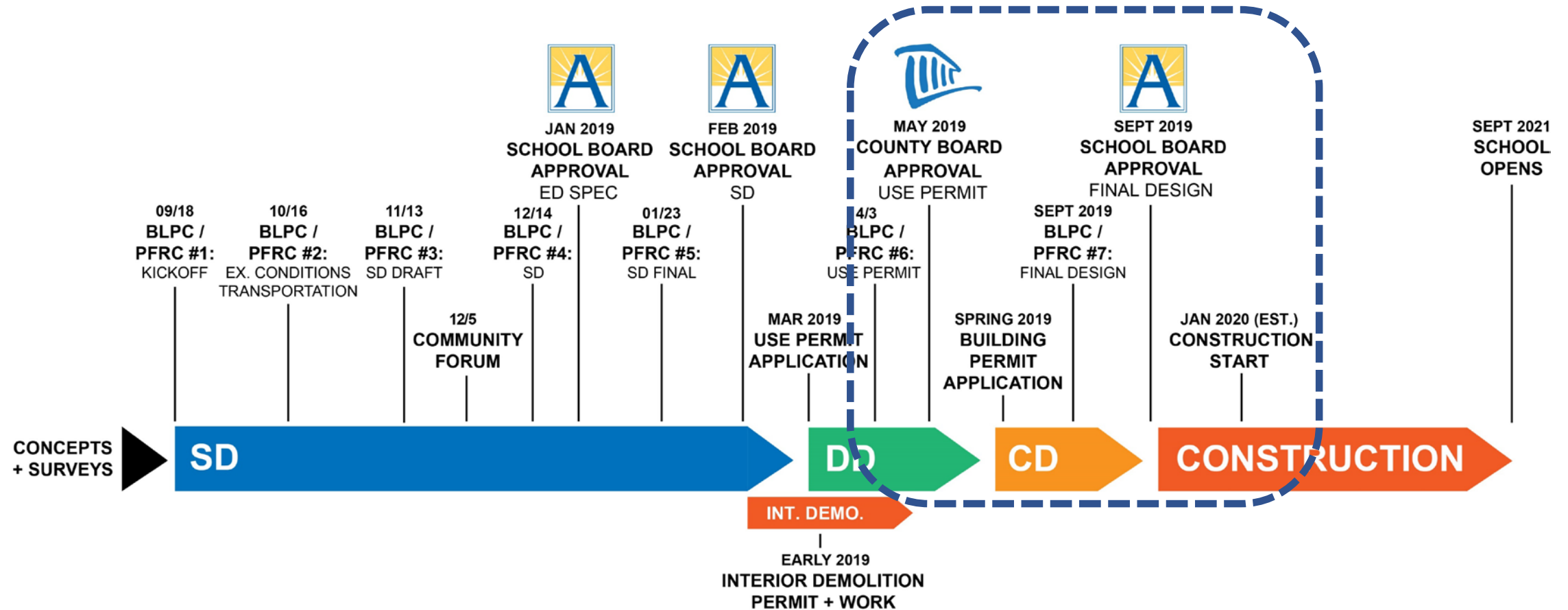






3 Next Steps

Next Steps





4 Questions

Adjourn

1. The APS Project Manager is:
Robin Hodges
(703) 872-9175
robin.hodges@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