



# Lawrenceville Riverfront: 40th - 43rd Street Access Project

 LAWRENCEVILLE CORPORATION

October 2002

# Project Team

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## INTRODUCTION

### Intent of the Project:

The Lawrenceville Corporation's Riverfront Steering Committee approached the Community Design Center of Pittsburgh seeking technical and financial support to develop a strategy for improving access and use of the Allegheny Riverfront between 40th and 43rd Streets. This project provides a survey of the character, context and opportunities for this portion of Lawrenceville's riverfront. The plan outlines schematic project recommendations for the 40th and 43rd Street Landings, and describes remediation strategies for the trail that lies in between.

The key to successfully developing this project is working with the existing layers of historic, industrial and riparian fabric of the river's edge to preserve the character of the riverfront and trail. The goal is to improve the riverfront experience without destroying the quiet charm and authenticity of existing access points - to create a riverfront trail that will be uniquely Lawrenceville and that will evolve and change over time along with the community.

Much public discussion centered on priorities and issues of how to best include community input and art into the plan. It is understood that not only physical improvements will be necessary to guarantee a successful riverfront plan. Issues of maintenance and public safety have been discussed with the City of Pittsburgh, along with the impact that future riverfront development and the expansion of the riverfront trail will have when it connects into Pittsburgh's trail system. The building of community volunteers in partnership with the City's Partners in Parks Program and the Department of Parks and Recreation is necessary to realize this project and to maintain it. Volunteer participation is also a positive outcome that will lend long-term benefit to the riverfront and its future.

### Planning Process:

Initial meetings with neighborhood representatives relayed the community's perceptions and goals for the riverfront. Site visits, photographs and information gathering led to the development of an Existing Conditions drawing of the site and to dialogues with several of the riverfront's neighbors including the CMU National Robotics Consortium, Ice House Artist Studios and 43rd Street Concrete.

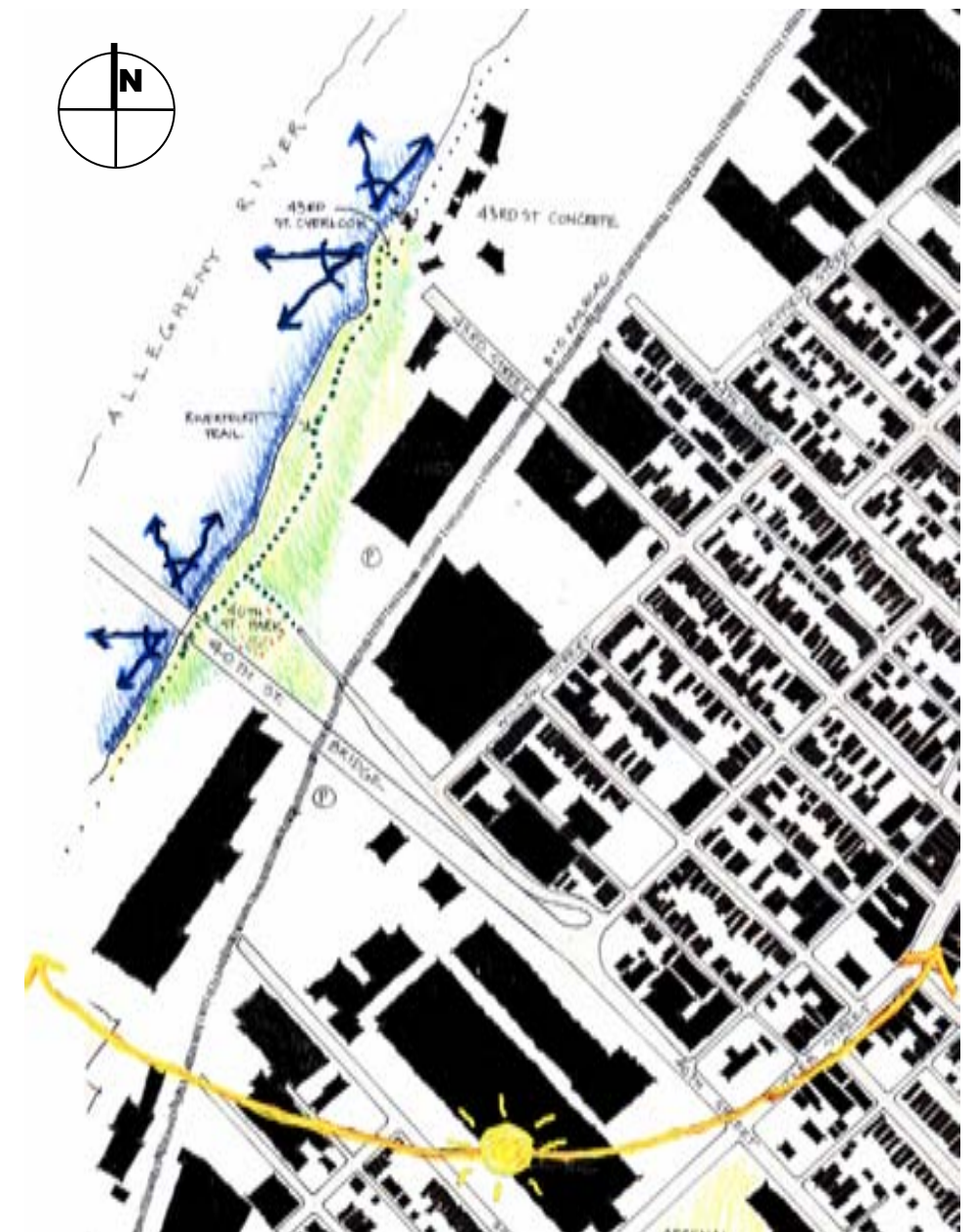
The following Design Principles resulted from community dialogues:

- Celebrate the layers of history and distinctive character of Lawrenceville through material use, signage, and local artistic collaboration.
- Use native plantings and species.
- Maintain the general character of the existing trail, the 43rd Street overlook/beach, and the launch/landing areas adjacent to the 40th Street Bridge piers.
- Protect and encourage wildlife on the site: fish, birds, rabbits, etc.
- Art and additional human influence should be limited to 40th Street and 43rd Street areas. The trail should remain 'wild.'
- Design to accommodate people of all ages and abilities

During community meetings local motor boat enthusiasts agreed that while there is a need for additional public motor boat launches in the Pittsburgh Pool, the Lawrenceville Riverfront is not the appropriate location due to the steepness of the river's edge and the negative impacts that motor boats would have on the local fish population. It was recognized that it is difficult to launch motor boats from the same area as canoes and kayaks. Similarly, the idea of building a dock was discussed. Docks are most useful for launching motor boats or long-hulled boats such as those used for crew rowing at Washington's Landing. Because neither of these uses are anticipated along Lawrenceville's Riverfront, and because the 'natural' beach condition at the 40th Street launch area is well-suited for canoe and kayak launching and landing, a dock was not included in the proposed project.

Two key project areas and a remediation strategy were identified as short-term realizable goals for riverfront redevelopment. Illustrations of proposed modifications to the 43rd and 40th Street riverfront access points are included as marketing/fundraising material to help realize the projects. Also, precedents and ideas for incorporating art into the project are identified. A Next Steps implementation strategy, including a checklist of required approval processes, and preliminary project cost estimates bring the planning document to a close, serving to prepare the community to realize the projects.

## CONTEXT MAP



## EXISTING CONDITIONS

### Project Context:

The area of study is bounded to the west by parking lots and the 40th Street Bridge, to the east by 43rd Street and 43rd Street Concrete, to the south by the CMU National Robotics Consortium, and to the north by the Allegheny River. A formal riverfront trail currently extends on the north shore of the Allegheny River much of the distance from the Heinz Football Stadium up to Millvale, directly across from our area of study. The 31st Street Bridge, providing the most direct connection from the north shore trail to Lawrenceville, is in poor shape and due for renovation. The 40th Street Bridge does not presently have a strong pedestrian link to either the north or south shore Allegheny riverfront trails but there are opportunities to improve these connections in the future. On the south shore of the Allegheny, from the Strip District through Lawrenceville, disconnected trail segments have been built by individual property owners. The riverfront trail between 43rd and 40th Streets was built by the Lawrenceville Corporation, the Lawrenceville community and the CMU National Robotics Center in 1995.

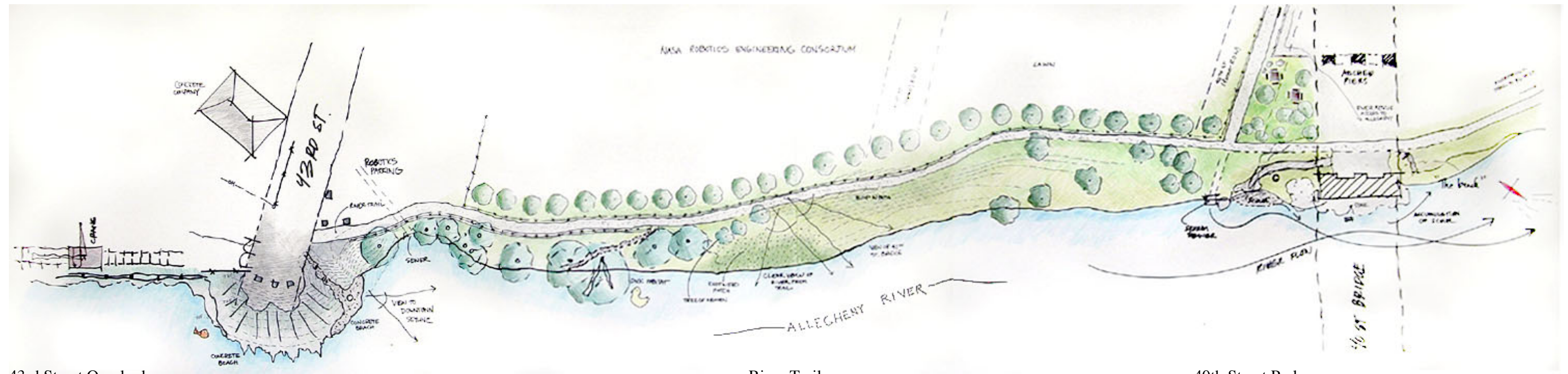
South shore trail development has been difficult due to existing railroad tracks that follow the riverfront edge, and because many large parcels of industrial land have remained undeveloped and unimproved since the 1980's. Also, some riverfront businesses, including 43rd Street Concrete, continue to receive deliveries from the river via barge. The integration of river-based land commerce with a public trail may be an interesting design challenge in the future.

Lawrenceville's Riverfront is adjacent to a dense neighborhood of brick single-family homes and row houses interspersed with large-scale light-industrial and warehouse buildings and undeveloped industrial properties. 43rd Street is being revitalized due to recent projects including the Ice House Artist Studios and the proposed redevelopment of the Chocolate Factory across the street.

### Views and Accessibility:

Due to its steep, man-made river's edge the Lawrenceville Riverfront offers a variety of outdoor experiences. The trail provides outstanding views of downtown and the 40th Street Bridge particularly from the 43rd Street Overlook. There are intermittent views of the river from along the trail and unique river access points along the shore at 40th and 43rd Streets.

ADA accessibility along the trail has been discussed with the City of Pittsburgh but will be limited to the 43rd Street Overlook and the 40th Street Park due to the steep river edge and the provision for truly accessible river access on the north shore at Washington's Landing and at Millvale. New concrete stairs at the 43rd Street Overlook will improve access to the concrete 'beach' below and the 40th Street water access locations will benefit from the installation of a simple railing to assist elderly trail users down to the river's edge. We recommend adding railings to both the 'passive' upstream and the downstream launch access locations.



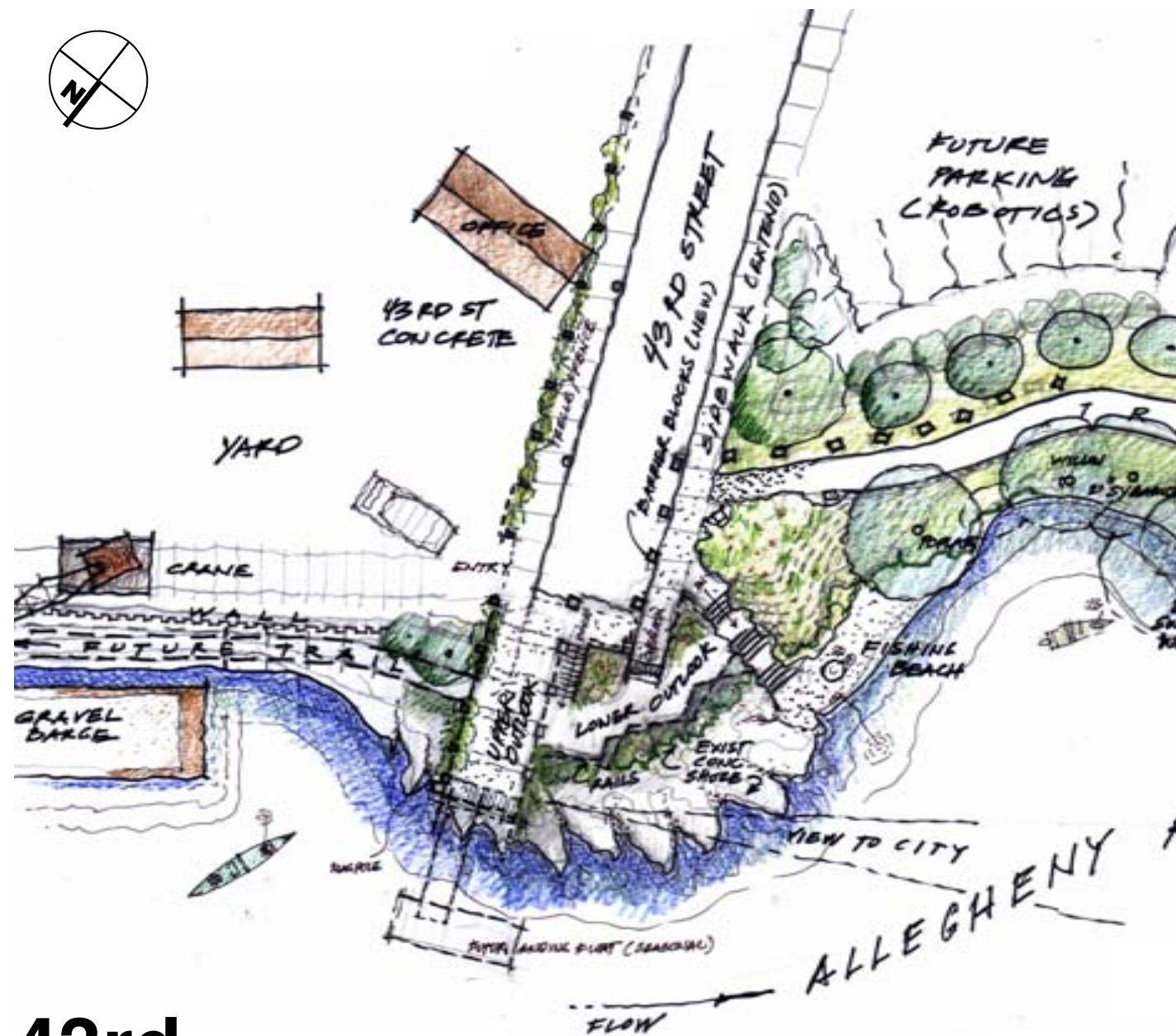
43rd Street Overlook

River Trail

40th Street Park

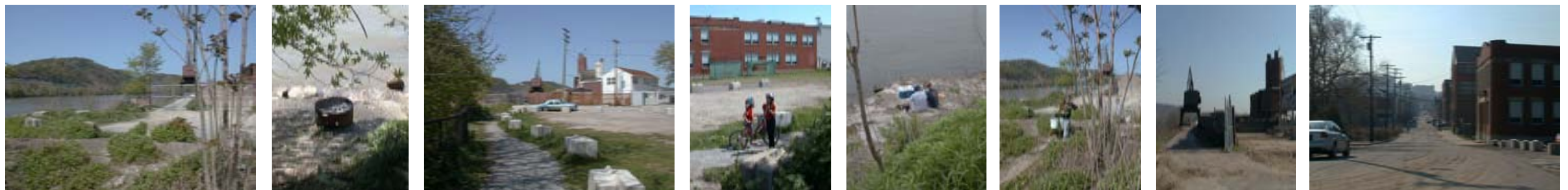


## 43RD ST. CONCEPT



## 43rd Street Access • Concept Plan

existing conditions:



LAWRENCEVILLE RIVERFRONT: 40TH - 43RD STREET ACCESS PROJECT

### 43rd Street Overlook and Access Recommendations:

1. **Work with existing site conditions.** Add to and extend the top of the existing concrete overlook to create generous gathering areas with views up, down and across the Allegheny Valley. Carve a flight of easily-navigable stairs into the concrete slope to help riverfront users access the water. Integrate foliage and tree planting areas into the design of the stairs and overlooks. The site will evolve and change over time.
2. **Creatively use building materials that are common on site.** Concrete and steel are materials common to Lawrenceville and its riverfront. These materials should be used as creatively as possible when designing functional and decorative elements for the overlooks, stairs and trellis. Railings could be fashioned from steel re-bar, concrete slabs could be polished and inlaid with industrial fragments, trellises can be hand-wrought and designed by local artists, and vertical concrete wall surfaces can be covered with educational/interpretive murals about local history, plants and water life.
3. **Preserve the quality of the experience of being on the concrete 'beach' while improving access to it.** Fishermen and other river enthusiasts actively use the concrete beach that was formed by local industries over decades at the base of 43rd Street.
4. **Design a sculptural beacon that will be visible from both Butler Street and the river, placed near the end of 43rd Street.** The beacon could be lit and visible at night providing both illumination and security. Alternately, a portal across 43rd Street could be created welcoming visitors to the trail, the overlooks, and the beach below.
5. **Light the upper overlook at night for security and visibility.** Lighting should be integrated into the overall design.
6. **Replace the existing chain-link fence along 43rd Street Concrete with a wood or metal trellis.** The trellis could be planted with Virgin's Bower vines, or another native plant species, to form a green edge leading out to the river. An overhead trellis could also shade the overlook creating a comfortable summertime river viewing environment.
7. **Continue to provide informal parking along 43rd Street.** Additional parking may be negotiated with the Robotics Center. Any parking area should have landscaped edges.
8. **Design site furniture, including benches and road barriers, to be functional but also interesting, engaging and unique to the site.** Whenever possible site furniture should be considered as a coherent part of the overall project.
9. **Use an existing building near the 43rd Street overlook to accommodate a future trail head, visitor's center, canoe/kayak rental facility, cafe, etc.**
10. **Provide, in the future, an accessible ramp down to the water along 43rd Street Concrete's retaining wall edge.** Currently the river edge of 43rd Street Concrete is actively used for barge deliveries and such a ramp would not be practical.
11. **Design to accommodate a future commuter boat landing area.** As a drawback to be considered, a commuter-sized parking lot could adversely affect the site.

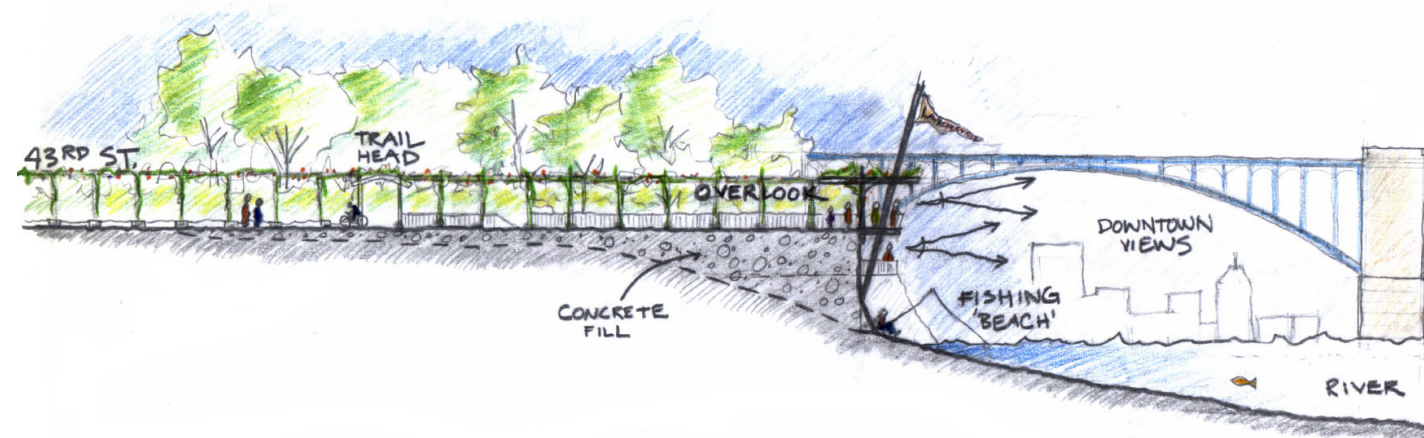
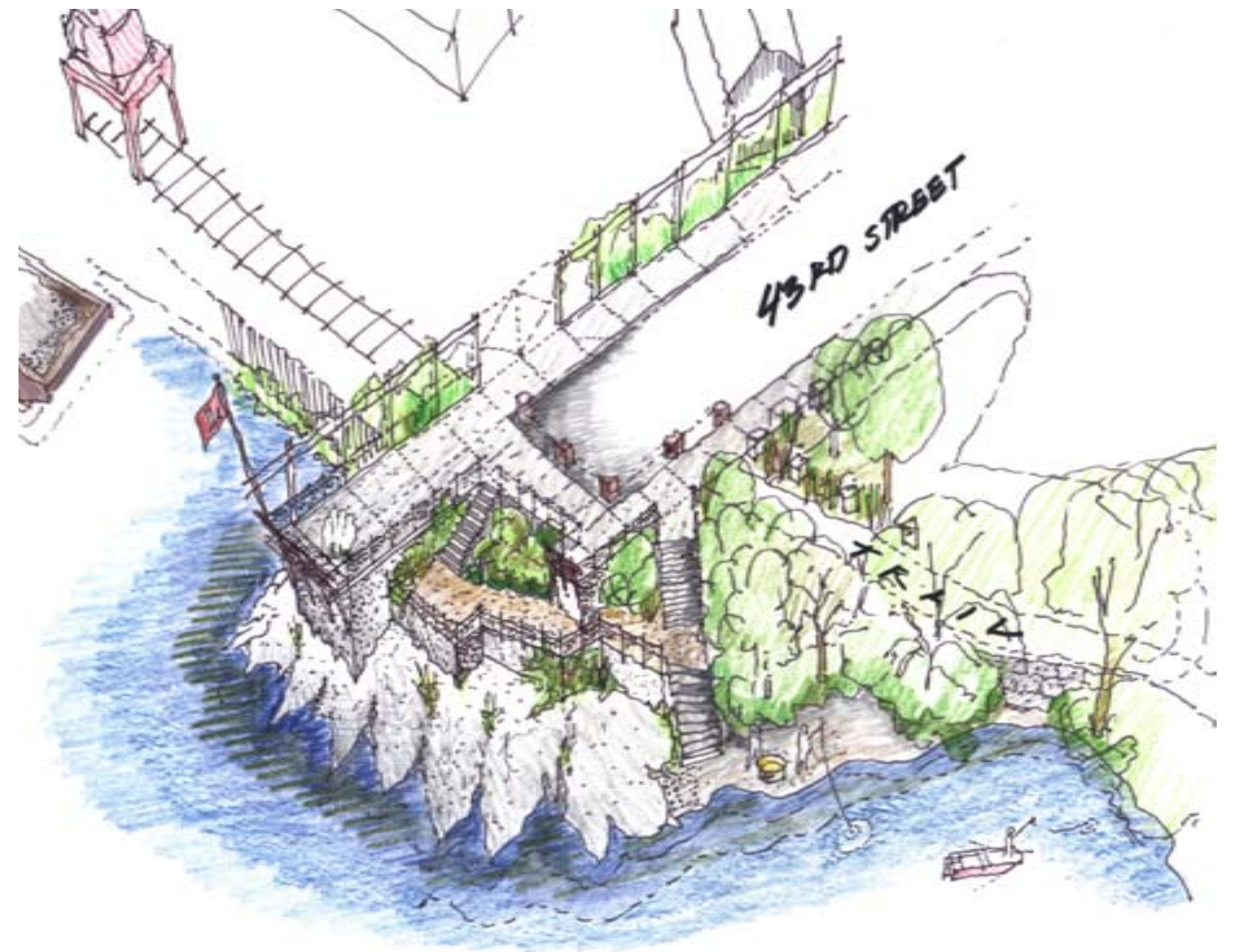
## 43RD ST. CONCEPT

### Opportunities for Public Art and Participation:

The 43rd Street Overlook project requires the addition of a significant amount of concrete, metal trelliswork and railing along the overlook edges and stairs. Concrete form work could be designed to create a rough, textural edge. Metal fragments could be embedded into concrete slabs whose surfaces might relate the history of Lawrenceville and the Allegheny River Valley. Trellises and railings could utilize materials such as steel re bar, in keeping with the site's industrial legacy, or be shaped artistically in a way similar to the sinuous railings along downtown's Allegheny Riverwalk.

Rather than simply placing placards on posts, signs and user information should be integrated into or onto site elements wherever possible. Benches and other site furniture can be designed as integrated parts of the overlook composition. There may be opportunities for the community to work with 43rd Street Concrete to design site-specific concrete bollards to keep cars from accessing the edge of the Overlook.

The 43rd Street Overlook should incorporate the design of a beacon that could be seen from both the Allegheny River and Butler Street. The design of this beacon, which would visually connect Lawrenceville to the riverfront, would be a unique opportunity for the community to become involved in creating what may become a signature neighborhood icon.



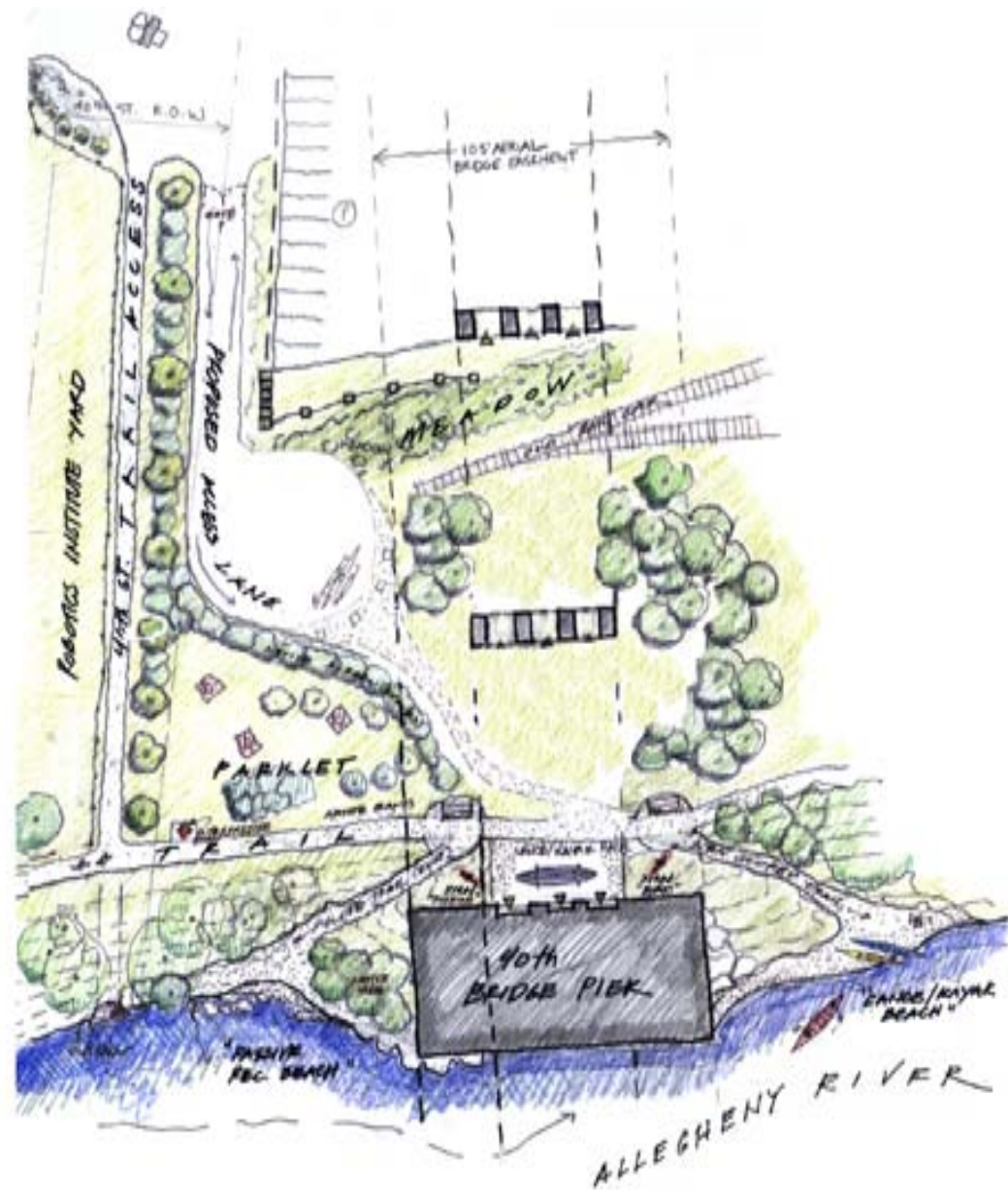
## 43rd Street Landings • Section through the Overlook

## 43rd Street Landings • Axonometric Sketch

design/idea/inspiration palette:



## 40TH ST. CONCEPT



### 40th Street Park and Canoe/Kayak Launch:

1. **Locate the Canoe/Kayak Rack below the 40th Street Bridge at the top of the trail leading to the launch and landing area.** The Canoe/Kayak Rack was generously donated to the Lawrenceville community by Friends of the Riverfront. It requires a concrete pad or foundation piers to be installed on-site, to which the rack can be anchored.
2. **Create a vehicular drop-off area to assist boaters in accessing the canoe/kayak launch site.** A gravel vehicular turnaround below the 40th Street Bridge will also accommodate River Rescue Access.
3. **Continue to provide informal visitor parking along 40th Street.**
4. **Plant native species plants and trees at the 40th Street Park and along the river's edge.** See page 9 of this report for more information.
5. **Use creative, integrated site furniture and signage.** Signage/artwork/murals could be installed onto the 40th Street Bridge piers but PennDOT would need to be consulted for such a project. Bob Qualters' Veterans Bridge mural is a good precedent.
6. **Use the quiet, wooded upstream side of the 40th Street Bridge pier for passive activities.** Carefully placed additional boulders or concrete may be added along the river's edge to prevent scouring of the riverbank. A railing should be added to enable elderly Lawrenceville residents to access the river more easily.

7. **Improve the trail leading down to the proposed canoe/kayak launch area.** The trail should be widened and made more easily navigable. A railing should be provided to assist launch users.
8. **Use crushed limestone when building extensions to or repairing the riverfront trail.** This type of trail surface has adequately served the needs of current trail users and is in keeping with the trail character.
9. **Provide trail markers, historic signage and neighborhood maps for visitors' reference from the land and water.**
10. **Illuminate the 40th Street Park adequately at night for security and general visibility.**
11. **Remove the recycled plastic lumber fence along the park's 40th Street entry and replace it with a designed, low-maintenance meadow full of local plantings.**
12. **Dedicate the entire riverfront park with a name and have the trail identified on City of Pittsburgh trail maps.**
13. **Strengthen pedestrian connections from the Lawrenceville riverfront to the 40th Street Bridge and the North Shore Trail.** As the North Shore Trail becomes more formalized between 31st Street and Millvale there will be an opportunity to connect Lawrenceville's riverfront trail to the North Shore Trail by means of the 40th Street Bridge. Pedestrian connections to the 40th Street Bridge from the south and north shore riverfront trails and Millvale should be improved.

## 40th Street Access • Concept Plan

existing conditions:



## 40TH ST. CONCEPT

### Opportunities for Public Art and Participation:

The 40th Street Park is currently used by local residents for walking, fishing and birdwatching. With the arrival of the Canoe/Kayak Rack the park will become more of a regional draw putting Lawrenceville onto the map as one of a series of canoe- and kayak-friendly destinations along Pittsburgh's Riverfront. The regional role of the park will be further amplified when the 40th - 43rd Street Trail is better connected to the rest of the Pittsburgh riverfront trail system.

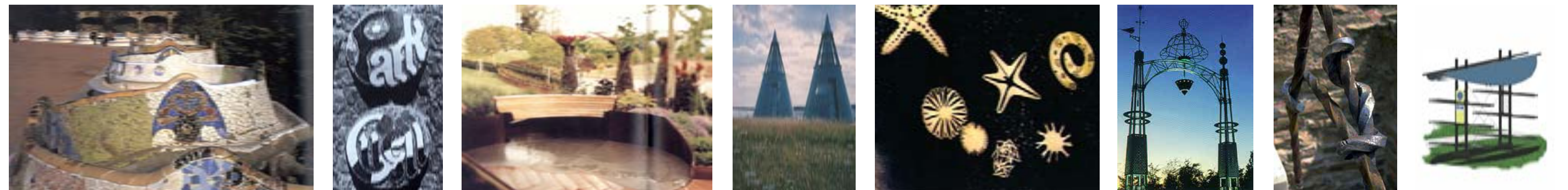
There are many opportunities for improving aspects of the park to accommodate increased park use. Paths leading from the trail down to the river should be outfitted with simple, crafted, metal railings designed to assist people in navigating their way to the water. These railings should be functional but also fun, interesting and in keeping with the post-industrial character of the site. The neighboring CMU National Robotic Center has integrated industrial found objects into its landscape, celebrating the interesting layers of industrial history of the site. The 40th Street Park offers an opportunity to celebrate the past, present and future of the riverfront through interpretive art and signage connecting park visitors to Lawrenceville's legacy.

As part of the project, the recycled plastic lumber fence along the park's 40th Street entry trail will be removed and replaced with a designed, low-maintenance meadow full of local plantings. Plantings used in this area can become part of an educational feature with small signs identifying species varieties. Care-taking of plants at the 40th Street Park is a long-term opportunity for public input and participation.



## 40th Street Park and Canoe/Kayak Launch • Section

design/idea/inspiration palette:



LAWRENCEVILLE RIVERFRONT: 40TH - 43RD STREET ACCESS PROJECT



## 40th Street Concept • Perspective



## RIVER TRAIL REMEDIATION

### Riverfront Trail Recommendations:

- Remove invasive species where Japanese Knotweed is prevalent.
- Plant native trees and under-story plants once this area is reclaimed.
- Retain trees that extend into the water. They provide a good habitat for river wildlife.

The riverfront trail is located in a riparian environment. Riparian describes the specific areas that occur adjacent to streams, lakes, ponds, wetlands and other water bodies. These areas are important because they are repositories of biological diversity, they help mitigate the effects of land-based pollution and surface run-off, and they play an important part in land-based and aquatic ecosystems.

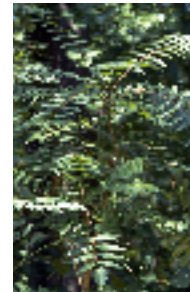
Lawrenceville's riverfront hosts a growing number of species of birds, waterfowl and small animals. Walleye, small mouth bass and catfish are found along Lawrenceville's Riverfront, indicating that the river water quality is improving. In suggesting improvements for the Riverfront Trail it is of the utmost importance to protect the 'wild' character of the riverfront trail for the neighborhood's recreational and educational use, but also as an evolving natural habitat.

In areas where earth along the riverfront edge has been recently re-graded, growing patches of Giant Knotweed have taken hold. Native to Japan, Knotweed has sprouted up throughout Western Pennsylvania in places where soils are disturbed and where no competing species is planted. Non-native plants spread quickly, crowd out native plants, alter the local ecosystem, threaten neighboring areas, and often take years of careful management to remove. To protect other plant species along the riverfront invasive species should be closely monitored and prevented from spreading. Invasive species should be removed thoroughly wherever feasible. There could be opportunities for Lawrenceville's riverfront to serve as an extended test case for university researchers to study the efficacy of remediation efforts.

The following is a list of invasive non-native plants that are common along Lawrenceville's Riverfront, along with suggested strategies for getting rid of them:



**Giant Knotweed**  
Repeated cutting of plants (3-4 times a season) sometimes combined with shading or herbicide, may weaken plants so they gradually die off after several years of constant vigilance. Digging them out may leave pieces of roots allowing the plant to regenerate. Plant roots can exceed 20' in length.



**Tree of Heaven**  
Young seedlings are best removed by hand. Established trees and saplings can be cut down. Removal of rootstock will prevent re-sprouting but it must be done thoroughly to prevent regeneration from root pieces left in the soil. This may be difficult to achieve in large clumps of trees.



**Garlic Mustard**  
Flowering plants should be cut at ground level before seeds are set. Cut debris should be removed from the site to avoid any seed dispersal. They can also be hand pulled.

Furthermore, it is recommended that in the future only native plants and trees be introduced to the riverfront environment. Some decorative annual plants and flowers, such as tulips or daffodils, do not threaten to overtake the ecosystem and may be introduced without permanent damage. But there are also many colorful, decorative and fragrant native species available that could be used in their place. It is also advised that chemical pesticides and herbicides not be used along the riverfront due to their harmful impact on the riverfront ecosystem. The following is a list of several native plant and tree species that would be suitable to plant along the riverfront and in the park and meadow areas above:

#### Native Plants for Riparian Zones:

- Tall Ironweed \*
- Cardinal Flower \*
- Joe Pye Weed
- New England Aster
- Common Milkweed \*
- Ninebark (shrub)
- Maple Leaf Viburnum (shrub) \*\*
- Redbud (tree)
- Serviceberry (tree) \*\*
- Red Maple \*\*

#### Native Plants for Woodland Edges:

- Thimbleweed
- Goat's Beard
- Coral Bells
- Oxeye/False Sunflower \*
- Virgin's Bower (vine)
- Wild Hydrangea (shrub)
- Silky Dogwood (shrub) \*\*
- Hemlock (evergreen tree) \*\*

\*Butterfly and/or Hummingbird beacon

\*\*Wildlife Value (berries, etc.)



### Sewer Outflows:

The recommendations included in this report are intended to attract more people to the trail and the river, helping Lawrenceville to realize its potential as a riverfront neighborhood. Local sewer outfalls should be investigated and addressed if trail and river activities are to be successfully expanded and implemented.

Lawrenceville's Riverfront is negatively impacted by storm event overflow from ALCOSAN's aging combined sewer system. During and after significant precipitation events overflow burden from the county's sewer systems is discharged, in part, directly into local streams and river systems. Both 40th and 43rd Street, areas where people currently access the river, appear to have sewer outfalls of this type.

The impact of combined sewer overflow (CSO) on the riverfront trail will be negligible for those using the upper portion of the riverfront trail, the 40th Street Park and the Overlook. For those fishermen, boat enthusiasts, brave swimmers, nature observers, small animals, fish and birds who come into closer contact with the river, the noxious odors and localized pollution caused by storm water events can be insufferable and sometimes dangerous. It is generally recommended that direct contact with streams and rivers be avoided until 48 hours after a major storm event. Awareness of sewer outflow issues could be built into a public education program for those who visit and use the riverfront. A CSO flag, such as the one used on Washington's Landing, can serve in such an educational capacity while also advising canoe and kayak users about the local river water quality.

A chemical odor near the 43rd Street culvert was detected, indicating that a local business or residence may be illegally tapped into the sewer line.

As more people of all ages are encouraged to use the riverfront it will become increasingly important that polluting activities be monitored and eliminated where possible. The Riverkeepers Program, recently implemented in Pittsburgh, was created to keep watch over and identify waterway pollution sources. This program, sponsored by Friends of the Riverfront, may be of use to the neighborhood in such a capacity.

Wild Columbine



Staghorn Sumac



Red Twin Dogwood



Redbud



Cardinal Flower



Ironweed



Virgin's Bower



Red Maple



## PROJECT IMPLEMENTATION

### Next Steps:

- Review project with appropriate authorities prior to proceeding with project implementation.
- Seek official park designation for the Lawrenceville Riverfront Park.
- Investigate riparian remediation program project opportunities (Penn State, etc.)
- Fund raise to finance design and construction of the project.
- Hire an architect to prepare construction documents for the proposed projects.
- Hire a surveyor to properly document the project areas.
- Discuss and create opportunities for community art and participation. The Public Art Committee of the Lawrenceville Corporation may be a useful resource in this capacity.
- Review construction documents with the community and with appropriate authorities.
- Solicit local material and labor donations (43rd Street Concrete, Construction Junction, Iron Eden, etc.)
- Implement construction.

### Approval Checklist to Realize the Planning Projects:

City of Pittsburgh Department of Public Works  
 City of Pittsburgh Planning Department staff approval for recreational facilities  
 Department of Environmental Protection  
 US Army Corps of Engineers  
 Pennsylvania Department of Transportation (PennDOT)  
 Pennsylvania Fish & Boat Commission  
 City of Pittsburgh Art Commission

### Local Resources:

Riverlife Taskforce  
 Friends of the Riverfront  
 Riverkeepers Program  
 3 Rivers 2nd Nature  
 3 Rivers Wet Weather  
 3 Rivers Rowing  
 City of Pittsburgh's Partners in Parks  
 Department of Parks and Recreation

### City Park Designation:

Prepared in consultation with Pittsburgh's City Planning Department.

### Process

Ownership of the land between 40th and 43rd Street would need to be addressed before any further action towards park designation is taken. The trail between 40th and 43rd is owned by the Urban Redevelopment Authority and is part of the lease to the Carnegie Mellon Robotics Center. If the riverfront trail becomes a city park this lease would need to be modified with the URA transferring affected land to the City.

Designating the end of the 43rd Street right-of-way as part of the park may also have some undesirable legal side effects. 43rd Street Concrete could find themselves owning half of the 43rd street right-of-way since park designation simultaneously means right-of-way vacation.

After addressing these two issues the City Parks and Recreation Director should be approached. If the designation is viewed favorably by the City Parks and Recreation Director, the Planning Commission should be asked for a recommendation. Such an action may constitute a modification of the City's current Comprehensive Plan. The park designation would then go to Pittsburgh City Council for formal action. Park designation would give the riverfront trail greater protection but would also place new restrictions on the land.

### Park Maintenance

Public Works currently maintains the site and would continue to do so if it is designated a park. The level of maintenance is not likely to change to any significant extent since official designation of this park will not result in the addition of city maintenance staff.

### Affect on Public Art

The City of Pittsburgh Art Commission has jurisdiction in public right-of-ways and city parks and it reviews projects proposed in both areas. The level of funding support for public art along the riverfront if it is designated a park is not likely to change due to budgetary constraints.



## COST ESTIMATES

Lawrenceville Riverfront + Walking Trail Access Project  
18-Sep-02

PFAFFMANN + ASSOCIATES  
40TH STREET PARK + CANOE/KAYAK LAUNCH

### 40TH STREET PARK + CANOE/KAYAK LAUNCH BUDGET DETAIL

Includes design, engineering and construction of the 40th Street Park, improved river access and installation of the canoe/kayak launch

Description of Work	Quantity	Units	Unit Cost	Total
<u>Demolition</u>				
Removal of existing plastic lumber fence along the trail access path	1	LS	\$ 1,000	\$ 1,000
Removal of landscaping and earth at turnaround area	4950	SF	\$ 1	\$ 4,950
Site Grubbing	4140	SF	\$ 1	\$ 4,140
			<b>\$</b>	<b>10,090</b>
<u>Site Construction</u>				
Planting and landscaping	4140	SF	\$ 2	\$ 8,280
Grading and construction of gravel turnaround	4950	SF	\$ 2	\$ 9,900
Crushed limestone to patch and repair trail	1	LS	\$ 2,500	\$ 2,500
Bike Rack	1	LS	\$ 2,500	\$ 2,500
			<b>\$</b>	<b>23,180</b>
<u>Concrete</u>				
Foundation and Platform for Canoe/Kayak Rack	990	SF	\$ 5	\$ 4,455
<u>Metal</u>				
Handrails along river access paths	130	LF	\$ 25	\$ 3,250
Canoe/Kayak Rack	1	LS	Donation	\$ -
			<b>\$</b>	<b>3,250</b>
<u>Miscellaneous Finishes</u>				
Paint, tile, other finish materials	1	LS	\$ 2,000	\$ 2,000
<u>Specialties</u>				
Signage and graphics - Refurbishment of existing interpretive heritage sign	1	LS	\$ 1,500	\$ 1,500
<u>Electrical</u>				
Electrical conduit and tie-ins	1	LS	\$ 5,000	\$ 5,000
Lighting lamps, fixtures and poles - 12 light fixtures	1	LS	\$ 5,000	\$ 5,000
Security camera and wiring	1	EA	\$ 3,000	\$ 3,000
			<b>\$</b>	<b>13,000</b>
<u>FF&amp;E</u>				
Site Furniture - Benches, bollards, trash cans, etc.	1	LS	\$ 5,000	\$ 5,000
<b>CONSTRUCTION SUBTOTAL</b>				<b>\$ 62,475</b>
General Conditions / OH & P	15%			<b>\$ 9,371</b>
Subtotal				<b>\$ 71,846</b>
Contingency	10%			<b>\$ 7,185</b>
<b>CONSTRUCTION TOTAL</b>				<b>\$ 88,402</b>
Functional Public Art: customize rail detailing - design and fabrication	1	LS	\$ 5,000	\$ 5,000
Architectural + Engineering Services	1	LS	\$ 12,000	\$ 12,000
<b>PROJECT TOTAL DEVELOPMENT COST</b>				<b>\$ 105,402</b>

Lawrenceville Riverfront + Walking Trail Access Project  
18-Sep-02

PFAFFMANN + ASSOCIATES  
RIVERFRONT TRAIL DETAIL

### RIVERFRONT TRAIL BUDGET DETAIL

Includes remediation and planting strategies for the Riverfront Trail

Description of Work	Quantity	Units	Unit Cost	Total
<u>Demolition</u>				
Remediation of 2 patches of Giant Knotweed along the riverfront	1	LS	\$ 2,500.00	\$ 2,500
<u>Site Construction</u>				
Planting of new, native species in lieu of Giant Knotweed	1	LS	\$ 2,500.00	\$ 2,500
<u>Specialties</u>				
Signage and graphics - 2 interpretive signs	1	LS	\$ 2,000.00	\$ 2,000
<b>CONSTRUCTION SUBTOTAL</b>				<b>\$ 7,000</b>
Contingency (20%)				\$ 1,400
<b>CONSTRUCTION TOTAL</b>				<b>\$ 8,400</b>
Functional Public Art: Design and fabrication allowance	1	LS	\$ 1,000.00	\$ 1,000
Design & Bioremediation technical services	1	LS	\$ 2,500	\$ 2,500
Survey of trail	NA		\$ -	\$ -
Testing (soils and plant)	1	LS	\$ 1,000	\$ 1,000
<b>ARCHITECTURAL + ENGINEERING SERVICES SUBTOTAL</b>				<b>\$ 11,500</b>
<b>TOTAL</b>				<b>\$ 12,900</b>

# COST ESTIMATES

Lawrenceville Riverfront + Walking Trail Access Project  
18-Sep-02

PFAFFMANN + ASSOCIATES  
43RD STREET LANDING

## 43RD STREET OVERLOOK + LANDINGS BUDGET DETAIL

Includes design, engineering and construction of the 43rd Street Overlook, Landings and 43rd Street Concrete Fence/Trellis

Description of Work	Quantity	Units	Unit Cost	Total
<b>Demolition</b>				
Removal of existing chainlink fence along 43rd Street Concrete	1	LS	\$ 2,500.00	\$ 2,500
Excavation and removal of existing concrete overlook	1	LS	\$ 10,000.00	\$ 10,000
Site Grubbing	3,000	SF	\$ 1.75	\$ 5,250
				<b>\$ 17,750</b>
<b>Site Construction</b>				
Planting and landscaping (see scope estimate by Girty Landscape Design)	1	LS	\$ 10,000	\$ 10,000
Crushed limestone to patch + repair trail	1	LS	\$ 2,500	\$ 2,500
				<b>\$ 12,500</b>
<b>Concrete</b>				
Pavement/Concrete Sidewalk	1,000	SF	\$ 4.50	\$ 4,500
Foundation Walls (12" thick)	600	SF	\$ 4.50	\$ 2,700
Placement (pumping)	2	day	\$ 1,000.00	\$ 2,000
Steel Reinforcing	1	LS	\$ 6,000.00	\$ 6,000
Gravel Backfill	599	CY	\$ 30.00	\$ 17,971
Overlook Slab (6" reinforced on gravel fill)	2,534	SF	\$ 5.00	\$ 12,670
Stairs (66 risers 6" x 5' width)	300	SF	\$ 30.00	\$ 9,000
				<b>\$ 54,841</b>
<b>Galvanized Metal</b>				
Railings and Handrails	313	LF	\$ 80.00	\$ 25,040
Fence and Trellis	160	LF	\$ 100.00	\$ 16,000
Cantilevered Landing - support structure + metal grating	1	LS	\$ 10,000.00	\$ 10,000
				<b>\$ 51,040</b>
<b>Specialties</b>				
Signage and graphics (2 wayfinding signs and interpretive signage)	1	LS	\$ 1	\$ 2,500
<b>Electrical</b>				
Electrical conduit and service tie-ins	1	LS	1	\$ 5,000
Lighting fixtures - Overlook lighting	1	LS	1	\$ 5,000
Security camera and wiring	1	EA	1	\$ 3,000
				<b>\$ 13,000</b>
<b>FF&amp;E</b>				
Site Furniture - Benches, bollards, trash cans, etc.	1	LS	1	\$ 6,000
<b>CONSTRUCTION SUBTOTAL</b>				<b>\$ 157,631</b>
General Conditions / OH & P	15%			\$ 23,645
Subtotal			\$ 181,276	
Contingency	20%			\$ 36,255
<b>CONSTRUCTION TOTAL</b>				<b>\$ 217,531</b>
Functional Public Art: customize concrete formwork, embedments + rail detailing - design & fabrication	1	LS	\$ 10,000.00	\$ 10,000
Architectural & Engineering Services	1	LS	\$ 30,000	\$ 30,000
Detailed topographic survey of Overlook/Landings site	1	LS	\$ 2,500	\$ 2,500
Geotechnical	1	LS	\$ 3,000	\$ 3,000
<b>ARCHITECTURAL + ENGINEERING SERVICES SUBTOTAL</b>				<b>\$ 45,500</b>
<b>PROJECT TOTAL DEVELOPMENT COST</b>				<b>\$ 263,031</b>

Lawrenceville Riverfront + Walking Trail Access Project  
18-Sep-02

PFAFFMANN + ASSOCIATES  
BUDGET SUMMARY

The project budget for the Lawrenceville Riverfront + Walking Trail Access Project is summarized below and detailed on the following pages.

## 1.0 43RD STREET OVERLOOK + LANDINGS \$ 263,031

Includes design, engineering and construction of the 43rd Street Overlook, Landings and 43rd Street Concrete Fence/Trellis

## 2.0 40TH STREET PARK + CANOE/KAYAK LAUNCH \$ 105,402

Includes design, engineering & construction of the 40th Street Park, improved river access & installation of the canoe/kayak launch

## 3.0 RIVERFRONT TRAIL IMPROVEMENTS \$ 12,900

Includes remediation and planting strategies for the Riverfront Trail

## PROJECT TOTAL DEVELOPMENT COST \$ 381,333

### Above costs INCLUDE:

Architectural Engineering Fees  
Contractor OH & Profit  
Building Permits  
Functional Art  
Signage

### Above costs DO NOT include:

specialized research for invasive plant remediation  
land acquisition  
environmental testing  
legal fees  
financing  
owner's representation  
construction management fees  
DEP/Corp of Engineers permitting costs  
Donated or discounted labor & material costs

**Preliminary Cost Estimate Prepared by Pfaffmann + Associates with assistance from:**

George Girty Landscape Design and  
F.J. Busse Company (General Contractor)

All figures include labor and material costs.