



COLLABORATIVE DESIGN GUIDES

[No. 1]



Transforming Philadelphia's Schoolyards





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COMMUNITY DESIGN
COLLABORATIVE

PHILADELPHIA
WATER
DEPARTMENT EST. 1801



A Partnership for Citywide Change

by **William R. Hite, Jr.**, Superintendent,
The School District of Philadelphia, and

Howard Neukrug, Commissioner,
Philadelphia Water Department

IN THE EFFORT TO CHANGE PHILADELPHIA'S URBAN LANDSCAPE, the School District of Philadelphia (SDP) and the Philadelphia Water Department (PWD) are perfect partners. The SDP has welcomed the greening of its school campuses through support from PWD, government officials, home and school associations, and community groups. The City has a state and federal mandate to manage stormwater, reduce flooding, and protect and revitalize its waterways—in the face of climate change, aging infrastructure, and urban development. A number of these improvements are already in place, thanks in part to PWD's Stormwater Management Incentives Program (SMIP) grants.

Philadelphia is not the first city to use green infrastructure as a tool to address stormwater runoff, but it is setting the national standard with PWD's *Green City, Clean Waters* plan. To achieve its critical goals, PWD needs acres—the hundreds that are now covered by asphalt—to transform into green stormwater management systems that welcome the rain while preserving capacity in the City's existing sewer system. SDP's paved schoolyards and parking lots have been and are being transformed into green spaces.

In working together to reimagine portions of the SDP's paved schoolyards and parking lots, we have realized some amazing transformations. Today, several pioneering schoolyards boast living laboratories of rain gardens, green roofs, porous paving, and trees. They not only soften and beautify our hard landscapes, but also provide PWD with the stormwater "Soak It Up" acres. These acres are essential to achieving the vision of *Green City, Clean Waters* over the next two decades.

With our partnership, everyone is a winner. Most importantly, however, is that through these green schoolyard projects, Philadelphia's children can touch and see "real nature" in a way that brings their lessons alive.

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Introduction

by **Beth Miller**, Executive Director of the Community Design Collaborative

Getting community projects done is not quick or simple. It's a long process, and transforming a schoolyard requires a game plan. For over twenty years, the Community Design Collaborative has served as a matchmaker, connecting communities with teams of volunteer design professionals to help put ideas on paper.

We respond to the needs of neighborhoods. Since 2003, we've coordinated 18 preliminary designs for schoolyards within the School District of Philadelphia (and several more independent schools and schools outside the city). Our volunteers have already donated 5,800 hours and \$572,000 in pro bono design assistance on these public school projects, and more schoolyard projects are now in the works.

We are unique in providing school groups with a comprehensive plan—one early step required to transform a schoolyard. Our approach is also to give technical assistance that goes above and beyond the preliminary design—we educate, facilitate, and provide a roadmap. This phase of work helps to present a common language that community leaders, residents, and partners alike can organize around, respond to, connect with, and invest in. In recent years, the Collaborative has further developed this process in concert with the wide support available to communities through the Philadelphia Water Department.

Schoolyards can transform the way children play, move, and learn. They also have a role in achieving the city's targets for sustainability, wellness, and stormwater management. A strong network of community leadership and resources is emerging in Philadelphia to support schoolyard transformation. Our inclusive design approach positions our clients for success as they move forward to build other partnerships in their neighborhoods and across the city.

School communities that have worked with us go on to organize community workdays, discover new ways to bring learning outside, find partners to donate labor and materials, and successfully apply for grants. They have said again and again that the Collaborative's early design assistance—and the concepts and plans that resulted—have been instrumental, and yet these communities are the true heroes in making these projects a reality.

Plans and renderings you will see here were created by the Collaborative's Design Grant volunteers. We hope this guide will inspire a new generation of school communities to begin the process of transforming their schoolyards. And we encourage you to reach out to us.



Images in this guide come from more than a decade of the Collaborative’s work with Philadelphia public school groups, which include:

.....
Bache-Martin School | Fairmount

💧☀️ **Cook-Wissahickon** Elementary School | Roxborough

Dr. Tanner G. **Duckrey** School | North Philadelphia

💧 **Horatio B. Hackett** Elementary School | Kensington

💧☀️ **Albert M. Greenfield** Elementary School | Center City

💧 **William D. Kelley** School | Brewerytown

John B. Kelly Elementary School | Germantown

💧☀️ **Henry C. Lea** Elementary School | West Philadelphia

Joseph Leidy Elementary School | Parkside

.....
 Gen. George A. **McCall** Elementary and Middle School | Center City

💧 **William McKinley** Elementary School | Norris Square

William M. Meredith Elementary School | Queen Village

S. Weir Mitchell Elementary School | Kingsessing

💧 **George W. Nebinger** School | Bella Vista

Olney Charter High School | Olney

Samuel Powel School | Powelton Village

💧 **Edwin M. Stanton** Elementary School | South Philadelphia

💧 **John H. Taggart** Elementary School | South Philadelphia

💧 Projects that received funding through the Philadelphia Water Department

☀️ Featured in the “Schoolyard Stories” section of this guide

Toward a Sustainable Future: Transforming Minds and Communities through Schoolyards

by **Lois A. Brink**, Chief Strategist and Co-Founder of The Big SandBox

Children playing outside—in spaces designed for play or otherwise—signify a vibrant, healthy community. Across the United States, however, children spend far less time playing than they used to, and the factors are manifold, including increased time in front of screens, the reduction of school recess, the physical degradation of play areas, and concerns about safety. As children become more sedentary, the loss of play has serious consequences for health and education, including obesity and reduced socialization skills that come from unstructured play.

Schools are a valuable environment for change, given that the average child spends 1,300 hours at school each year. These small-scale efforts can result in system-wide, community change given that, in the U.S., school districts are typically the second-largest landowner in urban areas. Urban schoolyards can be an effective tool for providing families and communities with opportunities for active play, physical education, outdoor learning, gardening and environmental literacy, and engagement with art.

Over the past decade, the Community Design Collaborative has developed an innovative and broadly accessible, boots-on-the-ground planning approach to transform Philadelphia schools seeking to

make the most of their much-needed open space. These partnerships between design professionals and communities have brought vision to 18 Philadelphia public schoolyards. Many of these school groups embraced stormwater management as part of their schoolyard transformation. Such improvements offer a “green advantage” that can lead to significant funding from the Philadelphia Water Department and jump-start the fundraising process for the remaining schoolyard elements.

I hope you come away from reading this guide feeling excited and that you, too, can implement many of the great ideas we present here as a catalyst for:

- healthy living, creative play, and embracing the wonder of life;
- experiencing nature in our ever-urbanizing cities;
- gardens that reunite our youth with the joy of food—from seed to table;
- art showcasing the expression of children and local artists; and
- bringing a community together to celebrate intergenerational spaces.

Schoolyard Stories

This section presents three school communities who developed conceptual plans for their schoolyards with pro bono design assistance from the Collaborative.

Each of the three school groups has found creative ways to build on its strengths and addressed its unique challenges to devise a compelling vision that has helped them navigate the design, funding, and implementation phases. All three projects benefitted from funding for stormwater improvements through the Philadelphia Water Department.

We hope that you recognize some aspects of your own school in one or more of these inspiring stories of change.

EACH GROUP TOOK A DIFFERENT APPROACH TO TRANSFORMING ITS SCHOOLYARD:

- **LEA'S** project was initiated by a community group rather than by parents and teachers.
- **COOK-WISSAHICKON** has made incremental changes.
- **GREENFIELD** remade its schoolyard entirely, with the support of a broad team of stakeholders.

FOR MORE INFORMATION, visit cdesignc.org.

Schoolyard Stories

Leading with Community-Driven Change

**HENRY C. LEA
ELEMENTARY SCHOOL**

4700 Locust Street | Philadelphia



▲ A shining example of Lea's success stemmed from a community organization partnering with teachers and parents to engage broader support. Today this often takes the form of a "Friends" group, which exponentially expands fundraising opportunities—even for a small school or a modest project.

The West Philly Coalition for Neighborhood Schools (WPCNS) reached out to the Collaborative in 2012 for help in greening the asphalt schoolyard at Lea Elementary. The Collaborative awarded a Design Grant for a conceptual plan, which WPCNS undertook in partnership with Lea's Home and School Association, The Enterprise Center, and LISC Philadelphia. Going through this early phase of the design process enabled Lea to build momentum by focusing on one simple greening project: a workday devoted to a highly visible planting bed.

The planting bed project generated such a groundswell of excitement among families and neighbors that it led directly to broader changes. Given its unique position in the West Philadelphia community, WPCNS was readily able to solicit community and financial support from those outside the school community, which was essential to implementing the rest of the conceptual plan. This team also worked closely with the School District of Philadelphia to marshal resources, define construction responsibilities, and establish maintenance plans—forging a path for other schools in the district to follow.



▲ A plan for green

The conceptual plan for the site (top) took advantage of a wide-open space (see original photo, right) to devise a series of smaller areas defined by trees and shrubs (green circles): a rain garden, a pergola, seating, an outdoor classroom, and a new entrance. The conceptual plan led to a Green Region Grant from the PECO energy company and a Stormwater Management Incentives Program (SMIP) grant from the Philadelphia Water Department to add a new rain garden, a bosk (small grove) of shade trees, and a large area of soft, porous play surface.



▲ Depaving makes space for a planting bed

To launch the greening of Lea, some 70 community volunteers worked over two weekends to create a planting bed along Spruce Street. The School District began the transformation by depaving this swath of asphalt and installing a hose bib that is essential for watering. The bed became a visible symbol of the change that could happen across the entire schoolyard.

“Once we got things off the ground, we realized how many untapped resources were available. People started to come out of the woodwork who felt personally involved. One community member even said, ‘I have been waiting for years for this to happen.’”

—**Julie Scott**, WPCNS member (co-chair of Greening Lea)

A soft landing

In 2014, Lea inherited play equipment from the recently closed Alexander Wilson School, whose students were also making the move to Lea. The School District paid to recycle and relocate the equipment; a SMIP grant from the Philadelphia Water Department allowed the school to remove the asphalt and replace the play surface under the equipment with a porous material that is safe for play and also manages stormwater runoff.



A vision for change

Students and parents were intrigued by the plan for the entire schoolyard. Later in the process, the school was able to hire a design firm to create the final design and construction documents.

Schoolyard Stories

Orchestrating Incremental Improvements

COOK-WISSAHICKON ELEMENTARY SCHOOL

201 E. Salignac Street | Philadelphia



▲ The conceptual planning process at Cook revealed the opportunity to bring eco-diversity to a prominent corner of the school site.

The biggest change at Cook-Wissahickon School transformed a standard lawn into a living, breathing meadow, full of possibilities for learning. These changes were the direct result of Wissahickon Sustainability Council (WSC)—a green committee of the Home and School Association, made up of families, teachers, and neighbors that insisted on thinking big about the schoolyard, even if implementation started out small. The group is continuing to advocate for greening every aspect of the school—the building, yard, and the curriculum.

The Collaborative created a conceptual plan for this unique site that reflected WSC's broader vision for greening. The plan empowered WSC to reach out for support and secure partners for the meadow, ultimately gaining a grant from the Schuylkill River Restoration Fund (and matching funds) in 2012. In the meantime, the group has continued to make headway on a series of smaller greening projects, such as planting beds, a tree nursery, and a magnolia grove.

Student observations

made during their outdoor journaling:

.....
"The meadow makes a good place for animals to live. It has lots of butterflies."
.....

"I saw bees collecting pollen from the Black-Eyed Susans."
.....

"The sound of the crickets makes the meadow sound alive."
.....



Making green even greener

Lawns might look green, but their compacted soil can cause stormwater runoff—not at all eco-friendly. The meadow (right) replaced a lawn (above) with an entirely new landscape designed to absorb stormwater. This transformation has created a bio-diverse habitat, where students observe and learn year-round from a range of plants and flowers that grass alone does not provide.

Beyond aesthetics

Getting the community onboard is happening in stages, too. Not everyone in the neighborhood was convinced about the meadow at first. Some feared it was an eyesore; others feared it was a haven for rats. But WSC used community meetings to transform this potentially divisive issue into opportunities for team building and group learning. Still not everyone is convinced, but some skeptical neighbors now endorse the meadow, saying, "It's not about how it looks. It's about what it does."





A broader blueprint

The Collaborative's conceptual plan is helping WSC take transformation step by step.

- location of the meadow
- opportunities for greening
- trees and shrubs

This master plan became the catalyst for a wider greening movement at the school. The WSC now has partnerships with the Philadelphia Water Department and the Schuylkill Center for Environmental Education.



“The plan has allowed WSC to move forward swiftly and confidently to cultivate partners that have helped us achieve our initial goals. There was always a next step that seemed doable, even on a less-than-grand scale.”

—**Jeanne Ortiz**, co-founder/
president of the WSC

Schoolyard Stories

Building a Strong Team of Stakeholders

**ALBERT M. GREENFIELD
ELEMENTARY SCHOOL**

2200 Chestnut Street | Philadelphia



Located a few blocks from the Schuylkill River, Greenfield is well-known in the city as an excellent, resourceful public school with a diverse student body. The Home and School Association started the process of creating an environmentally responsible schoolyard with a modest first step: They organized a penny drive with students and used the \$500 they collected to buy a weather station.

Parents and teachers formed the Greening Greenfield Committee, which went on to build tremendous capacity with a wide range of stakeholders—students, neighbors, public agencies, nonprofits, community groups, and foundations. In 2005, the committee worked with the Collaborative to create a conceptual master plan to green the schoolyard. Engaging the stakeholders throughout the design process was a huge factor in the committee's success. Greenfield was able to implement all aspects of the original plan, in five construction phases over seven years, thanks to the many sources of funding the committee sought out, large and small, from state representatives to benefit concerts.



Watching the flow

The flowing lines on this plan reflect how water moves through the site. This perspective was essential in devising solutions at Greenfield that incorporated stormwater management and reduced runoff.



Working toward bringing a green curriculum outside

Hands-on learning in the schoolyard would enhance Greenfield's environmental education program. The Fairmount Water Works trains educators to integrate local environmental lessons in the classroom that help students build on activities and observations in the yard. (Check out *Understanding the Urban Watershed Curriculum Guide* at resourcewater.org; see page 19.)

“Forming a dedicated committee of alumni, parents, and teachers was key to helping us get through the most important early phases.”

—**Lisa Armstrong**, Chair, Greening Greenfield Committee



It took a village

The finished schoolyard looks great, but it took many volunteers, contractors, and design professionals and many workdays to make it happen. Greenfield leaders aimed to benefit more than their own community—they wanted to spark schoolyard greening projects at other Philadelphia public schools.



Good planning for both plants and play

Play equipment is adjacent to rain gardens, which means that students end up interacting with the native plants—playing hide and seek, digging for worms—while at recess. The paved play areas have the added benefit of channeling water into the plant beds.

Steps to a Green Schoolyard

The Collaborative invites you, as members of a school community, to use this guide as a springboard to envision the future for your own schoolyard. Designers, too, can refer to the guide as they work with school community clients and partners.

Transforming schoolyards takes vision, tenacity, attention to the details, and imagination. Here are some of the steps you'll encounter along the way. The schools and communities who've already succeeded with schoolyard improvements tell us again and again: the work you do in the early stages will sustain you over the duration of the project, and beyond.

Although this guide outlines a sequence of steps that are appropriate for schoolyard greening initiatives, you will learn as you go that there are often lots of starts and stops. You may overlap or repeat several steps as your project takes shape.





Organize

1 Assemble a team

Convene a core group of individuals—families, students, teachers, staff, and neighbors—who care about your schoolyard. You must be able to count on this group to coordinate activities and promote the project within the larger community. Expand your group as you move along in the process, to represent all the people who will benefit directly from the improvements.

2 Kick-start the change

Simply keeping your schoolyard clean demonstrates that you see it as a valuable resource. Even modest measures generate new opportunities for positive learning and play. Your first project might be creating a small garden, or planting just a few trees—anything that builds excitement and interest and inspires the surrounding community to think about the future of the school. This will translate into support when you develop your longer-term vision for the broader schoolyard project.

3 Identify (or establish) a champion

No school community can handle a schoolyard improvement project without outside help. Designate an organization to provide energetic and consistent support to keep the effort moving forward. This might be a committee of the Home and School Association (Philadelphia's version of the PTA), a "Friends" fundraising group, an existing community group, or an independent nonprofit you create that is dedicated to supporting the school. Schoolyard transformations take years (rather than months) to accomplish, and your individual champions may change over time, but rest assured that new leaders will emerge from the process. Each one must be prepared to devote time to the effort over an extended period.

4 Reach out

INVOLVE THE STUDENTS

Students may not be able to manage and coordinate a project of this scale, but it is important that they have a sense of ownership of the project. Engage them early, since they will feel the biggest impact of the results every day—and they can act as effective advocates along the way. Give students opportunities to discuss their schoolyard experience and ideas:

- Invite a student government representative to meetings.
- Involve students in public workshops.
- Conduct a student survey.

TALK TO YOUR SCHOOL DISTRICT

Coordinate with your school's administrator as well as the school district (in Philadelphia, the District's Office of Capital Programs) about your schoolyard transformation and invest in a working relationship with key individuals there.



Connect the classroom

It is important to remember that any schoolyard improvements should ultimately serve the learning experience of the students at the school, and environmental education should start in the classroom. In fact, it is often the students and teachers at schools with strong, innovative environmental education programs that become the catalysts for transforming their schoolyard. Pairing classroom learning with schoolyard experiences can be a key element of academic success. The schoolyard provides opportunities for experiential, real-world learning like measuring, experiments, or journaling. Using outdoor learning spaces is an ideal strategy for reinforcing what teachers are already doing in the classroom.

As you develop your vision, invite district officials to participate in planning for improvements, and keep them in the loop as you make progress. District representatives may work closely with you to coordinate construction, develop a maintenance strategy, and contribute labor and resources.

CREATE A COMMUNITY TASK FORCE

A wider group of stakeholders will be important to your schoolyard project's success. Create a task force that represents the school (administrators, teachers, family members, and students), the surrounding community, and organizations with the potential to provide funding, expertise, or materials. Do research online or start talking with groups from other schools that have undertaken similar projects. Once you've identified organizations that seem like a good fit, invite them to a meeting, tell them about your schoolyard effort and how it supports their mission or broader goals, and invite them to join the task force.



Teaching about the Urban Watershed

The Philadelphia Water Department (PWD) offers a curriculum guide and teacher resources for connecting students in the classroom with real-world learning based on successful lessons and activities. Register at resourcewater.org for the full guide and information on other educational resources of the Fairmount Water Works, the PWD, and its partner organizations.



Make a (conceptual) plan

The success stories in this guide demonstrate the value of a preliminary design, called a *conceptual plan*, which will help you envision possibilities, establish priorities, and build consensus right from the start. You will find that the plan is essential to communicating your vision and beginning to orchestrate funding and support. On a practical level, a conceptual plan will help you identify the best locations for play areas, plantings, outdoor learning, and more. It can break the project into smaller steps or phases and help you find creative ways to integrate a myriad of contributions (plants, play equipment, or labor, for example) from many sources.

1 Do your homework

A conceptual plan begins with a good understanding of the physical environment of your schoolyard. It will help you early in the design process to:

- Ask students, teachers, and nearby residents how they use the schoolyard now and what they like and dislike about it.
- Assess the spaces and existing equipment and furnishings within the schoolyard, to determine which are obsolete, damaged, or well-loved by students.
- Identify good locations for new elements such as green stormwater infrastructure.

2 Come back to the big picture

Brainstorming with stakeholders ensures that your schoolyard responds to your community and has a clear, compelling vision. Some of the big-picture questions to ask during the conceptual design process are:

- What is special about the school building, site, and surrounding neighborhood?
- How can the schoolyard support education, the environment, and community health and wellness?
- What unmet or emerging local needs could the schoolyard address?
- How can we sum up our vision for our school or schoolyard with a few, well-chosen words?

3 Learn about the entire design process

It will help you to know the traditional design phases for typical capital building projects. Down the road, your team will need to commission additional design services from a planning, architecture, landscape architecture, and/or engineering firm in order to realize any major improvements. By that time, your network and fundraising efforts are likely to be well in place.

THE DESIGN PROCESS

PREDEVELOPMENT

Tests the feasibility of a project by determining goals, space needs, the appropriate site, and preliminary costs.

SCHEMATIC DESIGN

Develops conceptual drawings to illustrate the vision for the project.

DESIGN DEVELOPMENT

Refines the design and drawings, and develops preliminary specifications for building materials and methods.

CONSTRUCTION DOCUMENTS

Finalizes drawings and specifications to guide contractors in bidding, purchasing, scheduling, and construction.

CONSTRUCTION ADMINISTRATION

Ensures quality construction and the completion of the project on time and on budget.

The Collaborative's Design Grants include Predevelopment and a portion of Schematic Design, the first 10-15% of the overall design process.

+ Key Resource

DESIGN GRANTS FROM THE COMMUNITY DESIGN COLLABORATIVE

The Collaborative offers grants of design services to nonprofit community organizations, including school groups, in Greater Philadelphia. A Design Grant matches your group with architects, landscape architects, engineers, cost estimators, and other design professionals, who volunteer their time and expertise to support community improvement efforts. They will work closely with your school group and engage stakeholders to create a conceptual plan and a compelling vision for your future schoolyard.

The Collaborative offers a range of support to help you get off the ground in these early phases, including:

- An evaluation of your schoolyard site, including stormwater runoff and drainage conditions
- Strategic help supporting you in community engagement efforts (as you gather a task force, host meetings with stakeholders, etc.)
- Site plan (illustrating the proposed layout for the schoolyard)
- Renderings (illustrating what the space will look like)
- Preliminary cost estimates
- A plan for maintaining any new site elements
- A strategy for breaking the project into manageable phases, including some smaller do-it-yourself projects

LEARN MORE AND APPLY AT cdesignc.org.



Find the funding

Diversify your sources

Your funding will not come from one source. Successful schoolyard champions learn to broker and coordinate funding and in-kind donations. These may include:

- **School students and family members**—for modest, engaging fundraisers to build interest, reinforce the vision, and expand your group of “Friends.” (For example: a penny drive to raise funds to purchase a weather station.)
- **Alumni of the school**—for more formal fundraising efforts, like direct appeals and special events.
- **Community members and groups**—for funding or endorsements for the project.
- **Your local school district**—for materials, labor, and coordination of other capital improvements to support the project.
- **Businesses**—for local donations or recruiting corporate volunteers.
- **Foundations**—for direct financial support. Grant applications may need to focus on the priorities of the funder, which could be stormwater management or other long-term goals.
- **Nonprofits**—for in-kind donations, especially of expertise and materials.
- **Public agencies**—for significant funding, especially for infrastructure that has citywide benefit. (See the “Key Resource” at right.)
- **Public officials**—for support through funding and policy.

+ Key Resource

LEVERAGE FUNDING FOR STORMWATER MANAGEMENT

It is wise to integrate into your plan ways to manage how stormwater moves through your schoolyard—in a green, sustainable way. Stormwater management is responsible and sustainable (visit phillywatersheds.org/watershed_issues/stormwater_management). It can be a catalyst to jump-start funding from other sources in support of other schoolyard elements. (The “Design Elements” section lays out a menu of these options.)

SMIP Grants from the Philadelphia Water Department (PWD)

PWD has shown national leadership in managing stormwater through its *Green City, Clean Waters* plan, and a number of recent initiatives have focused on stormwater management in urban and suburban locations. Funding through agencies like this can provide significant leverage to realize your schoolyard vision.

Schools in Greater Philadelphia should visit PWD’s Green Schools website (phillywatersheds.org/greenschools) to learn more about grants through the Stormwater Management Incentives Program (SMIP).



Implement your plan

1 Do it yourself

You may start with a DIY project in the conceptual design, such as a building a raised-bed garden or replacing paving with a planting bed. This sets the stage and sustains excitement for bigger improvements down the road.

2 Hire a team of professionals

For major improvements, you will need a team that may include a landscape architect, architect, civil engineer, project manager or owner's rep, and contractor.

3 Participate in the construction phase

A good client remains active as the improvements are being implemented. Here are a few tips:

- Be sensitive to neighbors, students, teachers, and other community members who will be affected by construction.
- Devise a communications plan in advance so people know what to expect.
- Be aware of the time periods designated for construction.
- Stay in touch with your project/construction manager and with representatives of your school and/or school district.
- Participate in construction progress meetings (generally held biweekly).
- Keep students, teachers, families, and the task force in the loop through meetings and school assemblies.





Steward your success

1 Celebrate

As with any volunteer-led project, it's important to celebrate project milestones, large and small. These gatherings give you the opportunity to thank contributors, explain what you've accomplished, articulate what's ahead, and gain wider support. Refresh and reaffirm your shared commitment to the schoolyard by building regular events into the school and community calendar, like an Earth Day celebration or a workday to paint, plant a garden, weed, or do other maintenance.

2 Steward your schoolyard

Once a capital improvement to your schoolyard is complete, you're in the position to implement your maintenance plan with your school or school district and other partners (in Philadelphia, the Philadelphia Water Department) or groups that have been instrumental in getting the work done. Your group should expect to actively maintain the improvements—plantings and green infrastructure elements—and keep them in good shape.

3 Advocate

Join the growing network of people and organizations that are transforming schoolyards throughout your region (for Philadelphia-specific connections, see top right). Advocate as a larger group to go after wider funding and other resources. Your experience means that you are now in the position to provide mentorship to new groups that you can inspire with your work and successes.

+ PHILADELPHIA'S SCHOOLYARD EXPERTS

Transforming a schoolyard involves many partners and multiple components. Along with the Community Design Collaborative and the Philadelphia Water Department, there are many agencies and organizations in Greater Philadelphia that can help.

For more, visit cdesignc.org/guides/schoolyards



Design Elements

This section presents some of the ideas from the Collaborative’s 18 public schoolyard projects.

Consider these options as you begin to envision the details of your schoolyard, but also keep the broader vision in mind at each step of the process, in terms of how each element supports students and the community as well. (These goals would also be useful in writing a rationale for grant applications.)

Every conceptual design provides a unique approach to transform a schoolyard—even if different schools share similar goals. Your design will emerge from the needs of your school community and the particular characteristics of your school, students, and site. Each section touches on at least one positive outcome of designing these elements into a schoolyard project. These benefits help demonstrate the value of projects to garner support, as well as to help formulate funding strategies.

DESIGN ELEMENTS ARE GROUPED INTO SEVEN SECTIONS, EACH REPRESENTING A GOAL:

.....
• Support **ACTIVE PLAY**
.....

• Green the **LANDSCAPE**
.....

• Manage **STORMWATER**
.....

• Introduce **LEARNING TOOLS**
.....

• Nurture **SOCIAL ACTIVITIES**
.....

• Create **GATHERING SPACES**
.....

• Enhance the **SITE**
.....

Design Elements

Support active play

Effective outdoor spaces support diverse activities for students, who seek different kinds of play depending on their age. Manufactured play equipment, for example, encourages both girls and boys to engage in vigorous physical activity. A multisensory environment should combine smooth, brightly colored play equipment with the rough and “wild” textures of natural landscapes.

Effective schoolyard designs target all three stages of children's physical development: activities that enable first graders to explore space and relationships; guided discovery, leaping, and climbing for second and third graders; and refining skills and developing upper-body strength in fourth to fifth graders and middle schoolers.



Play equipment

A design for the schoolyard at Hackett Elementary clusters playground and fitness equipment to accommodate students of all ages. A central area leaves room for children to run and play games requiring a hard surface, while a grassy area provides room for less formal, creative play.



Berms

The plan for Meredith School replaces portions of the asphalt schoolyard with berms (rounded, raised play surfaces). These transform an ordinary, level playground and can divide space for games from green areas for nature exploration. At Greenfield School (see page 14), rubberized berms create a new topography that gives children places to climb, leap, jump, or rest.

Basketball court

With limited space or budget, it's wise to choose elements that can support multiple kinds of physical development and mixed age groups. A proposed basketball court at Lea School promotes team sports for older kids, who are sometimes more sedentary; it also provides ample space for more free-form play.



Design Elements

Green the landscape

Native trees, shrubs, and other plants in the schoolyard create habitats for wildlife and shade for students. The single step of de-paving portions of hard-top schoolyards can create space to green the landscape.

Planting vegetation is essential to minimizing environmental impact in urban areas. In addition to reducing pollution and stormwater runoff, it lessens the “heat island” effect (high temperatures that occur in places dominated by pavement and buildings). Vegetation can also improve air quality in urban areas, where asthma is often a significant concern for school-age children. With careful planning, any hard surfaces can direct water to feed gardens, trees, and the green spaces that create pleasing boundaries between play areas.



Gardens

Reconnecting with nature helps children develop a lifelong appreciation for the environment. Plans for vegetable and flower gardens at Nebinger School will soften the urban landscape and provide opportunities for children to collaborate and socialize, engage all of their senses, and teach them about healthy eating and nutrition. Working together to take responsibility for a garden increases students’ self esteem and creates positive relationships with their peers—both of which can improve how they perform in school.



▶ **Shade trees**

Parents gravitate towards play spaces that offer ample shade, whereas a lack of shade inhibits children’s physical activity. New shade trees in the McKinley School plan (right) will provide a varied landscape as well as much-needed relief from the sun (above).



◀ **Natural habitat**

New plantings proposed for Stanton School would mimic woodlands, meadows, and orchards. This would bring more birds, insects, and sounds—as well as seasonal color—to the schoolyard.

Design Elements

Manage stormwater

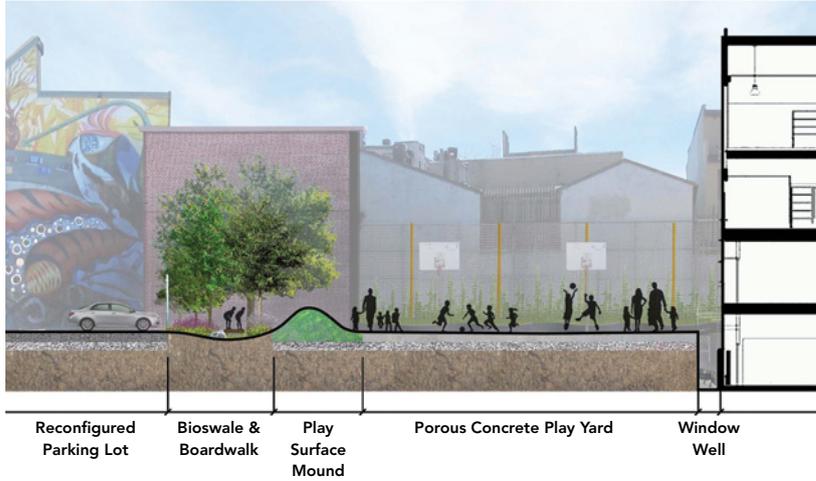
Because every neighborhood has a school, every schoolyard is an opportunity to reduce water pollution and prevent flooding. In Philadelphia, schools can receive funding as part of the Water Department's *Green City, Clean Waters* plan. This 25-year plan supports green infrastructure to manage stormwater in a more natural way and reduces impacts on the sewer system and waterways.

In urban areas, stormwater runoff usually carries surface pollution that—without strategic green infrastructure—flows into streams and rivers. Incorporating sustainable elements within schoolyards can empower students to shape their city's future—one with clean, attractive waterways and a safe, affordable water supply.



Bioswales and rain gardens

The plan for McCall School uses a “bioswale” area and a rain garden to capture and manage water that runs off paved schoolyard surfaces that are impervious to water. Here water flows through a wide, shallow channel lined with vegetation that traps and filters stormwater.



Porous paving

The existing play yard and parking lot at Meredith School can be redesigned to absorb stormwater. Porous asphalt and a layer of compacted stone would allow rain to seep into the soil below.



Rain barrels

Rain barrels are an inexpensive and easy-to-install way to manage stormwater and provide a basic environmental lesson. This plan for Stanton (far right) shows how to integrate a rain barrel into a small structure within a playground.



Design Elements

Introduce learning tools

Innovative schoolyard elements support outdoor learning spaces that focus on academic achievement. Interacting with nature is in itself a learning opportunity—as simple as watching the flow of water through the schoolyard. Butterfly gardens, rain barrels, birdfeeders, and weather stations can instill an appreciation for the environment. These can be formal or informal and provide tools such as workstations and multiuse areas for inquiry and exploration, whether in science, technology, engineering, the arts, or mathematics (STEAM). Students pay attention for longer periods of time on outdoor assignments and focus more effectively when they return to the classroom.



Outdoor classroom

This McCall School plan reimagines an underused concrete plaza, which is separate from the main play area, as an outdoor classroom. The boulders (at the center of the image) provide classroom seating, as well as a natural edge that helps to define the space.



Teaching aids

Some learning tools can be painted directly onto paved portions of the schoolyard. In this plan for Leidy School, a compass and sundial offer living lessons on navigating space and measuring time.



Nature walks

A boardwalk envisioned for Kelly School reflects creative thinking on how to expand learning space directly into the landscape. In some schoolyards, this boardwalk through a bioswale could be part of a larger loop for walking, jogging, and experiencing nature.

Design Elements

Nurture social activities

Play environments have the potential to engage the social, emotional, and health needs of children of all ages. Schoolyards can support quiet, make-believe play, as well as sports and team-based activity. In a well-designed schoolyard, kids can work as a group, large or small, and choose a setting that best suits how they want to engage with one another. This includes the needs of shy, quieter members of the group. In an engaging play environment, kids negotiate rules and take on leadership roles.

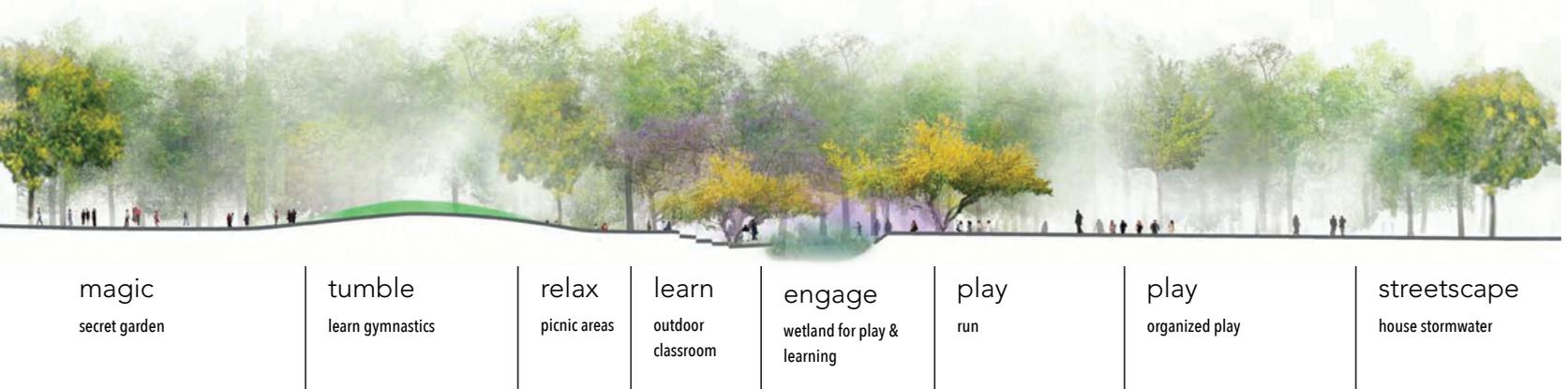


BEFORE



Creative play

The “before” photo (left) shows an underused portion of the Powel School schoolyard. The “after” photo shows a proposed design that uses a yellow painted maze on the ground and an old tree well to create a small stage (above) to inspire performance, creativity, and interactive play in a green corner.



Play zones

This cross-section drawing of play spaces at Nebinger School reflects how the landscape lends itself to a variety of social activities.



Art enrichment

Public art—banners, tiles, mosaics, murals, or sculptures—provides visual variety and can even reduce the likelihood of vandalism. Children develop pride in and a sense of ownership of these projects when they collaborate with the artist. Greenfield School students had the opportunity to be part of a group effort to design and install this mosaic.



Design Elements

Create gathering spaces

Meaningful interaction is essential to a community's quality of life; people build satisfaction through spending time with those they value and enjoying spaces that are aesthetically pleasing. Schoolyards such as these increase the sense of ownership by the school and the community, and active spaces are safe spaces. Neighbors become invested in taking care of the schoolyard, which has become an amenity—which in turn eases the burden on the School District and parents to handle all of the maintenance.

Master plans can create “rooms” that bring kids and the community together, during school hours as well as in the evening, on weekends, and during summer months. New school entrances that serve as portals welcome students and neighbors alike. Designated areas with seating are ideal for small, spur-of-the-moment gatherings as well as community events.



Community space

The plan for the Bache-Martin School features courtyards and small outdoor spaces around the school, which community members can reimagine after the school day ends. This view shows how to transform an underutilized service area into a “community porch”—perfect for an art show or an evening fundraiser.



Trellis

Seating in informal gathering spaces is especially useful at the beginning and end of the school day, when students and parents meet and mingle. The plan for Stanton School includes a shady spot with benches and greenery at the schoolyard entry, leading to what's inside.



Stage or amphitheater

The plan for Stanton School creates performance spaces that can also function as an outdoor classroom.



Seating

The plan for Bache-Martin School incorporates seating into a linear garden that allows individuals as well as groups to gather.



Design Elements

Enhance the site

A school building is a prominent feature on a block that enhances the entire neighborhood. An attractive, well-designed schoolyard connects the school with residents and even cuts down on noise by reducing the amount of asphalt—turning many schools into a unique community asset.

The school exterior reflects what is happening inside, and a schoolyard project signals to neighbors that there has been positive investment in the school and, by extension, the community. This can have an impact on prospective homebuyers as well as on local parents who may have been unsure about sending their children to the school. Site improvements such as these can also improve property values of surrounding homes.



Gateway

This plan for Kelley School provides a clear, inviting path to enter the school property. An entrance like this redefines a school's identity as an asset and instills pride in community members.



Fencing

The plan for Meredith School changes a stark chain link fence (far left) into attractive fencing with climbing native plants, to conceal the blank walls behind it.



Enclosed dumpsters

A greening plan can mean simple but creative solutions to logistical elements such as parking, trash, and recycling areas within the schoolyard. This concept for Kelley School relocates and encloses the dumpster to create a safe and attractive separation from the play area.



Design Elements

A menu of design elements

The previous section illustrates just some of the design solutions that grew out of the Collaborative conceptual planning process for schoolyard projects at 18 Philadelphia public schools. We invite you to explore this more complete menu of design elements below, and to consider still others, as you envision your future schoolyard.



SUPPORT ACTIVE PLAY

- play equipment*
- fitness equipment
- berms*
- track
- basketball court*
- hard-surface play area
- multipurpose field

GREEN THE LANDSCAPE

- shade trees*
- vegetable/fruit and sensory garden*
- natural habitat* and habitat zones
- orchard
- streetscape planting

MANAGE STORMWATER

- green roof
- rain gardens/bioswales*
- green screen
- porous paving*
- green streets
- rain barrels*

INTRODUCE LEARNING TOOLS

- outdoor classroom*
- greenhouse
- solar panels
- teaching aids* and educational graphics
- nature walks*



NURTURE SOCIAL ACTIVITIES

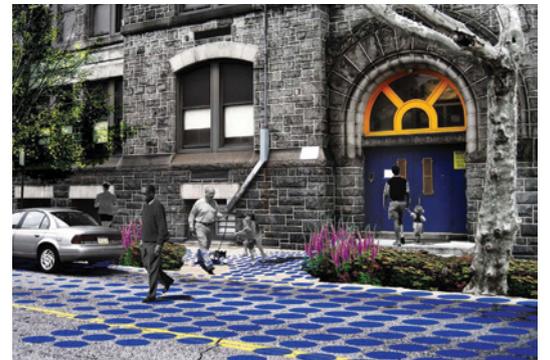
- nature-inspired play
- creative play
- play zones*
- public and other art elements*
- game tables

ENHANCE THE SITE

- fencing*
- pick up/drop off area
- building improvements
- signage and lighting
- water source
- historic elements/interpretive signage
- parking
- storage
- dumpsters*
- bike racks
- recycling and composting

CREATE GATHERING SPACES

- community space*
- cultural elements
- stage/amphitheater
- shade structure/trellis*
- seating*
- gateway/threshold*



*featured in this guide

Acknowledgments

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This guide would not be possible without early support from the City of Philadelphia Office of Housing and Community Development, and the community-based organizations that sought out the Collaborative for assistance in planning schoolyard projects for these 18 schools. Most of all, we are indebted to the more than 100 volunteers who, over the past decade, have worked with these community-based organizations to create conceptual designs for the projects highlighted here.

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A special thanks to the more than 100 design professionals who volunteered through the Community Design Collaborative to help schools and communities envision the schoolyards presented in this guide.

Note: Team information reflects firm affiliation, credentials, and professions at the time of the project.

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The Community Design Collaborative provides pro bono preliminary design services to nonprofit organizations, offers unique volunteer opportunities for design professionals, and raises awareness about the importance of design in community revitalization. Founded in 1991 as a program of AIA Philadelphia, the Collaborative is an independent 501(c)(3) nonprofit organization with a network of over 1,000 volunteers.

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