Aerial view of schoolyard post-construction: the climbing dome (foreground) promotes physical activity; artificial turf berm is unique community identifier and classroom; young woodland gives urban kids access to nature; and the new schoolyard entrance at NW corner welcomes the community.
Chester A. Arthur School building and schoolyard prior to construction. A small existing area of play equipment surrounded entirely by asphalt left students with little opportunity for engaged play during recess and after school.
Post-construction conditions of the schoolyard show the artificial turf berm as a focal point. The berm promotes creative play and socializing, while pavement paint delineates a track and analemmatic sundial, which allows students to use their bodies to tell time.
Stormwater management includes porous asphalt in the parking lot; a rain garden to capture, hold, and infiltrate stormwater; a decorative trench drain to convey runoff into the rain garden system; and numerous planted areas to capture and infiltrate water.
Prior to construction, the schoolyard was more than 90% asphalt; the new design significantly modifies the site with at-grade planted areas, a rain garden, raised planters, and a green wall.
The Rain Canopy/Water Wall shades parking lot and captures rainwater in two cisterns. Students can turn cranks on the yellow peg wall to draw water up from the cisterns into a series of hoses and chutes for water experimentation.
Students explore the curvilinear woodland path and outdoor classroom during recess. The *Amelanchier* trees have edible berries that provide food for birds and students. Temporary fencing protects the new planting areas from trampling.
An autumn sunset highlights the native plants in the young woodland and outdoor classroom area. The Rain Canopy/Water Wall abuts the small classroom in the background.
Porous asphalt in the parking lot infiltrates stormwater runoff into an underground storage system, helping to eliminate excess stormwater from flowing into Philadelphia’s combined sewer overflow system.
The rain garden, highlighted by brightly-colored *Amsonia* in autumn, captures stormwater runoff from the majority of the schoolyard. The water wheel, shown at the top of the rain garden, allows students to pump recycled water to create their own experiments.
The artificial turf berm activates the schoolyard for play, lessons and socializing. After school and on weekends, the schoolyard is used by neighboring families and community members. Kids ride trikes on the berm or just bask in the sun.
The older students enjoy the challenge of the climbing dome, which offers active play and exercise for students during recess. Beyond the dome, students are gardening herbs and vegetables in a raised planter bed.
A green wall adorns the exterior south-facing wall of the school building adjacent to the climbing dome. Its lush planting softens the façade and reduces urban heat island effect. Students experiment planting various herbs at the bottom of the wall.
The multi-use court is popular for pick-up games of basketball during recess or after school. The vibrant pavement paint breaks up the court and invites children to run around the track, utilize the sundial, and create their own games.
The site renovations and revamped curriculum at Chester A. Arthur School serve as models for city schools across the country, showcasing the opportunities for changing urban schoolyards into high-performance, deep-green community hubs.
PROJECT PLANT LIST

CANOPY TREES

- Betula nigra ‘Heritage’, River Birch
- Platanus x acerifolia, London Planetree
- Tilia americana, American Basswood

UNDERSTORY TREES

- Amelanchier x grandiflora ‘Autumn Brilliance’, Serviceberry
- Magnolia virginiana ‘Moonglow’, Sweetbay Magnolia

SHRUBS

- Aronia melanocarpa, Red Chokeberry
- Ceanothus americanus, New Jersey Tea
- Fothergilla x intermedia ‘Mount Airy’, Dwarf Fothergilla

HERBACEOUS PLANTING

Sedges and Grasses

- Andropogon virginicus, Broomsedge
- Bouteloua gracilis ‘Blonde Ambition’, Blue Grama
- Carex divulsa, Berkeley Sedge
- Dechampsia cespitosa ‘Goldtau’, Tufted Hairgrass
- Schizachyrium scoparium ‘Standing Ovation’, Little Bluestem

Flowering Perennials

- Amsonia hubrichtii, Threadleaf Blue Star
- Baptisia australis, Blue False Indigo

Bulbs

- Allium ‘Lucy Ball’, Giant Flowering Onion
- Camassia leichtlinii ‘Sacajawea’, Large Camas
- Liatris spicata, Blazing Star