



ARSENAL PARK

CONCEPTUAL MASTER PLAN REPORT

JULY 2015

ACKNOWLEDGEMENTS

With appreciation to these individuals and organizations for their thoughtful contributions and enthusiastic participation in the planning effort for Arsenal and Leslie Parks

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INTRODUCTION

ARSENAL PARK MASTER PLAN ALLOWS EVERYONE FROM RESIDENTS, SENIORS, PARENTS, HISTORIANS, SPORTS PROGRAMMERS TO BUSINESS OWNERS, COMMUNITY ORGANIZATIONS, STAKEHOLDERS TO CITY OFFICIALS, AND PUBLIC AGENCIES TO FORM **A SHARED AND “LIVING” VISION.**



Introduction to Arsenal Park Master Plan

Arsenal Park is a great legacy entrusted to the citizens of Lawrenceville and Pittsburgh.

Located in the heart of the neighborhood, this park is central to the health, recreation, and revitalization of Lawrenceville and the East End community at-large. A beloved public resource containing historic structures and magnificent trees, the park offers underused space that the community is increasingly eager to enjoy. Yet Arsenal Park has endured years of irregular park maintenance which, if not reversed, will convert an asset into a liability. This precious green space deserves a comprehensive approach to its renewal.

It is with the utmost respect for its creators and supporters that we present this Arsenal Park Master Plan as the vision for future, balancing and protecting the park's rich history with new and restored amenities that will support contemporary community life. Putting the plan into practice will help bring a new level of popularity to the park while preserving its utility and value for current and upcoming generations.

A group of residents, community stakeholders, organizations, and elected officials – now named the Friends of Arsenal Park (FAP) -- formed in 2012 to focus on the need for regular park clean up, maintenance, and repairs. While addressing priority concerns and issues within the existing park, many residents felt it necessary to also think about the park's future. It became clear that a master plan would be a critical link to restoring integrity, grandeur and safety, and enhancing the park's accessibility and appeal. Such a plan would provide a structure for guiding change and a rationale for capital investment over the long term.

In 2013, the City's OpenSpacePGH comprehensive plan called for developing a master plan for Arsenal Park. Former City Councilman Patrick Dowd secured funding and convened partners to guide the plan's development. Representatives from FAP, Lawrenceville United, Lawrenceville Corporation, the Pittsburgh Parks Conservancy, and the Department of City Planning formed the core "Project Team." The team worked closely with the planning consultant MKSK to engage a wide range of people in thoughtful, creative discussions about Arsenal Park's past, present and potential.

The resulting Arsenal Park Master Plan represents Lawrenceville's care and concern for the park. The shared experience of creating a vision for the park has brought generations of residents together, fostering a sense of community, pride, and ownership that will help the park to be well-maintained and stewarded for years to come. We wish to thank the wide array of individuals, groups, and stakeholders who have given their time and knowledge to craft a plan that will give Arsenal Park a future that is as rich as its past.

The plan also addresses the park's larger context by finding opportunities to physically reconnect with its immediate neighbors, the Arsenal Schools and the Allegheny County Health Department. Creating these links will increase access to the park and better integrate its natural systems by improving stormwater management and enhancing tree canopy coverage. Also identified are pedestrian- and bike-oriented connections that move through and between Arsenal Park and nearby Leslie Park (planned at the same time as Arsenal Park to offer complementary uses to serve the community).

The Arsenal Park Master Plan expresses the best current thinking regarding the planning, treatment, and management of Arsenal Park. A living document, the plan will be subject to future amendment due to unforeseen changes. Any such modification to the plan should be addressed through a thoughtful community process. With the implementation of each major project, there will be opportunities for public input.

We look forward to working with the Lawrenceville community to bring this plan to life.

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WHAT: The Opportunity

The overarching goal of the Arsenal Park Master Plan is to develop a great vision that weaves the threads of history and contemporary community life together into a safe, active, accessible, and sustainable park. This project will help bring the park a new level of usability and popularity while preserving its historical significance for current and future generations.

This Master Plan report focuses on the future needs of Arsenal Park and the surrounding neighborhood while creating a strong sense of place and promoting a healthy and active community with the park as its walkable core.

This is an opportunity for leveraging important open space in community revitalization by placing the community at the center of the equation, promoting connectivity throughout the neighborhood, and fostering a sustainable future for Lawrenceville. It is also a great opportunity to celebrate, preserve and interpret the park's cultural and historic resources.

Although the main focus of the Master Plan is Arsenal Park, it is important to study opportunities for physically reconnecting the park with the larger "Arsenal Campus" which extends from Penn Avenue to Butler Street. The campus context is also considered in relation to enhancing tree coverage and making Arsenal Park more visible and inviting as a public destination. The plan identifies the best opportunities for extended connections through the neighborhood, to key destinations such as Children's Hospital, the mixed-use corridor along Butler Street and Penn Avenue, and to other nearby green spaces and parks including Leslie Park.

In an effort to promote continuity of open spaces within the Community of Lawrenceville, the Master Planning team also investigated and explored opportunities for improvements to Leslie Park, located at the intersection of Butler Street and 46th Street. Only six blocks northeast from Arsenal Park, Leslie Park provides additional and complementary open space for recreation and leisure for the residents of Lawrenceville. These master plans were conducted simultaneously through multiple community engagement opportunities with a variety of stakeholders.

WHY: The Vision

Arsenal Park is viewed as both historically significant as well as a vital open space within the community of Lawrenceville. Located between 39th and 40th Streets and between Penn Avenue and Butler Street, the park embraces the unique neighborhood setting and the sloping topography. There is a strong desire for the park to continue to foster health and wellness for the community, serve as an ecological resource, and provide a location for civic interaction.

The Master Plan serves as a vision for Lawrenceville to continue to achieve a forward thinking urban park system, fostering community interaction and the development of a sustainable Lawrenceville -- Socially, Environmentally, and Culturally.

This report establishes a comprehensive series of physical recommendations in support of ecology, history, programs/events, activities, and behaviors that echo the goals and objectives developed by the Design Consultants and Project Team, stakeholders, and community members. The well-planned design and management of the urban park can further the goal of providing a park in which spending an hour or a day at the park is an experience of opportunities for both individuals and groups engaging in expression, self-discovery, and recreation. In such a park, all spaces contribute to a sustainable environment honoring the legacy of the past and celebrating the community's future. This renewed consciousness about urban park planning and design, and its impact on health and wellness, will help create a dynamic and powerful signature park for Lawrenceville.

HOW: The Process

GROUNDING:

An intensive period of interviews, observation, and research to gain a comprehensive understanding of the park site and its surroundings.

EXPLORATION:

Developing in words and concepts, broad planning principles and goals in response to community issues and needs.

RECOMMENDATIONS:

The formulation of physical planning and design concepts, tested against planning principles and goals, in meeting identified program and enhancement needs.

FINALIZATION:

The refinement and adoption of a comprehensive, unified set of ideas that comprise the master plan.

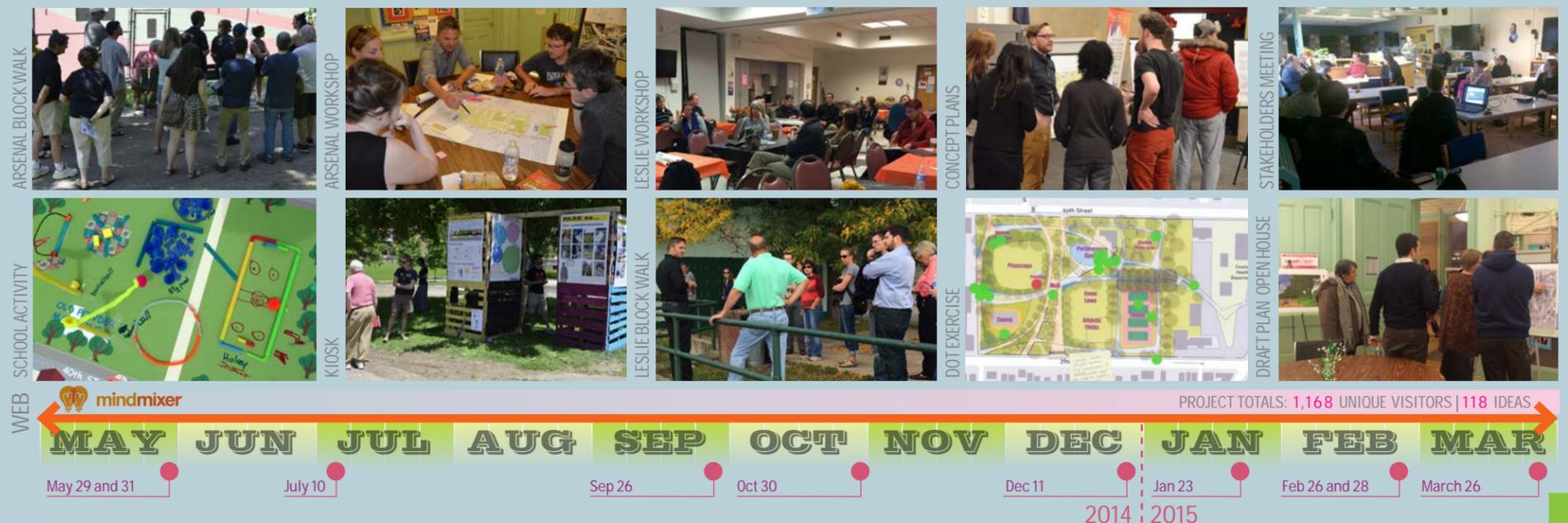
These steps were taken in concert with the Project Team, which provided input and evaluation of each step throughout the planning and design process. The role and focus of the Project Team was to:

- Grow in knowledge and understanding of the site and the surrounding context, how it looks and how it works;
- Review and help determine planning and design principles and goals for the development and re-development of the site;
- Discover and explore new ideas and new ways of thinking about the site and the surrounding area;
- Share results of the planning and design process with key stakeholders and the community; and
- Promote and be an advocate for the orderly planning, development, and re-development of the park.

WHO: Community Engagement

The early stages of a planning project is a time for learning and collaboration. It is here that we invited the public and stakeholders to share with us the issues and considerations important within the community of Lawrenceville. This knowledge, and the relationships built through this process, guided our planning efforts as we developed ideas and strategies to address project planning and design issues. The testing of those ideas, through further public engagement, ultimately provided us with a consensus-based direction. Our goal was to form a shared and "living" vision. To reach this goal, we cast a wide net, which included residents, business interests, community organizations, key stakeholders, key officials, and public agencies. Opportunities to engage the public were in the form of traditional open house, forums, or focus group sessions. The Project Team also utilized the web-based platform MindMixer to provide an alternative approach to engaging a wider range of participants.

The photos and timeline illustrate the variety of community engagement opportunities that the Project Team organized throughout the master planning process. Spanning from May 2014 through March 2015, the team engaged the community and key stakeholders through workshops, charrettes, presentations, school functions, and the web-based platform MindMixer.



MASTER PLAN

Design Motivation

The existing study area for Arsenal Park presents itself as a community green space with several recreation and entertainment zones or compartments. The park is currently accessed on both 39th and 40th Streets, effectively establishing its northern and southern borders. These access or entry points, several of which are not universally accessible, link the interior network of circulation with the surrounding streetscape and adjacent neighborhood.

During the Grounding Phase of the Master Planning process, the Design Team indicated particular key structures/infrastructure items as "Givens." These existing features on the site are considered items of significant historical meaning, to be integrated into the overall Master Plan strategy. The "Givens" outlined in this Master Plan report are as follows:

- + Powder Magazine
- + Perimeter Stone Wall
- + Pedestrian Mall

Improving park edges and providing a more fluid and accessible network of circulation will increase physical and perceived connectivity between the park and the surrounding neighborhood. The Master Plan recommends the following strategies for improved connectivity:

- + Provide more accessible routes into the park.
- + Provide access to the park from Arsenal School.
- + Provide access to the park from County Health Department.
- + Where needed for accessible entrances, enlarge or selectively remove portions of the perimeter stone wall.
- + Maintain continuous pedestrian and bicycle paths.
- + Protect and incorporate the existing Elm Tree allee into the overall park design.

The following pages present highlights of the significant spaces and elements of the master plan.



Playscape

Highlights

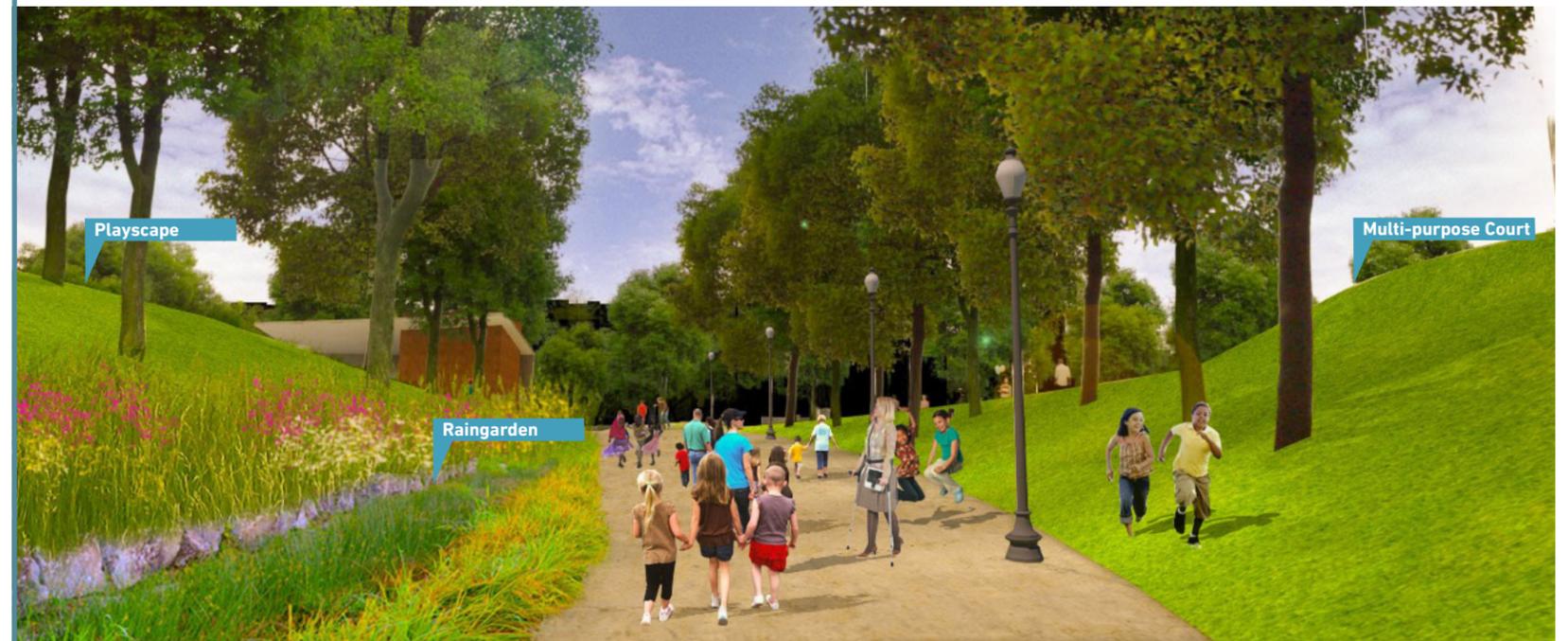
1. Remove existing ball field and regrade site for safe and accessible playscape (roughly 30,000 SF)
2. Provide designated play areas for 2-5 and 5-12 year old age groups. (2-5 Yr = 2,000 SF, 5-12 Yr = 3,000 SF)
3. Restroom / Pavilion Structure - 1000 SF
4. Observation Mound, synthetic turf surface.
5. Perimeter Track - Rubberized Safety Surface.
6. Landform Sculpting - Integrate sliding and climbing features.
7. Trees and Horticulture - Integrate into playscape to promote a natural landscape experience.



The Mall



School Connector

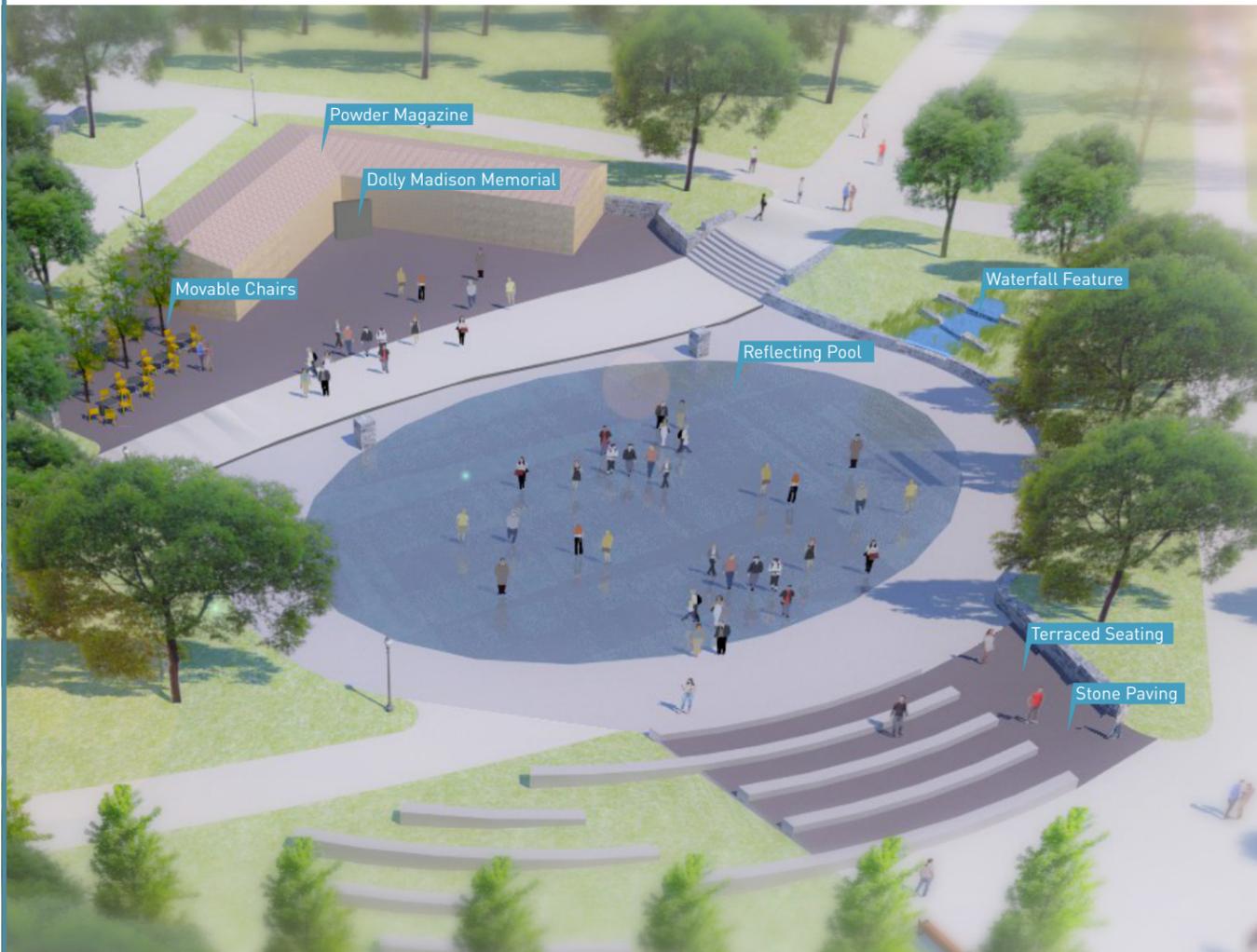


MASTER PLAN

Powder Magazine + Performance Area

Highlights

1. Renovate original structure of Powder Magazine. Remove restroom addition and repair exterior stone roofing (consider green roof); renovate interior spaces for storage and concessions. Restore The Dolly Madison Memorial to its original location/function.
2. Convert historic pond structure into wet/dry water feature, capable of providing a thin layer of water on the surface of the pond or serving as a dry area for gathering during events. Create a new waterfall feature to recall the historic design.
3. Repair and replace existing stone paving in terraced seating. Construct new seat walls for observation of performance and water features.
4. Provide shaded seating area next to Powder Magazine.



Memorial Garden

Highlights

1. Provide permeable pavement for walking surface of memorial garden area.
2. Design and install interpretive graphics honoring the history of the Arsenal and Arsenal Park. Interpretive panels should be illuminated to serve as park lighting as well as accentuate the panels in the evening hours.
3. Install large shade trees throughout the space to provide a comfortable environment during the summer months.



Woodland Lounge

Highlights

1. Repair stone terraced steps for safety and aesthetics.
2. Install precast lounge chairs under canopy of existing trees.
3. Install hammock area under canopy of existing trees.
4. Provide accessible entry in northeast corner of park along 40th Street.



Multi-purpose Court

Highlights

1. Regrade site for level playing surface.
2. Install new asphalt surface for court play with basketball goals for full court play.
3. Install perimeter activity and observation wall (painted or integrated color concrete material) with stepped seating and activity areas (climbing structures, stretching bars, coping for skateboarding, slides, etc)
4. Provide lighting for evening activities and events. Lighting fixtures shall provide ample lighting for evening and night activities. Use of energy efficient lighting should be a priority when selecting light fixtures. Also provide accent lighting for the perimeter seating and activity area.



Park Perimeter

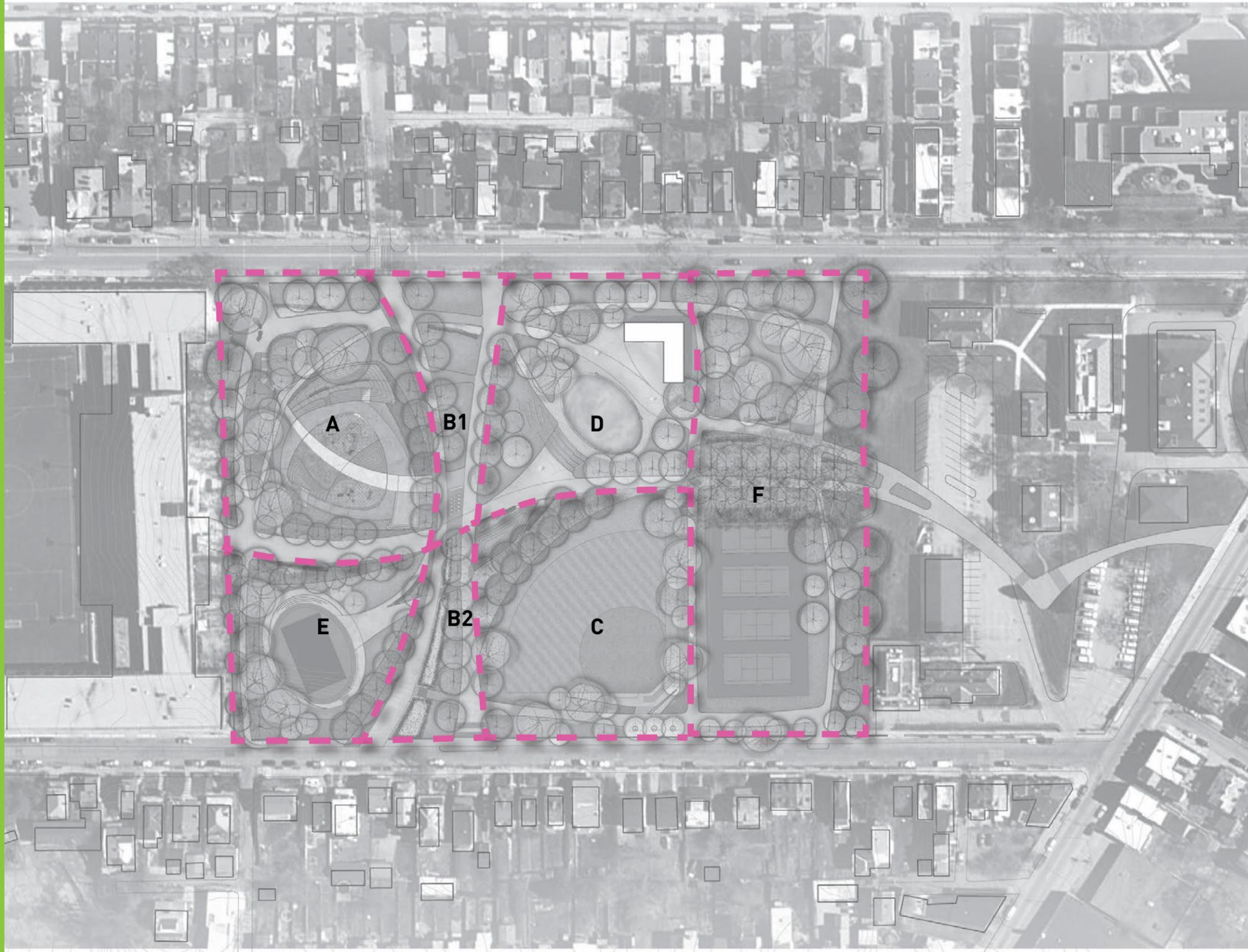
Highlights

1. Repair and reconstruct damaged historic stone wall.
2. Provide new park entry with opening in wall (8-12'), benches, and lighting.
3. Install raingardens along 39th Street curb for stormwater management and traffic calming.
4. Repair sidewalks and paths to promote safe circulation and reduction of trip hazards.



The idea that most family recreation and social activity occurs in the backyards is no longer true. People are searching for the sense of connection and community, and placing a higher value on fitness and social interaction.

Urban Land Institute (ULI) 2014 Open Space Development Outlook



Cost Opinion

A. PLAYScape

- + Pavilion
- + 2-5 year area
- + 5-12 year area
- + Pedestrian bridge
- + Rubberized play surface
- + Arsenal school connector
- + Rain gardens

B1 + B2. MALL

- + New Paved Surface
- + Permeable Paver Areas
- + Shade Trees
- + Native Plantings
- + Seating / Benches
- + Splash Water Feature
- + Parks Standard Pole Lights
- + Raingardens

C. BALL FIELD AND MEMORIAL GARDEN

- + Ball field
- + Lighting
- + Memorial garden
- + Interpretive signage
- + Rain gardens

D. POWDER MAGAZINE AND PERFORMANCE AREA

- + Building renovation
- + Reflecting pond
- + Amphitheater seating
- + Moveable tables and chairs
- + Waterfall
- + Repair stone terracing
- + Rain gardens

E. COURT PLAY SPACE

- + Activity and observation wall
- + Asphalt court surface
- + Lighting
- + Walking track surface
- + Furnishings
- + Rain gardens

F. TENNIS COURTS + WOODLAND + CONNECTION TO HEALTH DEPARTMENT

- + Removal of fencing along park boundary
- + Bike polo court
- + Bioswales
- + Lounge seating and hammocks
- + Rain gardens
- + *County Health Department connector to be determined in future discussions*

Cost Opinion

Archeological Survey <i>(to be performed prior to implementation of all projects)</i>	\$10K
A. Playscape	\$ 1.2m
B1. Mall <i>(with Playscape Construction)</i>	\$ 450k
B2. Mall <i>(South Mall Construction)</i>	\$ 400K
C. Baseball Field	\$ 550k
D. Pond + Powder Magazine Renovation and Performance Area	\$ 1.7m
E. Court Play Space	\$ 550k
F. Tennis Courts + Woodland + Connection to Health Department	\$ 550k
TOTAL ESTIMATE	\$ 5.4M

Preliminary estimates of probable construction costs have been created to guide budgeting for the phased implementation of park improvements. Future phasing will be contingent upon several factors including the availability of public funding, the sequencing of complimentary projects, and private-sector participation in the development of park amenities and programming. Proposed phases could be separated or combined based upon coordination issues and the availability of funds.

All of the budget estimates are based upon the conceptual design proposed herein. The estimates have been conceived without the completion of more detailed engineering and the limitations of the available mapping. While these estimates are useful in establishing relative improvement budgets and in pursuing supplemental project funding, additional design will be necessary to predict specific project costs.

Moving Forward

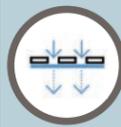
Detailed Design - The size and scope of the future park development will require significant coordination over several phases involving both the public and private sector interests. In order to ensure that future development of the park meet the community's expectations for quality, durability, appearance and identity we recommend that consideration be given to establishing design guidelines for all leased spaces and building sites. The development of design guidelines could be coordinated with the detailed design and documentation of park improvements.

Outside Funding Strategies

In order to capitalize on current interest and momentum; and in recognition of the limited availability of federal, state, and local government funds, this plan should be actively used in the recruitment of private-sector investors and funding partners. Corporate entities such as Local and National Banks, Health and Wellness Providers, and Technology Companies frequently sponsor the construction and operations of Health and Wellness Initiatives and Significant Community Facilities such as those planned at the park. These potential partners should receive assistance in gaining an understanding of the benefits of public / private partnering.

Sustainable Best Management Practices

The following practices should be employed throughout the park to reduce development impacts and lead to a healthier overall environment.



POROUS / PERMEABLE PAVEMENTS - Porous pavement systems are hard surface pervious pavement materials, equal in strength and durability to conventional pavements; that allow stormwater runoff to percolate through the pavement into the ground thus reducing storm water runoff and surface water pollution.

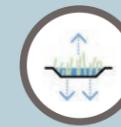
Gravel base courses lying underneath the porous pavement surface serve as a "reservoir" to temporarily store the percolated stormwater, thereby lengthening the infiltration period into the underlying soil. Pervious pavement options include

Porous Asphalt, Porous Concrete and Permeable paving systems.

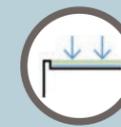


RECYCLED PAVEMENTS & BUILDING MATERIALS - Pavements made from recycled sources ultimately save resources and energy. Recycled asphalt unit pavers provide a very appealing alternative to traditional brick and concrete unit pavers.

Recycled asphalt pavement reduces pollution, waste and fossil fuel (petroleum) consumption associated with the manufacture and transportation of asphaltic pavement materials. Specifying recycled asphalt should be considered as a means to reduce the city's contribution to greenhouse gas emissions.



RAINGARDENS, BIO-RETENTION CELLS & STORM WATER PLANTERS - These features use a series of landscaped or turf covered catchment areas designed to capture, cool, cleanse and infiltrate stormwater runoff from paved surfaces. These systems are an effective method of integrating landscaping and stormwater management into the more intensively developed areas of the park.



GREEN (VEGETATED) ROOFS - Vegetated or "green" roofs provide excellent benefits to high performance buildings including reductions in the rate and quantity of stormwater runoff and increased energy efficiency. Green roofs should be considered for the restroom and pavilion structure, and potentially for the Powder Magazine.



NATIVE LANDSCAPE PLANTINGS - Native plant species should be utilized in the restoration of heavily modified and disturbed areas of the park. Native species are non-invasive and typically require less maintenance, supplemental watering, pesticides or fertilization than non-native landscape plantings. Native turfgrasses and meadow species can be selected for their year-round ornamental qualities, height, texture and color characteristics. Native plantings still require maintenance during the establishment phase, however the establishment period can be as little as one year.

REGIONAL PARK

- Highland Park
- Riverview Park
- Frick Park
- Schenley Park
- Emerald View Regional Park

1,971.7 ACRES

- 377.9 acres
- 258.8 acres
- 643.8 acres
- 434.1 acres
- 257.2 acres

CITYWIDE COMMUNITY PARKS

- Arsenal Park

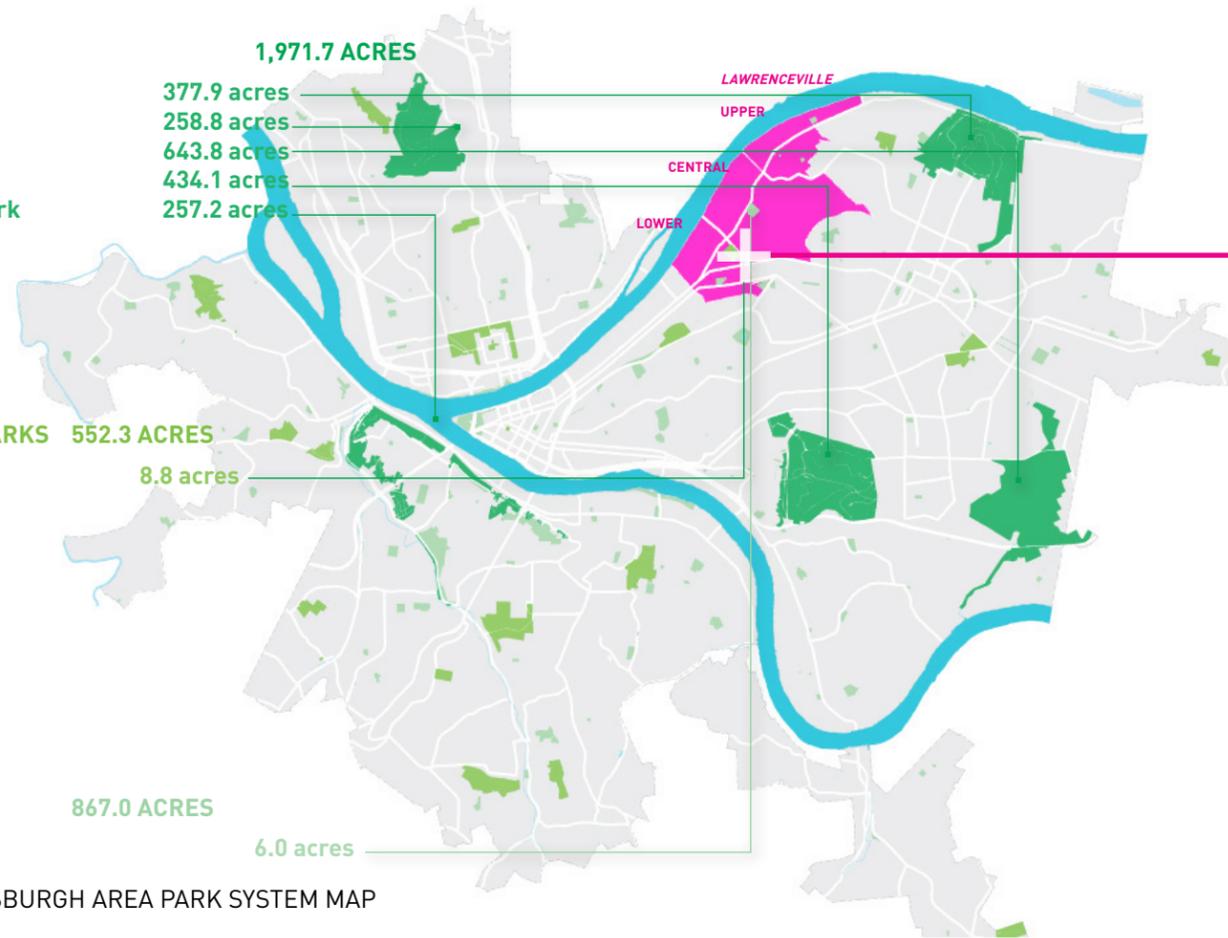
552.3 ACRES
8.8 acres

NEIGHBORHOOD PARKS & OTHER OPEN SPACES

- Leslie Park

867.0 ACRES
6.0 acres

PROJECT CONTEXT: PITTSBURGH AREA PARK SYSTEM MAP



PROJECT CONTEXT: AERIAL OF EXISTING PARK

INTRODUCTION: LETTER FROM THE PROJECT TEAM

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INTRODUCTION



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WHY: THE VISION

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HOW: THE MASTER PLANNING STUDY PROCESS

Grounding:

An intensive period of interviews, observation, and research to gain a comprehensive understanding of the park site and its surroundings.

Exploration:

Developing in words and concepts, broad planning principles and goals in response to community and waterfront issues and needs.

Recommendations:

The formulation of physical planning and design concepts, tested against planning principles and goals, in meeting identified program and enhancement needs.

Finalization:

The refinement and adoption of a comprehensive, unified set of ideas that comprise the master plan.

These steps were taken in concert with the Project Team, which provided

input and evaluation of each step throughout the planning and design process. The role and focus of the Project Team was to:

- a. Grow in knowledge and understanding of the site and the surrounding context, how it looks and how it works;
- b. Review and help determine planning and design principles and goals for the development and re-development of the site;
- c. Discover and explore new ideas and new ways of thinking about the site and the surrounding area;
- d. Share results of the planning and design process with key stakeholders and the community; and
- e. Promote and be an advocate for the orderly planning, development, and re-development of the park.

WHOM: COMMUNITY ENGAGEMENT

The early stages of a planning project is a time for learning and collaboration. It is here that we invited the public and stakeholders to share with us the issues and considerations important within Lawrenceville. This knowledge, and the relationships built through this process, guided our planning efforts as we developed ideas and strategies to address project planning and design issues. The testing of those ideas, through further public engagement, ultimately provided us with a consensus-based direction. Our goal was to form a shared and "living" vision. To reach this goal, we cast a wide net, which included residents, business interests, community organizations, key stakeholders, key officials, and public agencies. Opportunities to engage the public were in the form of traditional open houses, forums, or focus group sessions. The Project Team also utilized the web-based platform MindMixer to provide an alternative approach to engaging a wider range of participants.

The photos and timeline illustrate the variety of community engagement opportunities that the Project Team organized throughout the master planning process. Spanning from May 2014 through March 2015, the team engaged the community and key stakeholders through workshops, charrettes, presentations, school functions, and web-based platform Mindmixer.

WHAT YOU SAID: COMMUNITY ENGAGEMENT SUMMARY



WEB PROJECT TOTALS: 1,168 UNIQUE VISITORS | 118 IDEAS



WHAT YOU SAID: COMMUNITY ENGAGEMENT AND CONSENSUS BUILDING

Stakeholder Group:

Stakeholders groups were identified to represent diverse interests. These groups included Lawrenceville Residents, Business and Property Owners, Seniors, Sports Programmers, Historians, Parents, Friends of Arsenal Park, Arts Presenters, County Health Department, and Arsenal School. Through sessions, distributed over all phases of the project, the stakeholders were tasked to critically think about content and recommendations through the lenses of their particular interests. This process led to focused discussion and discovery of issues important to each group.

Project Team:

Over the course of this planning effort, the Project Team provided invaluable insight into overlapping, and sometimes competing interests uncovered during stakeholder group sessions. It was during the Project Team meetings, throughout each phase of this project, that those varying viewpoints were reconciled. This group challenged and tied together the work.

Public Meetings:

During the planning process the general public was invited to participate in different forms of public engagement. These included: block walk, participation in school service day, kiosk at the park, workshops, and open house. Each format allowed for specific and detailed discussion between attendees and project representatives.

Social Media:

Reaching beyond typical engagement methods, this planning effort used the social media platform MindMixer to reach a wider audience. At the conclusion of the master planning process the website had 1,168 unique visitors, and 118 ideas. Use of these platforms expanded the outreach to include those who cannot make all scheduled public sessions.

WHAT YOU SAID: SOME OF THE IDEAS...

Arsenal Park Service Day - May 29, 2014

On Thursday, May 29, 170 students from Pittsburgh Arsenal Middle and Elementary School joined MKSK designers for a Service Day in Arsenal Park. Students spent the day making small bird feeders, planting flowers, and picking up trash to beautify the area while also learning the history of the 200-year-old park. Students were then able to map out their ideas for Arsenal Park using craft materials. Ideas ranged from a wave pool and dog park to a community garden with a play house to sport recreation fields and even a chocolate fountain. The design brainstorming session gave the students and teachers an opportunity to think about how they could better integrate the park with local schools to instill a sense of community pride.

- + Water Features
- + Slides, See-saw, Tire Swing
- + Snack Shack, Picnic Area, Food Truck
- + Places for Animals
- + Chocolate Fountain
- + Zip Line
- + More Trees
- + Vegetable Garden

Community Block Walk - May 31, 2014

The community met for a block walk and interactive discussion to kick off the Master Planning Process with MKSK and representatives of Friends of Arsenal Park, Lawrenceville United, Lawrenceville Corporation, and Pittsburgh Parks Conservatory. The attendees ranged in age, from children with their parents to young professionals and adults, including a 96-year-old resident and park user since the age of three. To better understand not only the physical elements but emotional relationship to the park, attendees shared what they like and didn't like at the park and what they saw as assets and barriers.

- + Meandering path around Park
- + Outdoor Classroom
- + Crosswalk at Davison Street
- + Water Feature
- + Wilderness
- + WiFi Service
- + Exercise Equipment
- + Pavilion
- + Connection to Health Dept
- + Swings for Adults



Park Kiosk Construction - May 30, 2014

MKSK, with assistance from the Project Team, constructed an information kiosk to allow community members to learn more about the master planning process and the potential future of the park. Visitors were asked to vote for their favorite Best Practice images or submit their own ideas for the future of Arsenal Park. The team collected over 45 comment cards. Below are several of the comments collected.

- + Pittsburgh loves history. Incorporate it when possible.
- + Escape from traffic noise.
- + We should have two water fountains to cool down on hot days.
- + Spray park in old pond.
- + Need restrooms.
- + Bike Polo - proper court with boards.
- + Nice sitting area.
- + Enjoy the shade of mature trees.
- + Areas for picnic, play, nap.
- + More colors.
- + Nature, fields, and places for kids to play.



"Several active zones where many different activities can occur but also several quiet tree-covered areas for contemplation."

"Love having courts within walking distance"

"Some sort of water feature would add some vibrancy to the space and be a reference back to some of the park's historical features"

"I would like to see a good mix of nature, fields and places for kids to play."

"It would be great to have a farmers market in the park too!"

"Enjoy the multi-use street hockey/bike polo court, the close proximity to friends and Lawrenceville neighbors, and new tennis courts"



Community Meeting - July 10, 2014

This conversation focused on the following:

1. Summary of Feedback from the community (Mindmixer, Block Walk, Surveys)
2. Project Team's Observations and Analysis of the Existing Park
3. Arsenal and Park History
4. Resilient Park Discussion (Low-Impact Development [Green], Health and Wellness, Education, Ecology)
5. Workshop Exercise: draw park ideas, based on topics from the discussion, or sketch own vision/idea.

Summary of Ideas

- + Controlled Lighting at sports courts/fields – DPW has them now in other areas of the city
- + Promote connectivity on all sides and make 39th street ADA compliant
- + Make 40th Street & Penn Avenue safer intersections
- + Water feature/stormwater on hillside between Park & Health Department
- + Remove fences – between Park/School and Park/Health Department
- + Flexible water feature
- + Treehouse
- + Gateways & entrances
- + Variety of seating along wall (orientation)
- + Better lighting at night
- + Access from School – Bridge?
- + Topography – reference Dolores Park San Fran
- + Pond/ ice rink
- + Bike racks/ more bike racks – creative artistic design by local artists? Loop style racks
- + Place bike racks near picnic areas, near bike polo court
- + Dero 'fixit' with air pump and bike tools
- + Ramp on 39th
- + Terraced seating on hillside – 40th St on the side of Ball Field
- + More usable space
- + Blue Slide – sledding
- + Terraced gardens next to School – kids can participate
- + 39th – interior street become less of a street
- + Health Center cut through would enable access for seniors
- + Bioswale by cannon
- + Skate Park
- + Multiuse court – deck hockey (dodgeball)
- + Access to hillside adjacent to school. Existing fence is a barrier
- + ADA/Universal access along 39th St

HISTORY

"A commemorative plaque erected on the other side of Butler Street indicating the former location of the gate to Allegheny Arsenal and of course the brief history of." **ALLEGHENY ARSENAL.** "Reflect upon the past of Arsenal Park especially the Allegheny Arsenal and take a look at the present situation of this lively park." "It is also important to bring the historical significance to a point that the children can understand what the park and school signifies so they will grow up with pride of the park."

And...

PLAY

"Play bike polo!" "Play!" "MAKE AN UNOFFICIAL FRISBEE GOLF COURSE WITH MY DAUGHTERS!" "Play with my kids on the playground." "Dream about playing tennis." "ARSENAL PARK BECOME A DESTINATION." "Arsenal Park's field seen as part of the park." "Two multi-use (street hockey, bike polo, futsal, deck hockey) courts (130' x 65')." "A WELL-LIT, PERMITTED ATHLETIC FIELD." "A practice disc golf tee and hole." "Carousel!" "A cozy amphitheater." "An outdoor movies, Shakespeare plays, adaptive versions of different operas (say, asking Pittsburgh Opera to perform in the park)." "I enjoy SOFTBALL IN THE PARK. I WOULD LIKE TO SEE THEM KEEP AT LEAST ONE OF THE BASEBALL FIELDS AND THE BASKETBALL COURTS."

What else?

WATER

"A spray park!" "The fountain working again!" "Any kind of water feature for kids in the summer." "Get a spray park or at least a sprinkler lake." "A water fountain!" "Lake back." "The storm drain at the low corner of the park at 39th Street (by corner of school) converted into a storm runoff retention basin or something better than a drain to our rivers."

Thoughts?

NATURE

"Read under the shade of a tree." "I have no greenery on our property and I am from the suburbs. I enjoy the nature of the park. I have a 4 year old I take to the park every day for fresh air. I also attend any activities held at the park. My children attend Arsenal School." "I'm a walker and pedestrian Arsenal Park user. I appreciate the long vistas of the our city framed by the arrangement of trees: 2 views of St. Augustine spires, Downtown framed by the trees of the central promenade, Troy Hill and Spring Hill seen over on hills looking west over tennis courts." "Reflect upon the past of Arsenal Park especially the Allegheny Arsenal and take a look at the present situation of this lively park." "Climb the rocks above the dry pond with my son - mountain climbing." "A community garden!" "A better connection (if an actual, open connection is not feasible, at least visually) to the school. What should be our quarter's 'Central Park' feels like a 'pocket park'." "I would like to see more children enjoying the beauty."

More?

I would use the Park more if...

"IT WAS WELL LIT."

"More wheelchair accessible."

"It was well-maintained."

"I could find a parking space."

if it was open at night time.

"The crosswalk across 40th Street was safe."

THERE WAS A WAY TO COOL OFF IN SUMMER.

"I was NOT worried about homeless people there."

PRINCIPLES: THE BIG PICTURE

Arsenal Park is a palimpsest of history and community that has evolved over the course of the last 200 years. The Master Planning process has identified the park's key forms and overall development structure to allow both an understanding of the park as a total framework and of individual spaces within that framework. In understanding Arsenal Park as a series of spaces or rooms, the Master Plan provides detailed recommendations for the enhancement and completion of each space in achieving both quantity and quality goals for the park. The Master Plan identifies the following key goals and recommendations regarding land use, pedestrian circulation, and broad landscape and enhancement recommendations to be implemented over time. The following goals form the touchstone of the goals and recommendations within the document:

1. Nature | Performative + Authentic

Promote a sense of place that honors the historic aesthetic of the previous Allegheny Arsenal and subsequent park. Wherever possible, the master plan recommends retaining the mature tree canopy found throughout the park and neighborhood. The Master Plan also recommends promoting a sustainable park that uses local and regional materials, manages stormwater through a network of bioswales/raingardens, and embraces native plant material that provides year round seasonal interest and increased opportunity for wildlife habitat.

2. Exerscape | Health and Wellness

Provide a setting that promotes a recreational destination for all ages. Motivated to promote health and wellness throughout the park, the Exerscape is envisioned as a concentrated area for park participants to actively engage with the landscape...running, climbing, pulling, and jumping in spaces incorporated into the park setting.

3. Memorial | Cultural Expression

The history of Arsenal Park, as both an Arsenal for the Civil War and a Community Park for Lawrenceville, should be celebrated and honored. The Master Plan recommends preserving and repairing the historic structures on the site, several of which date back to the War of 1812. The perimeter stone wall and Powder Magazine are existing structures that are essential to the history of the park and should be incorporated as primary features as the park evolves. The Master Plan also recommends establishing an area within the park to share Arsenal Park's remarkable history. These stories and events should be told through a series of interpretive panels and education components.

4. Stage | Perform + Observe

As a setting for community events (concerts, movies, holiday celebrations, etc), the park should be designed with the capacity to host a variety of performance and observation opportunities. There are several unique landscapes and spaces within the park flexibly designed to host events both large and small. All park participants serve as both performers and observers, both planned and spontaneous.

GOALS: KEY RECOMMENDATIONS

1. Honor the Legacy of Arsenal Park's history
2. Embrace Sustainability: Educational Opportunities and Resilient Landscapes
3. Promote the Park as Community Open Space
4. Increase Connections: Arsenal School, Health Campus, Neighborhood, Open Space
5. Imaginative Play for all ages: Discovery and Exploration
6. Inclusive Park Experience: Accessible to all Users
7. Promote Health and Wellness throughout Park
8. Express Authentic Lawrenceville
9. Promote a Multi-Season Park
10. Promote flexibility of park spaces

PLANNING FOR PRESERVATION

Arsenal Park is a landscape layered with history that must be respected and told.

Key Recommendations Include:

Stone Perimeter Wall

- + Reconstruct deteriorated segments.
- + Replace mortar with appropriate material.
- + Any stone that must be removed for accessible entrances will be reused within the park.

Powder Magazine

- + Restore original building to 1862 appearance (remove 1948 restroom addition).
- + Program interior spaces for park uses.
- + Conserve commemorative plaques.
- + Restore Dolley Madison memorial in its original location with working fountain.

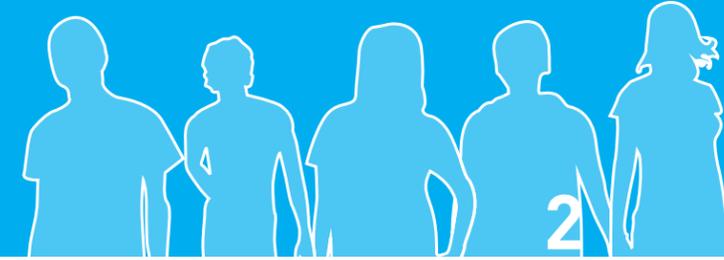
Pond Area

- + Convert pond to zero-depth reflecting pool that drains for event use.
- + Retain stone walls and reconstruct rock "waterfall."
- + Restore flagstone paving.

Other Historic Elements

- + Create permanent outdoor exhibit on Arsenal and Park history.
- + Incorporate Arsenal Gatehouse stones in the Interpretive Grove.
- + Retain Naval cannon.

GROUNDING



INTRODUCTION

The Grounding Phase of the master planning process represents an intense period of interviews, observation, and research to gain a comprehensive understanding of the park site and its surroundings. This section of the report shares the information found during this phase. Highlights within this section include: History of the Arsenal and Park, demographics of the community, site inventory and analysis, program exploration, and best practice research.

SITE HISTORY: THE EARLY YEARS

The story of Arsenal Park begins during the War of 1812, in the fifth year of the presidency of James Madison. The United States Arsenal was the brainchild of Madison's Secretary of the Treasury, Albert Gallatin, and its construction began in 1814. The facility was built by the U. S. Army to serve as the munitions depot for Admiral Oliver Hazard Perry's fleet that operated on the Great Lakes and was based in Erie. The original 30-acre tract was acquired for \$12,000 from William B. Foster, the founder of the community of Lawrenceville and the father of America's great composer of popular songs, Stephen Collins Foster. William Foster founded the new town in 1814, just as work was beginning on the Arsenal, and named it in honor of Naval Captain James Lawrence, whose famous dying orders, "Don't give up the ship," were spoken in 1813 during a fierce battle between Lawrence's USS Chesapeake and the British frigate HMS Shannon.

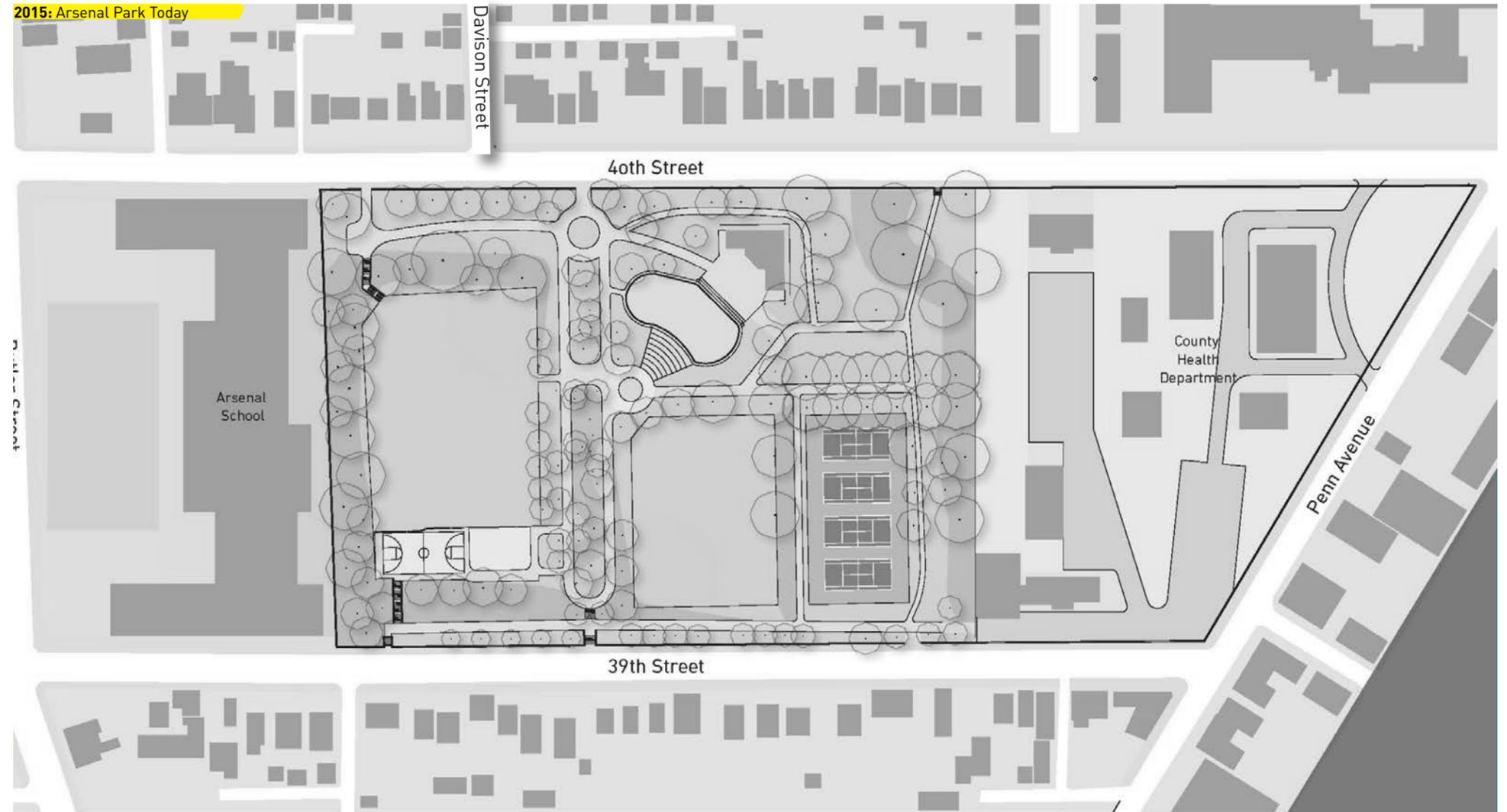
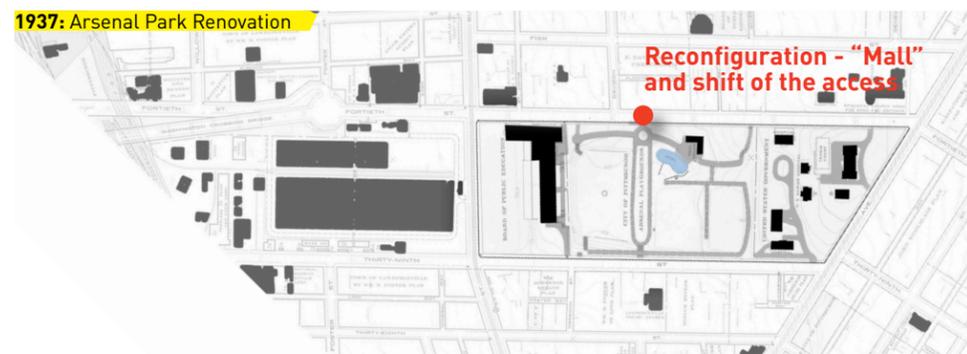
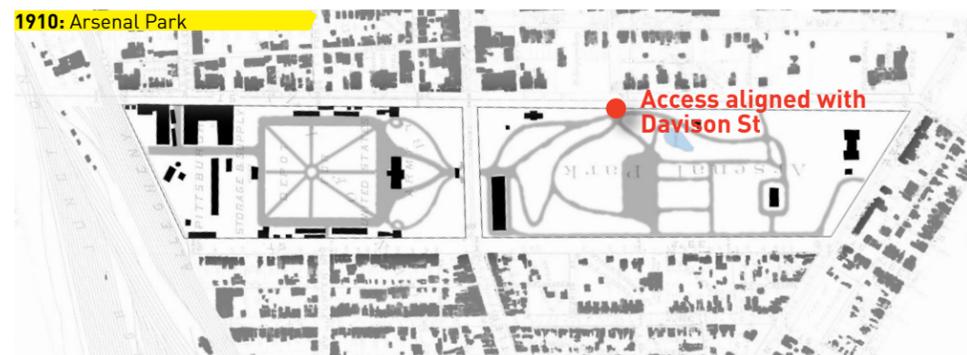
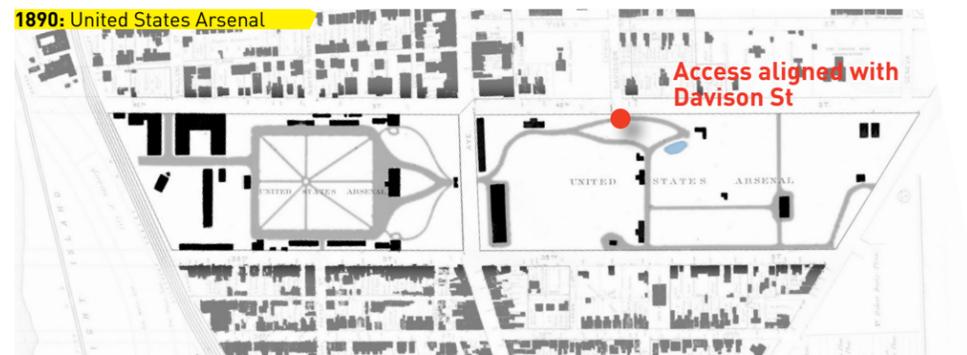
The original Arsenal stretched from the Allegheny River to Penn Avenue (originally the Philadelphia-Greensburg Turnpike) and from 39th (originally Pike) to 40th (originally Covington) Street. Butler Road (now Butler Street) bisected the facility. One architect's rendering of an original Arsenal building that has survived bears a hand-colored caption reading, "Sketch of the façade of the pro-posed Arsenal at Pittsburgh [sic.]" and a date appearing to be 1814.

At first, the property lay well outside the corporate limits of the city of Pittsburgh; Lawrenceville would not be annexed into the City until 1868. Below Butler Street the site consisted of an open parade ground around which was a series of detached buildings including officers' quarters, stables, blacksmith shops, enlisted men's barracks accommodating two hundred soldiers, an armory, and a carriage shop. The upper portion, now including Arsenal Park, had stables, a cartridge manufacturing laboratory, and at least one powder magazine. The magazine is among the only documented early Arsenal buildings that has survived.

More than a century later, between 1934 and 1937 the Historic American Buildings Survey (HABS), which began as a program of the Depression-era Works Progress Administration (WPA), recorded some of the Arsenal's original architecture. These black-and-white images and drawings are the best surviving record of the Arsenal's original appearance. The buildings were of stone and brick and those exhibiting a formal architectural style were influenced by the Federal and Greek Revival styles.

The Arsenal performed a diversity of roles, including the manufacture of leather goods, rifle and pistol ammunition, and the storage of substantial pieces of artillery pieces manufactured at the nearby Fort Pitt Foundry. The arsenal also test-fired the cannons from the foundry.

The single most famous day in the long history of the Arsenal was September 17, 1862, the same day as the Battle of Antietam, the single bloodiest day in the Civil War. A massive explosion occurred in an 1859 wood frame laboratory building thought to have been on the site of present-day Arsenal Park playing fields. Two more explosions followed within about five minutes and an estimated 125,000 rounds of live ammunition were ignited. The resulting carnage was unimaginable. The intense heat burned victims beyond recognition, often leaving nothing more than scorched bones. Six boys and seventy-two women and girls perished, some killed while they were attempting to escape from

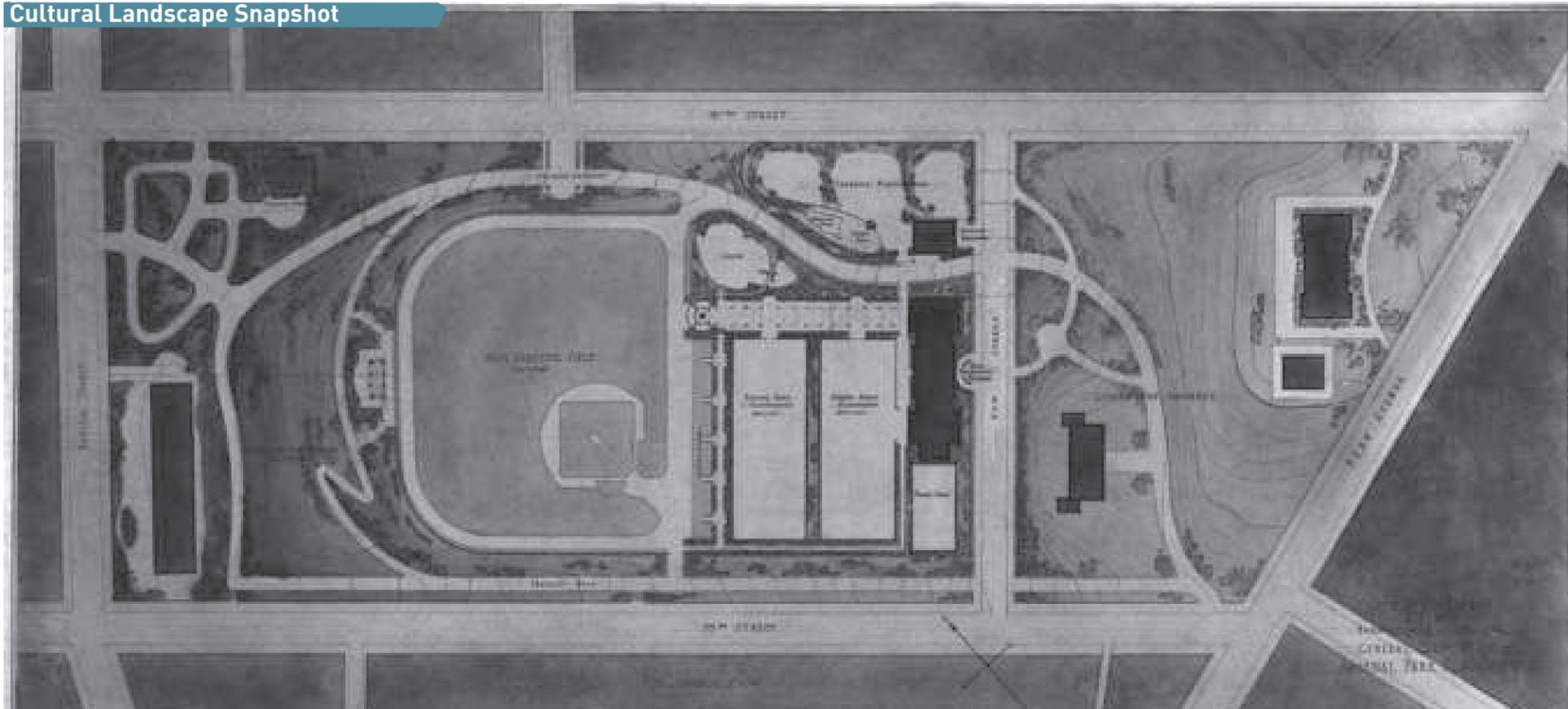


burning buildings. Others escaped with agonizing burns.

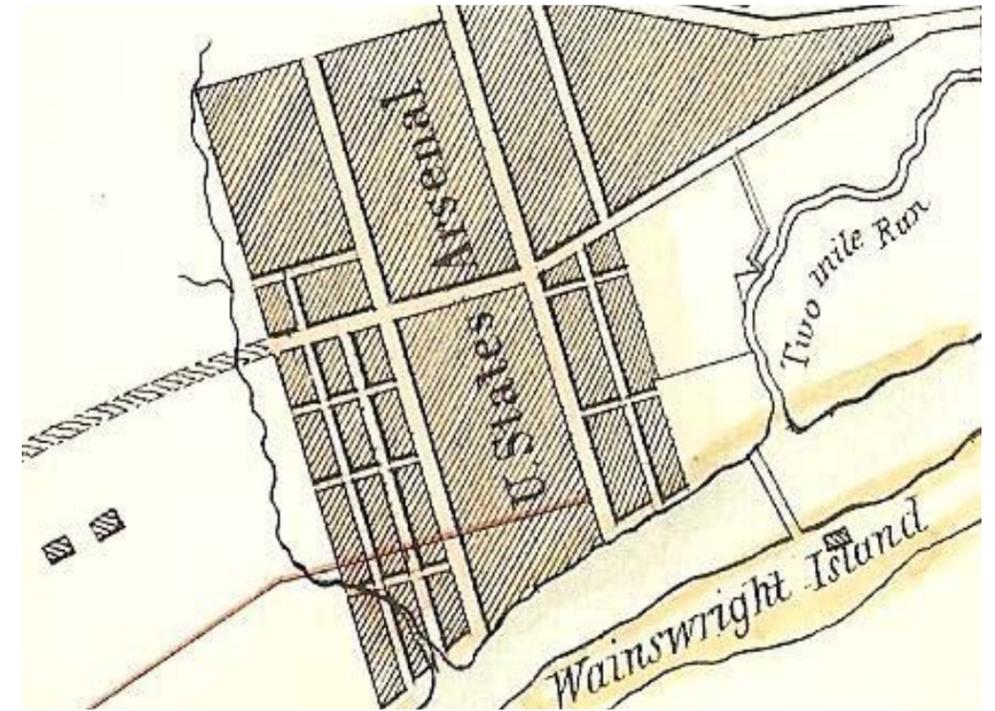
In 1901, the War Department ordered the Allegheny Arsenal to be abandoned as soon as possible. In 1906 it was discontinued as a garrisoned post and was turned over to the Army Quartermaster Department; on February 24 of that year it was re-designated the Pittsburgh Storage and Supply Depot. Lawrenceville Congressman James Francis Burke (1867-1932) (12) was among the leaders in the initiatives to convert the site to a public park. A 5-term Congressman (1905-1915) Burke had been a prominent Pittsburgh attorney and was a leader in the national Republican Party. In 1907, the first in a series of leases was executed between the federal government, represented by Treasury Secretary Robert Shaw and the City of Pittsburgh, represented by Mayor George W. Guthrie, leasing a portion of the Arsenal property to the City for one dollar per year. This Lease provided (1) that the grounds be used solely for park purposes, (2) that the City's use of the property would not conflict with the federal government's planned construction of a marine hospital on part of the site, and (3) that the Lease could be revoked at any time by the Secretary of the Treasury. On July 4 of that year Arsenal Park was officially dedicated by Mayor Guthrie and Congressman Burke was presented with a loving cup for his leadership in making the part a reality. The new park was bounded by Penn Avenue, Butler Street, and 39th and 40th Streets.

Visiting the park in 1909 to dedicate a fountain commemorating those who died in the War of 1812, President Taft declared, "If there is one thing that a great manufacturing city owes to its citizens, whom it has lured into crowded quarters, it is to expend money in providing parks where the children of the poor may have equal opportunities for play with those of the rich. We must not deny the right of any child to develop. This park has been given to the children of this district. It will not be taken away from them except in the case of need. If there is need, it will be used only for a short time and I think it is safe to promise that the Secretary of War, whoever he may be at that time, will see that it is not kept from the children one instant longer than is necessary."

Cultural Landscape Snapshot



February 1st, 1920 . View of the general plan of a playground at Arsenal Park (not as built)



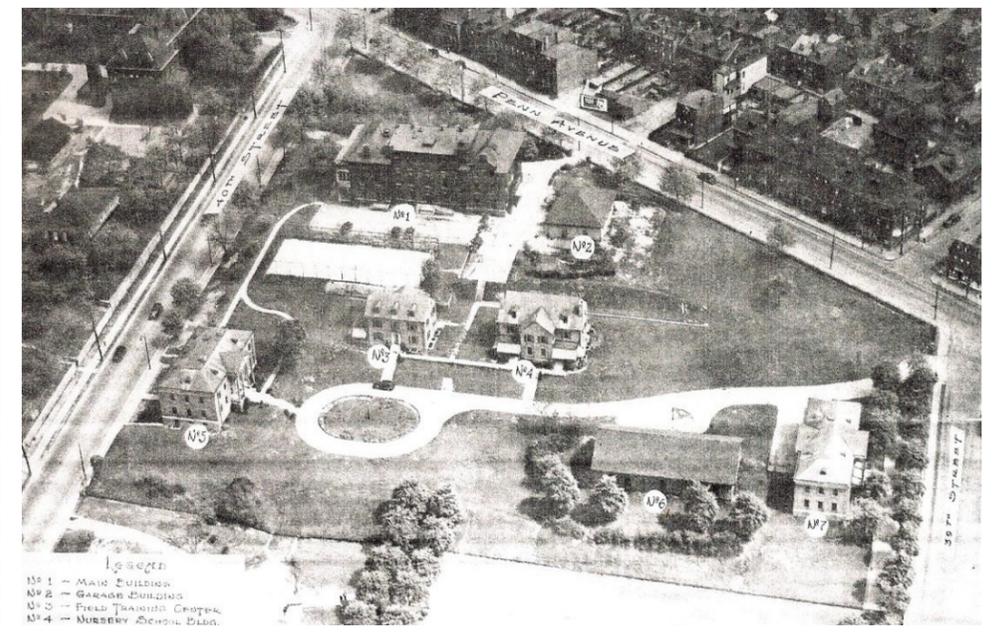
This segment from the 1827-1828 survey shows the Arsenal adjacent to the turnpike leading to Philadelphia (now Penn Avenue). Wainwright's Island (misspelled here) is long gone but it was where George Washington and Christopher Gist landed on their 1753 crossing of the Allegheny.



HABS photo, looking across the concrete pond toward the seating area. The stone steps and knee walls appear new and may have been part of this phase of construction

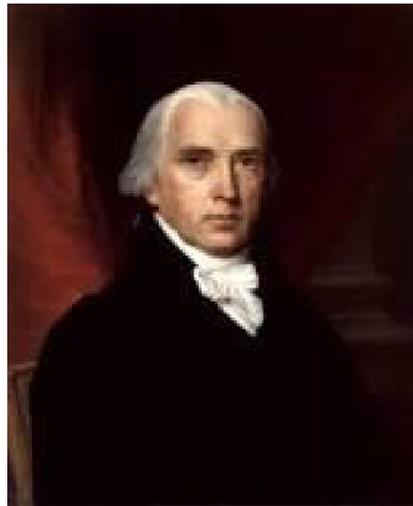


This 1937 HABS photo shows the recently-completed concrete pond and the rows of slatted benches that overlooked it



This 1940 aerial view of the Health Department campus shows the siting of the various buildings within the complex. Building Number 6, near the lower right corner, likely dates from the historic era of the arsenal and pre-dates both the park and the Health Department

Personalities



President James Madison, under whose presidency the Arsenal was begun.



Captain James Lawrence, for whom Lawrenceville was named.

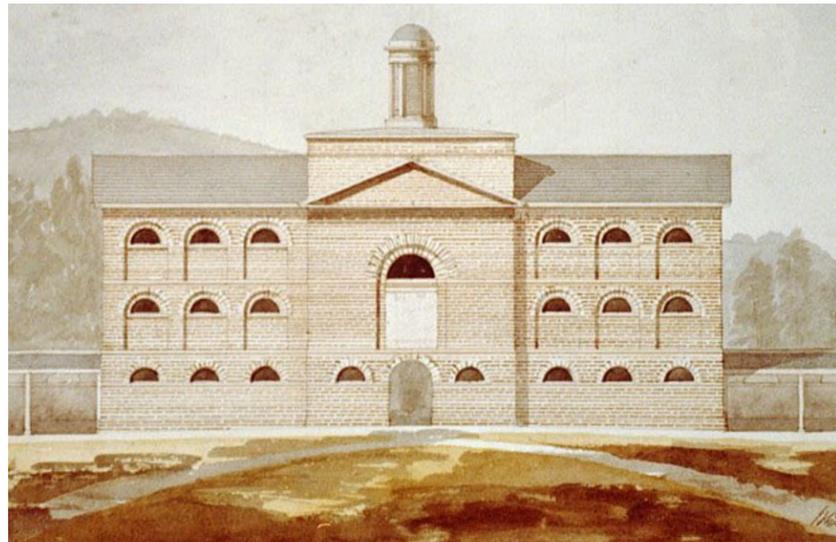


Madison's Treasury Secretary, Albert Gallatin.

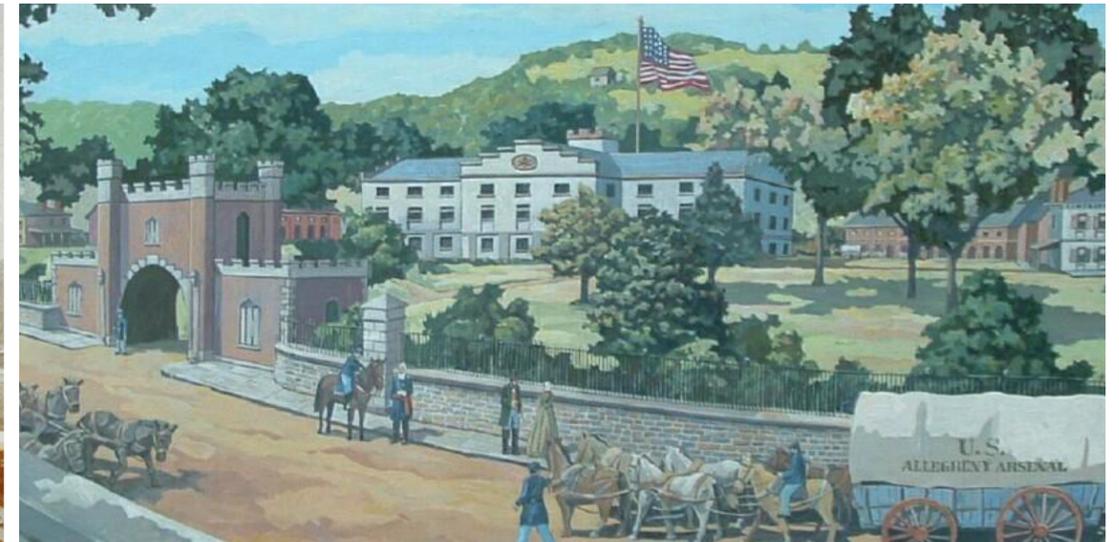


The Arsenal's architect Benjamin Latrobe in a c. 1804 painting by Charles Wilson Peale.

Original Architecture



Hand-colored rendering of one of the 1814 Arsenal buildings.



This painting by noted historical painter James C. Horton shows a view along Butler Road (now Butler Street), complete with wagons loaded with gunpowder for use at the Arsenal.



The Commandant's house at the corner of present-day Thirty-ninth and Butler Streets, shown in a 1934 photo by the Historic American Buildings Survey. This and the other HABS photos are the work of Charles Morse Stotz (1899-1985) who was an architect, architectural historian, and recognized authority on the history of Pittsburgh and western Pennsylvania.



Officers' Quarters. (HABS, 1934)



Barracks. (HABS 1934)

Discontinued as a garrisoned post, 1906

Earliest known complete site plan for the park is dated December, 1911

1800s

United States Arsenal begin construction, 1814

Arsenal Explosion September 17th, 1862

1900s

Arsenal Park was officially dedicated by Mayor Guthrie, 1907

Arsenal Park substantial redevelopment project, 1934

The Explosion



Filling Cartridges. Women working at the U.S. Arsenal, Watertown, Massachusetts. From Harper's Weekly, July, 1861. (Image: Library of Congress)



No photographs are known to exist of the impact of the explosion. This painting by artist Alina Josan was based upon historic accounts of the tragedy. [from the website of the National Archives at Philadelphia]

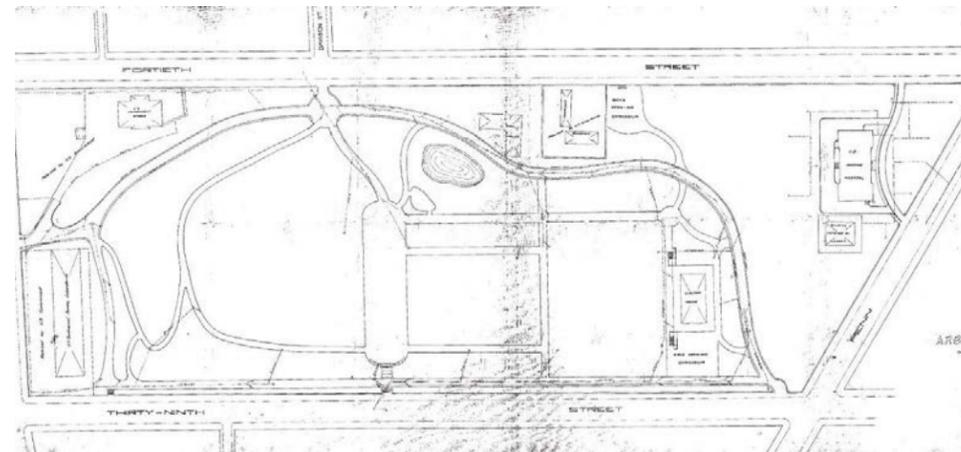
The Birth of Arsenal Park



JAMES FRANCIS BURKE
ATTORNEY AT LAW
PITTSBURGH.



Left: James Francis Burke, the Lawrenceville Congressman who pushed the federal government for the transfer of the former arsenal to the City. [from Percy Frazier Smith, Notable Men of Pittsburgh and Vicinity, 1901]. Right: President Taft and Mayor William A. Magee at the time of Taft's visit to Arsenal Park.



This 1911 site plan is the earliest known plan for the park. Shown at the right is the U. S. Marine Hospital, now part of the campus of the Department of Health and at the left, along Butler Street, is the laboratory of the U. S. Geological Survey on the site now occupied by Arsenal School. Near the corner of Butler and Fortieth Streets is a U. S. government stable. The pond that eventually became the concrete water feature is shown and the Powder Magazine is labeled "tool house." To the right of center is a shelter house (not extant).

Artifacts and Commemorative Objects



This substantial insignia was originally on one of the Arsenal's buildings, since razed. It now adorns a portion of the facade of the powder magazine.



The Butler Street gatehouse also had an oval plaque above the entry gate. Neither are extant [HABS, 1937]



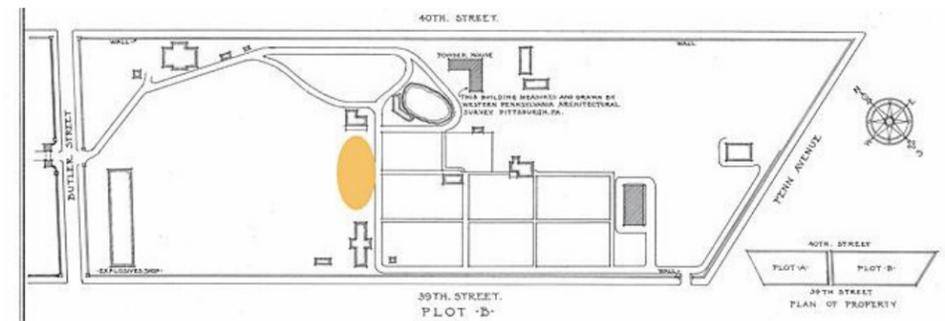
This commemorative plaque was installed on the Powder Magazine in 1965 by the Western Pennsylvania Historical Society on behalf of the VFW.



This stylized granite structure with its commemorative 1909 plaque stands immediately in front of the 1948 restroom addition to the powder magazine.



The 1913 memorial plaque that now hangs in the entry hall of Arsenal School.



This copy of the 1937 HABS drawing of the Arsenal contains a superimposed oval showing the approximate location of the explosions on what is now a playing field.



Designated local historic landmark, 1977

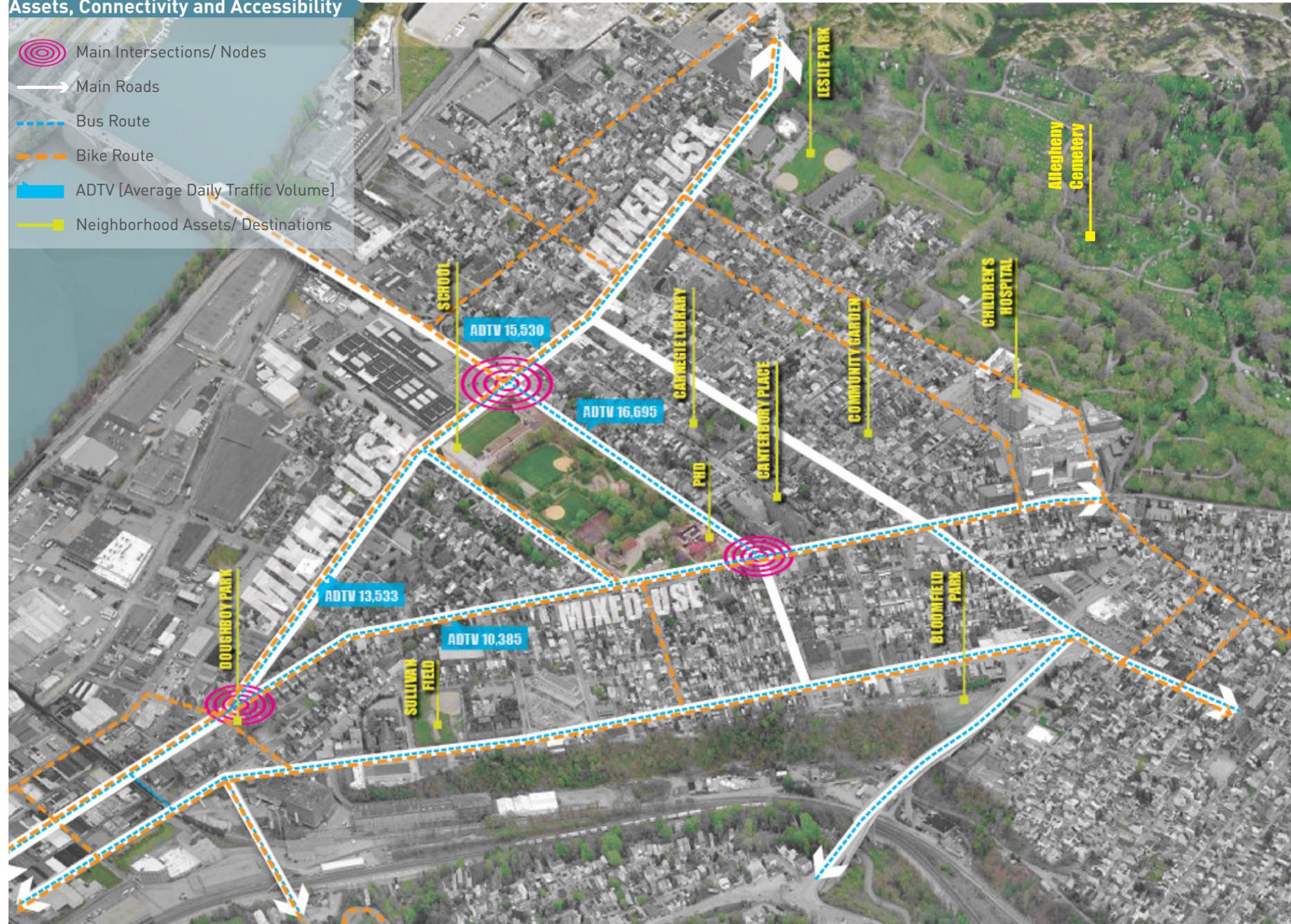
2000s



Arsenal planned to become a 21st Century Park, 2015

Assets, Connectivity and Accessibility

-  Main Intersections/ Nodes
-  Main Roads
-  Bus Route
-  Bike Route
-  ADTV [Average Daily Traffic Volume]
-  Neighborhood Assets/ Destinations



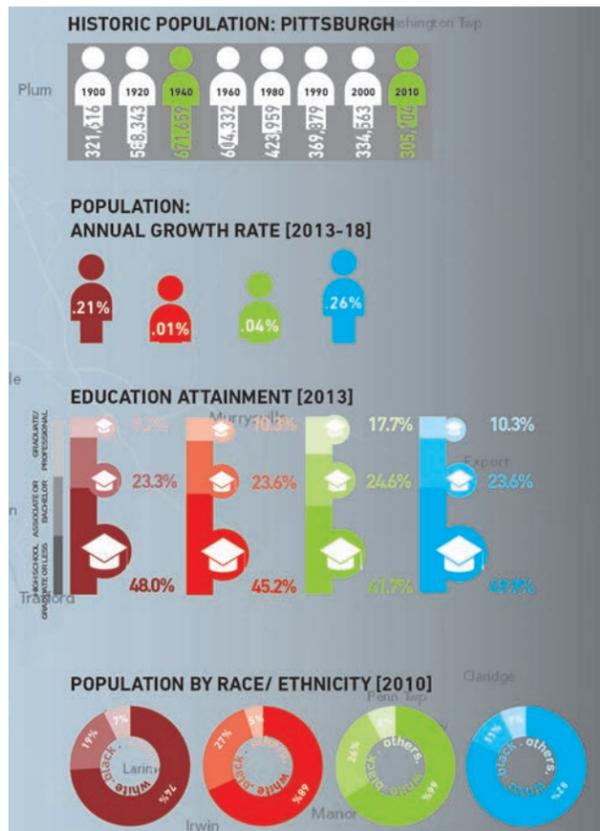
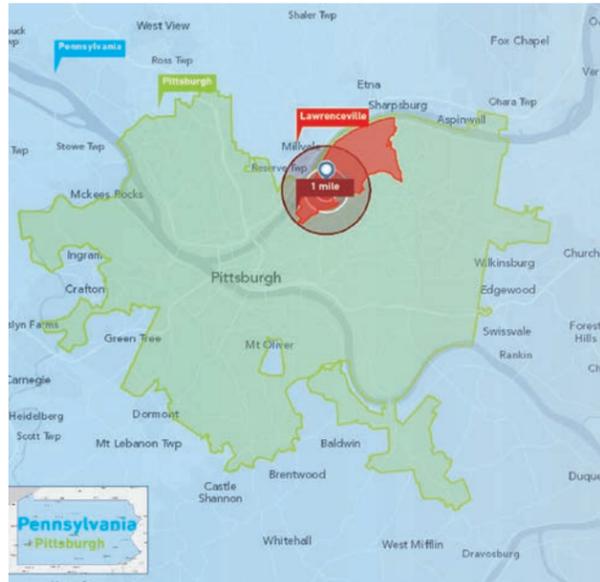
DEMOGRAPHICS: STUDYING THE NEIGHBORHOOD POPULATION

Bordered by 39th and 40th Streets, within the larger Arsenal Campus extending from the commercial corridors of Penn Avenue to Butler Street, Arsenal Park is located in the geographic heart of the neighborhood and is central to the future health, recreation and revitalization of Lawrenceville and the East End community.

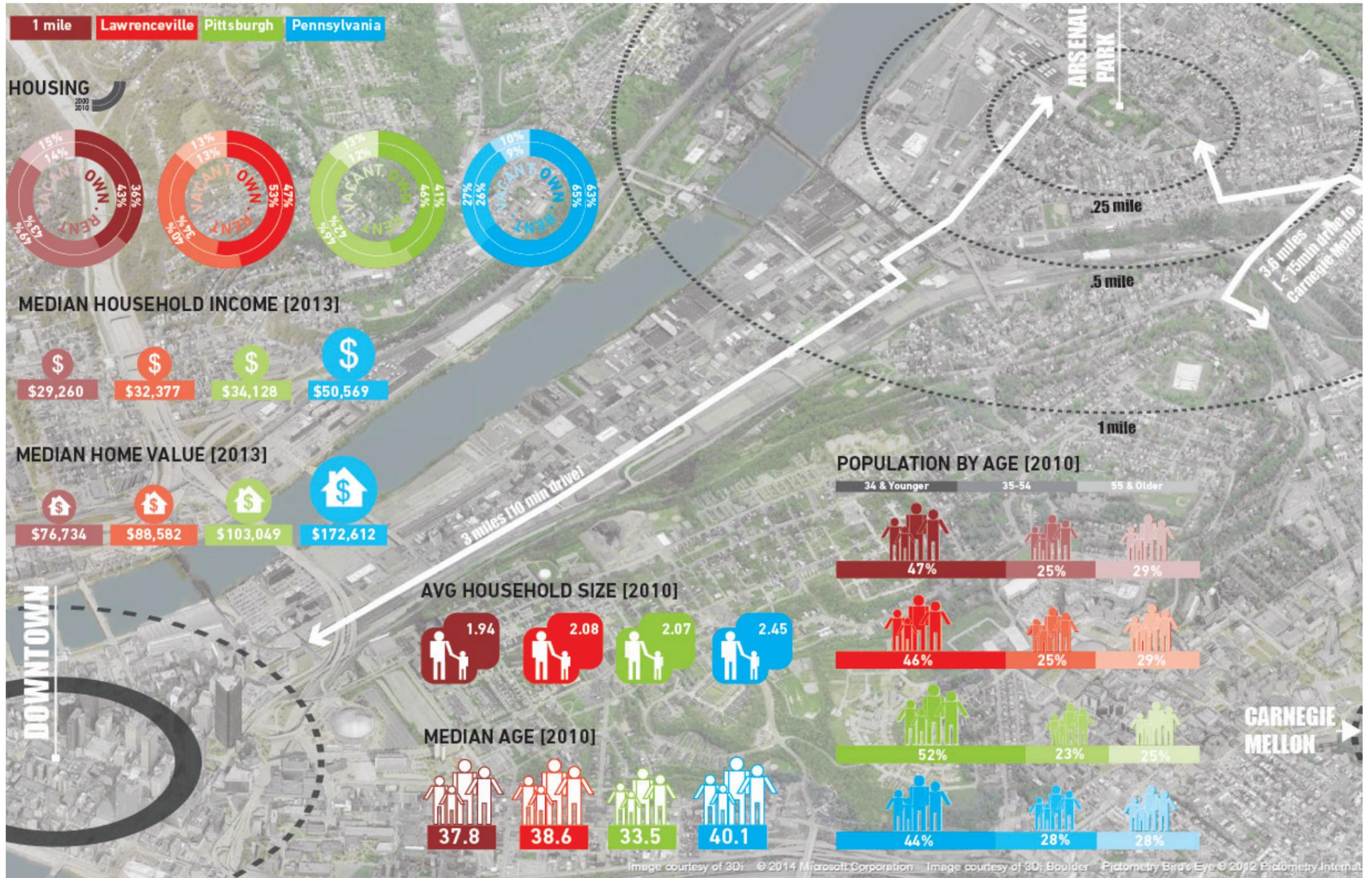
This city block is bounded on the east by the Allegheny County Health Department and on the west by the Arsenal Elementary School and Arsenal Middle School. These institutions do not currently have good access to the park.

Approximately 7,000 people live within walking distance from Arsenal Park in addition to being well served by bus and bike routes. There are opportunities for extended connections through the neighborhood to key institutions like Children's Hospital, the mixed-use districts along Butler Street and Penn Avenue, and to other nearby parks and green spaces.

The demographics comparison reveals that the Lawrenceville neighborhood is gaining population despite the City of Pittsburgh having reached its lowest population size in 2010. The community residents earn modest wages yet enjoy a relatively good quality of life due to a low cost of living. The median household income for the neighborhood residents is \$32,000, which is 36 percent below the Pennsylvania state average. The median home value in the neighborhood is \$88,000 making Lawrenceville a very affordable place to live. Lawrenceville has recently experienced a renaissance and has been referred to in various media outlets as entrepreneurial, a "hipster heaven", a "go-to" destination, a modern-day edge, and is viewed as welcoming and walkable. These qualities are attracting a younger population.



DEMOGRAPHICS: SUMMARY GRAPHIC



BUSINESS AND ACCESS: SUMMARY DIAGRAM WITHIN 1/2 MILE RADIUS FROM ARSENAL PARK

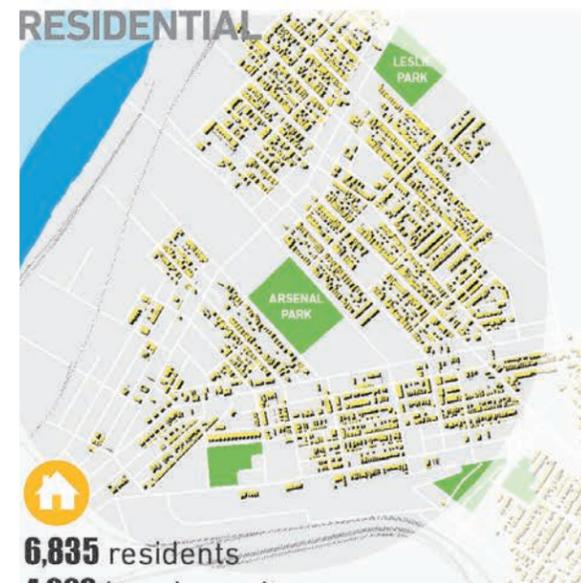
The diagram to the right reveals that there is a concentration of businesses, educational institutions, health facilities and residential clusters within a 10 minute walk from Arsenal Park. The following is a list of several of those community destinations and resources:

- + Arsenal Elementary School
- + Arsenal Middle School
- + County Health Department
- + Leslie Park
- + Butler Street Commercial Corridor
- + Penn Avenue Commercial Corridor
- + Carnegie Library
- + Children's Hospital
- + Allegheny Cemetery
- + Allegheny River

The employee to residential population ratio reveals that the number of potential park visitors nearly doubles during business hours. What is revealed in this information is that the park is not only an extension of the neighborhood, but also a resource for the business community as well.



568 businesses
128 retail trade and food & drink
7,731 employees
1.12:1 employee/ residential population ratio



6,835 residents
4,028 housing units
48% males **52%** females
80% white **14%** black **6%** other



11 education institutions & libraries
237 employees

of students:
 PreK-5: **280** (K-5) & **100** PreK
 Arsenal 6-8: **180**
 Woolslair K-5: **115**
8 neighborhoods in school's "feeder area"

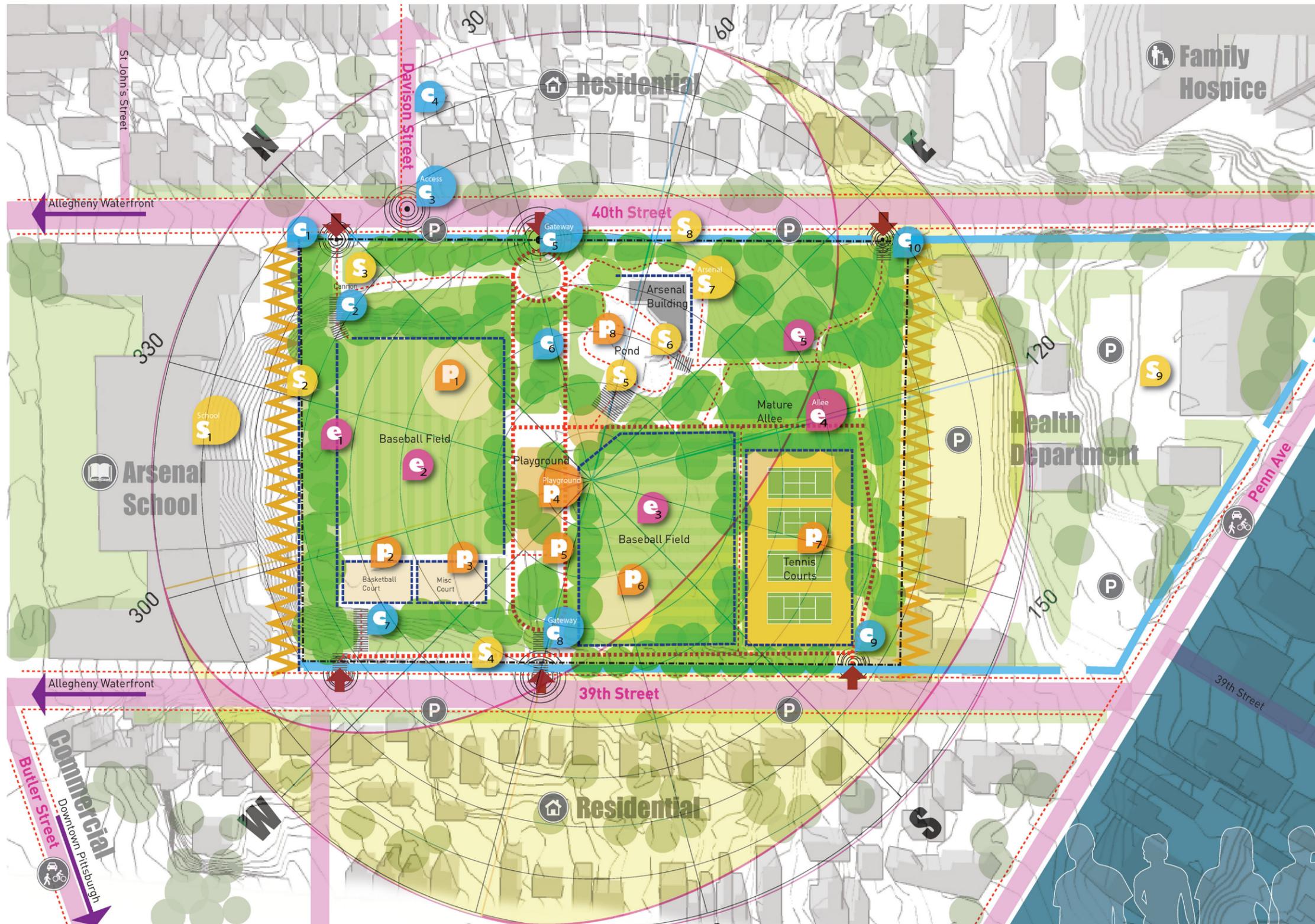


67 health services
1,479 employees

Source: Copyright 2014 and 2015 Infogroup, Inc. All rights reserved. Esri Total Residential Population forecasts for 2015. Lawrenceville United.

EXISTING SITE CONDITIONS

Inventory



For a better understanding of the site and immediate surroundings, the inventory and analysis were grouped into four themes as follow: Circulation, Structure, Programmed Space and Ecology.

Circulation explores how pedestrians, bicyclists, and vehicles access the site, and how they move throughout the park.

Structure identifies the many built elements in the Park, their physical condition and contribution to the character of the park.

Programmed Spaces list the spaces within the park and how they currently perform.

Ecology identifies vegetation and natural systems within the park and how they may perform in the future.

Circulation

1. Opening in stone wall establishes minor park entrance in northwest corner of park. Close proximity to Arsenal Park Middle School.
2. Stone steps connecting ball field, historic cannon, and northwest entrance.
3. Davison St. + 40th St intersection and crosswalk. Access to park from neighborhood.
4. Davison Street: North / South connection between Arsenal Park, Leslie Park, and Neighborhood.
5. Primary northern gateway to Arsenal Park. Historically a vehicular drop off area, now primarily pedestrian...no vehicular barriers.
6. Central tree lined mall through center of park, linking northern and southern gateways. Playground is located in this area of the park.
7. Stone steps connecting southwest park entrance to the ball court at the top of the hill.
8. Primary southern gateway to Arsenal Park. Inaccessible entry point due to change in grade and existing stairs.
9. Southeastern accessible entrance to Arsenal Park, adjacent to resurfaced tennis courts.
10. Concrete stepped park entrance in northeastern edge of the park. Connection from 40th Street to the highest point within the park.



E1



E7



E3



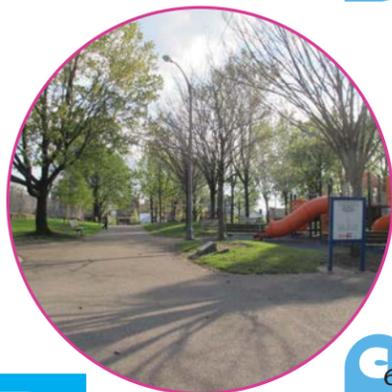
E8



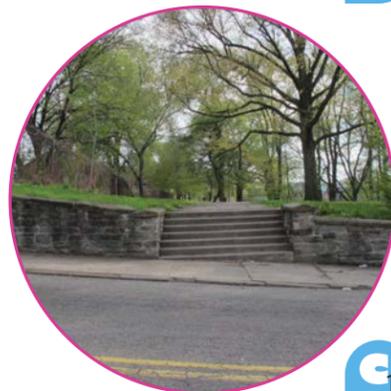
E5



E9



E6



E10

S Structure

1. Arsenal Elementary and Middle School. Visual and physical relationship with park.
2. Fence and retaining wall bordering northwestern edge. Establishes physical barrier between Arsenal School and Arsenal Park.
3. Historic cannon located in northwest corner of park, near park entrance.
4. Perimeter Stone Wall along southern edge, establishing barrier between the park and 39th Street. Visible damage to wall stone and structure.
5. Terraced area adjacent to former water feature (wading pond). This stone paved area once had bench seating for performance observation.
6. Former pond and water feature. Historically used as wading and skating pond. Currently empty concrete basin.
7. Historic Arsenal structure with original stone facade with minimal maintenance. Facility used recently as concessions, restrooms, and maintenance storage.
8. Perimeter Stone Wall along southern edge, establishing barrier between the park and 39th Street. Visible damage to wall stone and structure.
9. Allegheny County Health Department Campus. Separated from park by six ft tall chainlink fence. Campus serves as eastern border of park.



S3



S7



S4



S8



S5



S2



S6

P Programmed Space

1. Lower Baseball Field, facing west, located in northeastern portion of park. Adjacent to Arsenal School and center walkway. Currently used by several community leagues for baseball and softball.
- 2/3. Fence enclosed courts (4): Basketball, hockey, etc. Located in southwest quadrant of park. Courts worn from usage and weathering.
4. Shaded swing set area located near the 39th Street park entrance. Area includes picnic tables and rubberized play surface.
5. Existing play structure. Located in central area of park, mostly shaded, seating around perimeter of structure.
6. Upper baseball field, facing eastward direction. It was noted during the Block Walk that this field has drainage issues.
7. Tennis Courts: resurfaced spring 2014. No facilities for players (water, restrooms, pavilion).
8. Historic water feature adjacent to Arsenal Building. Formerly used as pond and wading pool, but the existing empty pool is currently used as community performance area, skating, and biking.



P2



P6



P3



P7



P4



P8



P1



P5

e Ecology

1. Vegetation buffer between Arsenal School and park. Hillside vegetation composed of large shade trees and invasive understory plantings.
2. Open lawn area / lower ball field outfield area. The one (1) acre mown lawn is bordered on the northwest by vegetation buffer and central walkway on the southeast edge.
3. Large lawn area / upper ball field outfield area. The one (1) acre mown lawn is border on the northwest by the central walkway and tennis courts on the southeast edge.
4. Existing Allee of mature shade trees. Paved walkway through the center of the space, on axis with Health Department campus and central park gathering space.
5. Mature shade tree grove in the northeastern quadrant of the park. Pathways provide access to the space, although universal accessibility is limited.



e3



e4



e1



e5



e2



Circulation

1. Promote relationship between Arsenal School and park. Provide accessible entrance with improved physical linkage with school and streetscape.
2. Provide safer access point along 40th Street. Consider pulling steps away from roadway, and if feasible provide optional accessible entry.
3. Secondary entry to park along 39th Street. Primary access for tennis courts. Provide welcoming/gathering/observation space for tennis courts.
4. Emphasize as primary gateway along 39th Street. Provide safer landing at street edge for safer pedestrian condition. Remove parking space in this location and install bump out.
5. Steps currently connect to basketball court at top of hill. Consider relocating courts with appropriate landing at top of hill for better park circulation. Also consider handrail for safer step condition.
6. Enhance linkage between gateways on 40th and 39th Street...decorative pavement, furnishings, signage. Provide lighting for safe crossing in early morning and evenings. Consider relocating playground to edge of central mall, and promote mall space as public gathering area for markets, festivals, event space.
7. Promote as northern gateway to Arsenal Park. Provide safe distance from 40th Street for public gathering, and provide vehicular barrier for general traffic.
8. Improve streetscape corridor. Promote as green link between Arsenal and Leslie Parks, for both pedestrians and bicycles.
9. Provide safer crossing for pedestrians. Consider alternate pavement or markings, and provide bumpouts for shorter crossing distance.
10. Retain historic steps, but consider integrating them into future park circulation. Emphasize linkage between Cannon Plaza and Upper Lawn Terrace.



Structure

1. Promote better visual and physical connection between Arsenal Park and County Health Department. Consider removal of chain-link fence, and explore more subtle barrier options where fencing is required, integrated into the landscape.
2. Provide better educational opportunities between Arsenal School and Arsenal Park. Improve physical linkage, and consider development of outdoor classroom/laboratory/garden.
3. Celebrate the history of the cannon and provide interpretive signage. Consider alternate locations for cannon throughout the park.
4. Historic stone wall needs repairing for aesthetics and structure failure. Explore removing portions of the wall promoting a more permeable edge between community and park.
5. Consider better connection between pathway system and lower pond area. Determine opportunities for future performance area, and provide seating in this area, possibly reconfigured as amphitheater in hillside.
6. Current concrete basin has historic use as wading pool and skating area. Consider revitalized water play area, with flexibility for transition to performance area/stage.
7. Historic Powder Magazine should be repaired to participate in the overall park experience, as both functional and educational. Celebrate the timeline of the Arsenal and its participation throughout time. Consider potential for green roof development, as current roof needs replacing and is not historic.



Programmed Space

1. Recently resurfaced, but consider tennis court amenities...shade pavilion, restrooms, water fountain, observation area(s).
2. Ball field is currently being used throughout the seasons. Orientation of ball field is not ideal for batters in evening sunlight. Consider reconfiguring with future park development. Possibly upgrade fencing, backstop, dugouts.
3. Promote seasonal uses for the performance and pond area. Explore the potential for interactive water play, with capacity to be utilized as performance space and seasonal skating.
4. Like the lower baseball field, this field orientation is not favorable for the fielders. Consider reconfiguring for better positioning and drainage. Remove excess fencing in favor of opening the lawn to the rest of the park.
5. Evaluate age and lifespan of existing structure. Consider integrating playspace into landscape.
6. Consider alternate locations for swing set structure. Explore relationships between swing and playground. Swing set structure should be visible and easily accessible.
7. Consider shifting fenced courts in favor of park circulation around perimeter of upper terrace. Explore removal of perimeter fencing where appropriate.



Ecology

1. One of the nicest areas of old growth trees in the park. Foster the passive character of this space, and allow for future gatherings and individual reflection. Also explore options for connectivity on axis with the County Health Department.
2. Promote shaded character of the site, potential area for shaded picnicking. Reference tree inventory to future arboretum potential. Provide improved pedestrian circulation, and connect to overall park circulation network.
3. Remove excessive fencing between pedestrian mall and lawn outfield, promoting connectivity between mall, lawn area, and pedestrian circulation. Explore field drainage options.
4. Protect the existing Elm Tree allee and incorporate into the overall master plan design. Consider seating opportunities under the canopy.
5. Remove invasive understory growth, and promote the vegetated hillside as a tree grove / arboretum to be shared between park and school.

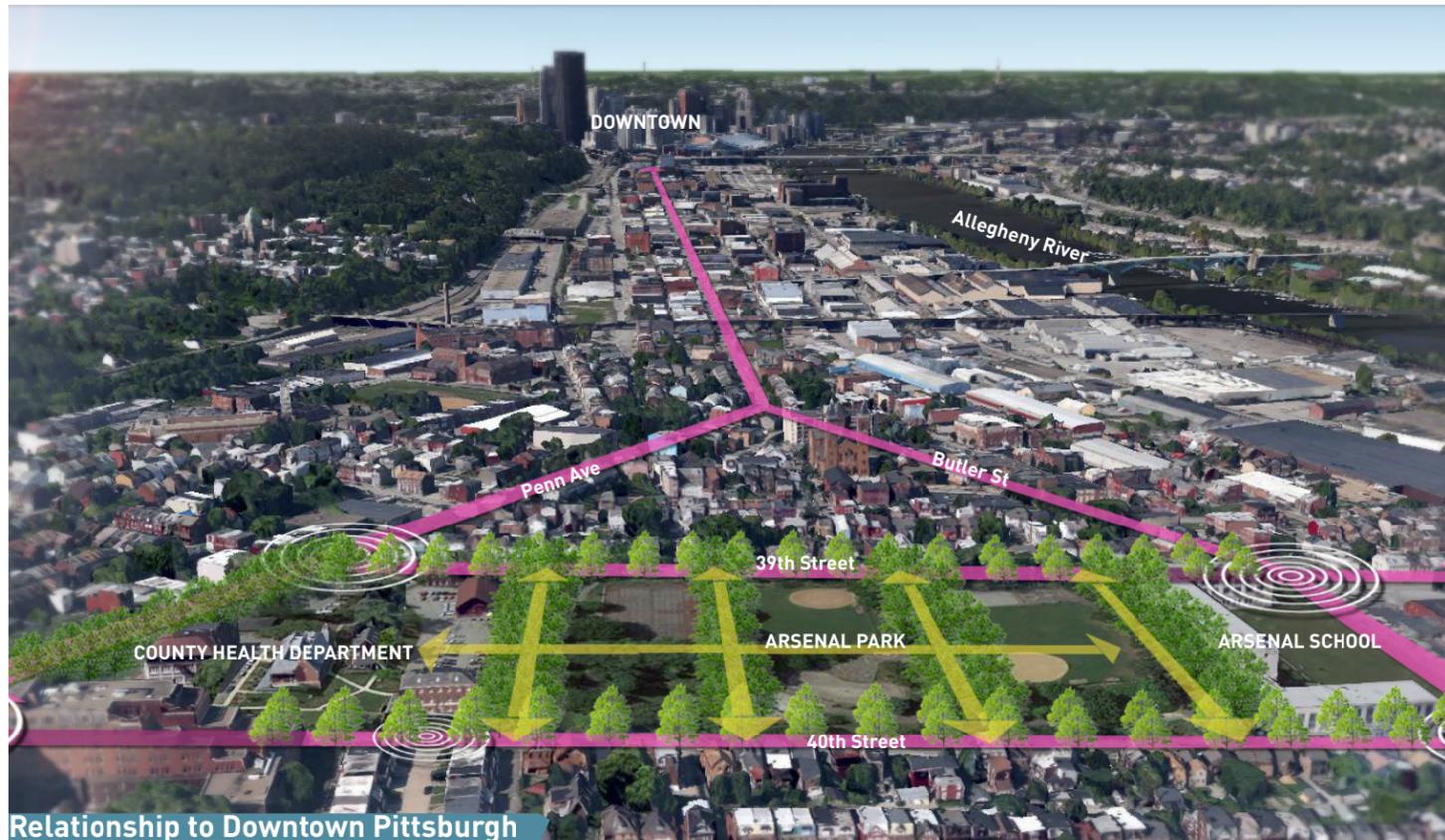


COMMUNITY FEEDBACK: IDEAS

1. Celebrate the rich history of the Allegheny Arsenal, park, and the surrounding neighborhood.
2. Promote neighborhood connectivity into and through the park
3. Establish accessible gateways into the park
4. Encourage a sustainable development strategy that promotes a healthy ecological environment
5. Provide access to the park from both Arsenal Schools and the County Health Department
6. Promote a resilient 21st century park
7. Provide opportunities for social interaction
8. Provide a park for all ages
9. Promote a park with flexibility to host large community gatherings and family picnics
10. Integrate health and wellness opportunities throughout the park

ARSENAL PARK MASTER PLAN: KEY RECOMMENDATIONS

1. Honor the Legacy of Arsenal Park's history
2. Embrace Sustainability: Educational Opportunities and Resilient Landscapes
3. Promote the Park as Community Open Space
4. Increase Connections: Arsenal School, Health Campus, Neighborhood , Open Space
5. Imaginative Play for all ages: Discovery and Exploration
6. Inclusive Park Experience: Accessible to all Users
7. Promote Health and Wellness throughout Park
8. Express Authentic Lawrenceville
9. Promote a Multi-Season Park
10. Promote flexibility of park spaces



Conceptual Program Summary Diagram



BEST PRACTICE STUDY:

Health and Wellness

Play is much more than a catalogue structure. It's an opportunity to socialize, engage with nature, recreate, and develop one's imagination. Experience and research shows that a naturally inspired playground encourages children to use their imaginations and engage the landscape and structures in their own unique ways.

The deliberate integration of topography, plant material, water, and continuous play promotes a concept that encourages independent decision making and interaction. Playscapes should be designed with every child in mind: inclusive play and accessibility are a prime focus. Special attention is given to all children no matter the ability level.

Playscapes are not only for children, but for the entire community. The experience of observing and participating in play should be timeless and inclusive for children and adults. A visit to the playscape should be comfortable, safe, and engaging, physically and mentally. Seating integrated into the landscape, strategically placed trees for shade in the hot summer months, incorporation of seasonal color, and the use of natural materials are all design strategies that are encouraged in Arsenal Park.

The images on the following pages are examples from best practice and precedent parks from around the world. These are intended to inspire the design of Arsenal's playscape.

Playscape | Health and Wellness



Integrate topography as a play element



Sliding through the landscape and canopy



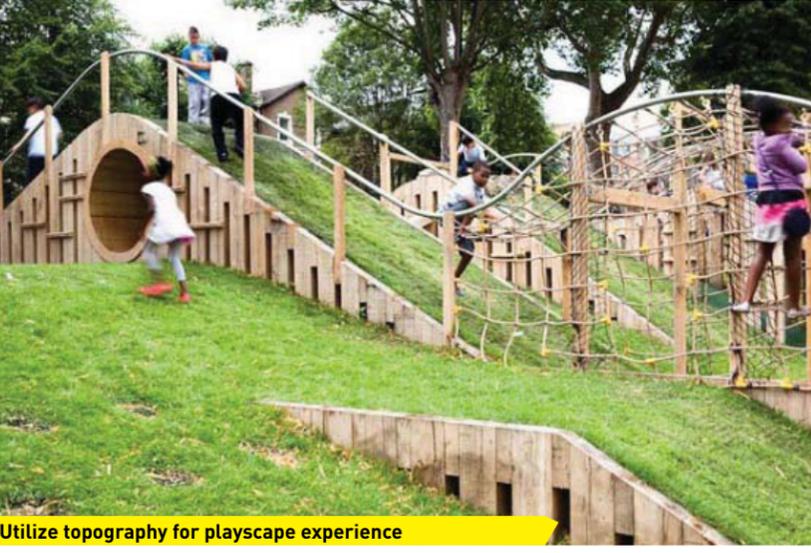
Natural play spaces



Educational opportunities



Be bold with color and lines



Utilize topography for playscape experience



Encourage continuous play



Play for all ages



Integrate seating into play experience

Playscape | Health and Wellness



Creative and inclusive play opportunities



Climbing Walls integrated into landscape



Encourage spaces that have multiple uses



Court plan integrated into surrounding landscape



Games and interaction for all ages



Unique play opportunities



Encourage spaces that have multiple uses

BEST PRACTICE STUDY:

Nature

Urban parks not only serve as a destination for recreation and community gathering, but also as a resource for seasonal color, growth, and ecological education. The landscape for Arsenal Park should be composed of natural ecological systems and native plant material. Raingardens, bioswales, and infiltration basins should be incorporated throughout the park, performing as stormwater management and educational opportunities for Arsenal School and the surrounding neighborhood. Plant material should be selected to provide a variety of species, color, texture, and growth habits.

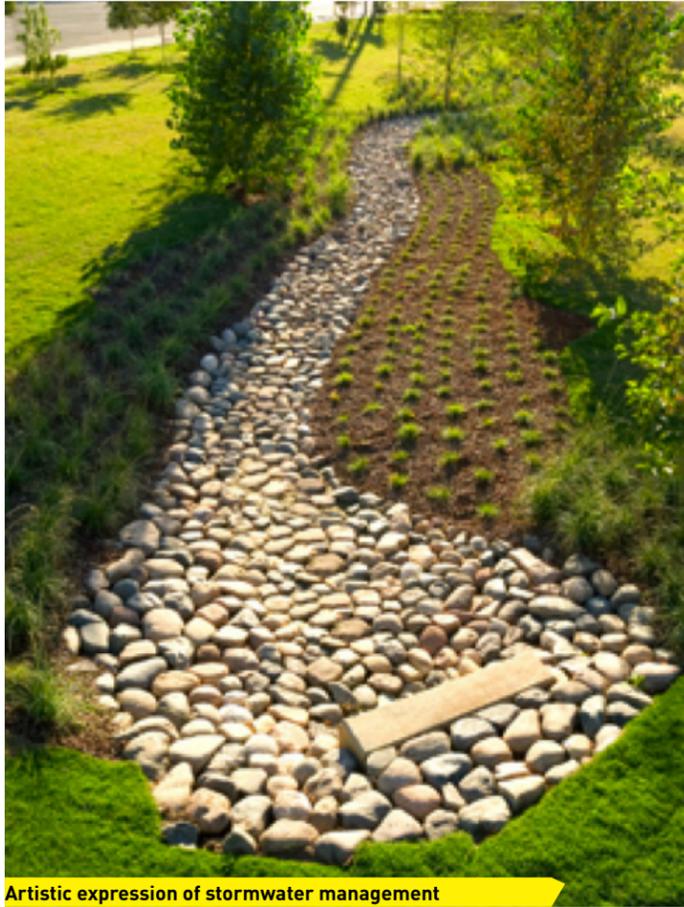
Museum

The history of the Allegheny Arsenal and Park has the potential to be expressed through a variety of means: interpretive graphics, signage, environmental graphics, art, and sculpture. In addition to honoring the history of Arsenal Park, the culture of the people and community of Lawrenceville should be expressed as well through a permanent interpretive exhibit.

Stage

Parks are a combination of spaces for prospect and refuge -- where people can both see and be sheltered. Whether the performer is the park visitor or the park itself, Arsenal Park has the capacity to be the stage for a variety of events, both large and small, planned and spontaneous. Promoting a four season park, Arsenal Park will have opportunities for performance throughout the year and for years to come.

Nature | Performative + Authentic



Artistic expression of stormwater management



Stormwater management



Seasonal color



Spring flowers



Evergreen plantings

Museum | Cultural Expression



Tell a story



Express yourself



Interpretive graphics

Stage | Perform + Express



Ice skating on the pond



Four season park



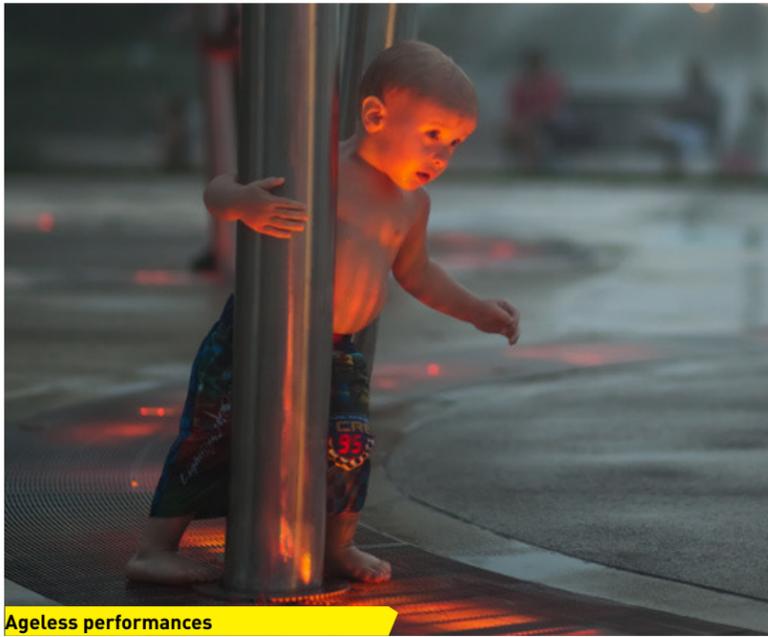
Park as learning lab...discovery



Community gathering



Flexible market and vendor space



Ageless performances



Engage with dancing water

DESIGN MOTIVATION



RESPONSIVE: BUILDING THE DIAGRAM

The existing study area for Arsenal Park presents itself as a community green space with several recreation and entertainment zones or compartments. The park is currently accessed on both 39th and 40th Streets, effectively establishing the northern and southern border of the park. These access or entry points, several of which are not universally accessible, link the interior network of circulation with the surrounding streetscape and adjacent neighborhood.

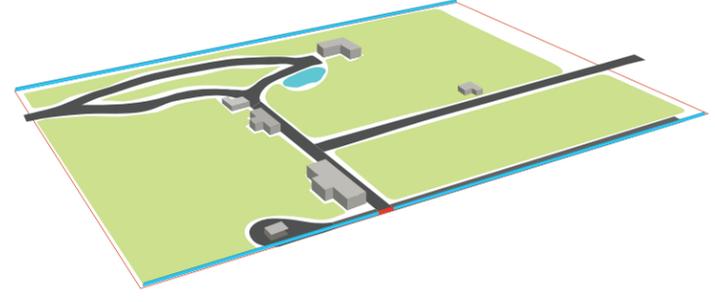
During the Grounding Phase of the Master Planning process, the Design Team indicated particular key structures/infrastructure items as "Givens." These existing features on the site are considered items of significant historical meaning, and should be integrated into the overall Master Plan strategy. The "Givens" outlined in this Master Plan report are as follows:

- + Powder Magazine
- + Perimeter Stone Wall
- + Pedestrian Mall
- + Elm Tree Allee

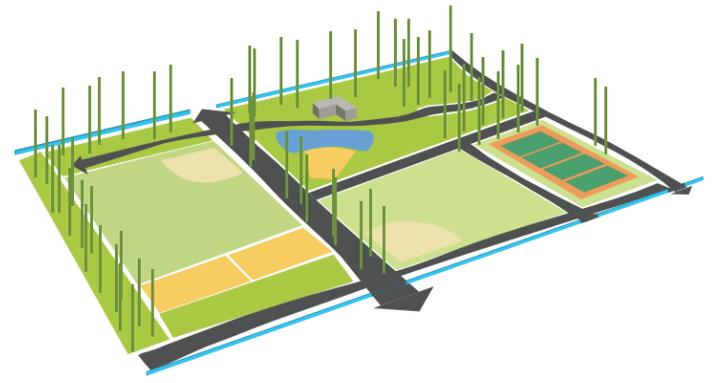
Dissolving the edges of the park and providing a more fluid and accessible network of circulation will increase physical and perceived connectivity between the park and the surrounding neighborhood. The Master Plan recommends the following strategies for improved connectivity:

- + Provide more accessible routes into the park.
- + Provide access to the park from Arsenal School.
- + Provide access to the park from County Health Department.
- + Where needed for accessible entrances, enlarge or selectively remove portions of the perimeter stone wall.
- + Maintain continuous pedestrian and bicycle paths.
- + Protect and incorporate the existing Elm Tree allee into the overall park design.

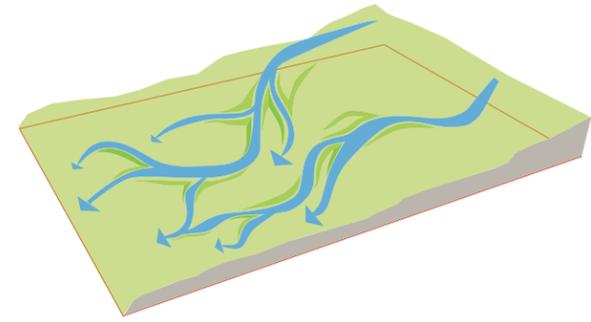
arsenal



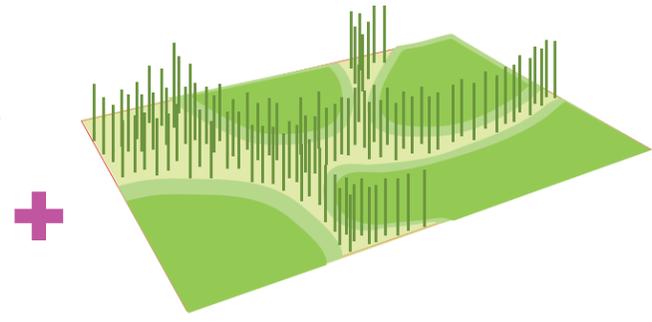
park



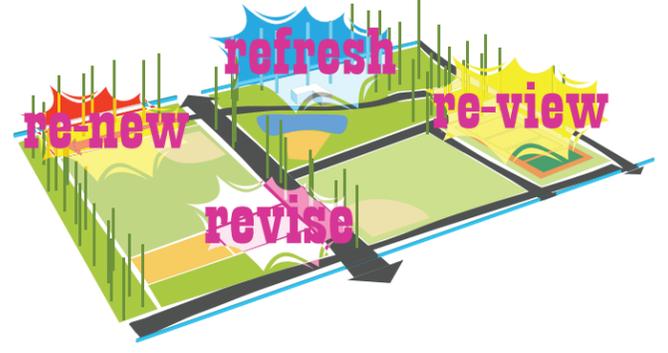
themes



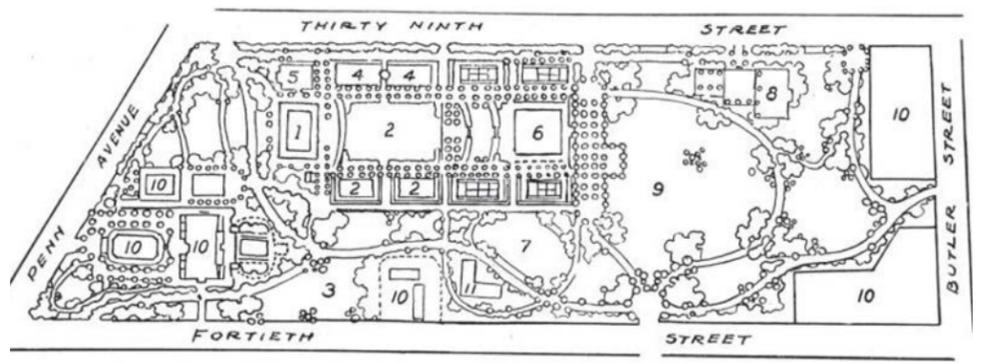
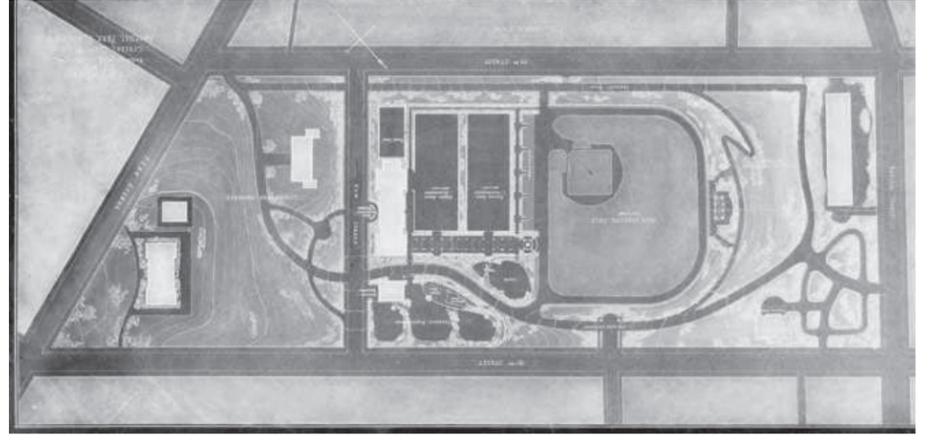
hydrology
[carve]



urban forest
[river of trees]



RE_arsenal park
REadymade



- | | |
|--|---|
| 1. Field House. | 7. Wading Pool. |
| 2. Children's Gardens. | 8. Proposed Field House and Conservatory. |
| 3. Boys' Playground and Open-Air Gymnasium. | 9. Grove and Music Pavilion. |
| 4. Girls' Playground and Open-Air Gymnasium. | 10. Government Reservation. |
| 5. Sand Garden. | 11. Storage House. |
| 6. Playground. | |

ARSENAL PARK

ORGANIZE: **BUILDING A KIT OF PARTS**

The development of concepts for the Arsenal Park Master Plan involved a variety of influences and program opportunities. As the team reviewed and explored these influences, three themes emerged as motivation for park design.

Hydrology - The topography of the park allows for flow of water across the site. Water can be expressed throughout the park in a variety of methods: stream, raingarden, skating rink, water fountain, etc. Below are a series of icons that the team developed to explore the various ways water might be introduced or expressed in Arsenal Park.

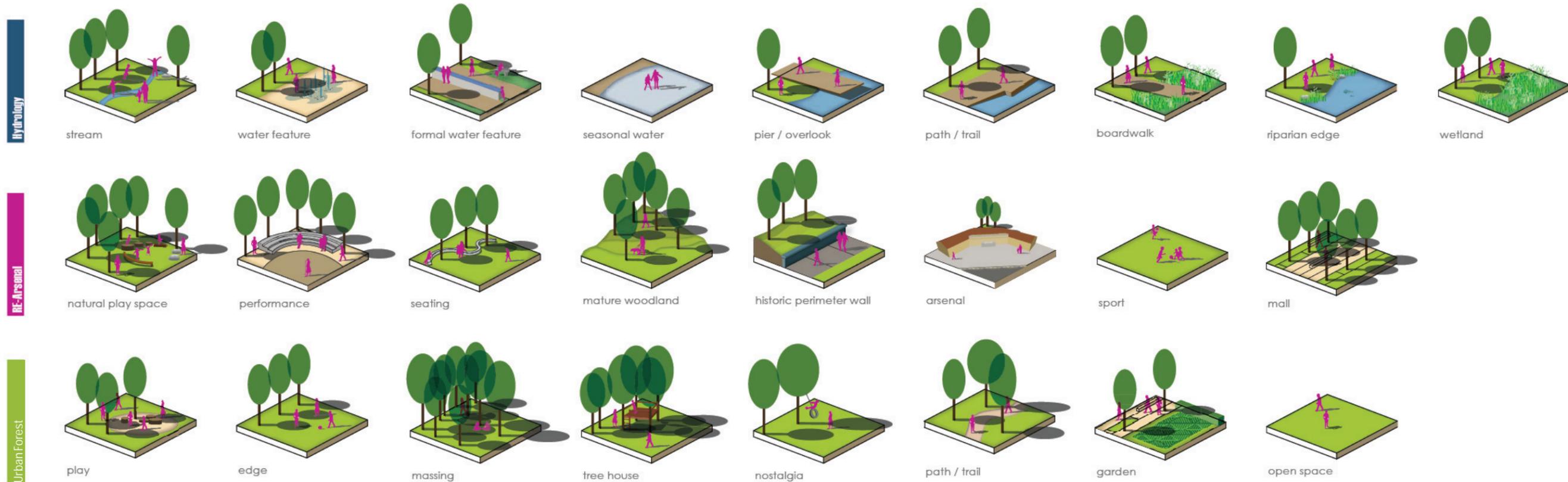
RE-Arsenal - This concept embraces the existing layout of the park (which largely dates to the 1930s), and suggests improvements in areas that need to be updated or modified based on feedback received from the project team and the community. Below are a series of diagrams that inventory the types of spaces in the existing park.

Urban Forest - The notion that parks and open spaces are the “lungs of the city” is the basis for this concept which promotes the addition of tree canopy to the existing stock of mature trees that currently exist. Below are a series of diagrams that explore the impact of trees on spaces within the park.

ARSENAL + PARK = THREE THEMES:
RE_ARSENAL | URBAN FOREST | HYDROLOGY

Conceptual development for Arsenal Park contained a wide variety of influences and ideas. The concepts are a result of community input, thorough site inventory/analysis, and program development. The Arsenal Park concepts have the following in common:

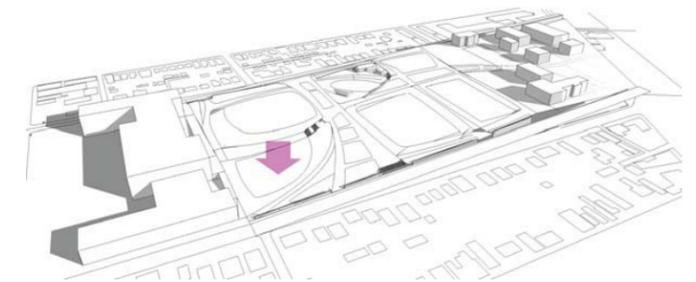
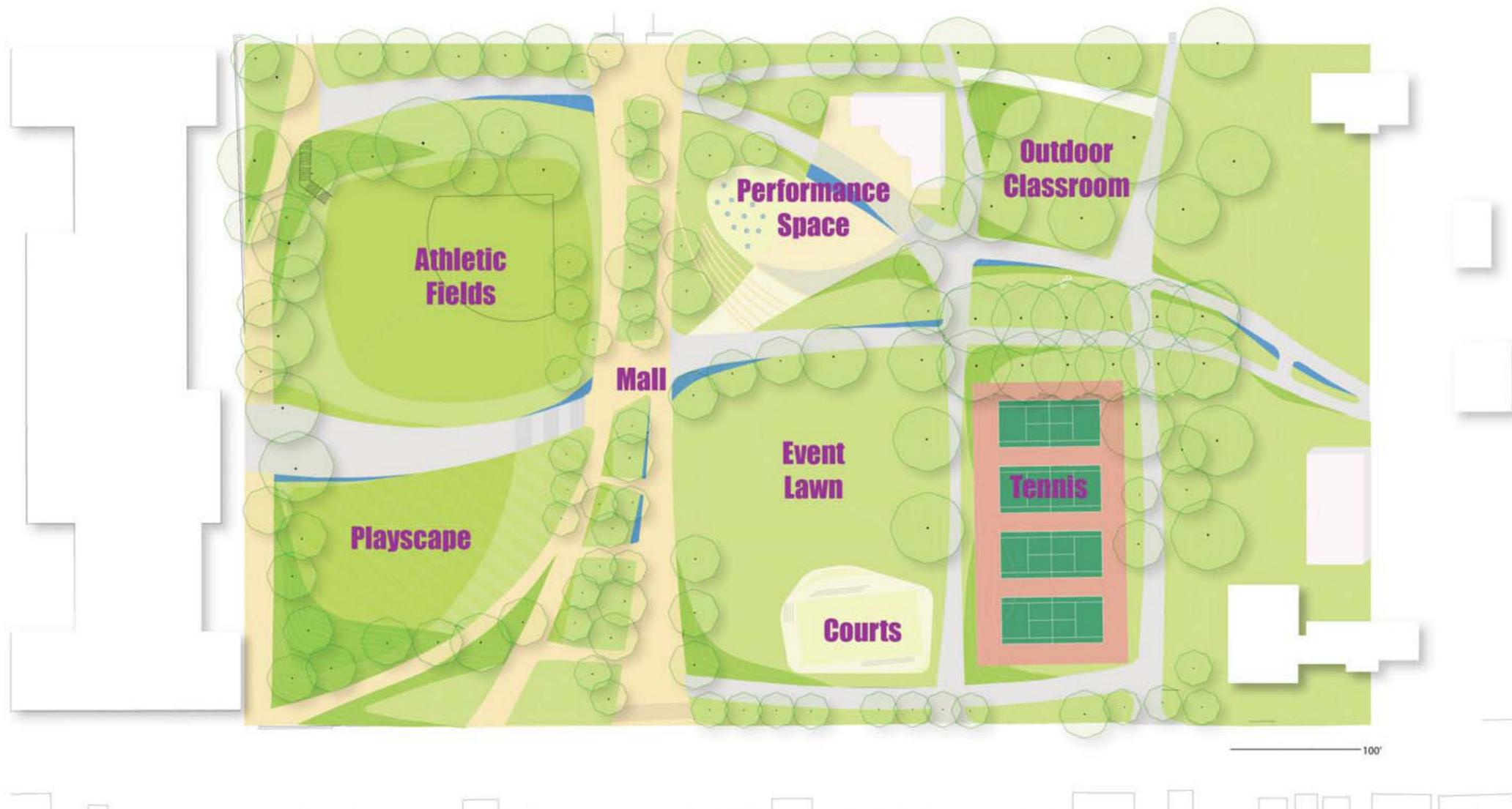
- + Improved visibility, accessibility, and neighborhood connections
 Rental shelter for picnics, programs, classes.
- + Retention of several historic pathways.
- + Reconstruction of portions of the historic perimeter stone wall.
- + Green infrastructure for stormwater management.
- + Lighting and furnishings.
- + Improved sightlines for softball.
- + Water Feature / Spray Park.



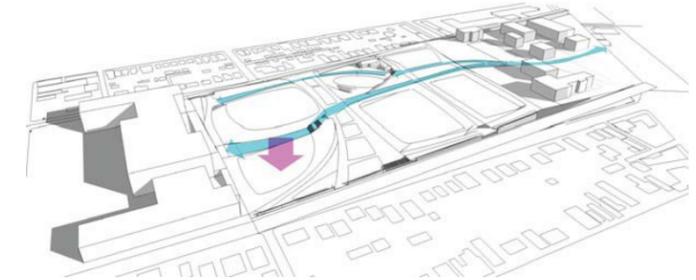
Preferred Concept Description:

Water weaves and meanders through the landscape, carving streams and rivers over time. This concept embraces the flow of water across the surface, capturing the rainwater in strategic areas to slow down runoff and minimize the need for conventional structure stormwater structures (inlets, storm piping, manholes). Park users sculpt the landscape as well, shaping the spaces we engage for circulation, recreation, and gathering. Taking cues from the historic Arsenal Park layout, The Arsenal Park Master Plan minimizes barriers for smooth pedestrian flow, and weaves the park spaces and landscape together. This concept increases the amount of accessible entrances to the park along steep street frontage, and links the park with both the County Health Department and the Arsenal Schools, encouraging smoother circulation into and through the park.

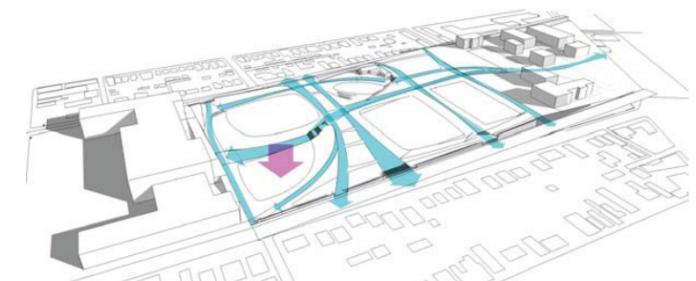
During the planning and design process, the Project Team explored several concept alternatives for the future development of the park. Each of these alternatives explored a theme for the park inspired by ecological systems, input from the community, or arrangement of program throughout the park. The alternative schemes developed for the project can be found in the Appendix section of the report.



Sculpt the Terrain



East/West Circulation



North/South Circulation



Spaces



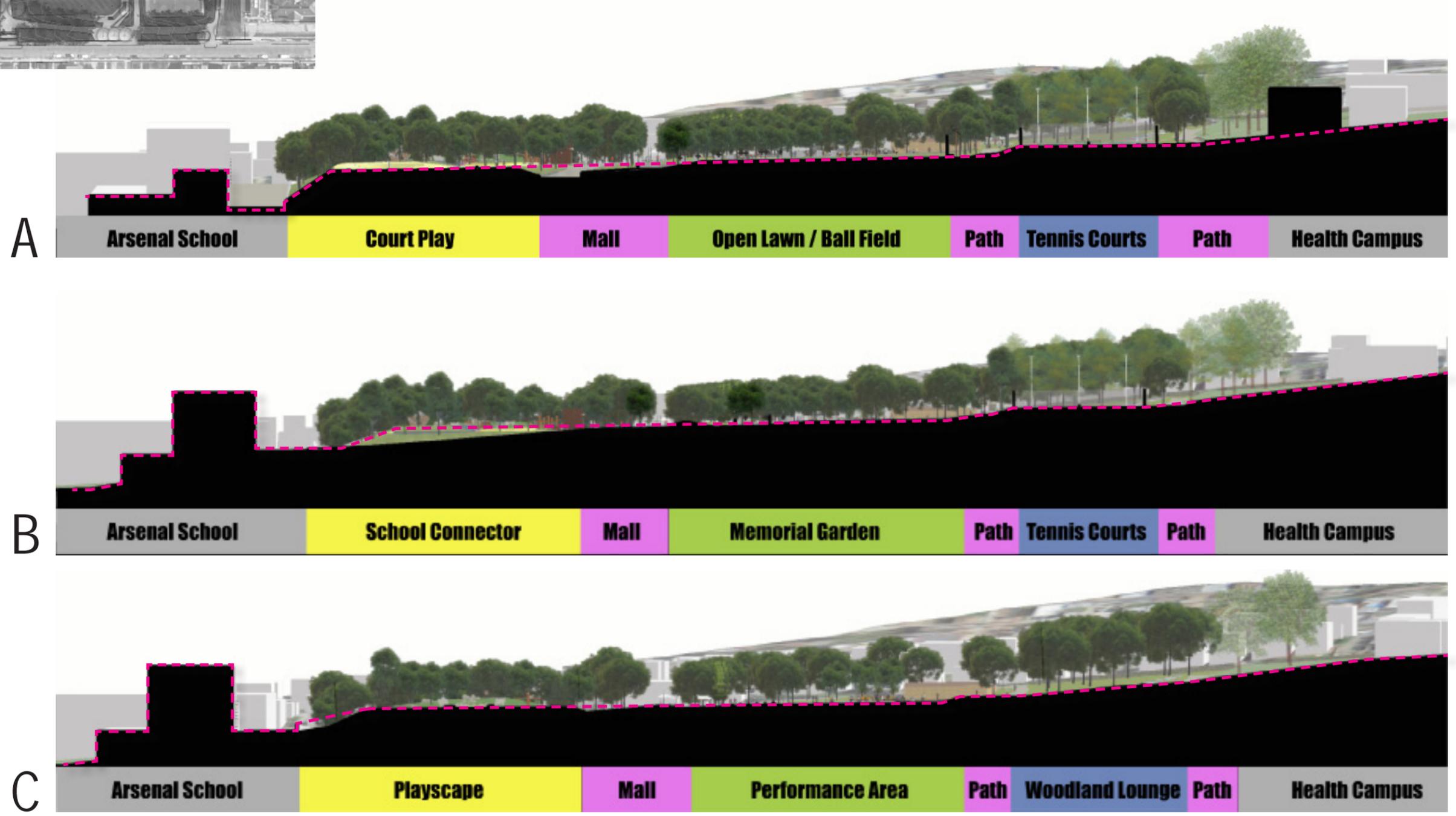
Composite



SCULPTING: SHAPING THE PARK FOR THE FUTURE

The sections to the right illustrate the conceptual grading impacts to the park. The sections, cut through the site east/west, illustrate the strategic moments within the park that the master plan recommends sculpting the site to increase accessibility and access. The black base indicates the proposed grade, and the dashed pink line indicates the approximate existing grade.

These sections are intended to illustrate the concept. These were drafted from GIS data provided to the design team. Final grading plans should be conducted with a site survey prepared by a licensed surveyor.

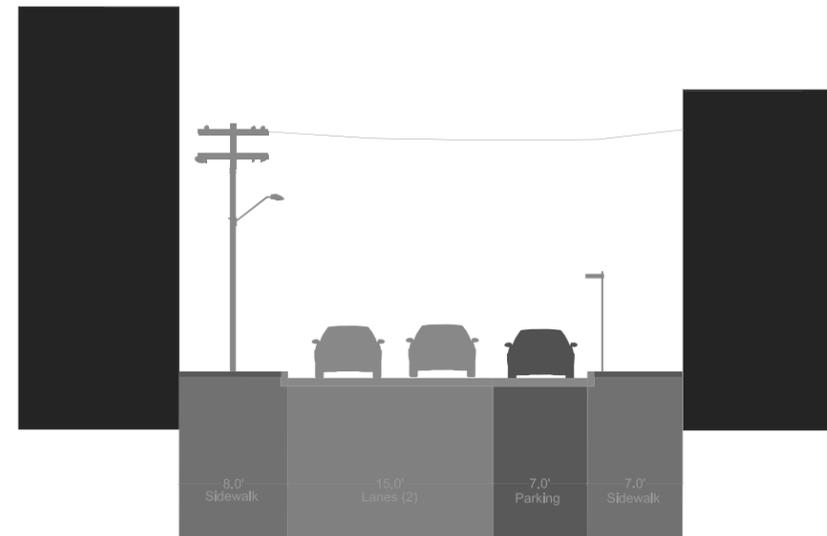


RESPONSIVE: PERFORMATIVE STREET OPTIONS | DAVISON ST

At the scale of the neighborhood, Arsenal Park is one important component of an overall network of open spaces in Lawrenceville. Linking the green and open spaces throughout the neighborhood will promote safer pedestrian/bicycle circulation and foster a healthier community. This master plan explores the link between Arsenal Park and Leslie Park, which is located at the corner of Butler Street and 46th Street.

Davison Street currently provides an opportunity for pedestrians and cyclists to flow between both Arsenal and Leslie Parks, enjoying reduced conflicts with vehicles, as exists along Butler Street, Lawrenceville's commercial corridor. Right-of-way width is narrow throughout the Davison corridor, making a continuous tree lawn more challenging. In these situations, street trees could be placed at regular intervals within bump-out planters in the on-street parking lane. Streetscape treatments should also be explored for safe pedestrian crossing and traffic calming.

Existing



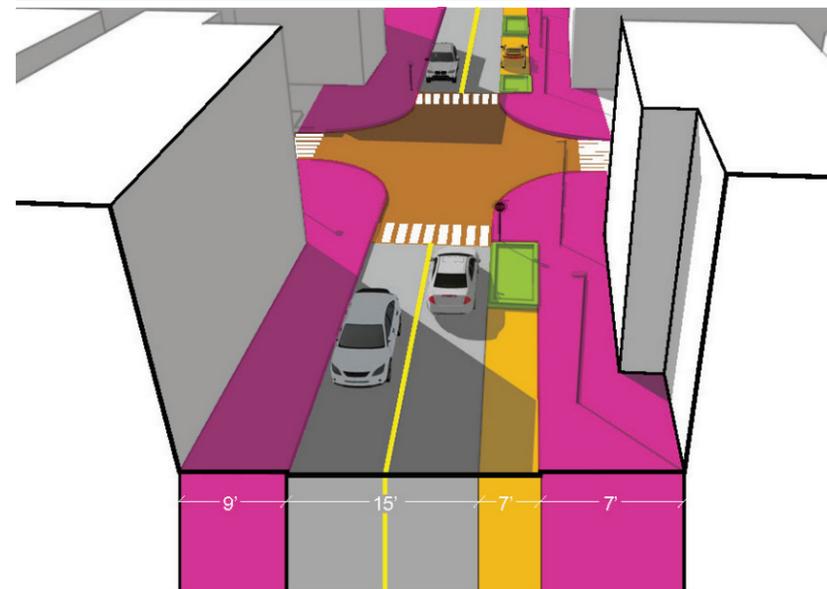
NORTHEAST DAVISON STREET



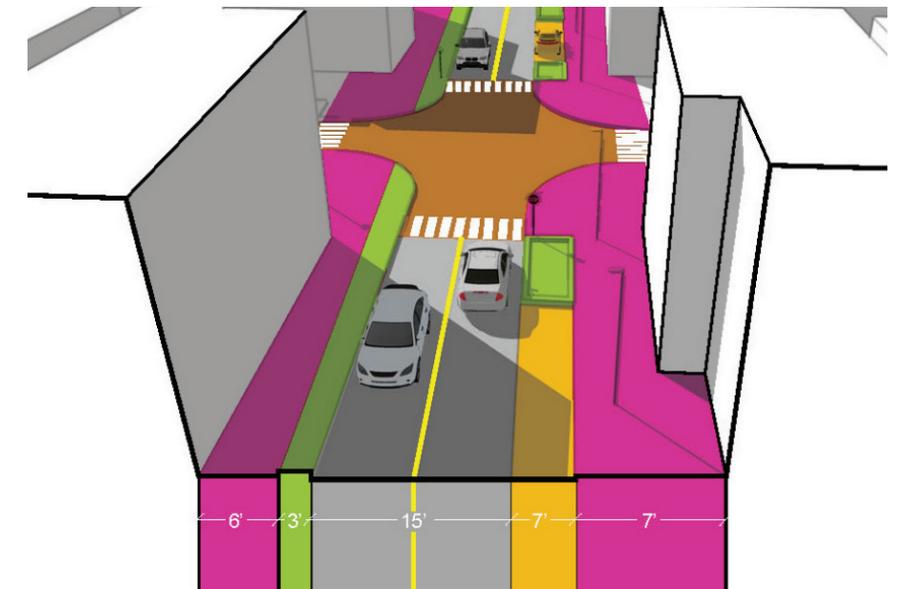
SOUTHWEST DAVISON STREET



Options



NORTHEAST DAVISON STREET



SOUTHWEST DAVISON STREET

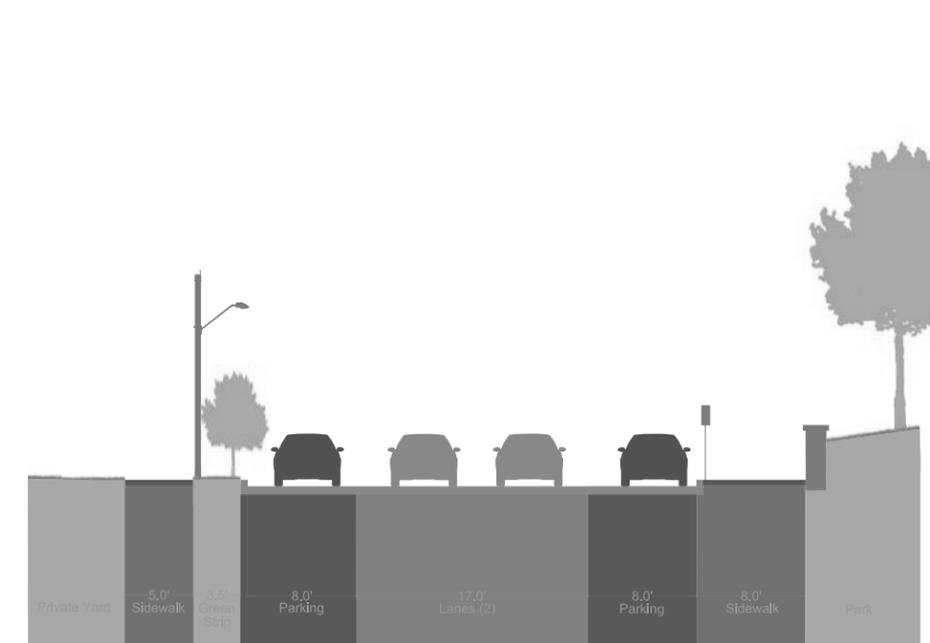
RESPONSIVE: PERFORMATIVE STREET OPTIONS | 39TH STREET

39th Street establishes the southern border of Arsenal Park. Although this report does not make specific recommendations for streetscape improvements, it does recommend further exploration to provide a safer experience for pedestrians and bicycles. The current width of the street provides sufficient space for two-way vehicular traffic and parking, but provides minimal width for sidewalks and bicycle circulation.

The diagram sections below explore the potential relationships between vehicles, pedestrians, and bicycles.



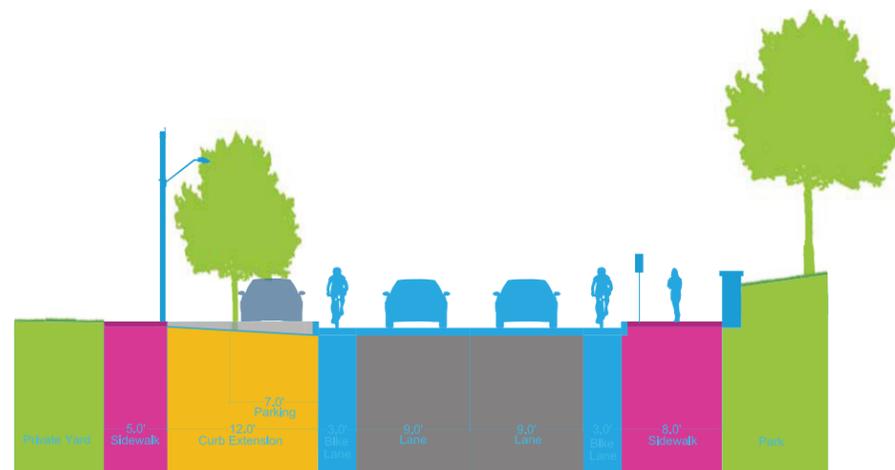
Existing



39TH STREET
SOUTHWEST

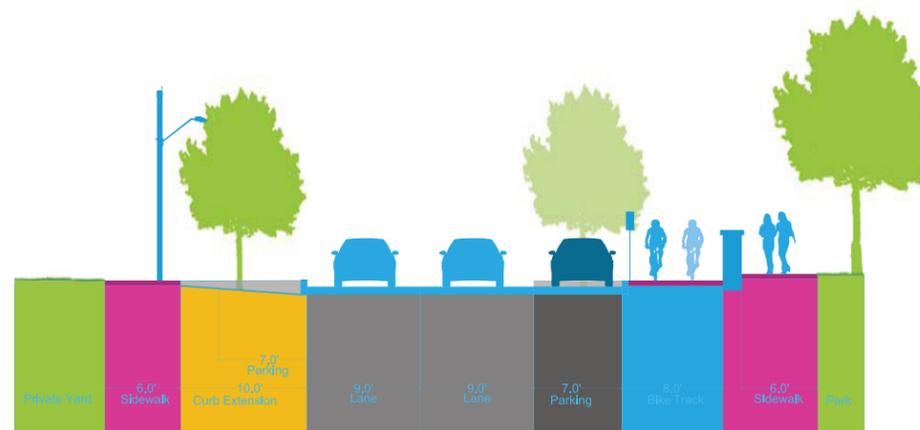
NORTHEAST

Options



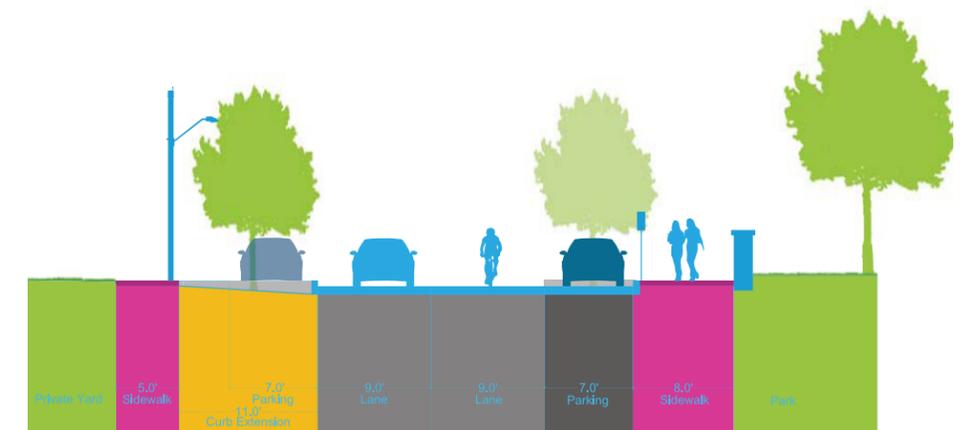
39TH STREET
SOUTHWEST
OPTION A

NORTHEAST



39TH STREET
SOUTHWEST
OPTION B

NORTHEAST



39TH STREET
SOUTHWEST
OPTION C

NORTHEAST

RESPONSIVE: PERFORMATIVE STREET OPTIONS | 40TH STREET

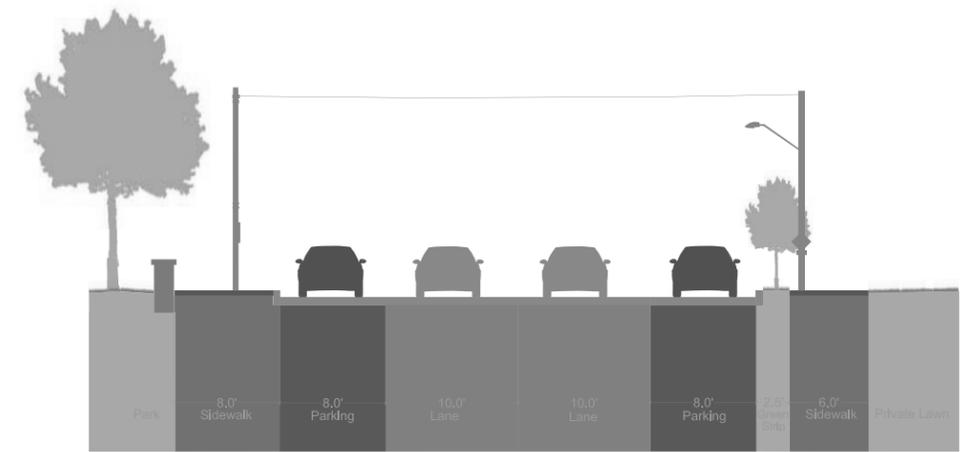
40th Street establishes the northern border of Arsenal Park. Although this report does not make specific recommendations for streetscape improvements, it does recommend further exploration to provide a safer experience for pedestrians and bicycles. The current width of the street provides sufficient space for two-way vehicular traffic and parking, but provides minimal width for sidewalks and bicycle circulation.

Improvements to the intersection of Davison and 40th Streets should be considered as a phase of the overall design. Options for an improved and safer intersection include; pedestrian-controlled signal, stop signs, bump-outs, and change in surface texture.

The diagram sections below explore the potential relationships between vehicles, pedestrians, and bicycles.



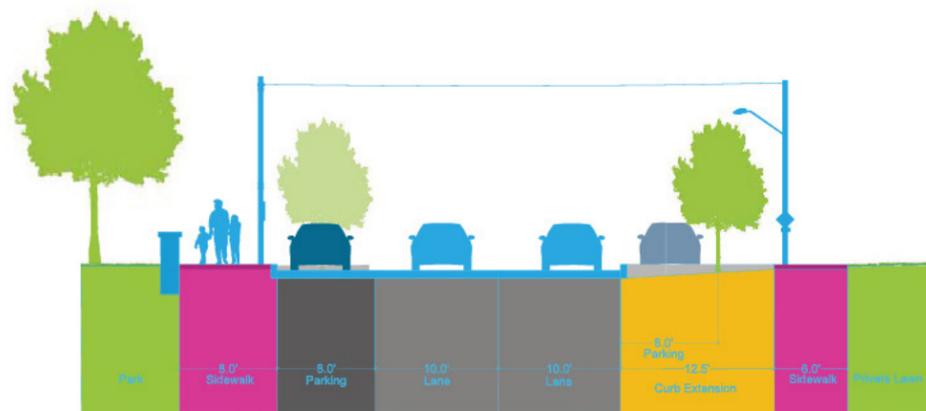
Existing



40TH STREET
SOUTHWEST

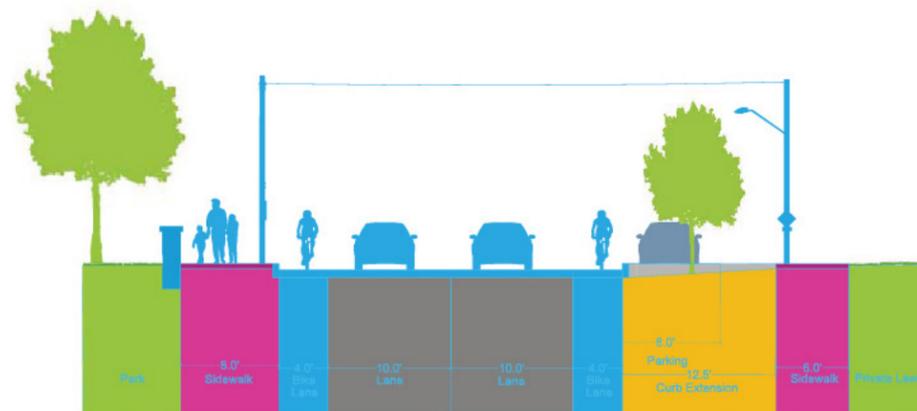
NORTHEAST

Options



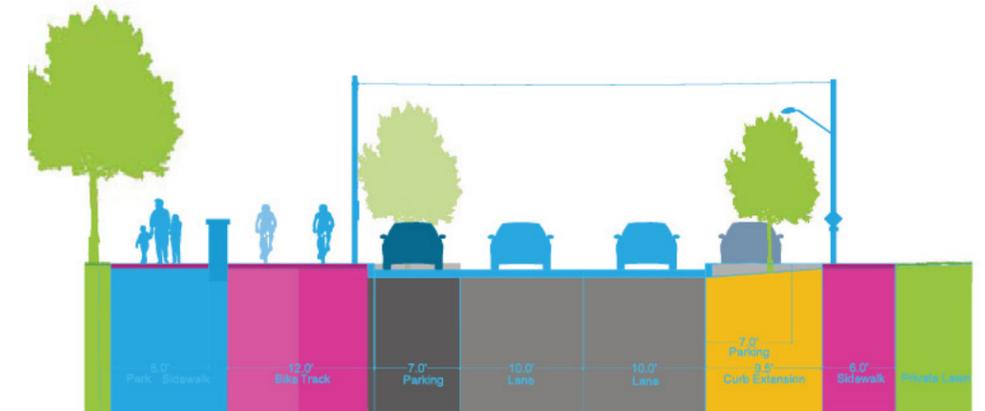
40TH STREET
SOUTHWEST
OPTION C

NORTHEAST



40TH STREET
SOUTHWEST
OPTION B

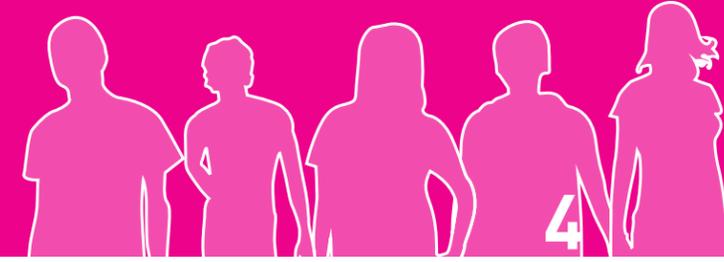
NORTHEAST



40TH STREET
SOUTHWEST
OPTION A

NORTHEAST

THE MASTER PLAN





ARSENAL SCHOOL

COUNTY HEALTH DEPARTMENT

40th Street

39th Street

190'



PLAYSCAPE: ENGAGE THE LANDSCAPE

Recreation and interaction with nature are increasingly becoming more relevant and imperative in our everyday lives. Open space is the anchor for any growing and successful community or city. Open space performs and participates in countless ways, and the participation continues to mature and evolve over time, often decades. The Arsenal Park Playscape serves as a gesture to encourage children, parents, and the community to engage the landscape, recreate in a beautiful outdoor environment, and learn to socialize at one's individual pace.

Arsenal Park Playscape is designed with every child in mind. Inclusive play and accessibility are the prime focus. From ADA ramps and wheelchair friendly surfaces to extra wide slides that accommodate kids joined by parents, special attention was given to all children no matter the ability level. In addition, features of the playscape are designed to address the special needs of children with social, emotional and sensory disabilities by focusing on vestibular, tactile and visual learning, resulting in educational aspects throughout the playscape.

It is also important to give a child's sensory system a rest. This sensory rest is possible in the shaded play area of the playscape which provides children a quiet, serene place to relax and enjoy the space away from the action at their own pace.

Specific areas focus on continuous play which provides children the ability to move from one activity to another without ever touching the ground. This concept encourages independent decision-making and interaction - important ingredients in a child's development. Parents may question the intended use of play equipment incorporated into the playscape, but a child's uninhibited mind will find 10 different uses for it. These features will challenge, attract and retain young hungry minds.

Playscape Highlights

1. Remove existing ball field and regrade site for safe and accessible playscape (roughly 30,000 SF)
2. Provide designated play areas for 2-5 and 5-12 year old age groups. (2-5 Yr = 2000 SF, 5-12 Yr = 3,000 SF)
3. Restroom / Pavilion Structure - 1000 SF
4. Observation Mound, synthetic turf surface.
5. Perimeter Track - Rubberized Safety Surface.
6. Landform Sculpting - Integrate sliding and climbing features.
7. Trees and Horticulture - Integrate into playscape to promote a natural landscape experience.

Note: Playscape concept does not represent final design. Final design shall be subject to safety design standards for play structures.



PATH + CIRCULATION: SCHOOL CONNECTOR

As one of the essential users of the park, the students and faculty of Arsenal School desire a safer and more accessible route to Arsenal Park. Currently teachers and faculty walk their classes along either 39th or 40th Streets in order to access the corners of the park. Working closely with school leadership, the project design team established this future connection as a priority.

The Master Plan recommends an accessible connection from the Schools to the park, linking the back central stairway into the center of the park. This link will promote a safer access point and encourage more interaction between the school and the park, both physically and visually.

The paved and lighted connector is carved into the existing topography, sloping gently toward the center of the Mall with the playscape on the left and the multi-purpose courts on the right. As part of the overall stormwater management strategy, the connector incorporates a raingarden into the walkway. Not only is this feature intended for function, it also serves as an educational opportunity along the connector as classes of students engage the park. Signage and interpretive graphics should be integrated into the design to encourage the educational experience.

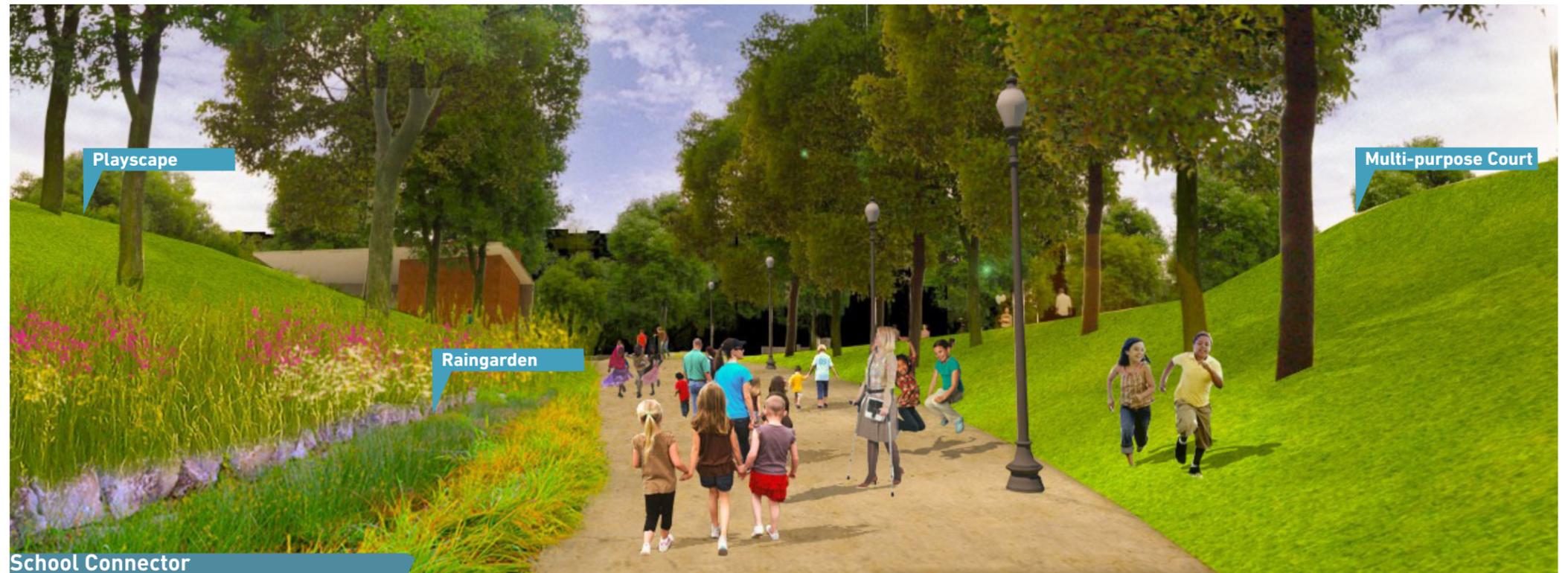
PATH + CIRCULATION: THE MALL

Reviewing historical mapping of Arsenal Park reveals that the Mall is an essential component of the overall park framework. As the main pedestrian link between 39th and 40th Streets, the Mall serves as the park “main street”, a place for park participants to see and be seen. The shade covered corridor is currently home to a playground structure, swings, picnic tables, and benches.

The Master Plan recommends embracing and improving the Mall as a significant feature and destination within the park. Relocating the play area from the present Mall layout to the proposed Playscape area allows the Mall to focus on pedestrian circulation and gathering, and promoting a safer location for children to play in an enclosed area of the park.

Promoting increased accessibility to the park, the Mall is reconfigured, bending toward 39th and 40th Streets, and using a sloping walkway to connect to the center of the park. Bending of the Mall walkway allows for a direct connection to the intersection of Davison and 40th Streets, promoting a safer pedestrian crossing and allowing immediate access into the park. Bending the Mall also provides a much needed and desired accessible entry on 39th Street, responding to feedback from the community, project leadership, and the goals and objectives set forth in the master planning process.

The Mall not only serves as a concourse for destinations within the park, but also serves as a destination itself. A pop up jet water feature is designed into the Mall, providing a recreational/entertainment opportunity during the hot summer months, a refreshing and audible feature for passersby throughout the day and evening. For events, the Mall also operates as an organizer for kiosks and booths, providing power supply and access for larger crowds.

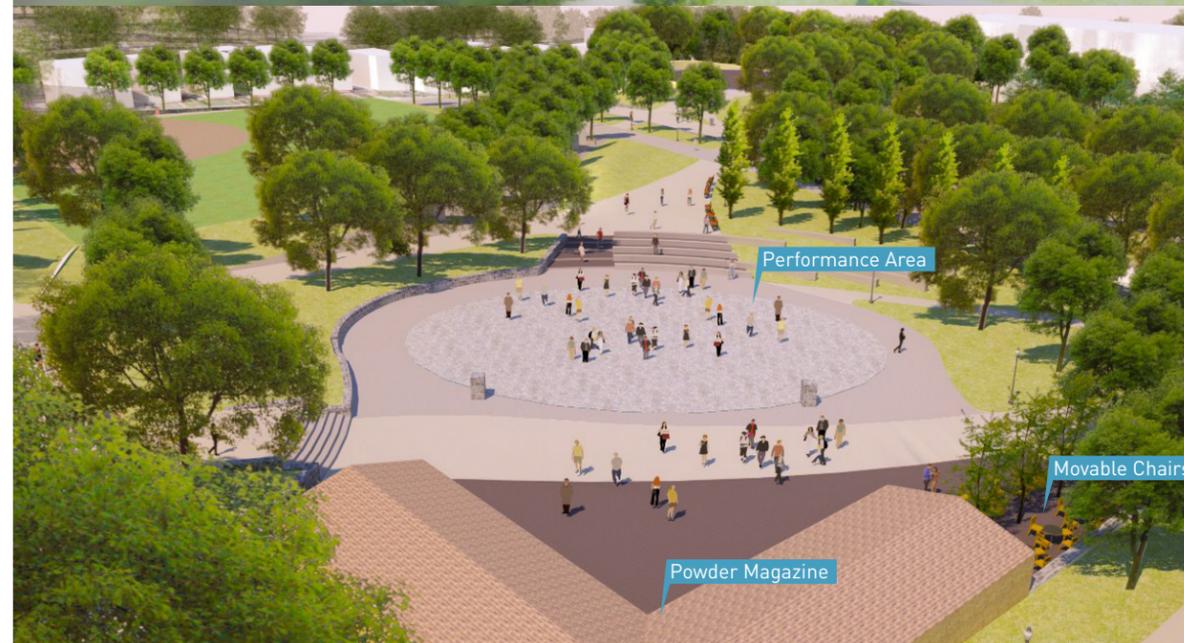


REVITALIZE: POWDER MAGAZINE + PERFORMANCE SPACE

Dating back to the original Arsenal, the Powder Magazine and Pond have played an integral role in the transition from arsenal to park. In recent years, the Powder Magazine has been used for concessions, restrooms, and maintenance office/storage. The last few years the building has been locked due to reduced maintenance and staffing. The condition of the building exterior and interior is in decent condition, and the Master Plan recommends programming the building to be used by park visitors and staff. (See Appendix 6.1 for an architectural review of Powder Magazine). The plan recommends removal of the restroom portion of the building as it was an addition to the original building. New restrooms will be incorporated into a pavilion structure adjacent to the Playscape, centrally located along the Mall. The concession area of the building is recommended to be reused as concession, expanding the seating area outside of the building interior to a shaded area with movable tables and chairs during events and park gatherings.

The pond has had several transformations over the last 200 years. Originally a natural clay lined pond, today the pond is lined with a concrete surface and walls. Standing water from occasional rain events reveal the previous life as a body of water, but typically the pond is dry and empty. It has become a location for roller blading, bike riding, and gathering space during social events. The desire to retain its flexibility as an open space as well as rejuvenate its past life as a “water feature” has inspired the Project Design Team to redesign the feature with the capacity to operate as both interactive water feature and flexible open space during social or entertainment events. As a water feature, the pond will function as a shallow pool, reflecting the towering tree canopies and the Powder Magazine in the foreground. Park participants will be able to walk through the water to splash and cool off during the hot summer months. During events in The Master Plan also recommends reconstructing the waterfall that historically filled the pond with water. This cascading water feature will provide both an audible and visual aesthetic to the Performance Space. During events in the Performance Space, water in the pond will be drained, providing a dry space for seating, stage, etc. In the winter months, the paved surface is designed with space for a temporary ice rink to be installed. The Master Plan also recommends reconstructing the waterfall that historically filled the pond with water. This cascading water feature will provide both an audible and visual aesthetic to the Performance Space.

Additional seating should be incorporated into the terraced steps and hillside. These curved seatwalls will wrap around the arch of the pond, providing ideal views of the Performance Area and Pond for observation of both large and small performances.



Powder Magazine + Performance Area

Powder Magazine and Performance Area Highlights

1. Renovate original Powder Magazine structure. Remove restroom addition and relocate Dolley Madison Memorial to its original site in the inside corner of structure. Repair exterior stone, roofing (consider green roof), and renovate interior spaces for storage and concessions. Future programming of Powder Magazine to be determined through public process.
2. Reshape and convert historic pond structure into wet/dry water feature, capable of providing a thin layer of water of the surface of the pond or serving as a dry area for gathering during events.
3. Repair and replace existing stone paving in terraced seating. Construct new seat walls for observation of performances and water features.
4. Provide shaded seating area next to Powder Magazine.

PLAYSPACE: MULTI-PURPOSE COURT

Motivated by the goal to promote health and wellness throughout the park, the multipurpose court is envisioned as a concentrated area within Arsenal Park to participate in hard court games...basketball, skateboarding, roller hockey, bike polo, sidewalk games (hop scotch, four square) etc.

Rather than enclose the court surface with the typical chain link fence, the design incorporates an activity and observation wall around the perimeter of the space. The concept suggest incorporating climbing walls, seating, slides, and an accessible surface to navigate around the courts.

Multi-Purpose Court Highlights

1. Remove existing basketball and bike polo courts and regrade for level playing surface.
2. Install new asphalt surface for court play with basketball goals on either end of court for full court play.
3. Install perimeter activity and observation wall (painted or integrated color concrete material) with stepped seating and activity areas (climbing structures, stretching bars, coping for skateboarding, slides, etc).
4. Provide lighting for evening activities and events. Lighting fixtures shall provide ample lighting for evening and night activities. Use of energy efficient lighting should be a priority when selecting light fixtures. Also provide accent lighting for the perimeter seating and activity area.

School Connector Highlights

1. Accessible paved connection between Arsenal Park and Arsenal School.
2. Raingarden along pathway for stormwater management and educational opportunities.
3. Pedestrian lighting for safety and security.
4. Walkway lined with shade trees for seasonal color and shade during hot months.

Mall Highlights

1. Accessible connection to both 40th and 39th Streets.
2. Water feature for family interaction and visual/audible qualities.
3. Tree-lined walkway for comfortable gathering and seasonal color.
4. Pedestrian lighting for safety and security.
5. Permeable paving surfaces for water infiltration and stormwater management.



The idea that most family recreation and social activity occurs in the backyards is no longer true. People are searching for the sense of connection and community, and placing a higher value on fitness and social interaction.

Urban Land Institute (ULI) 2014 Open Space Development Outlook

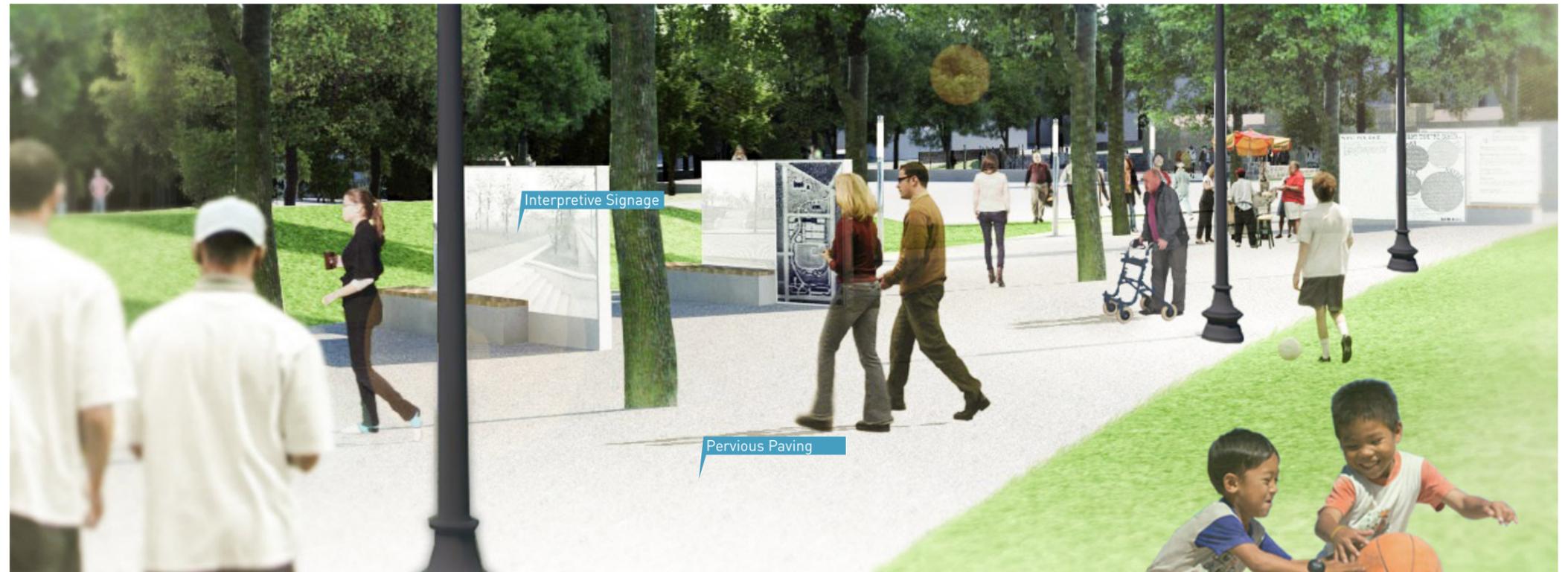
PATH + CIRCULATION: MEMORIAL GARDEN

Located near the center of the park and in view of the historic Powder Magazine structure, the Memorial Garden welcomes visitors and park participants while honoring the history of the Arsenal and the Park. Interpretive displays are positioned prominently throughout the space, communicating and educating the significant history of the area. The design team envisions a combination of environmental graphics, specialty lighting, and contemporary materials for the signage, establishing them as both educational and aesthetically beautiful.

The space is also composed of a grove of trees providing shade throughout the hot summer months. The walking surface is intended to be a soft porous material (ex. crushed limestone) that provides a distinctly different texture, aesthetic, and audible quality that indicates to the visitor that this is a special area within the park.

Memorial Garden Highlights

1. Provide permeable pavement for walking surface of memorial garden area.
2. Design and install interpretive graphics honoring the history of the Arsenal and Arsenal Park. Interpretive panels should be illuminated to serve as park lighting as well as accentuate the panels in the evening hours.
3. Install large shade trees throughout the space to provide comfortable environment during the summer months.



NATURE: WOODLAND LOUNGE

Located in the northeastern portion of the park, the woodland lounge takes advantage of the mature tree canopy and the undulating topography. From this area of the park, visitors are positioned to view the park from the highest point. There are currently very few places to sit and observe, so the Master Plan recommends designing and placing lounge-like furnishings and hammocks throughout the canopied space for relaxation and observation.

Woodland Lounge Highlights

1. Repair stone terraced steps for safety and aesthetics.
2. Install precast lounge chairs under canopy of existing trees
3. Install hammock area under canopy of existing trees. (if can be maintained by community organization).
4. Convert entry in northeast corner of park along 40th Street to ramp.



ACCESS: 39TH STREET

The northern and southern edges of the park are bordered by 40th and 39th Streets, currently two-lane neighborhood streets with parallel parking on either side of the street. Six to eight feet wide sidewalks provide pedestrian circulation on both sides of the street, exposing the pedestrian and park visitor to the swift moving traffic, especially within the 40th Street corridor.

The Master Plan recommends promoting safer circulation and access to the park. Arsenal Park is considered a neighborhood park, and walkability is a priority within the community of Lawrenceville. Providing safe routes for families, students and teachers from Arsenal School, employees from the County Health Department, and the Senior Center should be a priority in the future development of both 39th and 40th Street streetscapes. The plan recommends widening the sidewalk where feasible and incorporating bumpouts for protection from moving traffic, stormwater management, and organization of parking throughout the streetscape corridor.

The historic stone perimeter wall bordering the edges of the park also has the potential to contribute to safer access and overall neighborhood circulation. In its current state, that wall is deteriorating in several areas due to lack of maintenance and drainage issues. Salvaging and renovating a substantial portion of the stone wall is essential to the historical significance of the park. Where appropriate, portions of the wall should be removed to promote porosity around the edges of the park, increasing the number of access points to the park, and promoting additional accessible entrances for all users.

The example of 39th Street is illustrated for the purposes of this report. In this example, the wall is strategically removed to create openings in the perimeter for park access. Providing bumpouts/raingardens at these location will provide a buffer between vehicular and pedestrian circulation, establishing these moments as safe and accessible entrances to the park. Site lighting and furnishings will promote these areas as inviting entrances into the neighborhood park.



39th Street Highlights

1. Repair damaged or failing Historic Stone Wall
2. Provide new park entry with opening in wall (8-12'), benches, and lighting.
3. Install raingardens along 39th Street curb for stormwater management and traffic calming
4. Repair sidewalks and paths to promote safe circulation and reduction of trip hazards

Parks offer the opportunity for community interaction and the development of “social capital” that can help increase the use, surveillance, care, maintenance, and safety of parks.

PLANNING FOR PRESERVATION

Arsenal Park is a landscape layered with history that must be respected and told.

KEY RECOMMENDATIONS INCLUDE:

Stone Perimeter Wall

- + Reconstruct deteriorated segments
- + Replace mortar with appropriate material
- + Any stone that must be removed for accessible entrances will be reused within the park

Powder Magazine

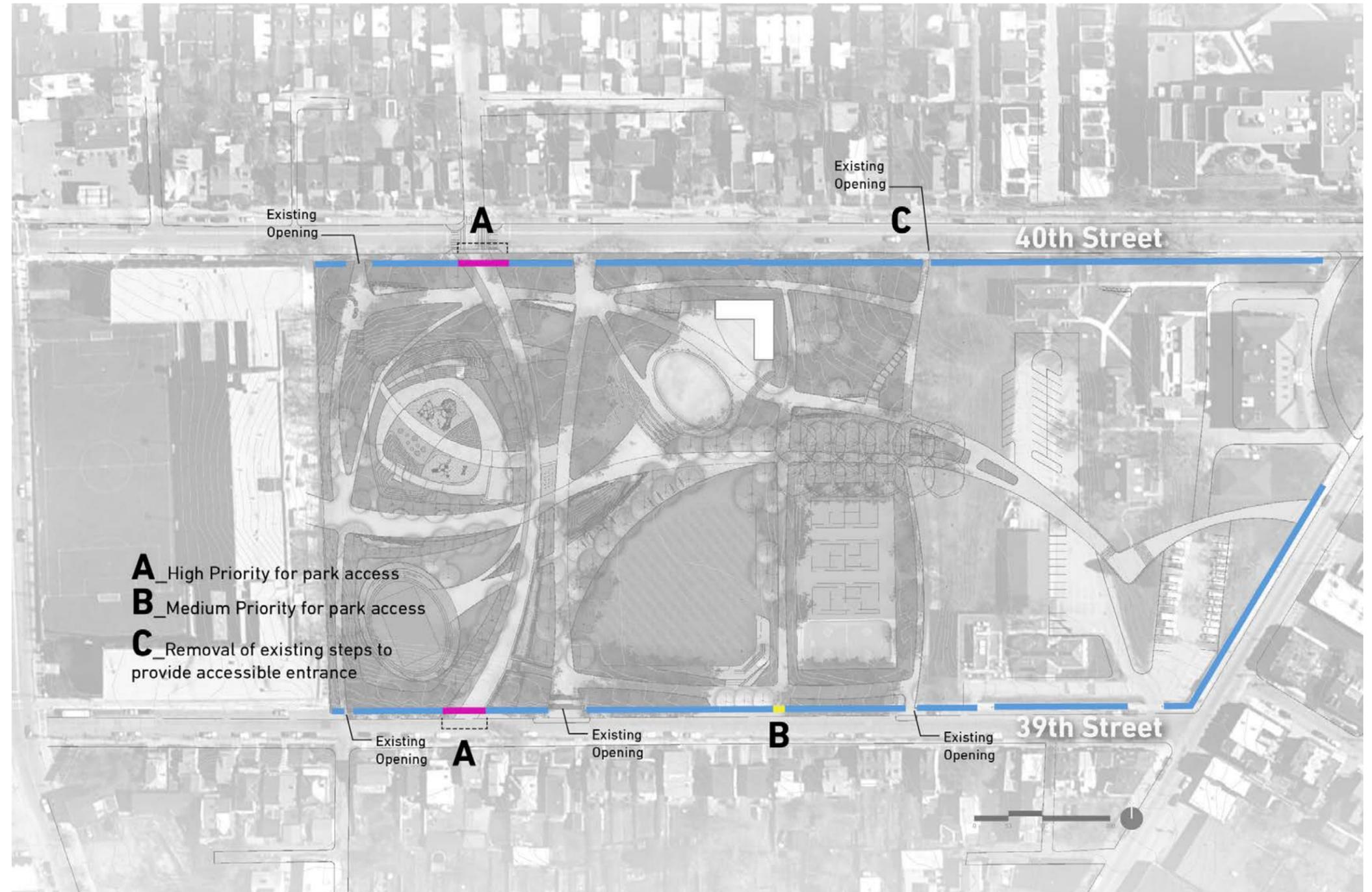
- + Restore original building to 1862 (remove 1948 restroom addition)
- + Program interior spaces for park uses
- + Conserve commemorative plaques
- + Restore Dolly Madison memorial in its original location

Pond Area

- + Convert pond to zero-depth reflecting pool that drains for event use
- + Retain stone walls and reconstruct rock "waterfall"
- + Restore flagstone paving

Other Historic Elements

- + Create permanent outdoor exhibit on Arsenal and Park history
- + Incorporate Arsenal Gatehouse stone in the Interpretive Grove
- + Retain Naval cannon
- + Sensitive Excavation + Archeological Investigations may occur during the process of construction. Areas of disturbance shall be limited for minimal impact to the overall park.



TREE CANOPY: PRESERVATION

In 2013, the Pittsburgh Shade Tree Commission and Tree Pittsburgh commissioned a park tree resource inventory to understand the structure and condition of the trees in smaller parks throughout Pittsburgh. The priority of this project was to inventory parks in lower canopy neighborhoods, including Arsenal Park and Leslie Park. Central Lawrenceville has a neighborhood tree canopy cover of 33.6%, but this number is reduced to 12.3% when Allegheny Cemetery is removed. The tree canopy cover in Arsenal Park is essential to maintain and expand in order to promote the benefits from existing and future trees.

In 2013, 251 trees were inventoried in Arsenal Park. Using i-Tree, a program developed through the US Forest Service that uses urban forest inventory data to quantify the dollar value for different benefits trees provide, the existing trees in Arsenal Park uptake 834,399 gallons of stormwater annually. Additionally, these trees provide over \$66,000 in annual total benefits (includes air quality, stormwater, energy reduction, and aesthetics). Four species (3 varieties of maple and elm) are over-represented in the park and should not be planted. Emerald ash borer has killed all but one ash tree in the park, the lone survivor has been part of systemic pesticide treatment program. Scale insects have taken hold in the large elms the park, slowing their growth and leading to their eventual decline and removal. Verticillium wilt has killed many maples in the park over the last few years. Due to these and other pest problems it is recommended to not plant ash, elm, maple and other species susceptible to verticillium wilt.

There were a total of 50 unique species with an average diameter at breast height (DBH) of 13.3 inches. From the inventory, the recommended maintenance for the existing trees includes: 31 removals, 7 stump removals, 147 pruning, and 66 small tree prunings. Community volunteers have planted 70 trees since 2008, making the only new contribution to the age diversity in the park since the Murphy administration planted a few new trees in the mid 1990's as part of the new playground. Volunteer Tree Tenders prune these trees on an annual basis and mulch the trees several times a year to ensure their establishment and healthy growth.

Goals for Arsenal Park's urban forest should include:

- + Promote species diversity (see more information on page 3 from the Pittsburgh Urban Forest Master Plan)
- + Remove hazardous trees after ground truthing from inventory
- + Follow tree protection best management practices when constructing and regrading within Arsenal Park
- + Relocate any tree less than 8" in diameter within the park that pose a conflict with new infrastructure
- + Infrastructure should be adjusted to protect trees greater than 12" in diameter
- + Continued tree care for all trees within the park

Recommended species to plant in Arsenal Park include black gum, various oaks (white family), redbuds, and evergreens including pines and spruces.

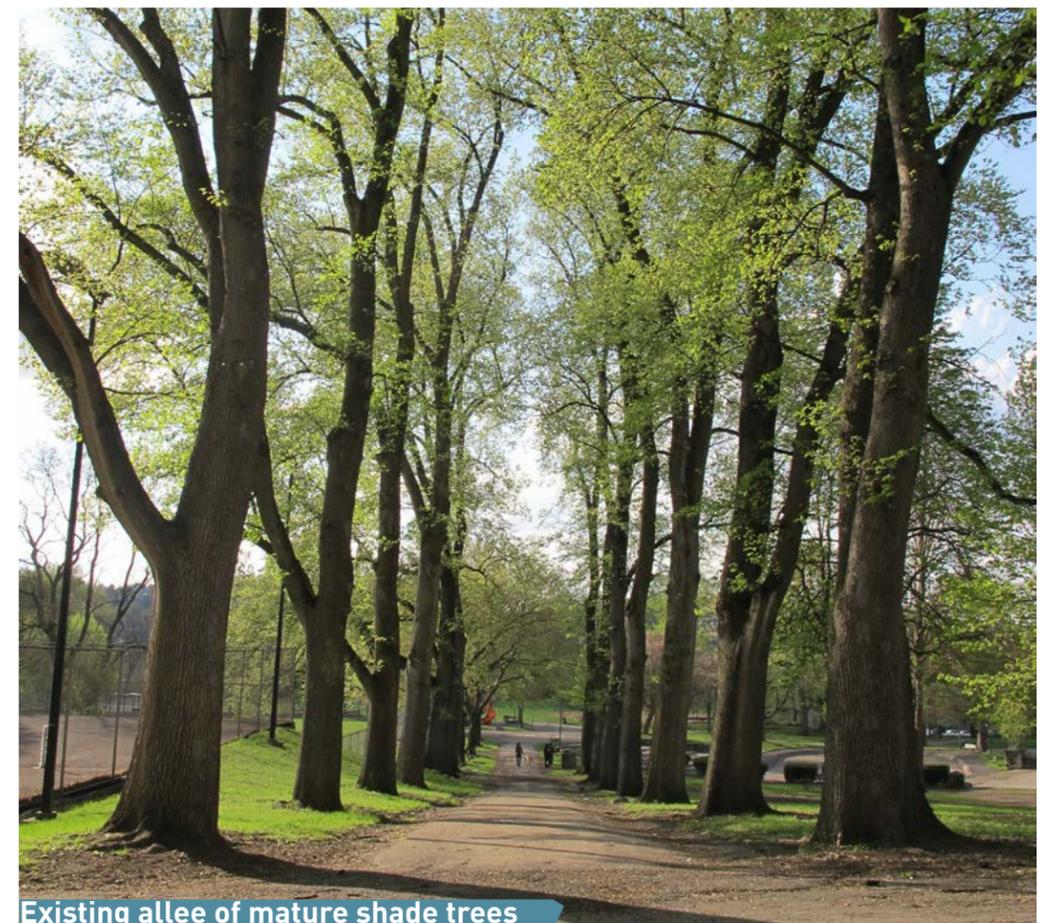
Diversity Goals

Tree Pittsburgh has adopted standard diversity recommendations for urban tree populations and established the following goals for the distribution of species in our urban forest:

- No single tree species should represent more than 10% of the population.
- No single genus should represent more than 20% of the population.
- No single family should represent 30% of the population.

Currently, Pittsburgh's street tree population has four species exceeding these thresholds. Therefore, the use of any species and/or cultivar of maple (Acer) should be avoided whenever possible or represent no more than 5% of the trees used on any given planting project. Hedge maple (Acer campestre) is excluded from this limit.

Goal	
10%	• No single species should make up more than 10% of a planting/population.
20%	• No single genus should make up more than 20% of a planting/population.
5%	• Maple (Acer) may not comprise more than 5% of any given planting project.
25%	• ALB host species may not exceed 25% for any given planting project.
20%	• Any non-street tree planting project is recommended to have at least 20% of the species be conifers.
10%	• Any street tree planting project should have 10% of the species be conifers.



Existing allee of mature shade trees

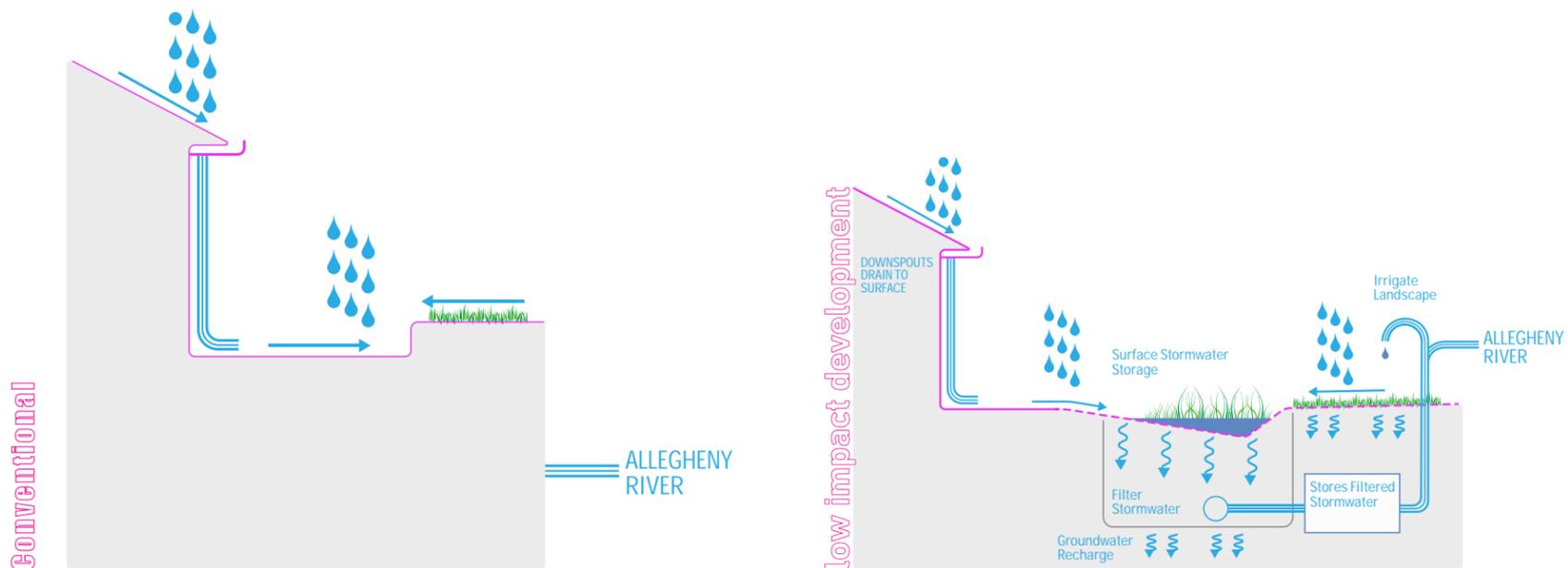
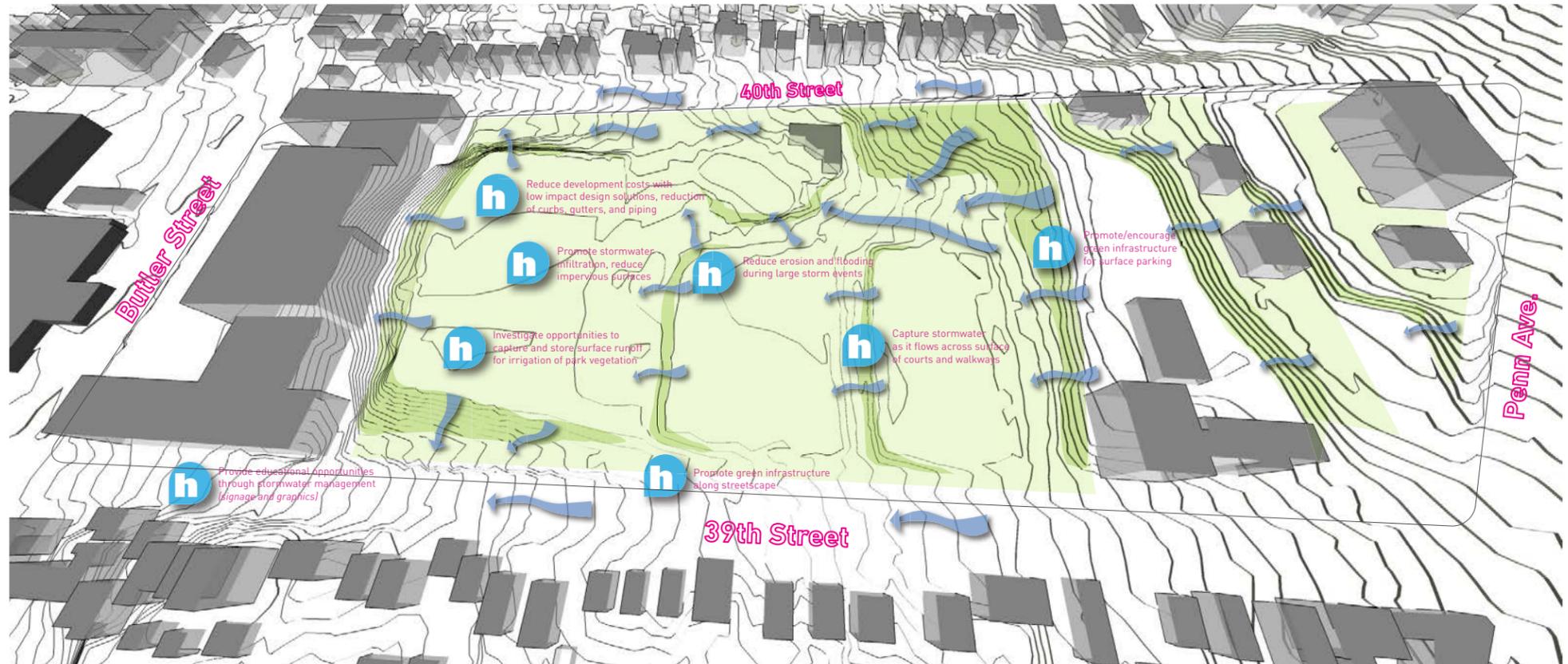
SUSTAINABILITY: STORMWATER MANAGEMENT

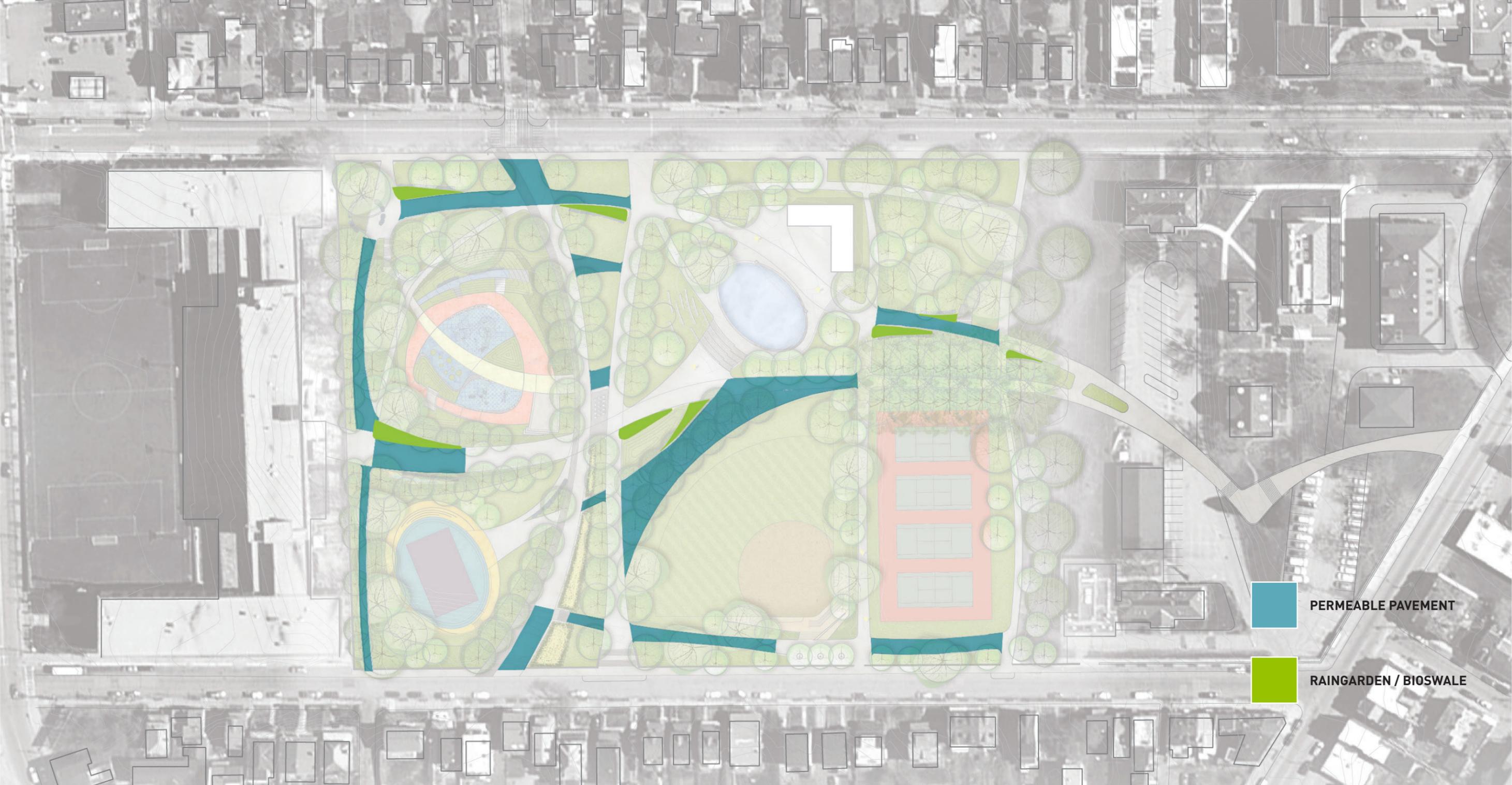
This sustainable stormwater management plan illustrates the extent of sustainable management strategies that could be employed within Arsenal Park over time. Ideally, all stormwater in the park would be treated sustainably to improve water quality and minimize the quantity of stormwater run-off that is released after storm events. Sustainable infrastructure features in the park provide a great opportunity to serve as educational features for both students and the local community. The sustainable stormwater improvements should be evaluated and prioritized for both the extent to which they provide environmental services and the educational opportunities.

Many of those considering the implementation of sustainable infrastructure systems are initially concerned about perceived issues of installation costs and maintenance requirements. Sustainable features such as pervious pavement, bioswales, raingardens and other devices often can often be installed with no net increase in construction cost, if the traditional pipes and structures are reduced accordingly. The cost of the pavement and landscaping may be increased, but the cost of traditional pipes and structures should be reduced. Maintenance of landscaped bioswales and raingardens is comparable to maintenance of traditional landscaped parking lot islands, with the additional task of cleaning drains and monitoring function.

Stormwater collected from rooftops and paved areas is directed to bioswales instead of traditional collector pipes. Bioswales are vegetated swales that slow and filter the water through the vegetation and sand/gravel filtering systems. Bioswales enable runoff to drain back into the groundwater system, mimicking the natural water cycle and greatly benefitting the regional ground water system.

Paved areas that are highly visible, or where space is at a premium, are recommended to be paved with porous pavement. This enables rainwater to drain directly through the pavement into subsurface, gravel collection sumps. Porous concrete has a soft, natural appearance that is especially suitable for this park: porous asphalt is another option. Porous pavement is more expensive than traditional pavement, but it eliminates the need for drainage piping or structures within the pavement area. Porous pavement also allows rainwater to infiltrate back into the ground water system.



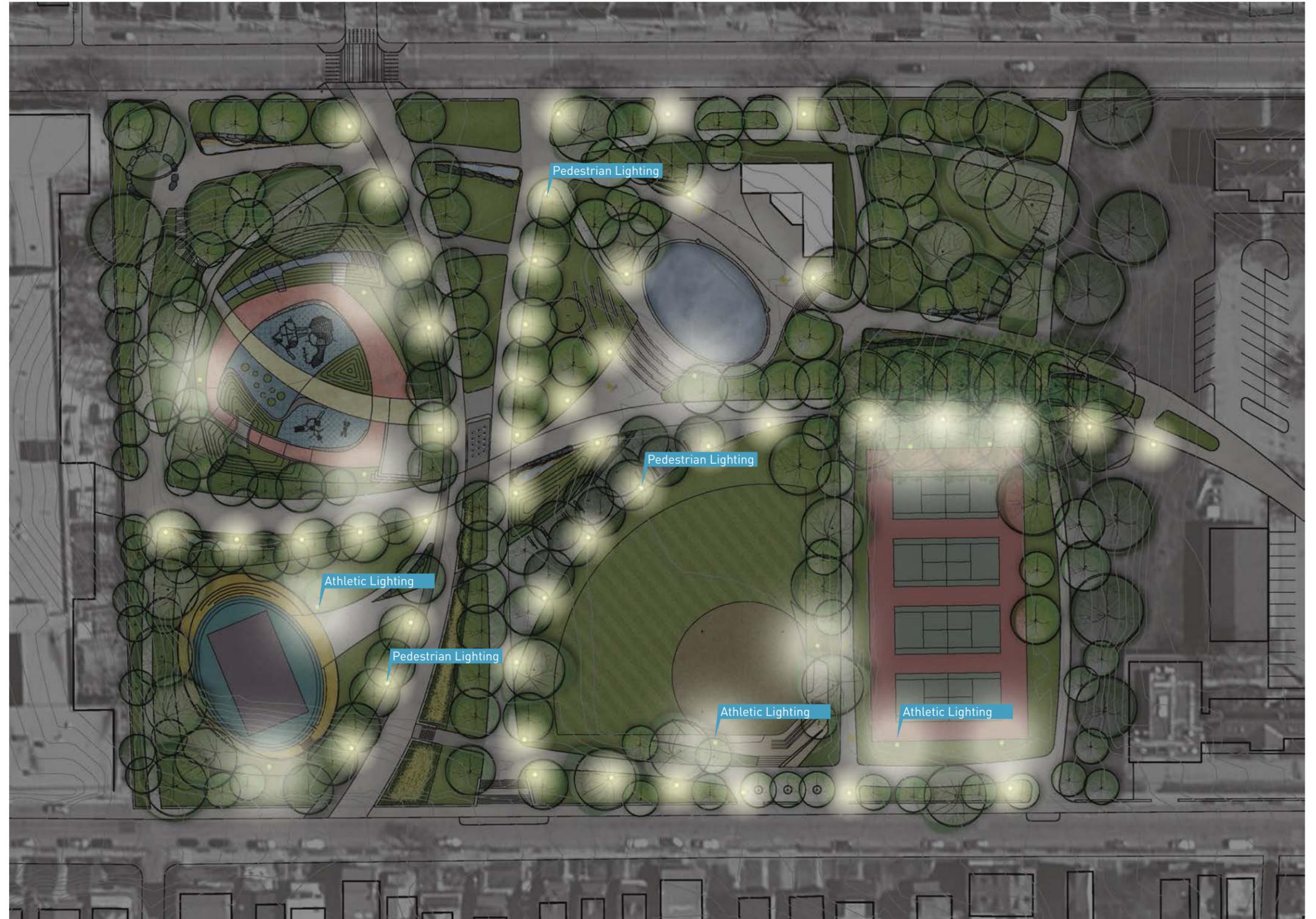


PARK LIGHTING: SAFETY AND SECURITY

Lighting is important for safety as well as for park image and unity. Pedestrian lighting comes in a variety of styles and increases security by removing shadows and dark recesses, but its inconsistent use can detract from park aesthetics and can lessen the pedestrian's confidence that the area is safe. Also, the uneven use of security lighting within The Mall and major circulation routes mars the visual unity of the park at night and may heighten fears about safety.

Lighting within the park encompasses pedestrian lights, event lights, athletic field / court lighting, and accent lighting. Pedestrian, bollard, and accent lighting do more than provide safety lighting. As design elements, they deeply influence the appearance of the park. Accent and season lights provide light without being seen in many instances. The master plan suggests a family of fixtures be used throughout the park that will contribute to visual unity.

The Master Plan recommends continued use of the standard parks lighting fixtures. However, in an effort to reduce light pollution and consideration of the Dark Sky movement, the Project Team recommends the addition of a cap to the standard acorn light fixture.



PLAN OF ACTION



LOOKING AHEAD: IMPLEMENTATION

The Arsenal Park Master Plan contains a broad series of recommendations that describe physical improvements for the future of the park. These recommendations have resulted from an intensive nine-month master plan study process which involved defining near and long-term park and community issues, the review of planning and design alternatives, design principles and goals, and more detailed project description and definition associated with major master plan recommendations.

The following list of projects comprises the Arsenal Park Master Plan. Implementation of the Master Plan must be achievable over time through a series of individual projects. Community needs may change, priorities will be altered, and not all recommendations will be implemented as planned. It is not contingent upon numerous other projects in order to complete a logical planning and development sequence. It is important that the Master Plan provide flexibility in the manner that recommendations are implemented to serve as a viable tool over time.

The following probable costs are based on general planning and design parameters and represent order-of-magnitude costs, in 2015 dollars, that are suitable for general planning purposes. These are not intended to represent total project costs and should not be referenced as such. Actual project costs must be based on a build-up of more detailed design information.

MAINTENANCE AND OPERATIONS (see appendix for complete maintenance recommendations)

The goal of the maintenance plan is to provide an aesthetically pleasing and safe park and recreation facility for the Community of Lawrenceville. Regularly scheduled service and monitoring of the grounds and facilities are essential to meet the goals and needs of park visitors, to support programs and events, and to reduce liability risks. The following Maintenance Plan is intended to provide a framework for developing, defining, and implementing standards for maintenance, management, and operations for the park.

+ Areas of Responsibility in the Park

+ The Department of Public Works is responsible for maintenance and capital improvements.

+ The Department of Parks and Recreation is responsible for programming.

+ Although no formal agreement exists between the City of Pittsburgh and community organizations, we understand that such an agreement should be developed to implement and realize a successful park.

Community Organizations (Friends of Arsenal Park, Lawrenceville United, Pittsburgh Parks Conservancy) may provide enhanced maintenance for park items not typical of DPW's typical maintenance operation. These items include;

+ ornamental/seasonal plantings

+ green infrastructure/stormwater elements, bioswales, raingardens

+ playscape structures

+ hammocks

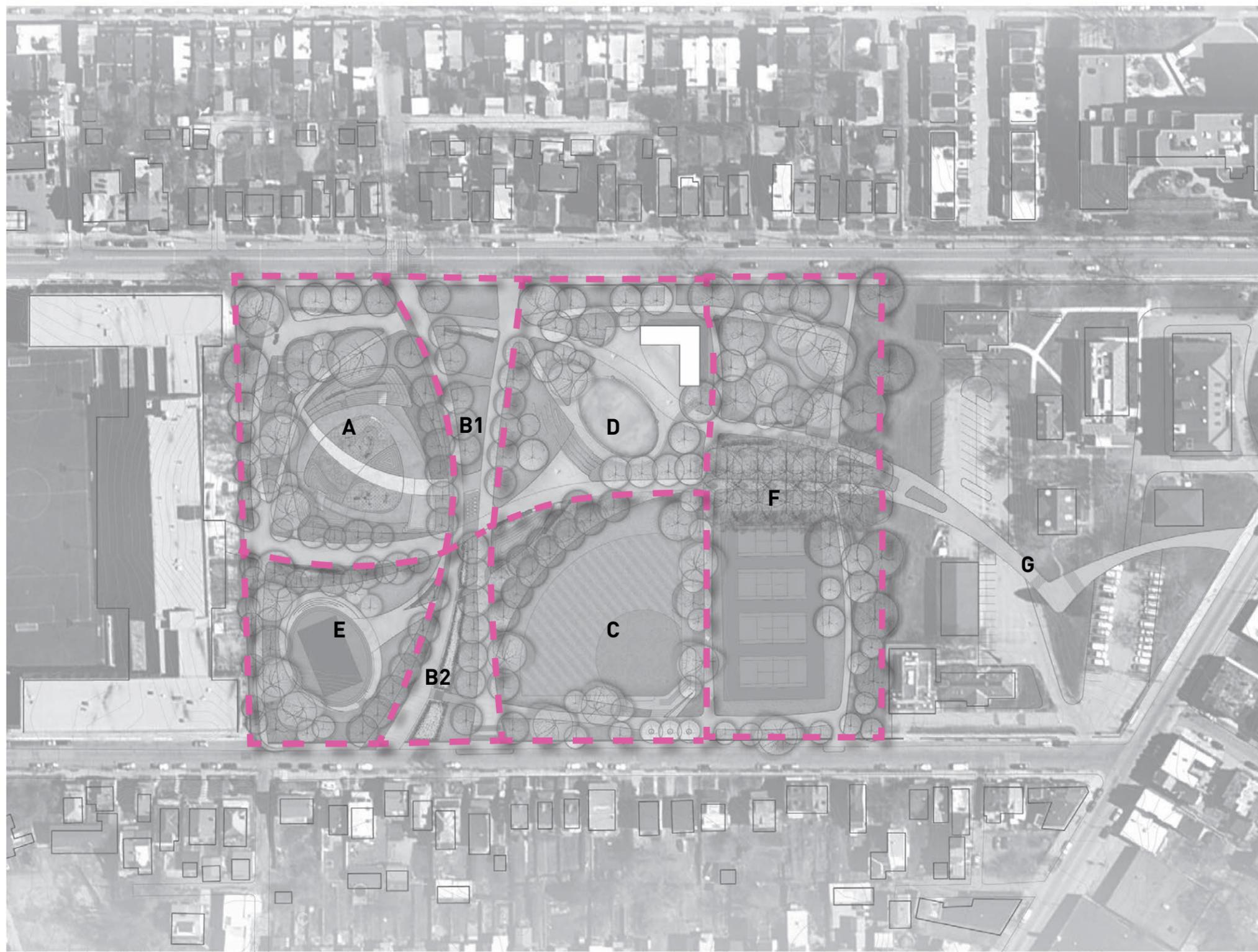
+ restrooms

+ park programming

Tree Pittsburgh should be utilized as a steward and advocate for trees

PLAN OF ACTION

PROJECT PHASES



BUDGETS: COST OPINION

A. Playscape

- + Pavilion
- + 2-5 year area
- + 5-12 year area
- + Pedestrian Bridge
- + Rubberized Play surface
- + Arsenal school connector
- + Rain Gardens

D. Pond and Arsenal Building

- + Building renovation
- + Reflecting pond
- + Amphitheater seating
- + Café Seating
- + Waterfall Feature
- + Repair Stone terracing
- + Rain gardens

B1 + B2. Mall

- + New Paved Surface
- + Permeable Paver Areas
- + Shade Trees
- + Native Plantings
- + Seating / Benches
- + Splash Water Feature
- + Parks Standard Pole Lights
- + Raingardens

E. Court Play Space

- + Activity and observation wall
- + Asphalt Court surface
- + Lighting
- + Walking track surface
- + Furnishings
- + Rain gardens

C. Baseball Field

- + Ball field
- + Lighting
- + Memorial garden
- + Interpretive Signage
- + Rain gardens

F. Tennis Courts + Woodland + Connection to Health Department

- + County Health Department fence removal
- + Bike polo court
- + Bioswales
- + Lounge seating and hammocks
- + Rain gardens
- + *County Health Department connector to be determined in future discussions*

BUDGETS: COST OPINION

Archeological Survey <i>(to be performed prior to implementation of first phase)</i>	\$10K
A. Playscape	\$ 1.2m
B1. Mall <i>(with Playscape Construction)</i>	\$ 450K
B2. Mall <i>(South Mall Construction)</i>	\$ 400K
C. Baseball Field	\$ 550K
D. Pond + Powder Magazine Renovation and Performance Area	\$ 1.7m
E. Court Play Space	\$ 550K
F. Tennis Courts + Woodland + Connection to Health Department	\$ 550K

TOTAL ESTIMATE \$ 5.4M

Preliminary estimates of probable construction costs have been created to guide budgeting for the phased implementation of park improvements. Future phasing will be contingent upon several factors including the availability of public funding, the sequencing of complimentary projects, and private-sector participation in the development of park amenities and programming. Proposed phases could be separated or combined based upon coordination issues and the availability of funds.

All of the budget estimates are based upon the conceptual design proposed herein. The estimates have been conceived without the completion of more detailed engineering and the limitations of the available mapping. While these estimates are useful in establishing relative improvement budgets and in pursuing supplemental project funding, additional design will be necessary to predict specific project costs.

MOVING FORWARD

Detailed Design - The size and scope of the future park development will require significant coordination over several phases involving both the public and private sector interests. In order to ensure that future development of the park meet the community's expectations for quality, durability, appearance and identity we recommend that consideration be given to establishing design guidelines for all leased spaces and building sites. The development of design guidelines could be coordinated with the detailed design and documentation of park improvements.

SUSTAINABLE BEST MANAGEMENT PRACTICES

The following practices should be employed throughout the Park to reduce development impacts and lead to a healthier overall environment.

Porous / Permeable Pavements - Porous pavement systems are hard surface pervious pavement materials, equal in strength and durability to conventional pavements; that allow stormwater runoff to percolate through the pavement into the ground thus reducing storm water runoff and surface water pollution.

Gravel base courses lying underneath the porous pavement surface serve as a 'reservoir' to temporarily store the percolated stormwater, thereby lengthening the infiltration period into the underlying soil. Pervious pavement options include

Porous Asphalt, Porous Concrete and Permeable paving systems.

Recycled Pavements & Building Materials - Pavements made from recycled sources ultimately save resources and energy. Recycled asphalt unit pavers provide a very appealing alternative to traditional brick and concrete unit pavers.

Recycled asphalt pavement reduces pollution, waste and fossil fuel (petroleum) consumption associated with the manufacture and transportation asphaltic pavement materials. Specifying recycled asphalt in roadway construction and resurfacing projects should be considered as a means to reduce the city's contribution to greenhouse gas emissions.

Raingardens, Bio-retention Cells & Storm Water Planters - Raingardens, Bio-retention Cells & Storm Water Planters utilize a series of landscaped or turf covered catchment areas designed to capture, cool, cleanse and infiltrate stormwater runoff from paved surfaces. These systems are an effective method of integrating landscaping and stormwater management into the more intensively developed areas of the park.

Green (vegetated) Roofs - Vegetated or 'green' roofs provide excellent benefits to high performance buildings including reductions in the rate and quantity of stormwater runoff and increased energy efficiency. Green roofs should be considered for the restroom and pavilion structure, and potentially a roof solution for the Powder Magazine.

Native Landscape Plantings - Native plant species should be utilized in the restoration of heavily modified and disturbed areas of the park. Native species are non-invasive and typically require less maintenance, supplemental watering, pesticides or fertilization than non-native landscape plantings. Native turfgrasses and meadow species can be selected for their year-round ornamental qualities, height, texture and color characteristics. Native plantings still require maintenance during the establishment phase however the establishment period can be as little as one year.

OUTSIDE FUNDING STRATEGIES

In order to capitalize on current interest and momentum; and in recognition of the limited availability of federal, state, and local government funds, this plan should be actively used in the recruitment of private-sector investors and funding partners. Corporate entities such as Local and National Banks, Health and Wellness Providers, and Technology Companies frequently sponsor the construction and operations of Health and Wellness Initiatives and Significant Community Facilities such as those planned at the park. These potential partners should receive assistance in gaining an understanding of the benefits of public / private partnering.



COLUMBUS

462 S. Ludlow Alley, Columbus, Ohio, 43215. 614.621.2796

INDIANAPOLIS

405 Massachusetts Avenue, Indianapolis, 46204. 317.423.9600

COVINGTON

27 W. 7th Street, Covington, Kentucky, 41011. 859.957.0957

LEXINGTON

163 Main Street, Lexington, Kentucky, 40507. 859.280.3222

APPENDIX

POWDER MAGAZINE: History, Existing Conditions, and Recommendations

Arsenal Park is the site of an important military installation for the Union army during the Indian, Mexican, and Civil Wars. It was where munitions were manufactured and stored. On September 17th, 1862 there was a tragic explosion and fire which destroyed most of the structures except for one that remains standing, the Powder Magazine.

The Powder Magazine building itself is mostly in tact today with some modifications over the years. It is comprised of two heavy stone barrel vaults with walls approximately three feet thick on the sides and slightly thinner along the top. The two vaults meet to create an "L" shape building. Each wing of this structure is approximately 58 feet long. The rear of the building is buried into the hillside with the ends and front exposed. There is an entrance on each end and one in the middle of the front, which is now covered by an addition. At the intersection of the two wings is what has been claimed to be an old jail cell, parts of which remain today. The roof is a wood gable that is framed above the stone vaults and follows the "L" Shape. At each of the two ends the roof finished in a stone gable parapet. the current roofing is asphalt shingles.

In order to celebrate the history of this building and the site the master plan suggests that measures be taken to restore the structure. This effort will entail both alterations to the existing configuration as well as some repairs to the original structure. The question that will be answered is to what point in time would the restorations respond.

In 1948-1949 an addition containing two restrooms was added to the front inside corner of the original building by the City of Pittsburgh Department of Parks and Recreation. From both a historical perspective, and as a practical matter, the restrooms addition should be removed and those facilities located elsewhere on the site. This will not only be a significant step in restoring the Powder Magazine, but it will allow for a new updated restroom structure that will be accessible and accommodate more fixtures.

With the removal of the restroom addition will come the opportunity to restore the original stone facade. Fortunately the stone facade seems to be available behind the restroom glazed tile walls according to the 1948 restroom drawings. There were two stone pilasters indicated on the 1948 drawings that were removed to accommodate the addition. These were similar to the existing pilasters that are now visible on this facade and should be replaced.

It appears from the drawings and photographs that originally the front elevation of the building was buried up about four feet above the floor line. A photograph from 1937 shows that this area was excavated prior to construction of the restrooms in 1948. This raises an important issue in the restoration as to which period and grade elevation will be used. While the buried front elevation is probably historically more correct, the exposed elevation has gained historical significance by virtue of its age.

A DAR fountain and monument to the Soldiers and Sailors in the War of 1812 was located in the center of the front of the building prior to construction of the restroom addition. It was relocated further forward as part of that project. The master plan recommends that this monument should be relocated to its original location. There was originally a drinking fountain in the middle of the monument, which as been replaced with a round stone, which is now cracked. It should be possible to restore the fountain.

There have also been two bronze plaques added to the facade. One plaque memorializes the site, the architect, the builder, and the casualties of the explosion. The other plaque was one of two, which were originally mounted at the entrance to the compound. As these have been in place for a long time and the setting seems appropriate. The master plan suggests that they remain as they are presently located, assuming that the grade remains as is.

The original drawings show an entrance in the front between two wings. As this appears to have been original it would be appropriate to install a door in this location. Parts of the old alleged cell structure and door remain. However, a small boiler and the electrical panel are currently in this location. The boiler could be replaced as the existing unit is older and uses a metal flue pipe through the roof. It could be replaced with a number of heating options that would be less obvious and at the same time the boiler could be relocated and the flue pipe eliminated. It should be possible to cover the electrical panel with some sort of a screen if this area were to become part of a display open to the public.

There are doors at the two ends of the building. Above each door is a small stone arch that has been filled in with masonry. These appear to have originally been windows. They should be restored as windows.

The tops of the parapet walls at each end have been capped with a metal flashing. These could be removed and the seams grouted and caulked.

The original roof of the building is comprised of two stone barrel vaults that meet at the intersection of the wings covered with a wood framed gable roof. Some of the framing and trim have deteriorated and will need to be repaired or replaced. This roof is now covered with deteriorated asphalt shingles and will need to be replaced. There will also be roofing work necessary as a result of removing the restroom addition. It appears that the original roofing was most likely slate. The master plan recommends re-roofing the roof with slate shingles.

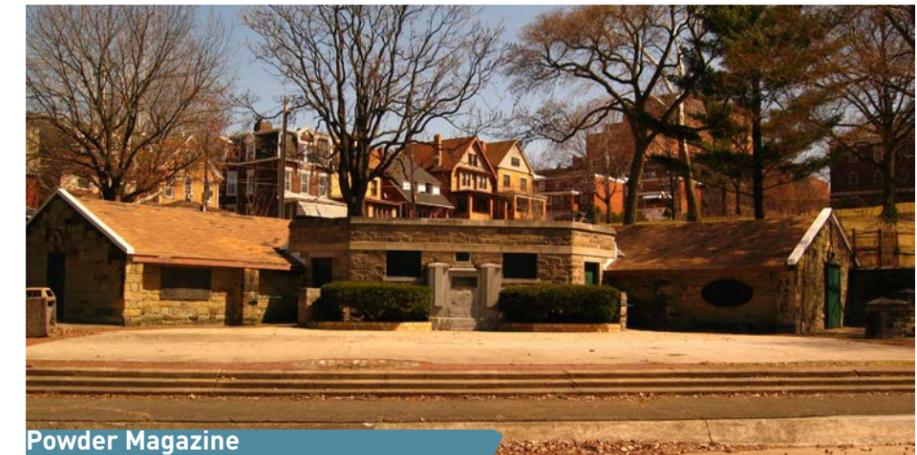
The grade elevation along the rear of the building is very close to the eave line of the existing roof. This creates an attractive nuisance for people to climb onto the roof. Currently there is a chain link fence and a concrete gutter with catch basins around the rear of the building. Because slate is fragile to impacts, as a practical matter, a similar fencing arrangement would be appropriate by replacing the chain link fence with an iron picket fence.

The restoration and preservation of the original stone is a major point of concern. The original stone has been re-pointed using a mortar that is too

hard for the original sand stone. As a result, the relatively soft stone absorbs water and when it freezes the face of the stone spalls away from the harder mortar. This creates even more of a pocket between the mortar and stone for water to be held against the stone and the process gets worse. the new harder material should be removed and replaced with a softer mortar, possibly a sand and lime mixture which is historically correct and will not damage the stone.

The same issue of hard mortar pointing exists on the original stone walls flanking 39th and 40th streets. The same measures should be undertaken to replace hard mortar in these walls as on the Powder Magazine building.

The Powder Magazine should be restored and preserved as it is an important link to the significant history of the Arsenal site.



Powder Magazine



Historic Stone Wall

CULTURAL LANDSCAPE REPORT

The story of Arsenal Park begins during the War of 1812, in the fifth year of the presidency of James Madison. The United States Arsenal was the brainchild of Madison's Secretary of the Treasury, Albert Gallatin, and its construction began in 1814. The facility was built by the U. S. Army to serve as the munitions depot for Admiral Oliver Hazard Perry's fleet that operated on the Great Lakes and was based in Erie. The original 30-acre tract was acquired for \$12,000 from William B. Foster, the founder of the community of Lawrenceville and the father of America's great composer of popular songs, Stephen Collins Foster. William Foster founded the new town in 1814, just as work was beginning on the Arsenal, and named it in honor of Naval Captain James Lawrence, whose famous dying orders, "Don't give up the ship," were spoken in 1813 during a fierce battle between Lawrence's USS Chesapeake and the British frigate HMS Shannon.

The Arsenal was designed by architect Benjamin Henry Latrobe (1764-1820), an Englishman who emigrated to America in 1796 and oversaw the construction of the U. S. Capitol in Washington, D. C. He was a friend of President Thomas Jefferson and has been called the "Father of American Architecture." Latrobe moved to Pittsburgh and lived here for the first two years of the Arsenal's construction.

The original Arsenal stretched from the Allegheny River to Penn Avenue (originally the Philadelphia-Greensburg Turnpike) and from 39th (originally Pike) to 40th (originally Covington) Street. Butler Road (now Butler Street) bisected the facility. One architect's rendering of an original Arsenal buildings that has survived bears a hand-colored caption reading, "Sketch of the façade of the pro-posed Arsenal at Pittsburg (sic.)" and a date appearing to be 1814.

At first, the property lay well outside the corporate limits of the city of Pittsburgh; Lawrenceville would not be annexed into the City until 1868. Below Butler Street the site consisted of an open parade ground around which was a series of detached buildings including officers' quarters, stables, blacksmith shops, enlisted men's barracks accommodating two hundred soldiers, an armory, and a carriage shop. The upper portion, now including Arsenal Park, had stables, a cartridge manufacturing laboratory, and at least one powder magazine. The magazine is among the only documented early Arsenal buildings that has survived.

More than a century later, between 1934 and 1937 the Historic American Buildings Survey (HABS), which began as a program of the Depression-era Works Progress Administration (WPA), recorded some of the Arsenal's original architecture. These black-and-white images and drawings are the best surviving record the Arsenal's original appearance. The buildings were of stone and brick and those exhibiting a formal architectural style were influenced by the Federal and Greek Revival styles.

The HABS records also include a site plan of the original Arsenal showing the location of the various components of the facility including the powder magazine that survives and a water feature on the site of the present-day reflecting pool.

The Arsenal performed a diversity of roles, including the manufacture of leather goods, rifle and pistol ammunition, and the storage of substantial pieces of artillery pieces manufactured at the nearby Fort Pitt Foundry. The arsenal also test-fired the cannons from the foundry.

Among the most illustrious early visitors to the Arsenal was the Marquis de Lafayette, who came here in 1825 on his way to Pittsburgh and visited the yet-to-be-completed Arsenal whose construction was not finished until 1829. The name would not be changed to the Allegheny Arsenal until the 1830s.

Following the 1815 conclusion of the War of 1812, the federal government operated the Arsenal according to the fluctuating demand for munitions. There was an 1827-1828 proposal to build a federal armory upstream from the Arsenal but this plan apparently never materialized although the Arsenal itself was depicted on the hand-colored survey map for this proposed project.

With the advent of the Civil War in 1861, the demand for munitions grew exponentially, and substantial quantities of war materiel were produced here by the upwards of one thousand who were employed at the Arsenal. The custom of the time was to employ women and young girls to manufacture cartridges; some accounts hold that this practice derived both from young boys' tendency to smoke and because they were needed elsewhere in the federal military ranks.

THE EXPLOSION

The single most famous day in the long history of the Arsenal was September 17, 1862, the same day as the Battle of Antietam, the single bloodiest day in the Civil War. A massive explosion occurred in an 1859 wood frame laboratory building thought to have been on the site of present-day Arsenal Park playing fields. Two more explosions followed within about five minutes and an estimated 125,000 rounds of live ammunition were ignited. The resulting carnage was unimaginable. The intense heat burned victims beyond recognition, often leaving nothing more than scorched bones. Six boys and seventy-two women and girls perished, some killed while they were attempting to escape from burning buildings. Others escaped with agonizing burns.

The cause of the explosion was widely debated. An eyewitness account by Rachel Dunlap, an Arsenal employee, ascribes blame to a horse pulling a wagon filled with barrels of

No photographs are known to exist of the impact of the explosion. This painting by artist Alina Josan was based upon historic accounts of the tragedy. [from the website of the National Archives at Philadelphia <http://www.archives.gov/philadelphia/exhibits/allegheny-arsenal/overview.html>]

DuPont gunpowder. She reported that a horseshoe may have struck a paving stone and caused a spark. Decades later, Pittsburgh "Gazette Times" reporter George T. Fleming interviewed Mary McCandless

McGraw, who, with her sister, Elizabeth was employed at the Arsenal. Ms. McGraw's job was to bundle cartridges into packs. Mary McGraw recalled,

There was a great hurry for ammunition on account of the battle of Antietam, then being fought, and orders from Washington were to rush ammunition with all possible speed to the front. At 2 o'clock another girl and I were the only persons in Room 13. The other girls were in another building getting their pay and in the yard. Suddenly there was a terrific roar. The earth seemed to split apart. Looking around we saw the building we had just left being torn to pieces. A Coroner's Jury was convened and attempted to lay the blame at the feet of the Arsenal Commandant, Col. John Symington for allowing loose powder to accumulate in the open. However, all evidence was inconclusive and in the end the court concluded that "the cause of the explosion could not be satisfactorily ascertained . . ."

Among the extant artifacts from the Arsenal's earliest days is the 700-pound cast metal oval insignia that bears the inscription "U. S. Arsenal 1814" along with the crossed cannons and cannon balls of the artillery, the date April 1814, and the initials, "A. R. W.," representing Abram R. Wooley, the Commandant of the Arsenal who also oversaw the original construction of the facility. A series of seventeen stars extends around the periphery of the object, representing the original thirteen colonies and also the states of Main, Tennessee, Kentucky and Vermont. The tablet is approximately six feet long and three feet in height. It originally was on one of the larger Arsenal buildings that was razed and for a time was in storage off-site, for a time in the care of the Chamber of Commerce and later in the basement of the Western Pennsylvania Historical Society. It was relocated about 1961 and is mounted on the exterior of the former powder magazine, a project funded by the United States Daughters of the War of 1812. Another tablet of similar scale was mounted on the face of one of the substantial gatehouses accessing the Arsenal. The gatehouse is not extant and the location of the second tablet is not known.

Within Arsenal Park are several sets of substantial stone steps and much of the park remains within a historic sandstone wall. The capstones of the wall retain physical evidence of the cast metal fence that formerly enclosed this section of the Arsenal. It is possible that the metal fence may have been removed during the scrap drives of one of the world wars. It appears that the various sets of steps date to the Arsenal's historic period and were integrated into the plan of the park after it was taken over by the City early in the twentieth century.

THE BIRTH OF ARSENAL PARK

After the explosion, the Arsenal's work continued, and after the Civil War's 1865 conclusion the facility served principally as a storage facility for the Army's Ordnance Department and Quartermaster Corps. Over the decades the use dwindled and citizens began to discuss converting the site to a public park.

In 1901, the War Department ordered the Allegheny Arsenal to be abandoned as soon as possible. In 1906 it was discontinued as a

garrisoned post and was turned over to the Army Quartermaster Department; on February 24 of that year it was re-designated the Pittsburgh Storage and Supply Depot. Lawrenceville Congressman James Francis Burke (1867-1932) (12) was among the leaders in the initiatives to convert the site to a public park. A 5-term Congressman (1905-1915) Burke had been a prominent Pittsburgh attorney and was a leader in the national Republican Party. In 1907, the first in a series of leases was executed between the federal government, represented by Treasury Secretary Robert Shaw and the City of Pittsburgh, represented by Mayor George W. Guthrie, leasing a portion of the Arsenal property to the City for one dollar per year. This Lease provided (1) that the grounds be used solely for park purposes, (2) that the City's use of the property would not conflict with the federal government's planned construction of a marine hospital on part of the site, and (3) that the Lease could be revoked at any time by the Secretary of the Treasury. On July 4 of that year Arsenal Park was officially dedicated by Mayor Guthrie and Congress-man Burke was presented with a loving cup for his leadership in making the part a reality. The new park was bounded by Penn Avenue, Butler Street, and 39th and 40th Streets.

In 1909, President William Howard Taft visited the park to dedicate a memorial fountain (not extant) that was presented by the Dolley Madison Chapter of the Daughters of the War of 1812. The fountain commemorated those soldiers and sailors who had died during that war. Congressmen Burke, noted above, was a close confidant of Taft and had chaired the Congressional committee in charge of Taft's 1909 inauguration. Burke was likely instrumental in arranging for the President's visit.

The Pittsburgh Press of that day reported that the spectators, "thousands in number, packed every available inch of space before the stand that had been erected for the speakers and other privileged persons, overflowing into other portions of the immense playground in the vicinity of the stands."

President Taft, who had served as Theodore Roosevelt's Secretary of War from 1904 until 1908, remarked, "I trust that the time soon will come when all the arsenals in the country will be used as playgrounds of peace; when an international public feeling shall arise against warfare; and when the decisions of an international tribunal shall be respected throughout the world."

Recognizing the cramped living conditions that characterized much of industrial Pittsburgh of that time, Taft continued, "If there is one thing that a great manufacturing city owes to its citizens, whom it has lured into crowded quarters, it is to expend money in providing parks where the children of the poor may have equal opportunities for play with those of the rich. We must not deny the right of any child to develop. This park has been given to the children of this district. It will not be taken away from them except in the case of need. If there is need, it will be used only for a short time and I think it is safe to promise that the Secretary of War, whoever he may be at that time, will see that it is not kept from the children one instant longer than is necessary."

Various improvements began early in the history of Arsenal Park. A 1910 drawing indicates repairs to be made to portions of the historic stone wall enclosing park.

The earliest known complete site plan for the park is dated December, 1911 and

illustrates the initial improvements to the park, including the construction of a series of concrete walkways through the interior and a shelter house and bandstand.

The shelter house and bandstand were designed by Pittsburgh architect Thomas H. Scott. Born in 1865, Scott (1865-1940) was a Pittsburgher who maintained offices in the McChesney Building on Fourth Avenue, a building that he had designed; it is now known as the Benedum-Trees Building and is a local historic landmark. Scott's shelter/bandstand building was to be located generally where today's playing fields now exist; no record indicates that it was built and in any case it is not extant.

The 1911 plan also depicts the nearly-new 1908 U. S. Marine Hospital at the corner of Penn Avenue and Fortieth Street and an adjacent building noted on the plan as "retained by the government." In addition, the plan shows two reservoirs along Fortieth Street that were also retained by the federal government and the historic L-shaped stone powder magazine, identified at that time as a tool house. In front of the powder magazine/tool house is a water feature that appears on various survey maps and occupies the present site of the ornamental concrete pond.

According to the 1911 site plan, the national government also retained an area of the park along Butler Street, portions of which would ultimately be occupied by Arsenal School. At the intersection of Fortieth and Butler Streets was a stable oriented to Fortieth Street along with a shed that is not labeled as to its use on the plan; these two buildings were enclosed within a woven wire fence. The stable is shown as being of brick on the color-coded 1901 Hopkins map of the city. Along Butler Street on the site of Arsenal School was an elongated hip-roofed building, also of brick, that in 1911 served as the laboratories of the U. S. Geological Service.

In 1913, a memorial was installed to honor the nearly one hundred who had perished as the result of the 1862 explosion. A

The 1913 substantial boulder of Maine granite was placed in the Park, to which was attached a bronze tablet bearing the names of the unfortunates with the inscription "Dedicated to the Heroines of the Civil War" and a list of the names of those who died in the explosion. This memorial was later relocated to the interior of Arsenal School and is displayed in a prominent location in the school's entry hall.

This element of the park's cultural history is a work of art in its own right, being the work of sculptor and painter Albert Dreyfus. Albert D. Dreyfuss (alternately spelled Dreyfous) was born in New York City in 1880 and lived his life there until his death in 1947. He was born of German parents who had emigrated to America in 1864 and his father, Bernard Dreyfuss was listed in Census records as a merchant. Young Albert Dreyfuss studied under Frank Vincent DuMond (1865-1951) who has been identified as one of the most influential teacher-painters in 20th-century America. He also studied under George Gray Barnard who sculpted most of the statuary at the Pennsylvania state capitol at Harrisburg and continued his education at

the Art Students League and at the Pratt Institute of Art. As a young man he worked in the studios of R. Hinton Perry, a noted impressionist artist, with Victor Ciani on sculpture of public buildings and monuments, and with sculptor Mary Lawrence Tonetti (1868-1945). Coincidentally, Mary Lawrence Tonetti counted among her ancestors naval hero Capt. James Lawrence, for whom Lawrenceville was named. It is not known if this connection played any role in Dreyfuss' being chosen to sculpt the memorial.

New York city directories indicate that Dreyfuss' studio was in his home at 232 West 14th Street. The 1900 Census lists his occupation as "at college" and the 1905 New York State Census lists him as being "at school—art." When he registered for the draft in 1917 he listed his occupation as a sculptor "in business for self." A writer and painter as well as a sculptor, Albert Dreyfuss was a contributor of art criticism essays to newspapers and magazines.

In 1920 another site plan was prepared by the City. By this time, the shed associated with the stables was not shown and a distinct 522-foot property line delineated the grounds of the Marine Hospital from the park. The structures identified as reservoirs were shown on this map but the water feature in front of the powder magazine was not; this may be a drafting error. The 1920 site plan also shows the elongated building formerly occupied by the U. S. Geological Service but it is separated from the park by boundary lines that create a ± 2.08 acre tract whose ownership, in pencil, is shown to be the Board of Public Education; the first section of Arsenal School would be built there in 1931 and the 1939 addition to the school would ultimately occupy the balance of the Butler Street frontage extending the school property completely between Thirty-ninth and Fortieth Streets.

The demolition of the buildings between Butler Street and the Allegheny River began in 1917 and the area was ultimately sold off in the 1920s. The warehouse and industrial buildings in that section of the former Arsenal date from that era and after; maps from the 1920s show this property to have been among the holdings of Howard Heinz. These maps also depict several of the original historic Arsenal buildings; they remained standing at least into the 1930s when, as noted above, they were recorded by the Historic American Buildings Survey, the New Deal-era program that fostered the photography and recordation of historic American architecture.

Among the most substantial redevelopment projects to change the face of Arsenal Park during its historic period occurred in the mid-1930s and was funded by the Relief Works Division of the Emergency Relief Administration, a New Deal-era construction program. An ambitious plan dated February, 1934 and identified as R. W. D. Project No. 02-F2-187 included substantial new landscaping for the park and also created a series of four tennis courts (on the site of the courts rebuilt in 2014), along with proposed playing fields, including two specifically set aside for basketball, two for volleyball, and three mushball (a variant of softball) fields. This plan also identified a museum to be installed in a portion of the historic powder magazine and the creation of the terraced amphitheater and cement water feature that remain in front of the powder magazine. A 1937 HABS photo shows the completed water feature and a series of benches with slatted wood seats and backs along the terraced steps. Also included in this plan were a comfort station adjacent to the powder magazine and a shelter. A note on the plan explains that revisions to

the document were approved by the City Planning Commission on April 9, 1935. These revisions were “elimination of the historic gateway and substitution of office-comfort station building and open shelter for original building.” This note bears the signature of the Chairman of the City Planning Commission.

The 1934 plan also created the circular area that contains the present-day flagpole and a brick-and stone-finished circular hardscape feature near the amphitheater with a drinking fountain at the center. An ambitious landscape design was proposed as well, with new trees being planted, some trees being relocated, others removed altogether, and the planting of shrubbery and a bed of rhododendron and laurel (the Pennsylvania state flower) near the amphitheater.

In addition to the major redevelopment of the park, a Colonial Revival-style Community Building was planned as well, to be erected under the Relief Works Division. A 1934 plan shows a 2-story stone-faced building containing men’s and women’s restrooms and showers, a janitor’s room, a boiler room, and coal storage at the basement level. The first story was to have contained a substantial 24’ x 50’ 2-story activities room with a fire-place as well as a director’s room, two club rooms, and open porches on both sides. The second story was to include the upper portion of the activities room and three additional club rooms. This building was not built but its planning is nonetheless part of the story of Arsenal Park.

Another 1934 plan, funded under the Unemployment Relief Project, involved improvements to the playing fields, construction of additional sidewalks, and the removal and filling of the two reservoirs noted earlier as being reserved for the federal government along with the fences that enclosed them.

Other areas along the Butler and 39th Street peripheries of Arsenal Park have undergone substantial redevelopment. Arsenal School is a substantial educational facility of the Pittsburgh Public School system that was listed in the National Register of Historic Places in 1986 and was designated a City Historic Structure in 1999. The original 1931 section of the building was the work of Pittsburgh architects Schwab, Palmgreen, and Merrick. Harvey A. Schwab (1887-1956) received his architectural training at the University of Pennsylvania, at the Ecole des Beaux-Arts in Paris, and the American Academy in Rome and became a prominent school and commercial architect during the 1930s and 1940s. Swedish-born Charles J. Palmgreen (1884-1961) worked as a draftsman for renowned Pittsburgh architect Benno Janssen before opening his own practice, and Frederic Ickes Merrick (1876-1960) was from New Brighton and worked as a draftsman until opening his own architectural practice in Pittsburgh as early as 1912. The three entered partnership in 1929.

In 1939, Marion Markle Steen designed the west wing of the school, fronting on 39th Street. Steen (1886-1966) was a leading architect of institutional buildings in Pittsburgh. He was a member of the first graduating class in Architecture (1908) at the Carnegie Institute of Technology (now Carnegie Mellon University) and later taught there and designed several of the campus buildings. From 1913 until 1952 he was associated with the Board of Education and supervised the design and construction of all city school buildings during those four decades.

Along 39th Street is a complex of architecturally distinguished institutional

buildings now owned by the Allegheny County Department of Health. The complex was the Arsenal Health Center, a name later changed to the Frank B. Clack Health Center, honoring for a Pittsburgh veterinarian associated with the Health Department. The buildings on this tract include the United States Marine Hospital, formerly a military facility that dates from 1908 and was permitted specifically in the original 1907 lease from the federal government to the city. Several other red brick Colonial Revival-style buildings dating from the 1930s also served as health-related facilities including the

Arsenal Children’s Center, a Field Training Center, and the Child Health Center. Presently the buildings accommodate several of the County Health Department’s activities, including Water Pollution, Public Drinking Water, Waste Management, Solid Waste, and Plumbing, Air Quality, the Three Rivers Wet Weather Demonstration Project, supply buildings, and general storage. Along the periphery of the lots containing these buildings are portions of the historic wall that surrounded the Arsenal. Principal access to the Health Department campus is between two weathered sandstone entry portals with shallow-pitched pyramidal caps.

Two of the buildings on the Health Department’s campus (Department Building Numbers 2 and 6) appear to date to the historic period of the Arsenal. They are modest single-story vernacular buildings built of common brick with painted surfaces, now used for storage, and while architecturally unremarkable do nonetheless to represent an important link to the site’s nineteenth-century heritage. A 1974 drawing of a proposed new building on the Health Center grounds depicts the older building with the label “old arsenal building.”

The single historic element that has survived most the myriad changes to Arsenal Park is the powder magazine that dates to the Arsenal’s earliest years. One story in height and built of random ashlar stone, the magazine as originally built is a L-shaped building that was originally partly underground until an 1850s fire resulted in the construction of the present gable roof system. Its original interior contains two principal areas, both with barrel-vaulted stuccoed masonry ceilings. It has served a variety of purposes over its long life, including a tool shed, an office, rest rooms, and a snack bar, and was being used principally for storage and as rest rooms at the time of the preparation of this report. In 1948, a stone addition was built in the angle of the façade. This addition contains men’s and women’s restrooms.

Several commemorative objects have been attached to the exterior surfaces of the building. The earliest of these is on the right side of the façade and is one of the substantial cast metal oval insignias that once was on the face of one of the main entry gates.

On the left side of the façade is a rectangular cast metal plaque bearing this inscription:

ALLEGHENY ARSENAL
LAWRENCEVILLE
1814-1913
DESIGNED BY BENJAMIN LATROBE, BUILT BY
CAPTAIN ABRAM R. WOOLEY ON LAND PURCHASED BY THE
GOVERNMENT FROM WILLIAM B. FOSTER.
SERVED AS AN AMMUNITION [PRODUCTION CENTER DURING
INDIAN, MEXICAN AND CIVIL WARS.
THIS TABLET COMMEMORATES AT LEAST 79 CIVILIAN WORKERS—
MEN, WOMEN, AND MANY CHILDREN—KILLED IN THREE
MYSTERIOUS EXPLOSIONS SEPTEMBER 17, 1862.

At the bottom of the plaque it is noted that the object was placed there on July 4, 1965 by the Western Pennsylvania Historical Society for the Veterans of Foreign Wars. Correspondence indicates that the plaque was funded by a \$700.00 grant from the Pittsburgh Foundation and that the text was written by noted Pittsburgh “Press” newspaperman and local historian George Swetnam. It was manufactured by the James H. Matthews Company at a cost of \$639.00 and cost \$80.00 to install. The Matthews Company operated in Pittsburgh from 1864 into the 1960s and was a leading manufacturer of metal markers and stamping devices.

Centered on the façade of the powder magazine between shrubbery is another commemorative plaque mounted on a granite block that appears to be of more modern construction. Its inscription is as follows:

ERECTED BY THE
DOLLY MADISON CHAPTER
U. S. DAUGHTERS OF 1812
TO THE SOLDIERS AND SAILORS
OF THE WAR OR 1812
1909

It is worth noting that President Madison’s wife name was spelled “Dolley” but that the “e” was not included on the plaque. On either side of the inscription is a 5-pointed star-and-anchor motif bearing the inscription “U. S. D. 1812.” It is assumed that given the message and date on this plaque that it originally was mounted on the memorial fountain that was dedicated by President Taft in 1909 and is no longer extant.

The local significance of the powder magazine was recognized in 2003 when it was re-awarded with a Historic Landmark Plaque by the Pittsburgh History and Landmarks Foundation. Recipients of these plaques include only architecturally significant structures, districts, and de-signed landscapes in the Pittsburgh region.

Along Fortieth Street is a substantial 9-inch Dalghren Naval cannon mounted on a stone base. A 1989 letter from James B. Richardson, III, Chairman of the Division of Anthropology at the Carnegie Museum of Natural History dates the gun to 1855 and described it as "one of the only existing examples of a test gun." Engineering documents dating from 1938 indicate that it was likely installed as a commemorative object at that time. Local historian James Wudarczyk reported in 2014 that the cannon was manufactured in Virginia.

A substantial gate once accessed the Arsenal from Butler Street. It was the structure most often reproduced in post cards of the early decades of the twentieth century commemorating the facility. The design suggests that it likely was built decades after the Arsenal itself, it was a Gothic Revival-style structure three bays in width, with the center bay containing a semicircular-arched gated entryway above which is a centered lancet-arched window; hexagonal crenellated corner towers are at either side of this center bay. The outer bays each contained a lancet-arched window, quoins at the corners, and a crenellated roofline.

It is not known when the gate was destroyed. When Howard Heinz acquired the north-ern part of the former Arsenal north of Butler Street in 1926 he offered it to the City if the City would remove it. In 1943, Howard Stewart, writing in Historical Data: Pittsburgh Public Parks, prepared under the sponsorship of the Greater Pittsburgh Parks Association, noted,

The last step in the development of this park is the removal of the Arsenal Gateway from Butler Street to the 39th Street entrance to the park. This Gateway is to be remodeled so that it will serve as an office and public comfort station. A small museum will be included in order to provide a safe place to keep such relics that have been collected from time to time for visitors who are interested in the history of the park.

Whatever the case, the gate was razed, although as early as 1937 there had been discussion of its reconstruction. The issue was renewed in 1958, spearheaded by the Americanism Committee of The Veterans of Foreign Wars, Post No. 897. In a letter dated October 10, 1958, City Parks and Recreation Director Robert J. Templeton recommended to City Council that the gate be reconstructed at the 39th Street entrance to the Park. Obviously this never occurred.

As noted above, over the decades, various public works projects have changed the face of Arsenal Park. In 1923, in Parks: A Part of the Pittsburgh Plan, the Citizens Committee on the City Plan wrote of the park:

In this Committee's Playground Report, Arsenal Park was recommended for special improvement, including three playground units and athletic field de-velopment. This implies a complete change of this tract, the loss of many of its trees, etc. In attempting to satisfy the essential needs of this general local-ity along the lines just

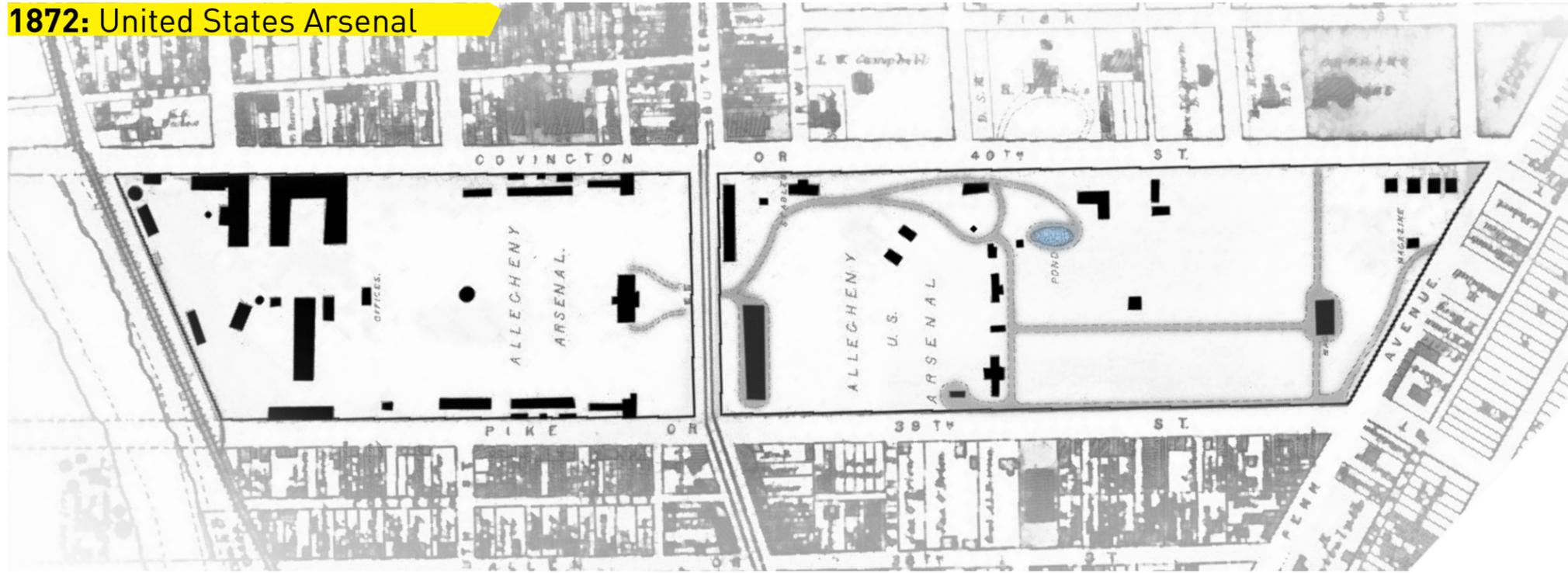
indicated, the Committee would be glad if the City can find in a proper location an adequate site for one or the other of the recom-mended facilities. If this can be done, the present park will require less change and will continue to serve as a much needed neighborhood park.

Through the years, the park has fared reasonably well and has always had a cadre of supporters. In the mid-1960s, local residents galvanized to prevent the city from demolishing the remaining walls surrounding the site. The city's intent was to make the park more open, but citizens literally stood in front of bulldozers and the project was abandoned.

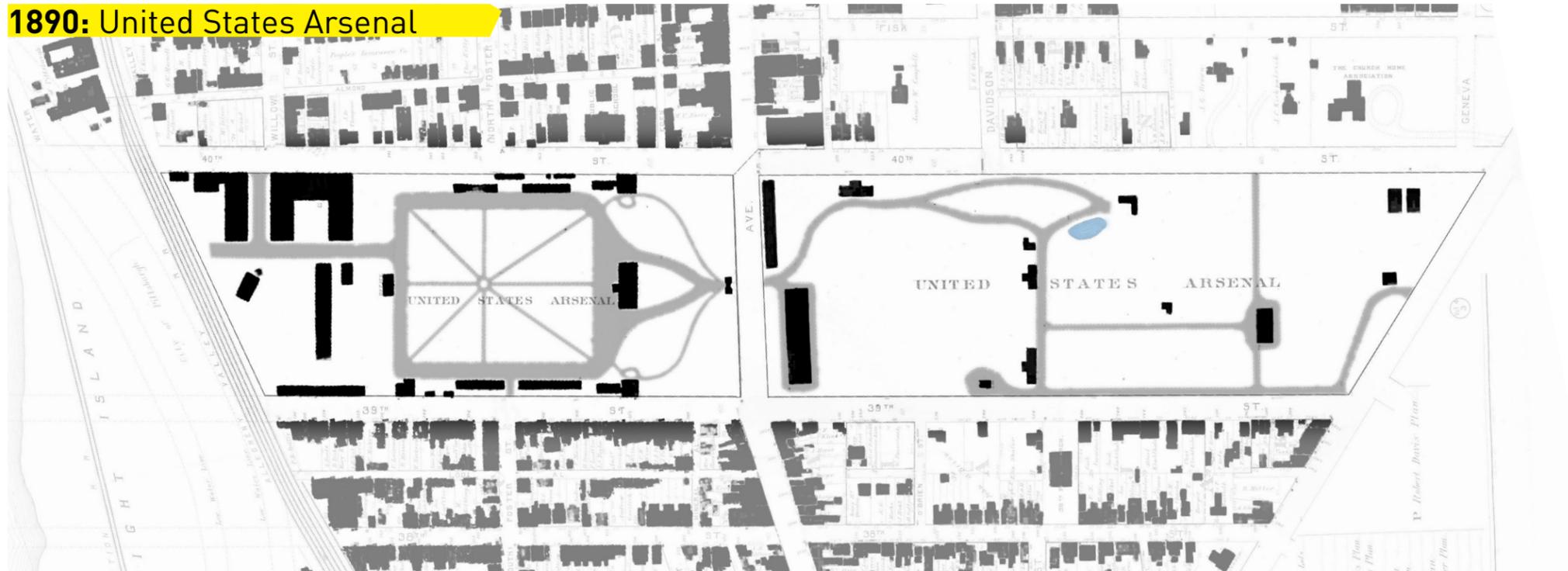
The significance of the Arsenal was strengthened by the City in 1977 when it was designated a local historic landmark. This process requires the action of the Historic Review Commission, the City Planning Commission, and City Council, as well as a public hearing. In 2011 a Pennsylvania Historical and Museum commemorative marker was installed along Fortieth Street. The inscription on the marker states, "ALLEGHENY ARSENAL designed by Benjamin H. Latrobe and constructed in 1814. The Arsenal was used as a military garrison, in the manufacture and storing of supplies during the Civil War, Indian Wars, and Spanish-American War."

The 1989 letter from James Richardson that was cited above was addressed to then-Mayor Sophie Masloff and noted, "This historic spot must be preserved and maintained as a park for it was one of the ingredients that made Pittsburgh so famous as an industrial center. The park is eligible for the National register of Historic Places and it is hoped that it will attain the status of a national landmark in the not too distant future."

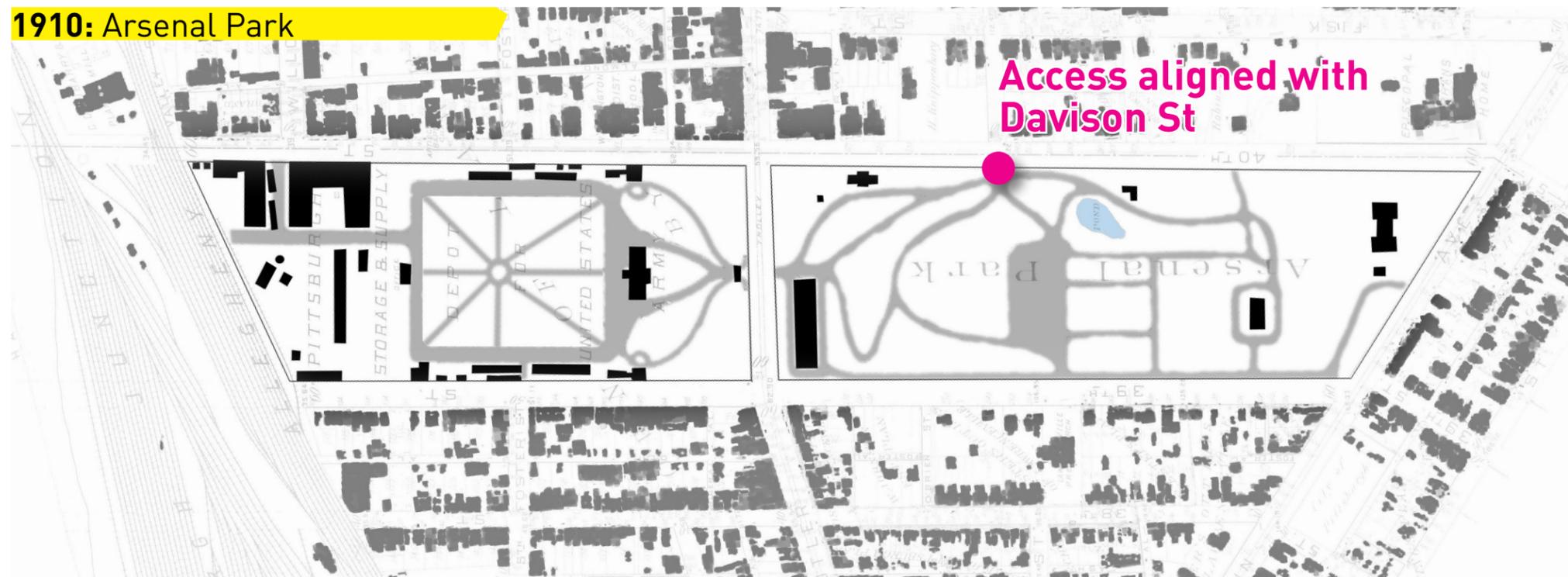
1872: United States Arsenal



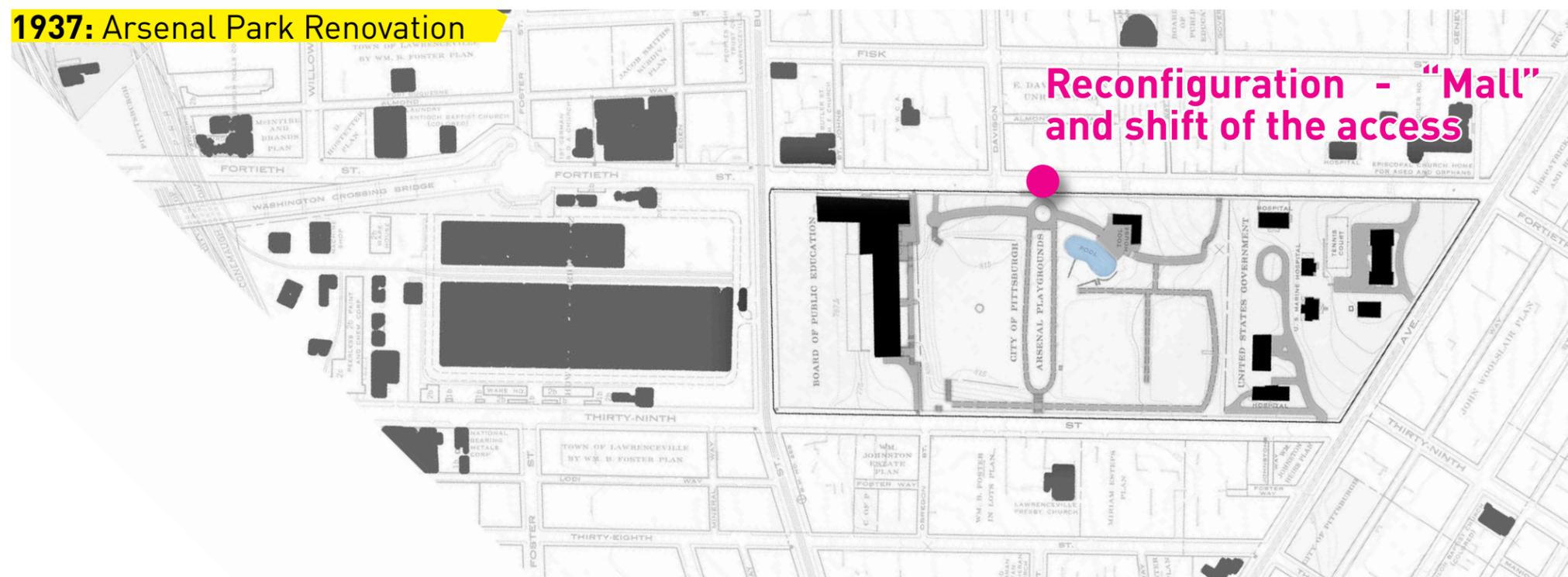
1890: United States Arsenal



1910: Arsenal Park

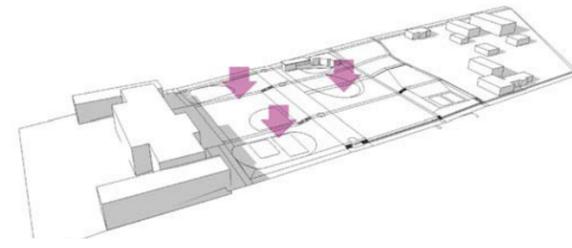


1937: Arsenal Park Renovation

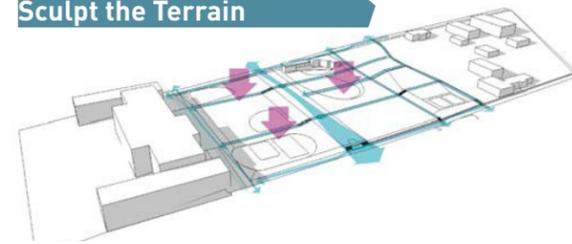


CONCEPT ALTERNATIVE: Urban Forest

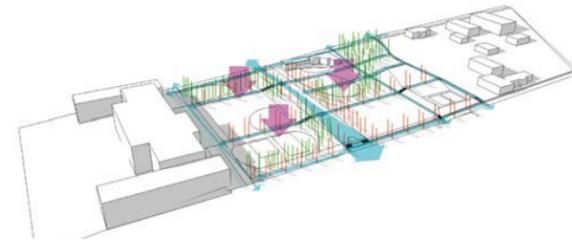
The notion that parks and open spaces are the “lungs of the city” this concept builds upon that idea and promotes the addition of tree canopy to the existing stock of mature trees that currently exist. This concept also recommends that the fields and courts between Arsenal School and the Mall be lowered to promote a physical and visual connection between the park and the school. This would allow the park to be more easily access by students, and the grading of the space will provide a sloped seating along the eastern edge of the Mall for observation of events that occur on the lower fields and courts. This concept also suggests a Performance Area that is flexible for both large and small events by providing a gently sloping lawn area to the south of the existing Performance Space.



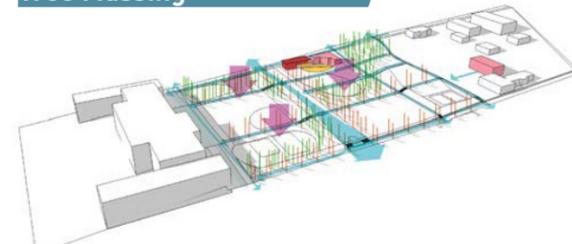
Sculpt the Terrain



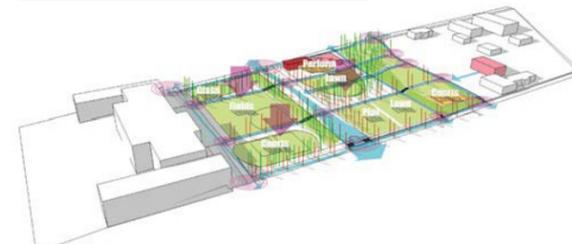
Circulation



Tree Massing



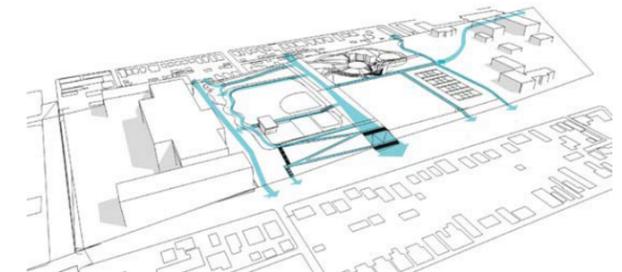
Structures



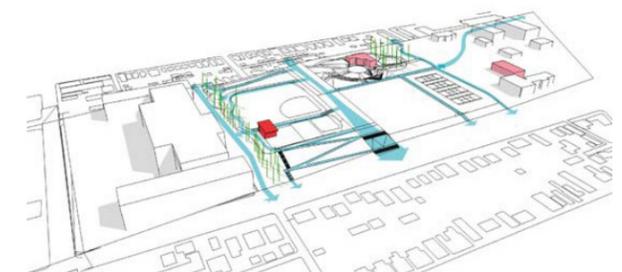
Composite

CONCEPT ALTERNATIVE: RE_Arsenal

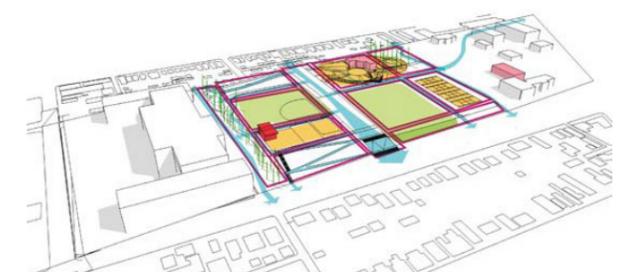
This concept embraces the existing layout of the park (which largely dates to the 1930s), and suggests improvements in areas that need to be updated or modified based on feedback received from the project team and the community. The major recommendations in this scheme include: 1) Mall renovation with new pavement, furnishings, and lighting; 2) relocation of the playground from the Mall to wooded area adjacent to the Performance Area / Powder Magazine, integrated the play experience into the existing topography and shade of the mature trees; 3) renovation of sports court(s) area to include gathering space and shelter; and 4) renovation of the historic pond area to include water feature / spray park.



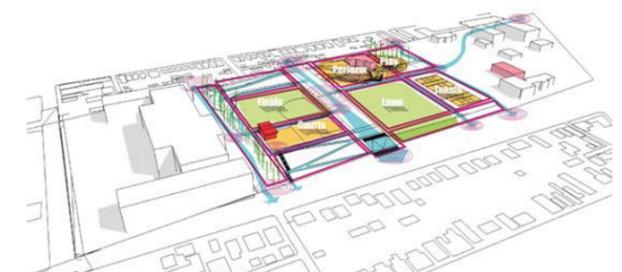
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Structures



Spaces



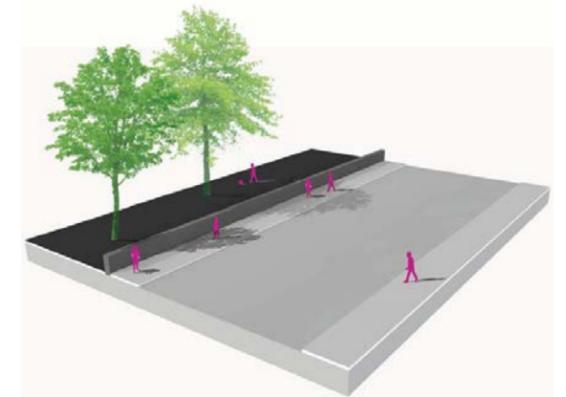
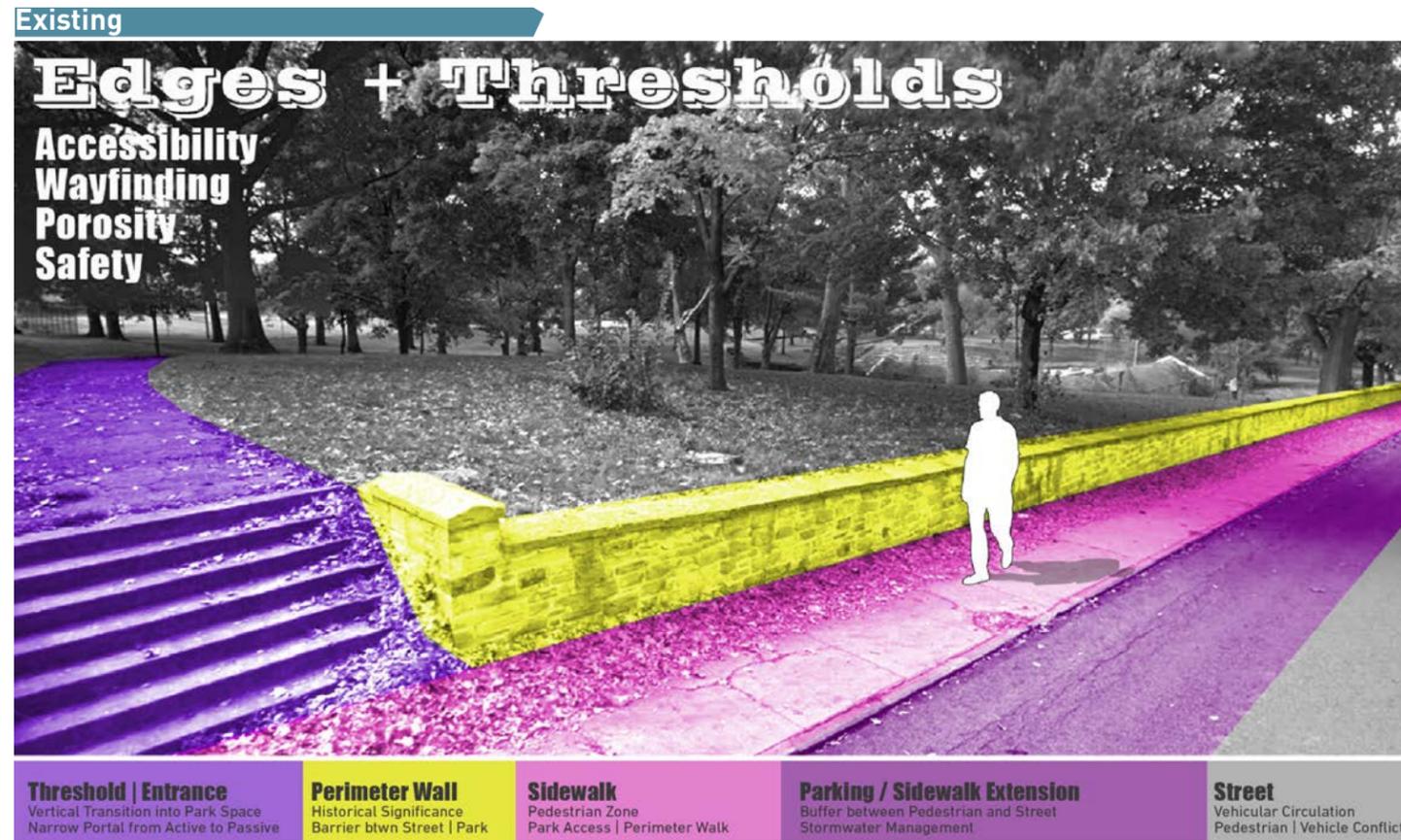
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RESPONSIVE: EDGES + THRESHOLDS

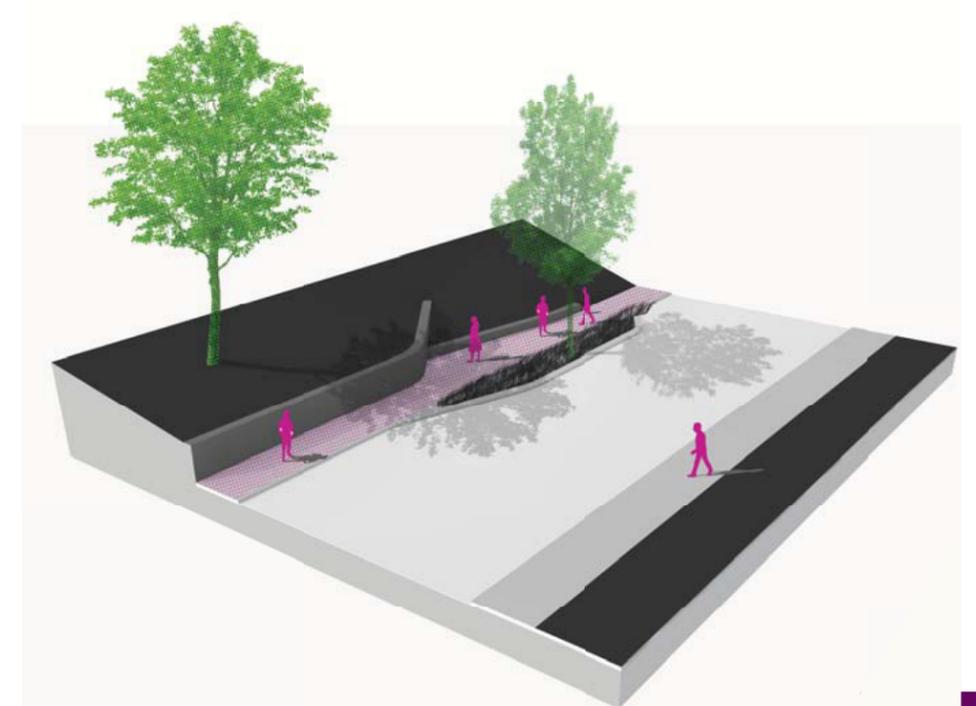
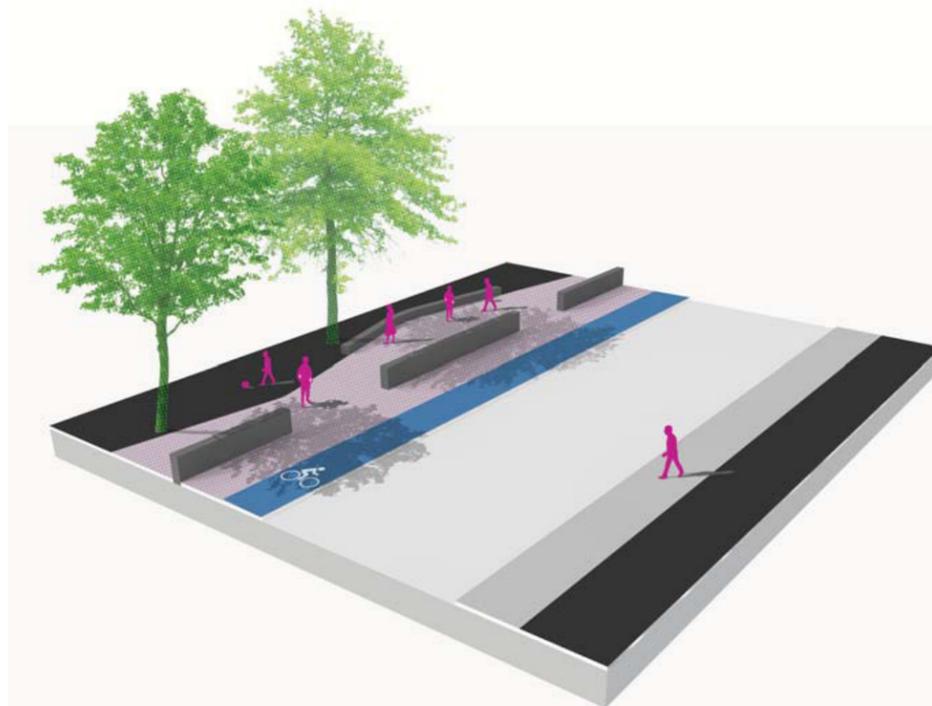
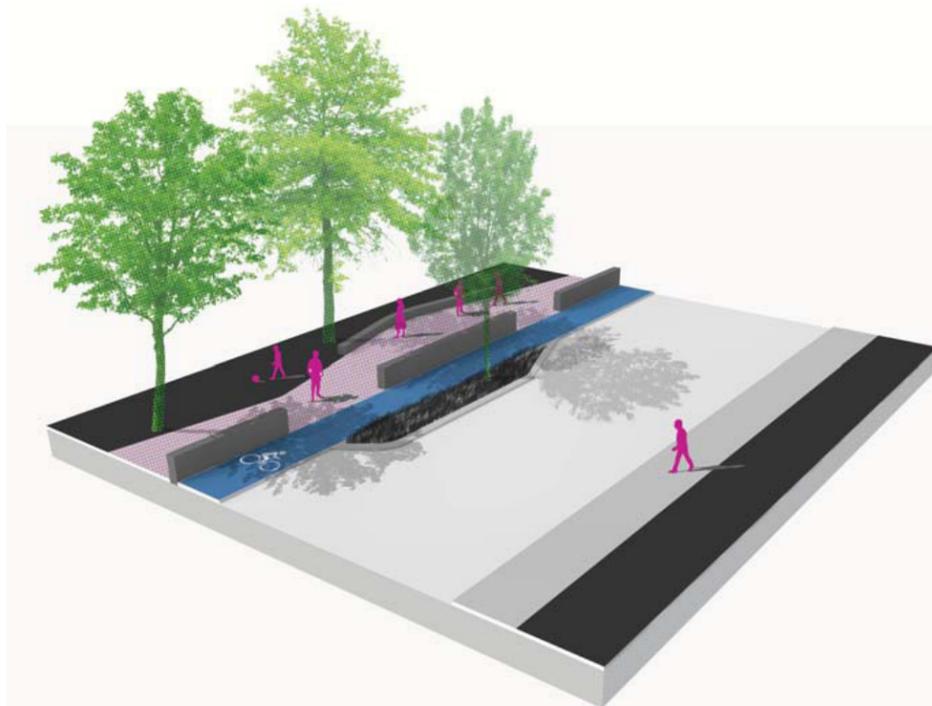
Safe and convenient access to Arsenal Park was established as a project goal early in the master planning process. Currently the park is enclosed with a historic stone wall that dates back to the early 1800's. The current condition of the wall shows visible failure in the stone and mortar that have weathered throughout the last two centuries. The master plan does recommend that these stone walls be repaired and rebuilt where possible to not only improve the aesthetic value of the park envelope, but more importantly to ensure that pedestrians are safe from falling stone and debris from the crumbling walls.

The master plan also recommends removal of the stone wall in strategic areas for increased accessibility to the park from the surrounding neighborhoods. These additional openings will be ADA (Americans with Disabilities Act) compliant and encourage all park participants to feel welcome around the park. Wall removal should be carefully analyzed so that minimal removal of the historic stone wall occurs. Material and debris collected from removed stone shall be recycled within the park and used as paving material, planting bed edging, etc.

The diagrams below represent the early process of exploring how removal of the stone wall could impact access into the park at the edges. The additional sidewalk area created promotes a safer pedestrian experience and provides opportunities for welcoming entries into Arsenal Park along 39th and 40th Streets.



Exploration of Wall Openings

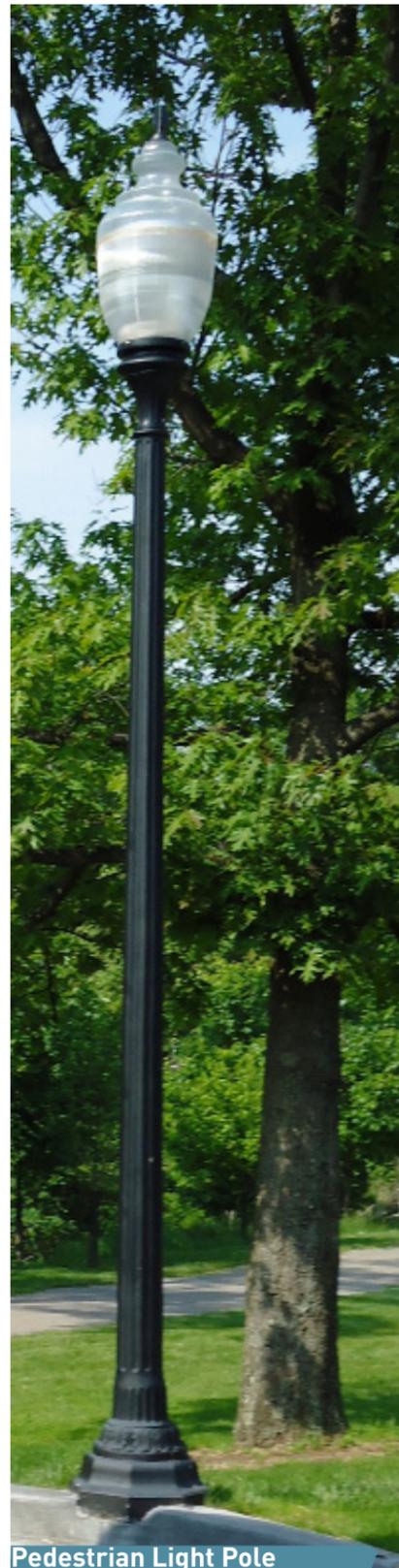




Wood Bench with Plaque



3 Rivers Bike Rack



Pedestrian Light Pole



Dolphin Drinking Fountain

Introduction to Park Maintenance

The goal of the maintenance plan is to provide an aesthetically pleasing and safe park and recreation facility for the Community of Lawrenceville. Regularly scheduled service and monitoring of the grounds and facilities are essential to meet the goals and needs of park visitors, to support programs and events, and to reduce liability risks. The following Maintenance Plan is intended to provide a framework for developing, defining, and implementing standards for maintenance, management, and operations for the park.

Areas of Responsibility in the Park

- + The Department of Public Works is responsible for maintenance and capital improvements.
- + The Department of Parks and Recreation is responsible for programming.
- + Although no formal agreement exists between the City of Pittsburgh and community organizations, we understand that such an agreement should be developed to implement and realize a successful park.
- + Community Organizations (Friends of Arsenal Park, Lawrenceville United, Pittsburgh Parks Conservancy) may provide enhanced maintenance for park items not typical of DPW’s typical maintenance operation. These items include;

- + ornamental/seasonal plantings
- + green infrastructure/stormwater elements, bioswales, raingardens
- + playscape structures
- + hammocks
- + restrooms
- + park programming

+ Tree Pittsburgh should be utilized as a steward and advocate for trees the need for raising maintenance endowment funds as part of each capital improvement budget. Those funds should be held by a private entity, such as the Parks Conservancy, and administered in coordination with the City’s efforts and with volunteer stewardship. (The three-legged stool: City, Conservancy, Community)

The type and condition of the natural environment, facility experience, and service experience (when present) has the ability to elevate the park experience for the visitor. For this goal, park maintenance can be

focused on one of three categories.

+ Undeveloped Natural Areas - Arsenal Park (considered an urban park) does contain some undeveloped natural areas, but those areas are small and within passive areas of the park.

+ Developed Areas and Facilities – these areas accommodate more intense and a higher density use. These areas include buildings/structures, playscape elements, court play area, bicycle racks, and so on. Developed areas represent the majority of spaces within Arsenal Park.

+ Maintenance Operations Practices – development of procedures, techniques, and resources are necessary to achieve desired outcomes and to understand needed resources or training to realize desired outcomes

Goals

- + Maintain park areas and facilities that are clean, safe, and aesthetically pleasing.
- + Develop and implement regularly scheduled routine and preventative maintenance programs.
- + Develop and implement a maintenance program to react to unplanned or emergency needs.
- + Identify hazardous conditions in Arsenal Park and recommend remediation.

Standards

Standard maintenance defines the minimum level of outcome that is acceptable to the Department of Public Works. These standards should describe what the park and facilities should look like after it has been maintained.

1. Maintenance

- A. Professional Judgement – There are times when a park maintenance professional must exercise professional judgement based on knowledge, skill, or experience.
- B. Craftsmanship – All work is to be completed in a safe, timely, and professional manner to ensure a safe and functional condition throughout the park. Safety is of primary concern.
- C. Repair Work – All repair work should be conducted in accordance with applicable building codes.
- D. Clean Up – Trash and work debris shall be cleaned up from all work sites at the end of each work day.
- E. Litter – The park shall be free of all litter. No city employee should neglect removal of litter assuming the responsibility of some else.

F. Broken Glass – Broken glass shall be removed immediately upon discovery or notification.

G. Vandalism and Graffiti – These instances shall be reported to a supervisor immediately and repaired as soon as possible.

H. Manufacturer’s Recommendations – All structures, furnishings, and materials throughout the park shall be install and maintained in accordance with the manufacturer’s recommendations.

2. Structures

- A. Floors – Floors shall be free of dirt, litter, debris, and standing water.
- B. Structure – Structures shall be free of cracked, broken, or missing components.
- C. Exterior Surfaces – Exterior surfaces shall be free of holes and gaps.
- D. Fixtures – Light fixtures and electrical outlets shall be in proper working condition

3. General Grounds (Walks, Paths, Trails)

- A. Paved Surfaces – All surfaces shall be free of pot holes, cracks, trip hazards, weeds, and debris.
- B. Gravel Pathways – Pathways shall be free of dips, roots, and ruts from water run off.
- C. Turf – Turf shall be healthy, free of diseases, pests, and invasive species. Turf shall also be free of litter and debris.
- D. Trees – All trees shall be free of dead, diseased or broken limbs.
- E. Mulch – All trees placed in turf areas shall have tree ring of mulch or native soil.

4. Horticulture (See attached chart for tree and horticulture maintenance recommendations)

5. Park Amenities

- A. Historic Stone Walls – Repair existing stone walls where damaged or showing signs of failure. Repairs to the wall should reflect the historic character of the stone and mortar.
- B. Benches – All bench components shall be structurally sound and tightly fastened together. Bench boards shall not be cracked, split, broken, or missing.
- C. Bike Racks – Bike racks shall be securely anchored. No cracked, broken, or missing components.
- D. Trash Receptacles – Bags shall be used except where directed by supervisor. Containers shall be sound and free of excessive dents or rusted areas.

E. Signage – Signs shall be free of dirt or debris. Signs to be located so as to be accessible but not blocking paths.

6. Athletic Fields

- A. Holes and Trip Hazards – Fields shall be free of holes and trip hazards.
- B. Standing Water – Fields shall be free of standing water two to three days after rainfall.
- C. Litter and Debris – Fields shall be free of litter and debris.
- D. Turf Condition – Turf shall be generally free of holes and trip hazards.
- E. Weeds – Infield and fence lines shall be free of weeds.
- F. Dugouts – Dugouts shall be free of litter and debris.

7. Court Play Area

- A. Basketball Goals – Poles, backboards, and rims shall be securely anchored and attached. No missing or broken components.
- B. Nets – Nets shall be securely fastened to rims and free of tears.
- C. Court Surface – Court shall be free of holes and trip hazards.
- D. Court Markings – Court lines shall be clearly visible.

8. Tennis Courts

- A. Net Height – Nets shall be adjusted to 36” in height at the strap and 42” at the ends.
- B. Nets – Nets shall have no holes or tears.
- C. Cracks – Cracks in the surface with a vertical separation of 1/4” or lateral separation of 1/8” shall be reported and evaluated for repairs.
- D. Net Posts – Net posts shall be securely anchored and free of broken or missing components.

9. Playscape

- A. Compliance – Play equipment and features shall comply with ASTM and CPSC guidelines.
- B. Structure – Play equipment shall have not cracked, broken, or missing components.

C. Litter and Debris – Playscape area shall be free of debris.

D. Safety Surface – Safety surface shall be at the appropriate depth, uniformly level, and free of weeds.

E. Replacement Components – Replacement components shall meet or exceed original manufacturer’s specifications as well as ASTM and CPSC.

10. Outdoor Lighting

- A. Fixtures – All fixtures shall be in proper working order and free of broken or missing components.
- B. Poles – Light poles shall be plumb and level.
- C. Illumination – Field lighting shall be checked regularly for maintenance of acceptable lighting levels for activities.

11. Water Features

- A. Water Quality - All features to be tested on a regular basis. If quality of water tested is in question or unsafe, feature shall be shut down.
- B. Mechanical – Monitor and maintain all mechanical, electrical, and plumbing components of water feature. If components are broken, cracked, or missing then water feature must be shut off until repairs have been completed.
- C. Wet Surfaces – Clean wetted surfaces regularly for safety and to reduce wear on materials.
- D. Drainage – Channels or drains shall be free of litter and debris.

12. Green Infrastructure

- A. Raingardens, Infiltration Basins, and Bioswales – Remove all litter and debris from raingardens.
- B. Permeable Paving – Vacuum permeable paving annually to promote porosity between units. Remove debris from voids and replace aggregate as needed.
- C. Green Roof – Remove all debris and litter from green roof. Replace diseased or damaged plant material. Remove invasive species from planting mix.

