

## Replacement of Woodville Elementary School

### UDC Conceptual Review comments & responses:

1. **COMMENT: Staff recommends that the Applicant consider and detail extreme weather response consideration for final submission.**

RESPONSE: The project prioritizes energy efficiency, carbon reduction, and on-site energy production, as well as stormwater quality and quantity management, providing abundant shade, and supporting ecosystems with native trees and landscape features. RPS has applied for an EPA Community Change Grant to integrate climate action and pollution reduction strategies into the project. If awarded, the grant will support initiatives in partnership with the YMCA and other community partners to provide everyday community services and to provide potable water, shelter, and power to the community during outages and after extreme weather events. Although post-storm community shelter features are highly reliant on receipt of the grant funding, research of environmental threats specific to this community yielded the inclusion of shading strategies, potable water storage, a battery system supporting off-grid building operation, and rainwater harvesting. Through the design of a geothermal wellfield and high-performance equipment, the project is currently modeling an EUI (energy-use-intensity) of 20. A roof-top photovoltaic array has been designed for Net Zero Energy, completely offsetting the annual energy use of the building. Interior and exterior building material selections prioritize carbon reduction and occupant health.

2. **COMMENT: Staff recommends that final details on outdoor lighting be sensitive to light pollution or dark-skies compliant.**

RESPONSE: All the site lighting fixtures have full cut-offs to prevent light from being emitted on or above the horizontal plane and to be dark sky complaint.

The project is also pursuing LEED credit v4.0 for light pollution reduction.

#### **LEED requirements**

##### **Uplighting**

Pole mounted fixtures are below the maximum requirements for horizontal light pollution based on BUG requirements. BUG rating maximum uplighting for LZ2 (Lighting Zone 2) is U2. The pole mounted light fixture used on site has a rating of U0 on a scale of U0-U4.

##### **Light Trespass**

As designed these fixtures have a forward throw in either a T3 or T4 configuration. Their back light rating of B1 and B2 respectively, on a scale of

B0-B5 meets the requirements for LEED's maximum of B2 for LZ2. Fixtures are located at a minimum of 1 times their mounting height from all property lines. In addition to meeting the requirements the light levels were calculated at the property lines were on average 0.01 footcandles.

**3. COMMENT: Staff recommends the applicant incorporate public art, where feasible.**

RESPONSE: Although RPS discourages the use of exterior murals due to maintenance concerns, we are exploring the addition of an interactive sculpture from a local artist in the entry plaza and/or a sculptural bench in the outdoor classroom. Multi-story interior wall murals and graphics that feature the James River will be visible from the exterior.

**4. COMMENT: Staff recommends that a maintenance plan be submitted during the Final UDC review phase to include landscaping, sustainability features, and public spaces.**

RESPONSE: A 1-year landscape maintenance and warranty requirement is included in the specifications. The landscape contractor shall submit to the Owner a written detailed set of procedures to be used in maintaining installed plant materials during both the warranty period and after final acceptance. A maintenance plan for the cistern will be provided in the O&M manual. Maintenance requirements for Bioretentions will be in accordance with Virginia Department of Environmental Quality Stormwater Manual, Specification 8.5-P-FIL-05-7.0. ADS StormTech Underground Detention System will be maintained in accordance with manufacturer specifications per StormTech Design Manual Chapter 9.

**5. COMMENT: Staff recommends inclusion of permeable hardscape materials and sustainable stormwater features, where appropriate, and as suggested by the Urban Design Guidelines.**

RESPONSE: The 3-story building design will replace the existing 1-story school, reducing the building's footprint to maximize permeable site area for landscaping, recreation, and play. An outdoor classroom features a platform within a stormwater rain garden to promote environmental stewardship, and a cistern collects roof water to serve the raised garden beds. The use of permeable pavers was considered and deemed undesirable by RPS due to maintenance and performance concerns.

**6. COMMENT: Staff recommends that the applicant provide increased infrastructure improvements to support micro-modal forms of transportation.**

RESPONSE: Widened sidewalks and a paved perimeter site path have been provided to support pedestrian and micro-modal transportation across and through the site. An extension to N. 27<sup>th</sup> and Tate Streets was added to the south parking lot to facilitate vehicle and bike connections through the site. Covered bike racks are provided adjacent to the main entry and adjacent to the drop-off/pick-up lane. See sheets C5.00 and C5.01.

**7. COMMENT: Staff recommends that traffic calming techniques be considered where appropriate.**

RESPONSE: An existing speed table at Fairfield Ave. will be relocated to coordinate with the bus entrance, and existing crosswalks will be relocated to connect to improved curb cuts. A connection to N. 27th and Tate Streets from the south parking lot has been added for better traffic flow and to reduce vehicular back-ups @ Newbourne St. Two speed tables will be provided with this connection to N. 27th and Tate Streets to slow traffic. See sheets C5.00 and C5.01.

**8. COMMENT: Staff recommends including pedestrian markings and signage where walkways cross internal drive aisles and parking lots.**

RESPONSE: Pedestrian markings and signage are included where walkways cross internal drive aisles and parking lots. See sheet C5.00.

**9. COMMENT: Staff recommends expanding sidewalk width along the main entrance and drop-off/pickup area.**

RESPONSE: Sidewalks have been expanded to 10' wide at the bus loop to main entrance and 18'-6" wide at the drop-off/pick up lane. See sheet C5.00.

**10. COMMENT: Staff recommends increasing bike parking, bike racks, and bike maintenance stations near school entrances.**

RESPONSE: Covered bike racks are now provided at the main entrance (north) and at car drop-off/pick lane (south). See L1.02 and L1.05. Bike maintenance stations were considered and deemed undesirable by RPS due to maintenance and security concerns.

**11. COMMENT: Staff recommends that final exterior materials be aesthetically and structurally durable, of high quality, and require minimal maintenance to ensure long-term resilience.**

RESPONSE: Exterior materials, including brick, aluminum composite panels, profiled metal panels, high strength cast stone panels, and metal 'wood look' soffits, have been selected based on long-term durability and ease of maintenance to ensure longevity.

- 12. COMMENT: Staff recommends that, where appropriate, anti-graffiti coatings be applied to exterior surfaces to reduce ongoing maintenance requirements.**

RESPONSE: The aluminum composite material is finished to be cleaned via Watts Removal without the use of an anti-graffiti coating. Due to concerns about cost, effectiveness, and environmental impacts, RPS will consider adding an anti-graffiti coating to the masonry if/when graffiti becomes a maintenance concern.

- 13. COMMENT: Staff recommends that the applicant provide samples or product specification sheets of exterior building materials for Final Review.**

RESPONSE: Digital samples of exterior materials and colors are included in our detailed submission.

- 14. COMMENT: Staff recommends that the applicant explore opportunities to incorporate additional windows, particularly along street-level elevations and the secondary southeastern façade. The color and reflective properties of windows should be carefully considered for both design coherence and environmental impact.**

RESPONSE: The façade noted is south-east facing in the Gymnasium. To avoid glare during competitive play, we've provided abundant north-facing clerestory and limited glass on the south-east façade. Daylight modeling software has been utilized to ensure that natural daylight levels are balanced throughout the building. A ceramic frit 'bird-glass' pattern has been added to large ground-level glass areas to mitigate views into gathering spaces and to protect birds.

- 15. COMMENT: Staff recommends that the applicant consider filtering techniques for possible expansion or additions to learning spaces (i.e., potential learning cottages)**

RESPONSE: RPS has anticipated significant community growth within the planned capacity of the school. If additional learning space is required, locations for future portable classrooms have been identified on C5.00 and C5.01.