



# South Side Park Master Plan

May 2018



# **South Side Park Master Plan**

May 2018

Submitted to:  
City of Pittsburgh  
Department of City Planning  
200 Ross Street, 4th Floor  
Pittsburgh, PA 15219

Submitted by:  
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## ADVISORY COMMITTEE

The Advisory Committee is a group of stakeholders, internal and external, whose role is to advise the Project Team and consultants throughout the master plan's development. City and PWSA delegates represent the departments and authorities that currently or in the future will work in the park. Community representatives were selected based on their proximity to the park – Arlington, South Side Flats, and South Side Slopes neighborhoods – as well as their roles in the Friends of South Side Park or other community groups who serve the area of the park.

Andrea Ketzel, Landscape Architect, Department of Public Works

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Zach Stephens, Biologist

*This project was funded by the City of Pittsburgh with matching funds from the Pennsylvania Department of Conservation and Natural Resources (DCNR).*

*Cover image: renderings of South Side Park Master Plan by Studio | Bryan Hanes.*

# ACKNOWLEDGMENTS

Special thanks to the Friends of South Side Park, the South Side Slopes Neighborhood Association, the Hilltop Alliance, and all the park user groups who have helped steward the park and made it part of their civic vision for the future. Thank you to the many community members and stakeholders who shared their insight during the master planning process at community events and through surveys and interviews, and to the City of Pittsburgh and the Department of Conservation of Natural Resources for making this project possible.

Jamie Earl and Janice Serra provided a wealth of material on the park history including historic photos and maps. Erin Miller was exceptionally generous with her time and energy moving materials and accommodating different schedules to prepare the Arlington Rec Center for the events.

## EVENT VOLUNTEERS

In addition to the Advisory Committee, the help of the following volunteers was much appreciated at the community events:

Jamie Balsler  
Denise Phillip  
Jeff Neubauer  
Brad Palmisiano  
Annie Parrish  
Kristin Raup  
Austin Schlechter  
Janice Serra

Yesica Guerra, Public Art and Civic Design Manager  
Andrea Lavin-Kossis, Neighborhood Planner  
Sophia Robinson, Neighborhood Planner

Lucy Albrecht volunteered her time and skills to map remnant features of the industrial era of the park, assisted by Thomas Guenter and Janice.

Director Mike Gable, Tom Paulin, and Joe Rush from the Department of Public Works accompanied the Design Team on a site walk and shared their accumulated knowledge of the park.

Every member of the advisory committee participated in at least one interview with the Design Team in the early stages of the project and we sincerely appreciate their observations and the background they provided. Thank you also to the stakeholders listed on pg. 67 who offered up their time to be interviewed.



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IN	STRIKE								OUT
1	2	3	4	5	6	7	8	9	TOTAL
GUEST									
HOME									

CHONDIS  
MARKET  
11200  
472-485-1600

Johnny G's  
Auto Repair  
472-485-1600

A blue-tinted photograph of a city skyline, likely Pittsburgh, with a tennis court in the foreground. The skyline includes several skyscrapers, one of which has "UPMC" visible on its side. The foreground shows a tennis court with a chain-link fence. The overall scene is viewed from an elevated position, with trees and a grassy slope in the immediate foreground.

# I. EXECUTIVE SUMMARY









# I. HISTORY

Parcel No.	Lot No.	Plan Name	Owner's Name	Area in Acres	Assessed Valuation in Dollars		
					Total	Land	Bldg.
13E-220 1	Pur. C.	Joseph Keeling's	G. D. Hayden	0.934	\$ 625*	\$ 625*	\$ -
2	Pur. B.	"	G.E. & K.M. Stewart	0.107	650	150	500
3	Pur. B.	"	C. E. Stewart etux	0.007	1,150	150	1,000
4	Pur. B.	"	G. B. Stewart etux	0.126	200	200	-
5	Pur. B.	"	G. B. Schuchman	0.125	200	200	-
6	Pur. B.	"	E. Sankey	0.124	200	200	-
7	Pur. B.	"	L. S. Simons Sr.	0.675	1,500	300	700
13F-182 8	1 to 9 inc.	"	Margaret Leasing	0.560	1,200	1,200	-
13F-53+9 9	Pur. A.	"	"	0.130	1,900	1,000	-
10	10 to 13	"	L. F. Niedbalak etal	0.130	2,150	750	1,600
11	59 and 60	Omsby Trust Co.	J.A. Niedbalak etal	0.103	2,490	790	1,700
12	34 and 35	"	E. C. Pfeifer etux	0.101	715	715	-
13	33	"	E. H. Hirth etux	0.050	1,800	300	1,500
14	31 and 32	"	A. Purser etal	0.101	3,925	660	3,265
13F-117+15 15	109-113 inc.	Flaishman's Browns	G. Kelly	0.295	750	750	-
16	114 and 115	"	J. Swilling etux	0.109	600	600	-
17	116	"	W. Petrykowski etux	0.053	950	150	800
18	117	"	T. P. Dennis etux	0.052	1,050	150	900
19	118-121 inc.	"	G. Kelly	0.201	600	600	-
13F-125+19 19	122	"	A. Tracy	0.049	350	150	400
20	122	"	"	0.049	350	150	400
21	123	"	R. M. Mitchell	0.048	750	150	600
22	124	"	S. Switals etux	0.048	650	150	500
23	125	"	S. A. Weisler etux	0.047	550	150	400
24	126	"	A. Krupa etux	0.076	1,400	200	1,200
25	106-108 inc.	"	C. Williams	0.152	1,450	750	700
13F-148 26	104 and 105	"	G. Senner	0.101	1,100	500	600
27	103	"	R. & S. Fuccaro	0.051	700	150	550
28	97-102 inc.	"	H. Thompson etal	0.303	900	900	-
13F-185+28 28	92-96 inc.	"	G. Hensler	0.255	750	750	-
13F-180-29 29	92-96 inc.	"	G. Hensler	0.076	250	250	-
13F-184 30	91	"	S. M. Hensling	0.061	1,300	600	2,500
31	77	Edw. M. Yard's	H. Neaman	0.061	310	600	2,300
32	48	"	E. L. Cole etal	0.061	2,900	600	2,300
13F-217+33 33	48	"	ST. PAUL TRAILING Plane Co.	0.379	5,500	3,600	1,900
			St. Clair Incline Right-of-Way	0.415	5,000	5,000	-
13-6-14	24 To 40						
13F-230	1 To 23						
12-0-121	2, 90, 100, 101						
12-0-11	7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23						
12A-152	2.68 ACRES						
13F-46							
13F-67	61 to 75						
13F-29	44 to 58						
13K-1	36 to 45						
13K-1	16 to 30						
13E-280	76 to 102						
13E-255	112 to 136						

TOTAL	6,160	\$47,305	\$23,690	\$23,615
*Pro rata		*Publicly owned as of December 1950	1,861	9,950
REVISÉD TOTAL \$	4,299	37,355	15,040	21,715

Revised to Dec. 1950

Summary of Ownerships

Total	Acres	Percent
Publicly Owned Property and Streets	6,250	23.1
Privately Owned	4,229	6.6

Suggested Property Acquisitions

Suggested Order of Acquisitions	Parcel Nos.	Assessed Valuation in Dollars		
		Total	Land	Bldg.
1	1 to 10 inc.	\$ 4,800	\$ 1,700	\$ 4,800
2	15 to 24 inc.	4,250	2,400	1,850
	25 to 30 inc.	6,500	1,300	1,300
3	31 to 33 inc.	5,000	5,000	---
	11 to 14 inc.	---	---	---
TOTAL		\$21,750	\$13,000	\$11,500

Steepness of Slope of Property

Item	Total Acres	No. of Acres According to Steepness of Slope		Total Acres	Percent
		0% to 10%	10% to 25%		
Total	64.8	10.6	25.57	12.0	18.55
1. Publicly owned property now designated for public purposes:					
Mission Street Pumping Station	2.1	1.4	66.67	0.1	4.76
Property Condemned for Public Purposes	9.6	1.9	28.09	0.6	6.99
Sophia Evert #1 Playground	8.3	1.4	16.37	1.7	20.47
Arlington Playground	3.7	2.0	55.68	0.7	18.92
Pittsburgh School District	0.6	0.6	100.00	---	---
2. Publicly owned property not now designated for public purposes, & streets	37.2	3.2	22.0	3.6	23.1
3. Privately owned property	4.3	1.0	7.0	1.7	27.9

Note: Of the 64.8 total acreage, item #1 is 36%, item #2 is 57%, and item #3 is 7%.

Mr. A. Burns worth  
of N.S. Real Estate Co.  
FA-1-7721  
4/9/51  
Bernard Reiner

LEGEND --  
LINE OF PROPOSED PARK  
OWNED PROPERTY

Note: As a first step toward the development of this 65 Acre Park the City Planning Commission on Oct. 20, 1948, disapproved the sale of certain properties within the 65 Acre area and is doing so under the following words: "Disapproved because it will likely be treated for a new park, in connection with Arlington and Sophia Evert #1 playgrounds, and for the extension of facilities of these two playgrounds and of the said city-owned new park abutting the easterly line of Sophia Evert #1 Playground, which site was condemned by the Director of the Department of Parks & Recreation for public purposes under authorization of Ordinance No. 274, passed June 2nd, 1948 and recorded in Ordinance Volume No. 55, Page 425."

REVISIONS	DATE	APPROVED BY COMMISSION
1	10-20-48	SEE NOTE
2	11-15-48	CHAIRMAN
3	11-15-48	DATE
4	11-15-48	DATE
5	11-15-48	DATE

PROPOSED 65 ACRE PARK IN THE 16<sup>TH</sup> & 17<sup>TH</sup> WARDS  
INCLUDING THE MAJOR PORTION OF THE AREA BOUNDED BY SOUTH EIGHTEENTH ST., ST. PATRICK ST, ARLINGTON AVE., STERLING ST. AND JOSEPHINE STREET.

DATE 10-20-48

DEPARTMENT OF CITY PLANNING CITY OF PITTSBURGH, PA.
SCALE 200' = 1"
SHEET 1 of 1 SHEETS
FILE No. 4514.02

# HISTORY

South Side Park, like much of Pittsburgh, underwent a relatively rapid and dramatic transformation from wooded slopes to the site of industrial operations. The area that makes up South Side Park today - and much of the South Side - was part of the acreage given to John Ormsby in recognition of his military service in the French and Indian War. By the 1870s, portions of the estate were devoted to coal mining and coke ovens.

1872



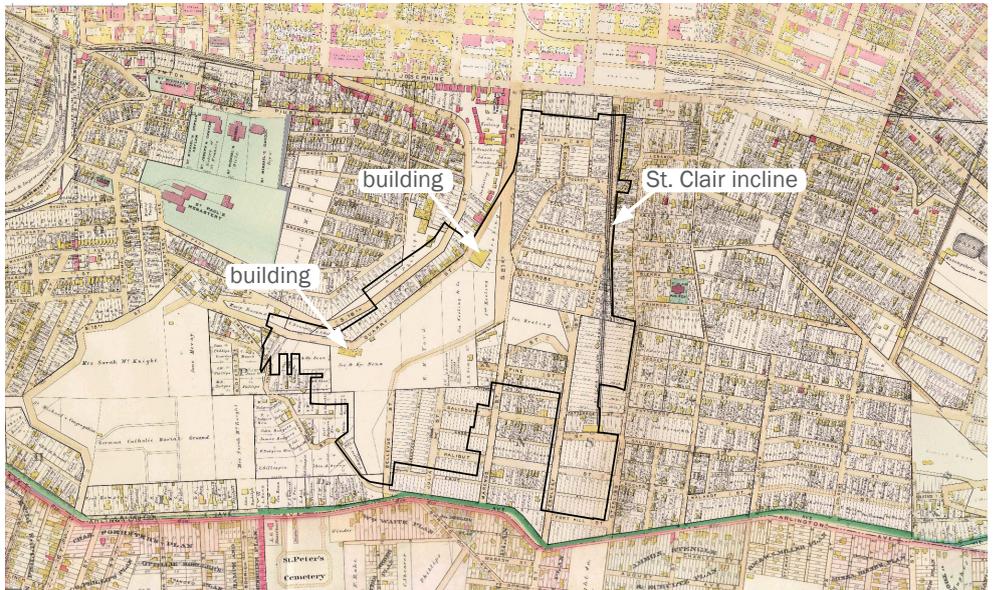
Industrial and residential development continued in and around the park through the subsequent decades. The streams disappeared from city maps and an incline was constructed to serve the growing Slopes and Hilltop neighborhoods.

LEFT: 1948 Plan of the proposed 65-acre park in the 16th and 17th wards, provided by the City of Pittsburgh Department of Public Works.

TOP RIGHT: 1872 Atlas of the cities of Pittsburgh, Allegheny, and the adjoining boroughs, G.M. Hopkins & Co.

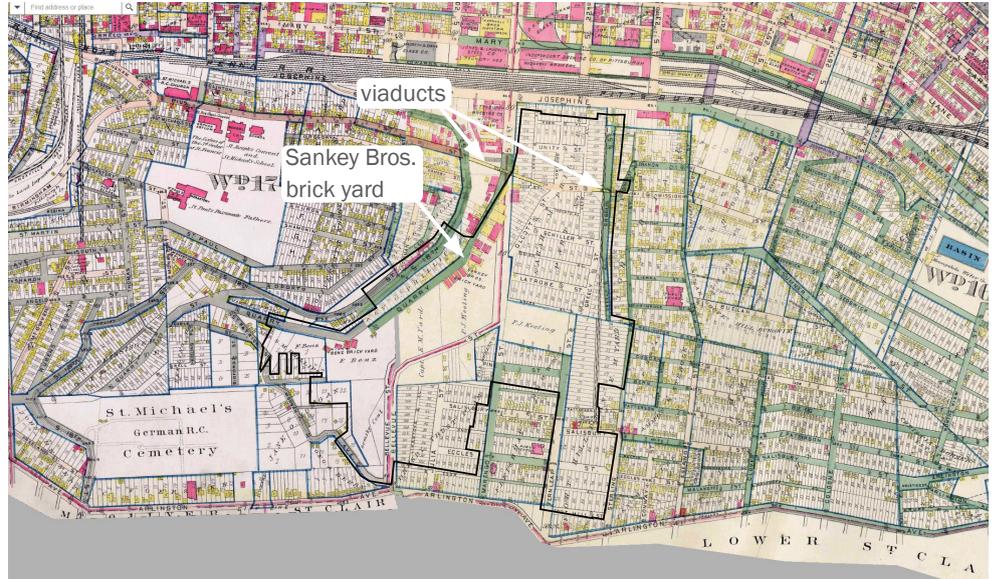
BOTTOM RIGHT: 1890 Atlas of the city of Pittsburgh, G.M. Hopkins & Co.

1890



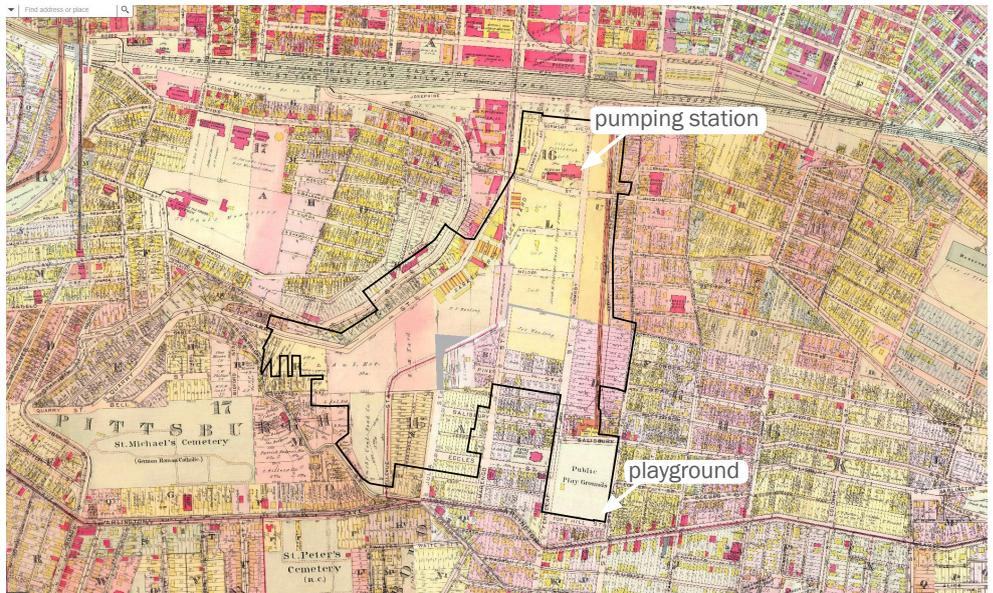
By 1910, the area around had experienced near-total deforestation, as shown in the photograph at far right. Two brickyards, Sankey Brothers and Benz, were in operation along Quarry St.

1910



The pumping station on Mission St. and a public playground at the current location of the Fort had been developed by the early 1920s.

1920-23



FAR RIGHT: 1910 photograph of the plateau area looking north, provided by Bill Landon. Source unknown.

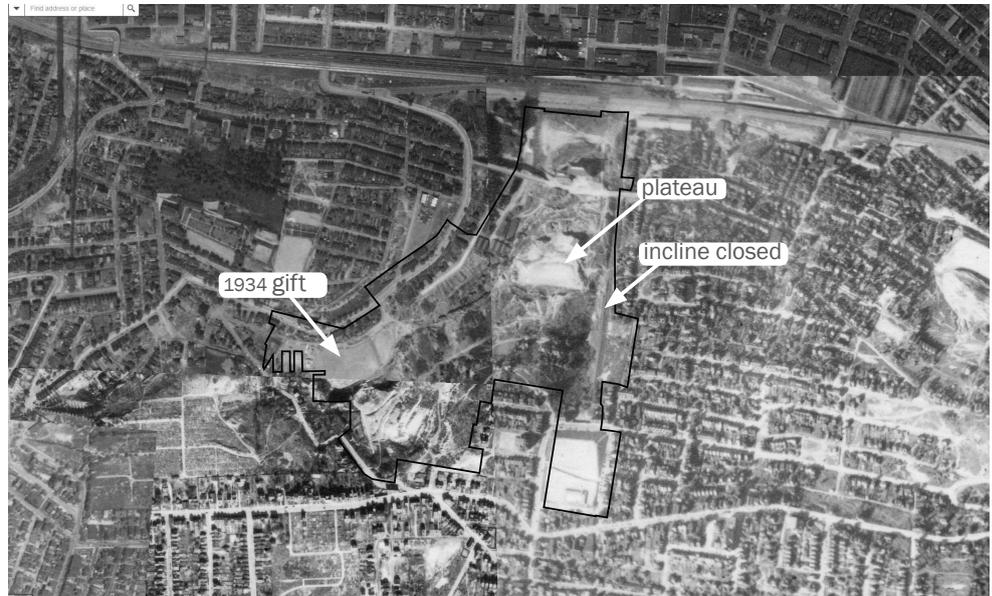
TOP RIGHT: 1910 Atlas of Greater Pittsburgh, G. M. Hopkins & Co.

BOTTOM RIGHT: 1923 Real estate plat-book of the City of Pittsburgh, G. M. Hopkins & Co.



The City first acquired land that would become part of the park in 1934 with the gift of a 5.5 acre parcel along Saint Patrick St. In 1948, the City Planning Commission approved a plan for a 65-acre park (see map on pg. 14).

1939



By the mid-1950s, recreation facilities and the loop road that would become the South Side Trail are visible, as well as second-growth forest. There is a continuous residential fabric surrounding most of the park.

TOP FAR RIGHT: 1993 Digital Orthophoto quadrangle image, USGS.

BOTTOM FAR RIGHT: 2012 Google Earth imagery.

TOP RIGHT: 1939 Aerial photo, USDA Agricultural Adjustment

Administration, available from [www.pennpilot.psu.edu](http://www.pennpilot.psu.edu)

BOTTOM RIGHT: 1957 Aerial photo, USDA Commodity Stabilization

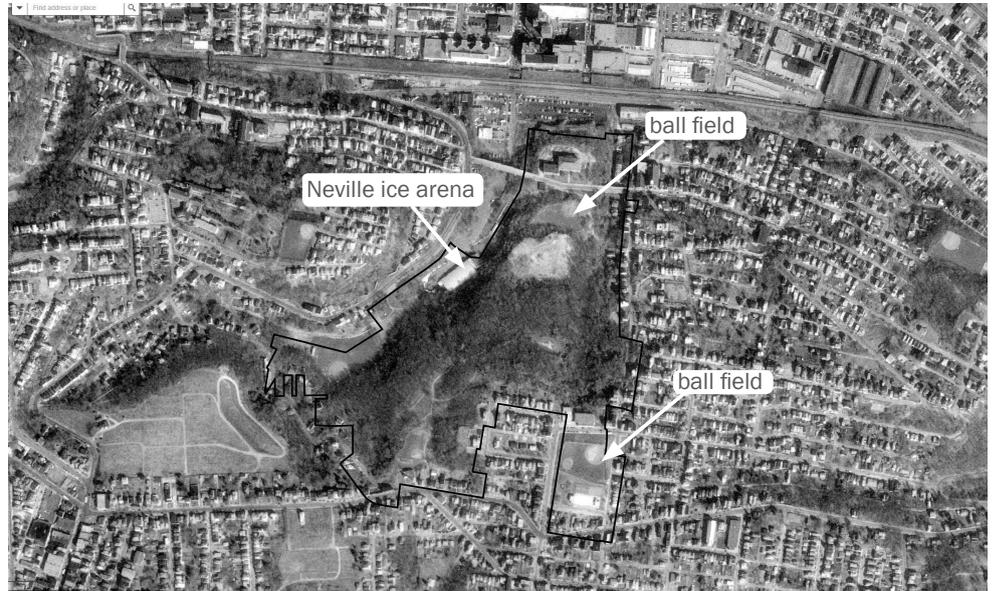
Service, available from [www.pennpilot.psu.edu](http://www.pennpilot.psu.edu)

1957



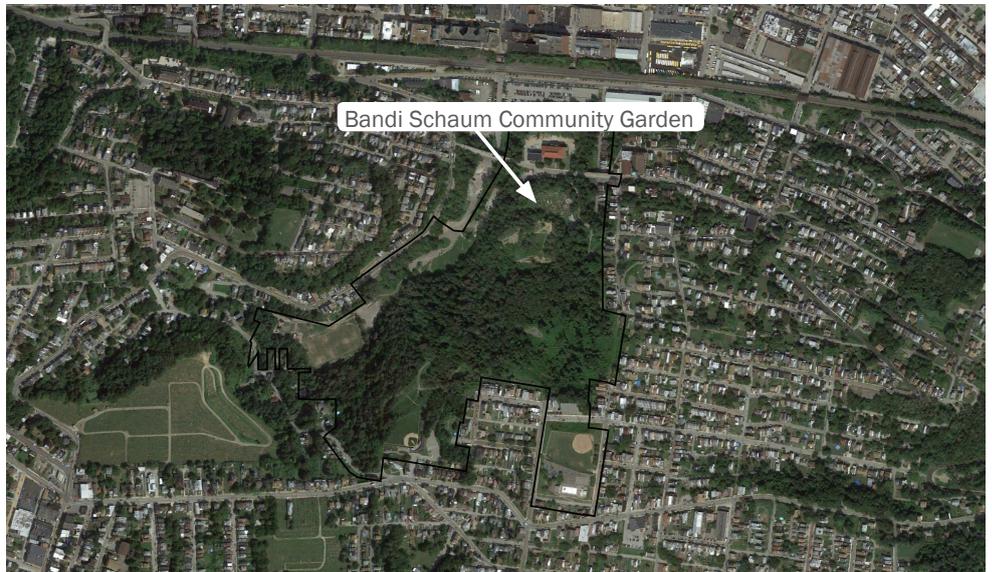
Recreational amenities like ball fields and the Neville Ice Arena were constructed in the latter part of the 20th century. The re-forestation of the park, with the exception of programmed areas and the plateau, is evident in the 1993 aerial image at right.

1993



The early 2010s saw the removal of the ice rink and the conversion of an under-utilized ball field into Bandi Schaum Community Gardens. Invasive species removal and trail work were undertaken by several community groups, often in partnership with the South Side Slopes Neighborhood Association.

2012



# PLANNING CONTEXT

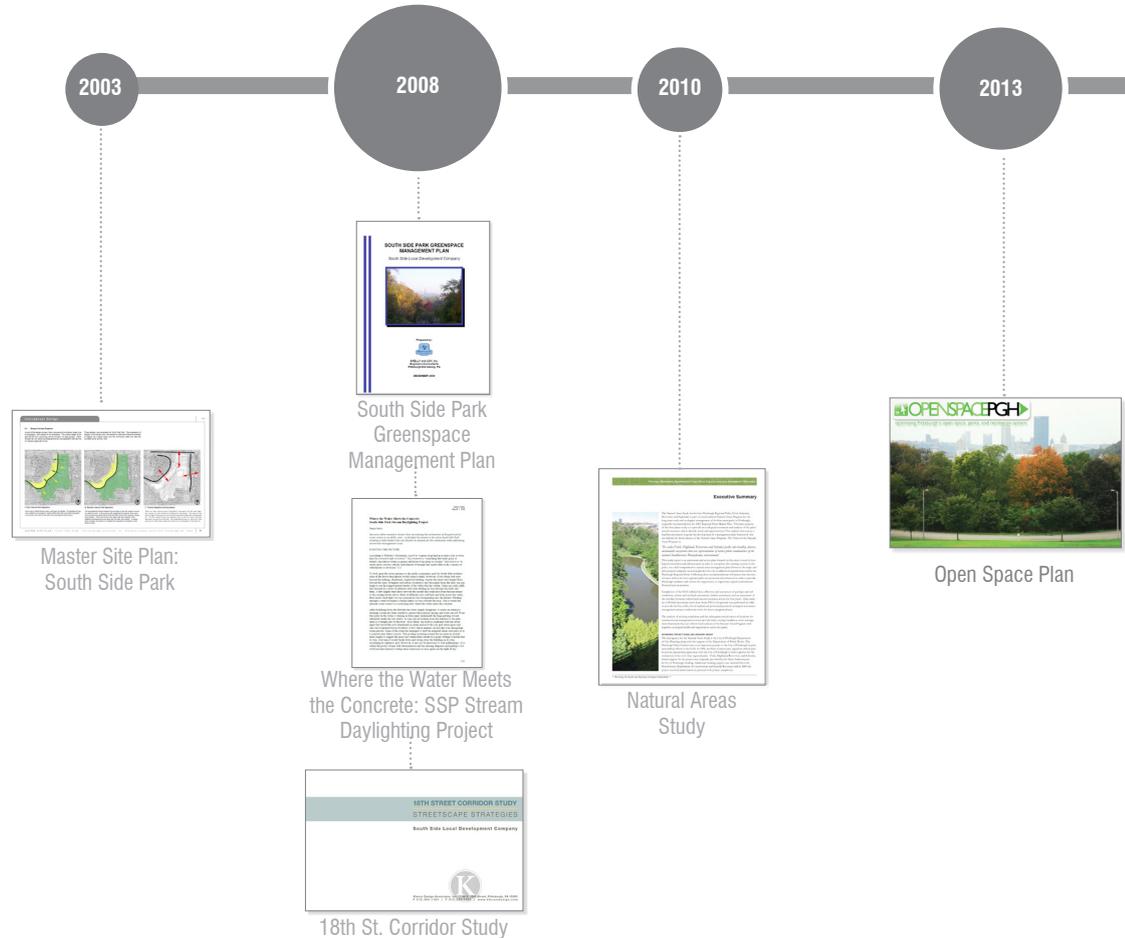
## SOUTH SIDE PARK

Over the last 15 years, South Side Park has been the subject of multiple plans and reports. The 2008 Greenspace Management Plan by Skelly and Loy provided a detailed inventory of the park's physical features and the trail system. Done the same year, the SSP Stream Daylighting project report suggested green infrastructure designs that could alleviate some of the park's water issues and turn the water into an amenity rather than a problem.

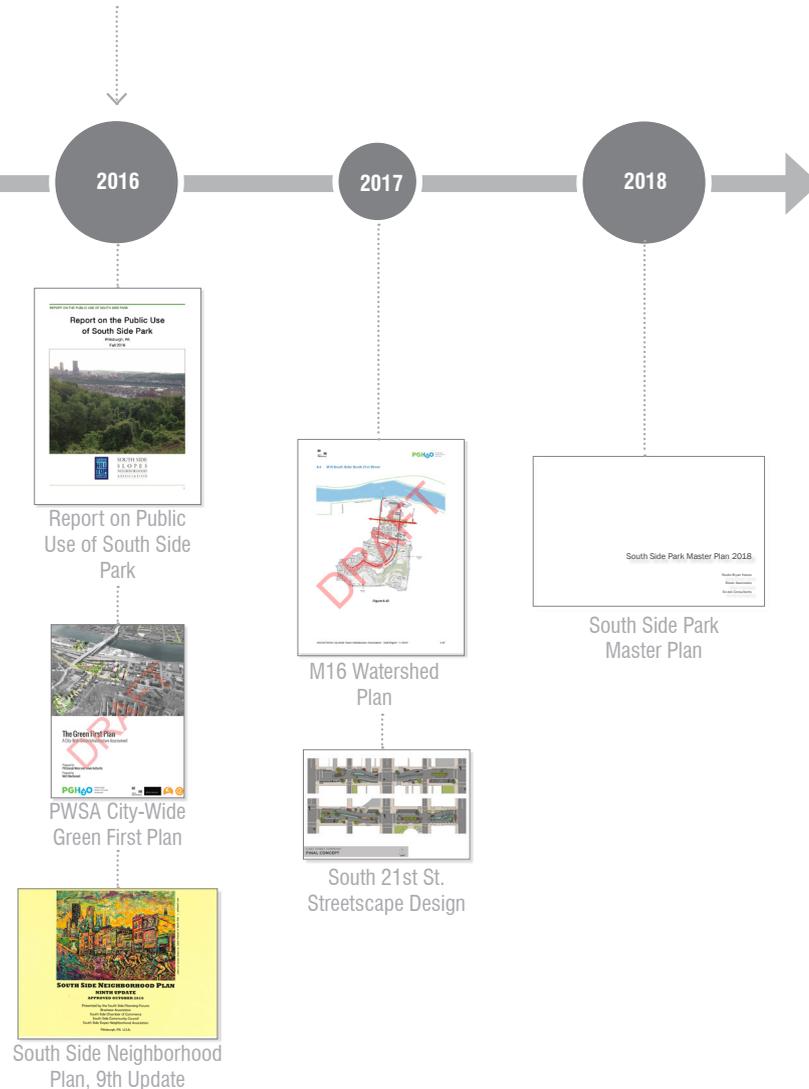
More recently, the Report on the Public Use of South Side Park undertaken by the Hilltop Alliance collected and analyzed data on who uses the park and their perceptions of it.

## SOUTH SIDE NEIGHBORHOODS

The adjoining neighborhoods have also seen a series of plans and development projects in recent years. The M16 Watershed conceptual plan, the South 21st St Streetscape project, the 18th St. Corridor Study, and the 2016 update to the South Side Neighborhood Plan all provided valuable context during the South Side Park master planning process.



Formation of Friends of South Side Park (FOSSP)



## CITY-WIDE PLANS

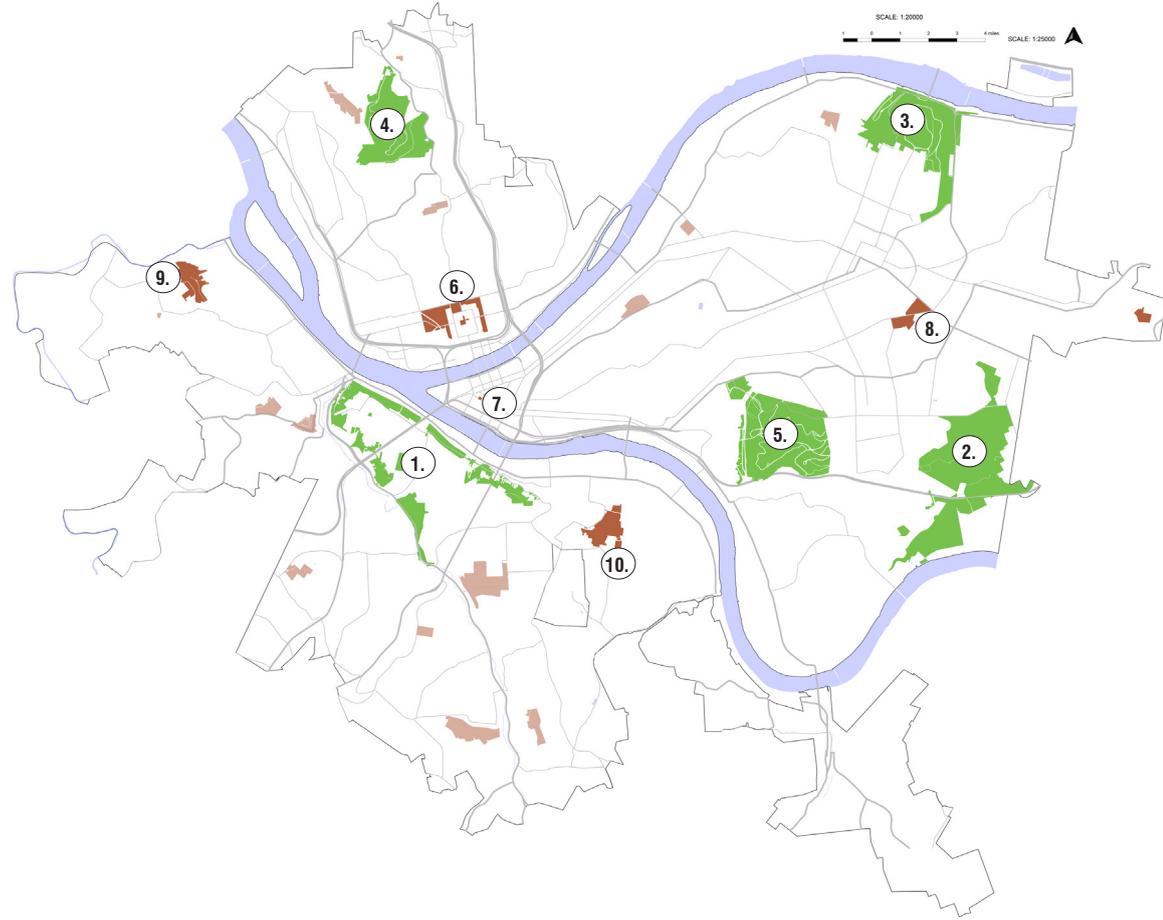
Two city-wide plans guided the development of the South Side Park master plan: the Open Space, Parks, and Recreation Plan (OpenSpace PGH), a component the City of Pittsburgh’s Comprehensive Plan, and the Pittsburgh Water and Sewer Authority (PWSA) City-Wide Green First plan. OpenSpace PGH situated South Side Park within the City’s open space system and laid out initial goals for the park, discussed in the next section (see pg. 21). The Green First plan analyzed sewersheds across the city and developed guiding principles for selecting green infrastructure (GI) locations. South Side Park was identified as a place where a large amount of runoff could be captured.

In addition to these two, the still-in-development Art Plan, another component of the Comprehensive Plan, gave guidance on the role of public art could play in the park.



A blue-tinted photograph of a park path. The path is paved and runs from the bottom left towards the center. On the left side of the path, there are several utility poles of varying heights. The background is filled with dense trees and bushes. The overall scene is captured in a monochromatic blue color scheme.

## III. GOALS



### REGIONAL PARKS

- 1. EMERALD VIEW (257 ACRES)
- 2. FRICK (644 ACRES)
- 3. HIGHLAND (377 ACRES)
- 4. RIVERVIEW (258 ACRES)
- 5. SCHENLEY (456 ACRES)

### SIGNATURE COMMUNITY PARKS

- 6. ALLEGHENY COMMONS PARK (59.9 ACRES)
- 7. MARKET SQUARE PARK (0.5 ACRE)
- 8. MELLON PARK (32.5 ACRES)
- 9. SHERADEN PARK (51.2 ACRES)
- 10. SOUTH SIDE PARK (57.5 ACRES)

## SOUTH SIDE PARK: A SIGNATURE COMMUNITY PARK

## OPENSOURCE PGH

### RECOMMENDATIONS: SOUTH SIDE PARK

OpenSpace PGH (2013; Appendix G) recommended that South Side Park be redeveloped as a signature community park. In Pittsburgh's open space network, community parks are intended to serve multiple neighborhoods and provide more specialized features than in a smaller neighborhood park. A 'signature' community park is one with the potential to serve an even larger group of people and extend green premium benefits to areas not in immediate proximity to one of the City's regional parks.

Additional recommendations from OpenSpace PGH for South Side Park are

- that the master plan have trails and outdoor recreation focus
- that Arlington Park be part of the master plan
- that the park should have a network of multi-use trails with varying levels of difficulty and multiple trailheads
- that adventure recreation be considered, perhaps at the lower section of the park, due to its topography, entrance, and proximity to the Carson St. business district
- that there be on-site parking, possibly locating it off S. 21st St.

The OpenSpace plan also noted that "the park lacks a formal entrance and parking and has unrealized potential given its location and large size."

### RECOMMENDATIONS: ARLINGTON PARK

For Arlington Park, OpenSpace PGH recommended that it be part of the South Side Park master planning effort but retain its neighborhood park function. Trail connections and access between the two parks should be created and/or improved.

## ADDITIONAL GOALS

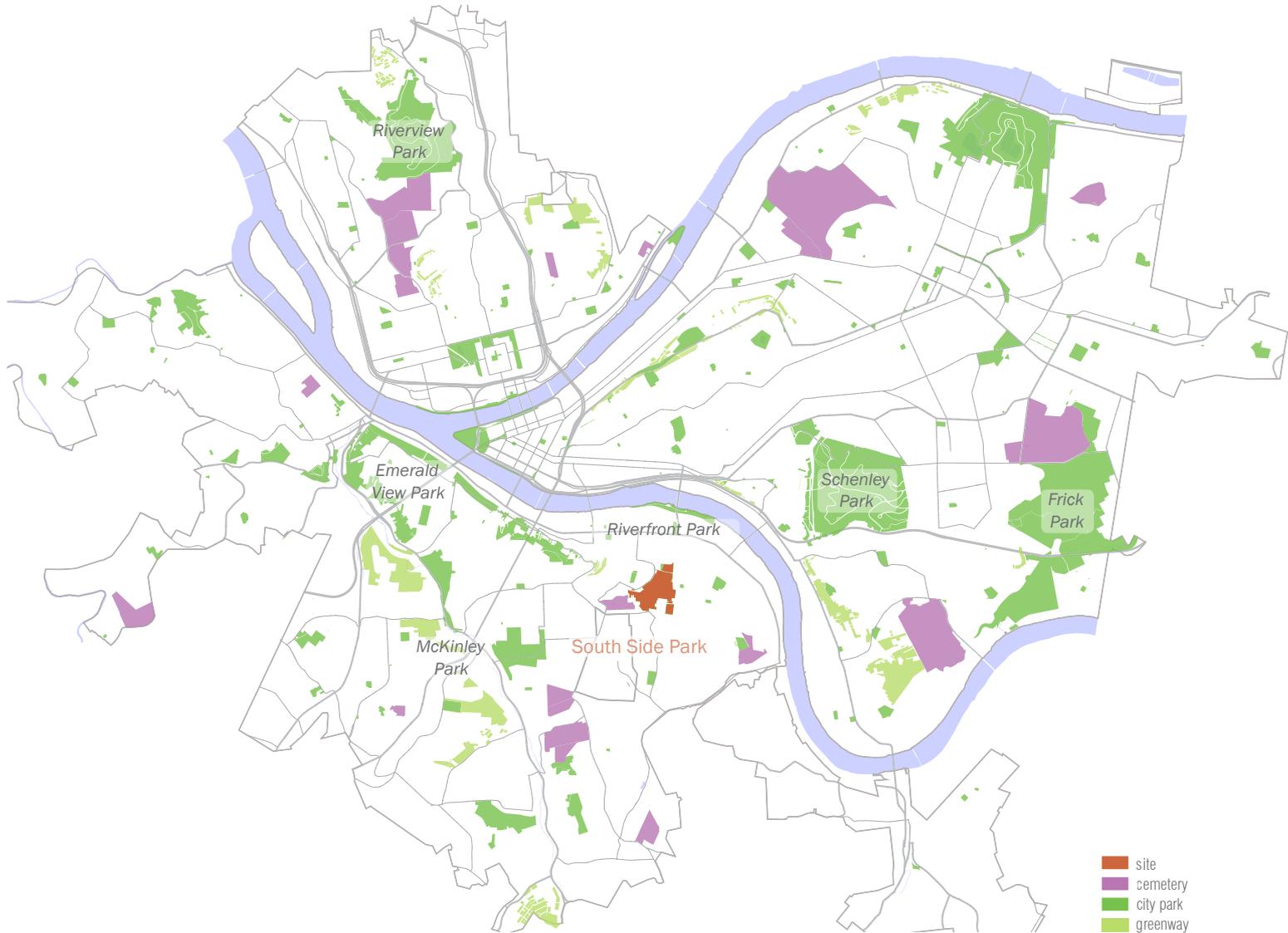
- Other City priorities for the South Side Park master plan as identified in the RFP include
- environmental restoration and management of invasive species
  - building off of neighborhood support and engaging all three adjacent neighborhoods: South Side Slopes, South Side Flats, and Arlington
  - developing programming that serves the immediate neighborhoods, the entire City, and possibly generates revenue
  - considering the potential for unique recreation facilities that are destinations
  - managing stormwater, and
  - reducing illegal activities

This master plan takes past planning work as its foundation (see Section II: Planning Context) and aims to align City interests with interests of dedicated community groups and non-profits that have helped steward the park.





# IV. INVENTORY + ANALYSIS



- site
- cemetery
- city park
- greenway

# PITTSBURGH OPEN SPACES

# RECREATIONAL + SOCIAL CONTEXT

## NEIGHBORHOODS

The project site is located in Pittsburgh, Pennsylvania within Allegheny County, about a half a mile south of the Monongahela River. The park is about 1.5 to 2 miles southeast of downtown Pittsburgh, and a quarter mile south of Carson Street, a popular commercial corridor. The 60-acre park lies at the intersection of three neighborhoods: South Side Flats, South Side Slopes, and Arlington. Each neighborhood has its own unique cultural identity.

South Side Flats has a high percentage of renters mixed in with homeowners, and the population is generally younger and more transitory than the other surrounding neighborhoods. The park is linked to Carson Street's active commercial area and to the river by two important corridors: 18th St. and S. 21st St. The Southside Riverfront Park connects residents to the river and provides an important green space; however, the connection from the South Side Park to the Riverfront Park is not obvious. South Side Park has the potential to be a valuable cultural and recreational asset for the South Side Flats residents and visitors.



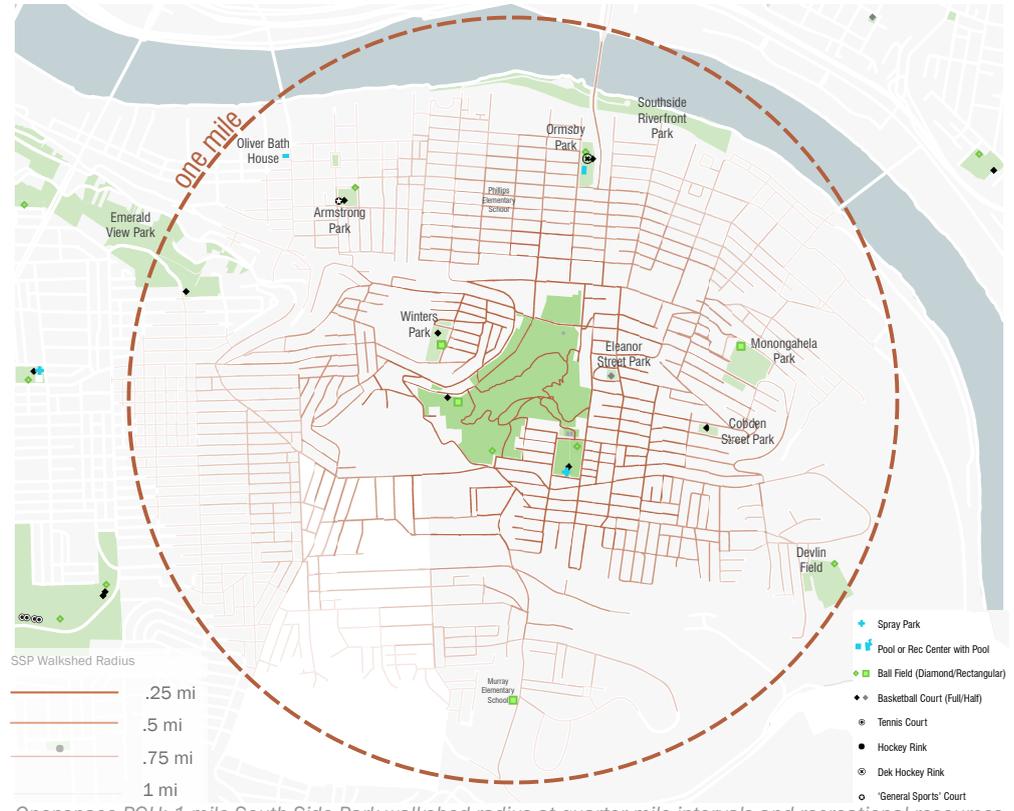
The South Side Slopes neighborhood borders the park to the east and to the west. This neighborhood is quieter, with less commercial activity than the Flats. Here, winding streets, staircases, and driveways wrap around the park. South Side Slopes is home to a mix of young and multi-generational families.

Finally South Side Park serves as the north-most border for Arlington. Arlington is a primarily residential neighborhood also hosting a mix of families, many with long roots in the area. At the same time, Arlington is seeing some of the influx of new residents that the Slopes are experiencing, but to a lesser degree.

Many residents from all three neighborhoods seem to not be aware of the park at all. However, South Side Park is the largest area of uninterrupted green space in the three neighborhoods. SSP has the potential to become a more valuable asset to each neighborhood. The park may also serve as a place where residents from various neighborhoods interact, leading to improved neighborhood relationships.

## RECREATIONAL PROGRAM

As a Signature Community Park in Pittsburgh's open space network, South Side Park is intended to provide recreational amenities for residents within a three-quarter-mile walkshed



Openspace PGH: 1 mile South Side Park walkshed radius at quarter mile intervals and recreational resources

of the park (see OpenSpace PGH pg. 7.36). The map above shows quarter-mile to one-mile walksheds centered on the park along with the courts, rinks, and other assets located nearby. South Side Park (including “The Fort” at Arlington) together offer 1 rectangular field, 1 spray park, 2 ball fields, and 2 full basketball courts. The basketball courts and spray park

serve a particularly important function given the proximity goals of the Needs Assessment and Suitability analysis framework described in OpenSpace PGH (refer to additional maps in Appendix A.)

## CIRCULATION

Most park users seem to walk or drive to the park. There are a few bus routes with stops near the park. A larger number of stops and routes are located on the west side of the park that bring pedestrians close to the S. 21st St. and 18th St. entrances.

Steep topography creates challenges for circulation. An east-west pedestrian route through the park might serve as an important connection to bus lines and both parts of the Southside Slopes neighborhood, as residents would otherwise have to move up or down steep slopes to get to the stops.

Although the S. 21st St. corridor is an important connection to South Side Park and is currently undergoing renovation, no bus lanes or bike lanes exist nor are planned for the corridor. There are no separated bike lanes adjacent to the park. Bike PGH identifies 18th St. and Carson St. as “Bike Routes” (indicated in green), though neither of the streets currently exhibit pavement markings or bike lanes. Thus, there is a lack of bike connection from South Side Flats to the Hilltop neighborhoods.



# ENVIRONMENTAL CONTEXT

## OPEN SPACE + WOODED AREAS

South Side Park is an important part of the City of Pittsburgh's Open Space system and the urban landscape's ecological corridors.

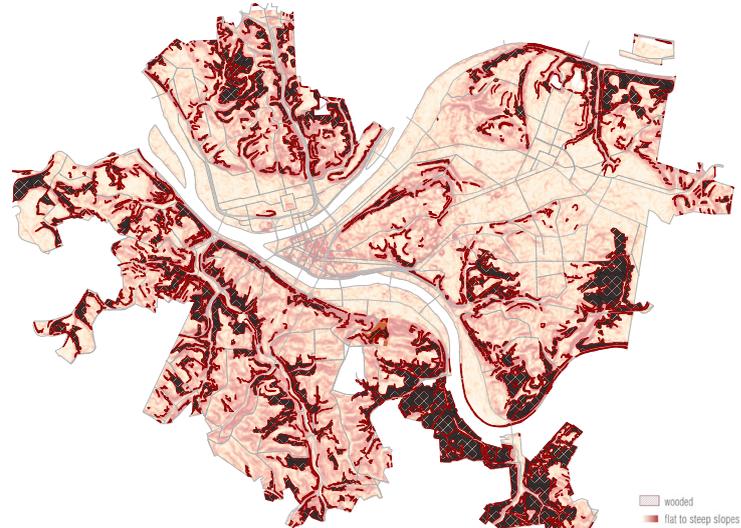
In evaluating the urban landscape ecology, South Side Park (SSP) has the potential to play an important role. In the top right image, where wooded areas greater than one acre are overlaid with the city's open space network, SSP stands out as an island of vegetated landscape in relation to its immediate, densely urban, surrounding environment. The park appears to provide a stepstone within the fragmented forested corridor on the south side of the Monongahela River. Forested corridors are important to wildlife habitat and movement. For example, the park may offer habitat for urban avian populations that use wooded areas for nesting, foraging, and for cover, where such spaces are limited in the urban environment (see pg. 61 for more information related to SSP wildlife).

When Pittsburgh's wooded areas are overlaid on a slopes map (bottom right), a relationship between the two emerges. Steeply sloping wooded areas have been left intact due to the risk involved in their potential for development (see Steep Slope Ordinance in Pittsburgh's zoning code.) The removal of vegetation that occurs during development can create exposed soils on steep slopes, leading to erosive conditions and an increase in sediment loads in water bodies. These steep slopes, some of which are located in SSP, have inadvertently created a stronger open space system throughout the city.

Plans for South Side Park should be reflective of its role in larger open space network. SSP hosts important wooded areas, some of which are on steep slopes, that should be protected and preserved in keeping with Pittsburgh's larger landscape ecology.



Wooded Areas (1 acre or more) in Pittsburgh



Slopes map overlaid with Wooded Areas

Sources for top map: wooded areas: PASDA, Allegheny County (2011); openspace (WPRDC, AC Land Use Areas (2006)  
Sources for bottom map: wooded areas: PASDA, Allegheny County (2011); 5 ft contours for slopes generated in QGIS by SBH; PASDA (2006)

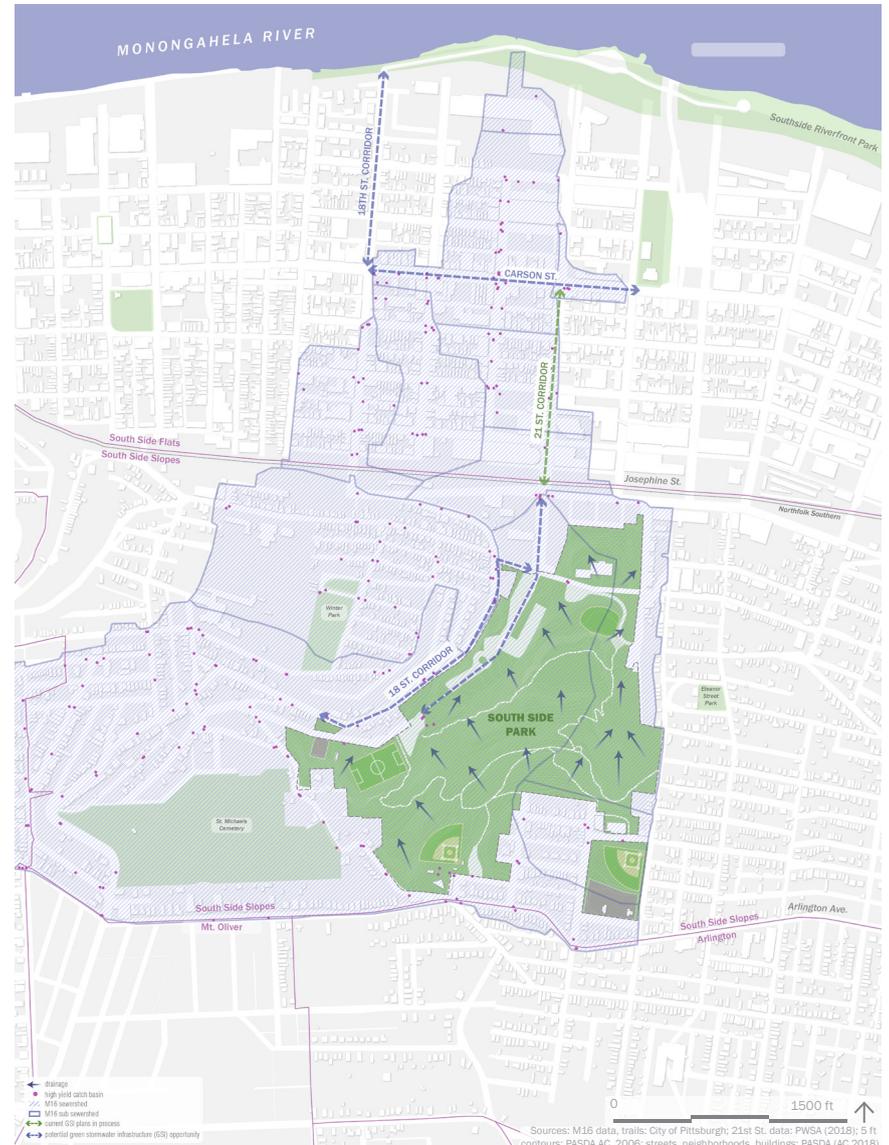
## SEWERSHED, STORMWATER, + DRAINAGE

South Side Park sits at the top of the M16 combined sewershed, which discharges into the Monongahela River. According to PWSA's City-Wide Green Infrastructure Assessment (Draft Report 11/10/16) this sewershed discharges around 102 million gallons of combined sewer overflow per year.

PWSA's City-Wide Green First Plan identifies the M16 sewershed as a target area for managing stormwater runoff and reducing combined sewer overflows using green stormwater infrastructure. The report identifies a potential green infrastructure flow connection from South Side Park to the river along portions of 18th St., S. 21st St. St., and Carson St.. So far, only plans for S. 21st St. have been developed (map right).

In addition to surficial runoff, the park's hydrological system includes a series of groundwater seeps that are being channeled into M16 catch basins. The topography of the park causes water to flow north.

There is opportunity to incorporate water both as an ecological design element, an educational element, and as a natural amenity. The design should connect into the S. 21st St. green streetscaping plans that are currently underway, and it should reflect PWSA's wider vision for the M16 sewershed in general.



# SITE ASSESSMENT



*Jurassic Valley*



*Groundwater seep along Tombstone Trail*



*Mission St. Bridge*



*Former Neville Ice Arena*

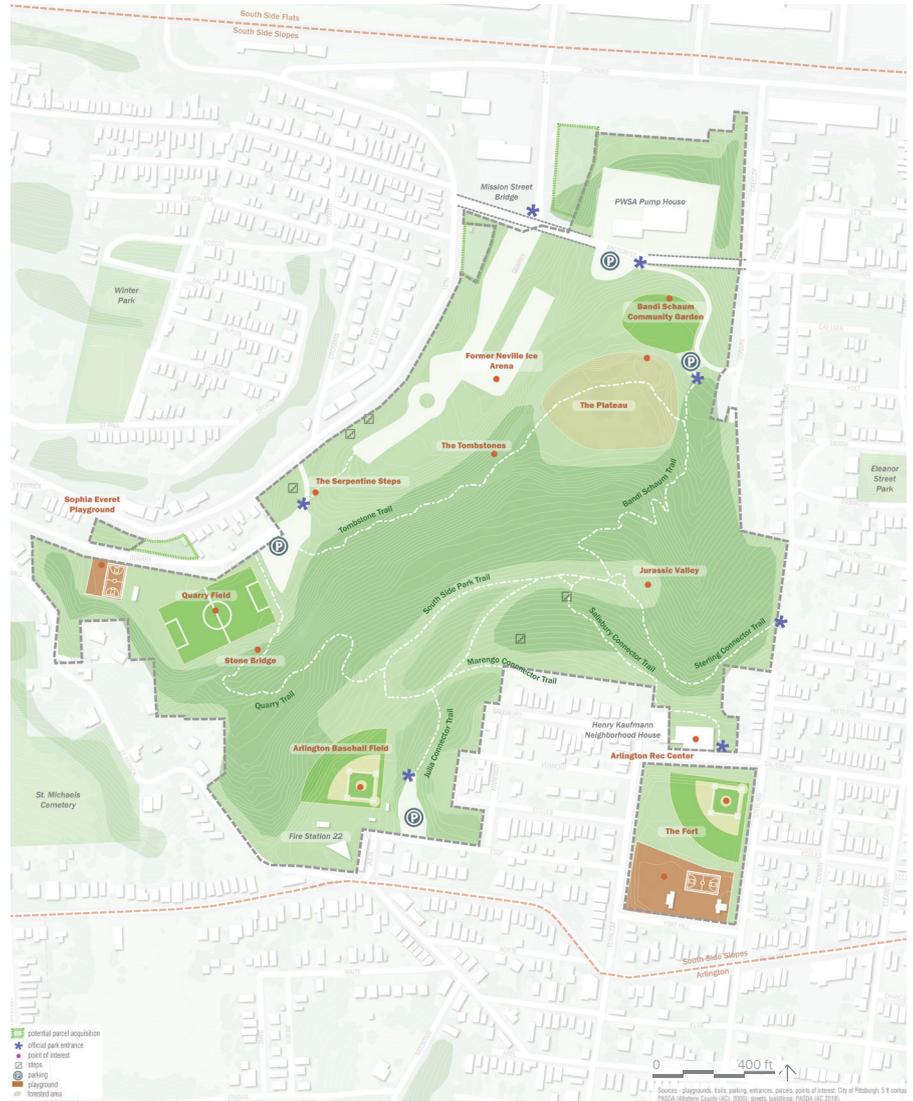
## SITE PROGRAM

South Side Park is characterized by a few heavily-programmed park edges, a wooded interior, and natural terraces.

Lack of landscape legibility pervades the experience of getting into and of exploring the park. Entrances are easy to miss and the trail network can be confusing, though the City has recently installed wayfinding signs at the official park entrances. Parking lots, which currently provide somewhere between 90 and 110 spots, at the S. 21st St. St/Mission St Bridge, 18th St/Saber Way, Julia St, and Bandi Schaum/Mission St. entrances give visitors the opportunity to drive in, park, and then hike or watch a game. Many locals also walk to the park. There are no official bike trails through the park, though some mountain biking does occur.

Important park program elements include Quarry Field; the basketball court; the Sophia Everett Playground; Arlington Baseball Field; the Fort's play/sprayground, basketball court, and ball field; Bandi Schaum Community Garden; the Plateau; Jurassic Valley; and the trail system.

Bandi Schaum Community Garden and the sports fields consistently draw crowds to the park for games and events. Garden users are primarily Slopes residents. Sports user groups include: South Side Athletic Association (baseball/softball), South Side Bears (football), Pittsburgh Sports League (ball fields) and City Rec (ball fields). The Plateau is a popular destination for quiet reflection and culturally significant space that is sacred to some.





*Entrance into park from Bandi Schaum parking lot*



*Entrance into park from Julia St. parking lot*



*Entrance into park from S. 21st St.*



*Entrance into park from 18th St.*



*Quarry Field*



*Arlington Baseball Field*



*Plateau overlooking Bandi Schaum Community Garden*



*Sophia Everett Playground and basketball court*



*Encampments*



*Littered bottles thrown off the top of the plateau towards Bandi Schaum*



*Permanent structures encroaching on park property*



*Evidence of fire + alcohol consumption*



*Evidence of fires, ATV use, and off-roading*

## CONTROVERSIAL ACTIVITIES ASSESSMENT

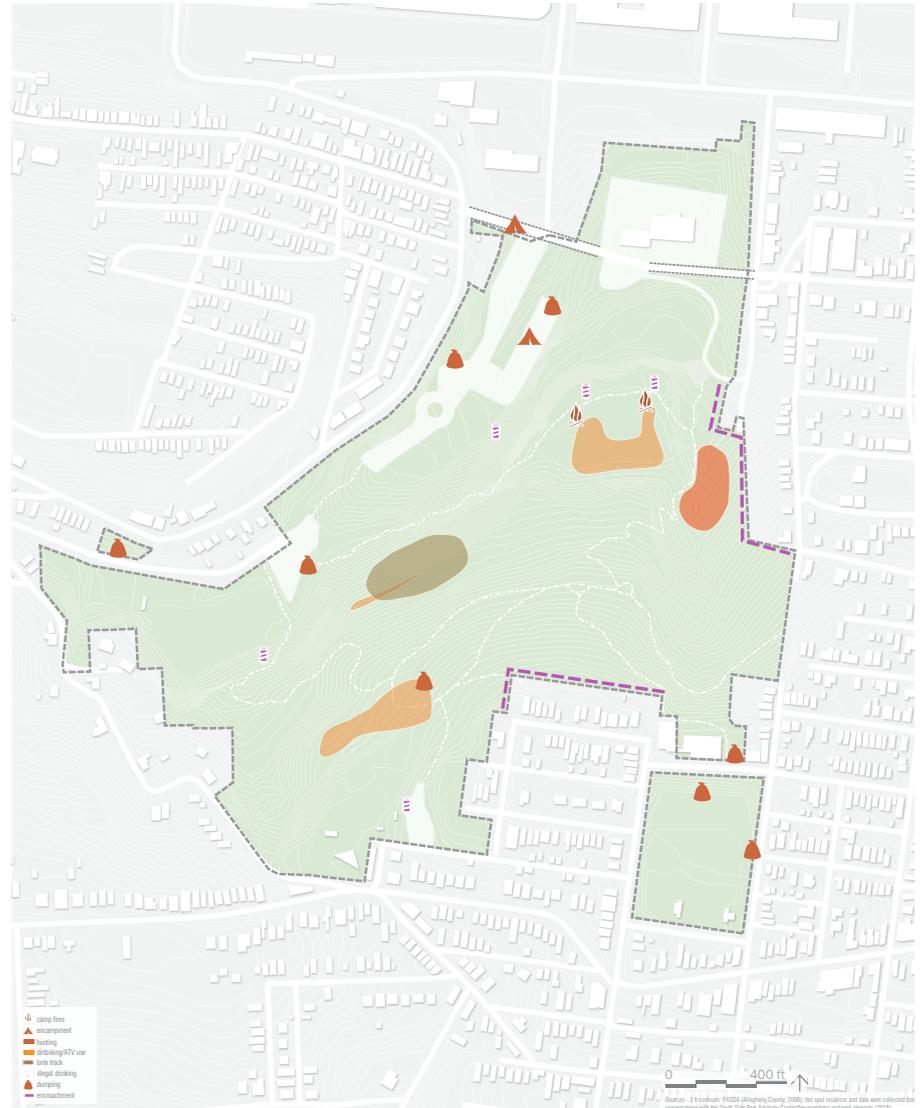
The general appearance and hidden feel of South Side Park have seemingly invited a host of controversial activities. Park stewards have long struggled with illegal dumping, ATV use, hunting, rogue BMX track building and encampments. Camp fires occur in the park, particularly on the plateau.

Lack of lighting, clear sight lines, and frequent patrols may contribute to the prevalence of these activities. Because those engaged in the activities have been doing so for years with little or no consequence, there is no reason these behaviors will change without an intervention.

Encroachment is another significant issue in the park. Many backyards have expanded to include parts of South Side Park (see “encroachment” on map right).

Volunteers working on trail restoration have reported incidents where they have felt verbally and/or physically threatened by individuals they encountered within the park.

Park plans should reflect the need to discourage these controversial activities through environmental design.





1. View from the top of the Plateau



2. View from the Serpentine Steps



3. View from Salisbury Connector Trail



4. View from Jurassic Valley

## IEWS ASSESSMENT

South Side Park has many breathtaking views as a result of its unique topography. Natural terraces and openings in the canopy allow sweeping views of downtown Pittsburgh throughout the park, which many residents are unaware of. While current park users are aware of these vistas, lack of site amenities at the view points keep them from more fully enjoying them.

There is opportunity to incorporate seating, lookouts, and other structures that would maximize the potential of these view points, turning some of them into destinations that would make current park users more comfortable and also potentially draw new users to the park.

The numbered photos at left and below correspond to the numbered views shown on the map to the right.



5. View from Arlington Baseball Field





*Cliff face running below Tombstone Trail*



*Tier of topographical change from S. 21st St. corridor up to Bandi Schaum*



*Steps along Tombstone Trail*



*Edge of plateau*

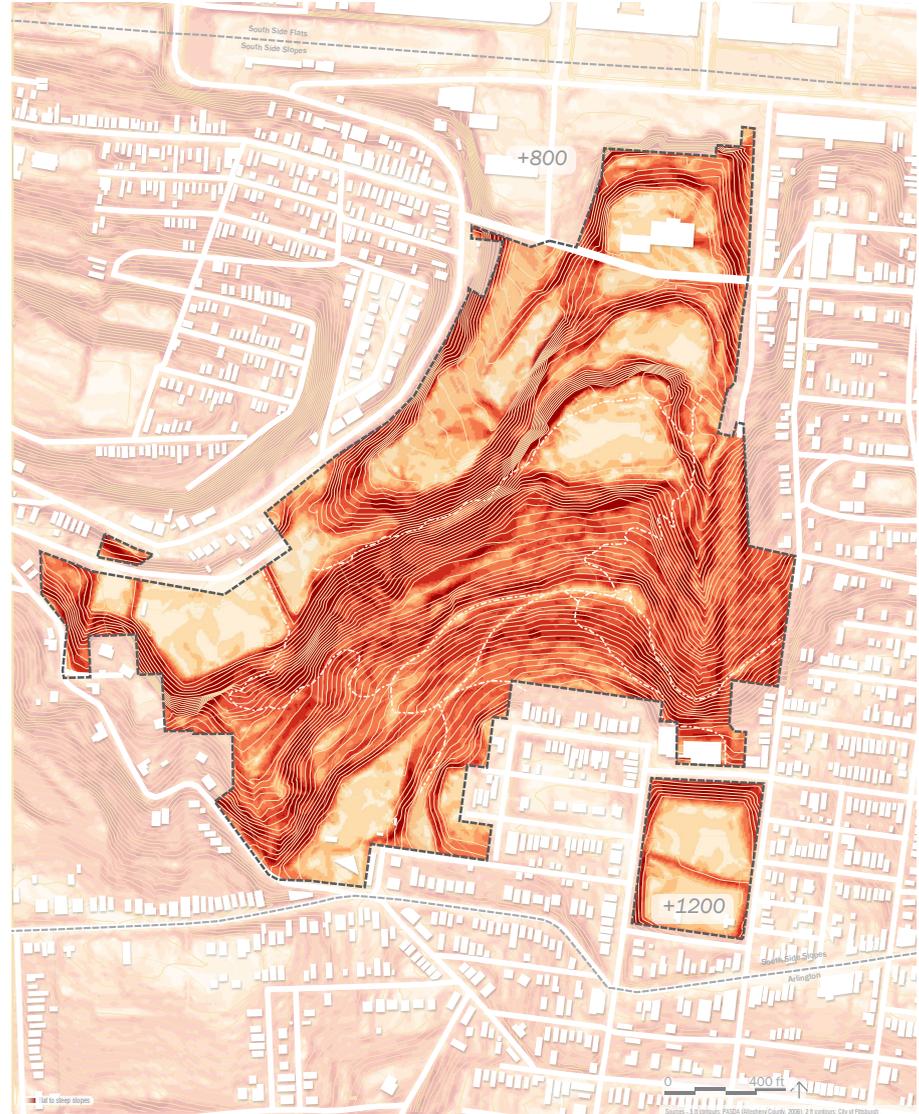
## SLOPE ASSESSMENT

While the topography of South Side Park offers sweeping views and diverse hiking trails, it can also be disorienting. The steep up-and-down across winding trails makes it difficult to know how far one has traveled and to stay directionally oriented. The topography ranges from 0-80% slopes, with lightest being the flattest and dark red the steepest in the map at right. There is approximately 400 feet of elevation change from the top of the park to the bottom.

Light-colored areas stand out as potentially programmable spaces, some of which are already heavily utilized and some of which are not. Dark red areas, indicating cliffs and steep terrain, show both challenges for access, as well as opportunity for vistas and adventure recreation.

Steep slopes limit circulation and create disconnection between parts of the park and between SSP's neighborhoods. Lateral east-west connections are important, as there is potential to connect South Side Slopes residents on either side of the park. A direct east-west connection does not currently exist.

Some of these steep slopes occur in conjunction with structurally weak soil types, making them prone to erosion (see Soil Assessment pg. 52). Steep slopes will should be vegetated where possible to help stabilize soils. Activities that cause soil disturbance on steep slopes should be generally avoided.





*Groundwater seeps*



*Erosion and overwhelmed catch basins*



*Aging gray infrastructure*



*Baseflow of water present during dry weather conditions*



*Clogged catch basin*



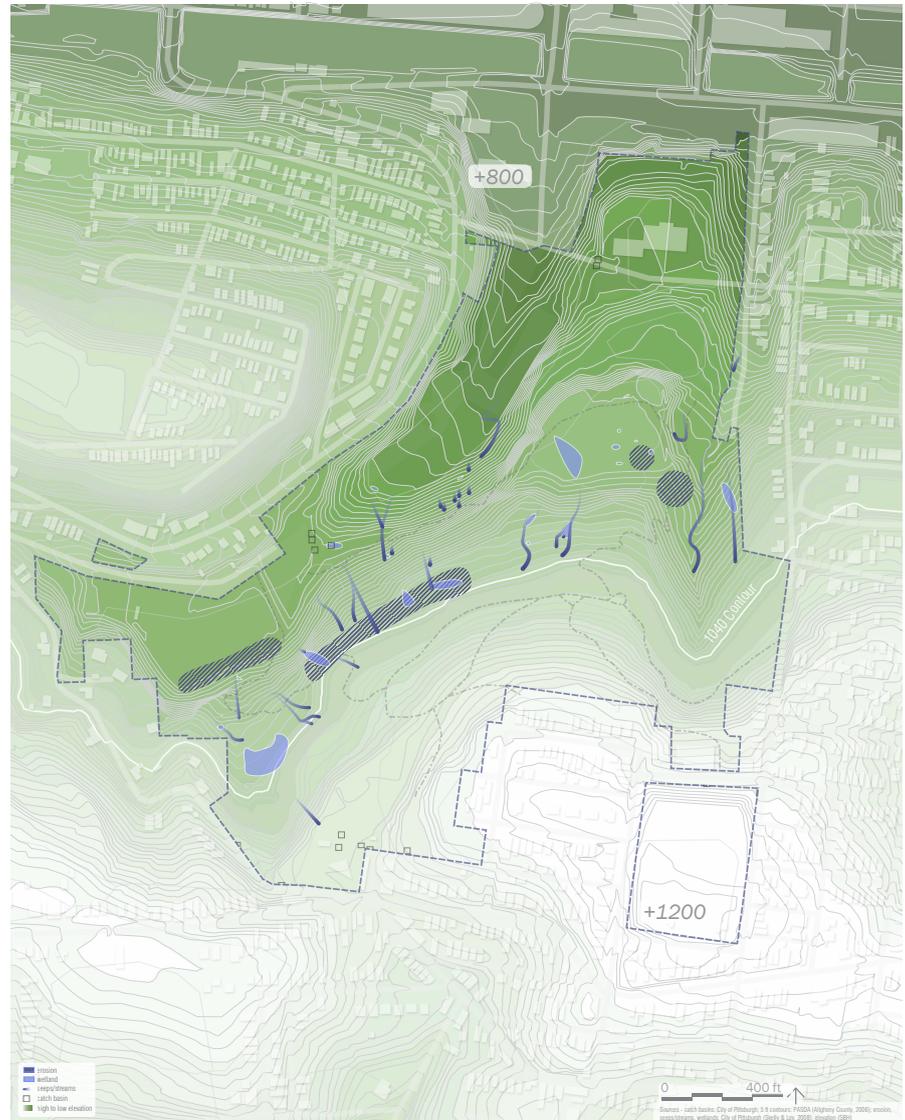
*Groundwater seeps and stormwater above Quarry Field*

## ELEVATION + HYDROLOGY ASSESSMENT

One of South Side Park's defining characteristics is undoubtedly its hydrological system. Aside from the surficial flow of stormwater that falls on the park's slopes and rushes downhill, the park has scattered groundwater seeps. Catch basins throughout the park currently capture some of the stormwater and groundwater and channel it into the gray infrastructure system, contributing to M16 combined sewer overflows (see pg. 31). Groundwater seeps in conjunction with steep, un-vegetated slopes create a few areas where erosion is occurring (Skelly and Loy, 2008). A few wetlands also are scattered throughout the park (Skelly and Loy, 2008).

The relationship between topographic change and the emergence of springs is apparent in this elevation map. The Pittsburgh coal seam, approximately located at the 1040 contour, appears to align with the emergence of some of the seeps/mine drainage. Former coal mines are likely the sites of these emergences of ground water (see pg. 50).

These water features are some park users' favorite features. There is opportunity to reveal the groundwater seeps as formalized streams, waterfalls and pools, creating quiet and reflective destinations throughout the park. There is opportunity to intercept stormwater runoff before it reaches catch basins. This would also allow daylighted groundwater and stormwater to be redirected away from the existing gray infrastructure through a series of green infrastructure features.



## GEOLOGY ASSESSMENT

This assessment provides a summary of publicly available geologic data, as well as a few opinions based on that data and the Sci-tek Inc.'s knowledge and experience about how geologic conditions at South Side Park may affect decisions moving forward.

This summary has been prepared in accordance with generally accepted soil and foundation engineering practices for the use by the Design Team for planning purposes. The information contained in this summary is very limited and is not intended for facility design. Facility design must be based on site-specific subsurface investigations that may be performed later. No other warranty, expressed or implied, is made as to the data or opinions included in this summary. In the event that conclusions or recommendations based upon the data obtained in this summary are made by others, such conclusions or recommendations are the responsibility of the others.

The Park is located on the South Side Slopes area of the City of Pittsburgh in Southwestern Pennsylvania, which according to Figure - 1, is on the southern edge of the Pittsburgh low Plateau Section of the Appalachian Plateau Physiographic Province, which is an area or region with similar subsurface rock types and structure. The topography of this Province is

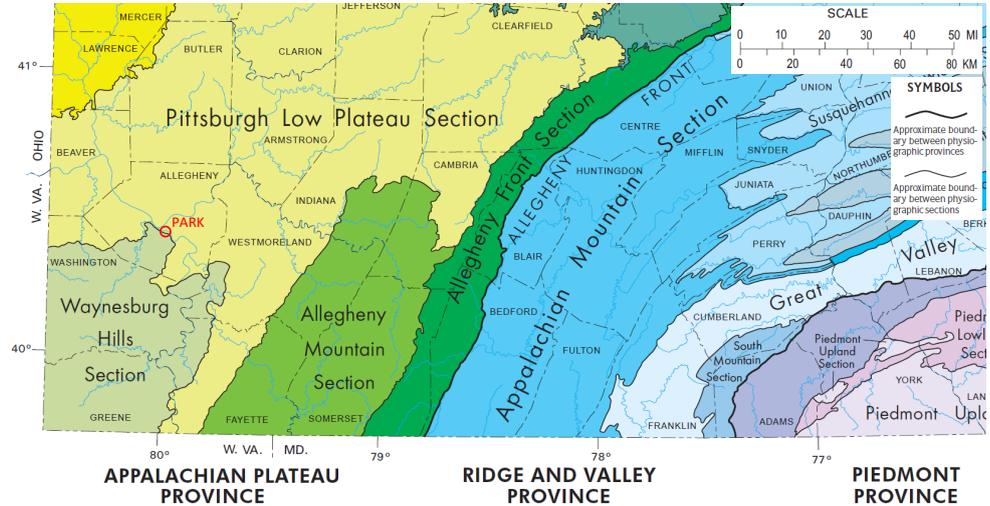


Figure - 1: The southwestern portion of PA DCMR Map 13 showing the Physiographic Provinces of Pennsylvania. Scale: As Shown  
Source: Commonwealth of Pennsylvania Department of Conservation and Natural Resources Bureau of Topographic and Geologic Survey ([www.dcmr.state.pa.us/topogeo](http://www.dcmr.state.pa.us/topogeo))

dominated by a smooth to irregular undulating ground surface with narrow, relatively shallow valleys. The rock underlying the soil tends to be shale, siltstone, sandstone, limestone and coal, and the geologic structure of the rock is moderate to low-amplitude, open folds that decrease in occurrence toward the northwest. The origin of the geology of this area is sedimentation and erosion or deposition within ancient river beds (fluvial erosion), which was later modified by close proximity to glaciers or ice sheets causing repeated freezing and thawing (periglacial), which contributed to mass wasting.

The upper portion of the Park at Arlington

Playground is at an elevation of about 1210 MSL while the lower portion of the Park near the railroad underpass at S. 21st St. and Josephine Streets is at an elevation of about 780 MSL, so the total topographic relief within the Park is about 430 feet.

According to the Geology of Pennsylvania (Saylor, 1990) Southwestern Pennsylvania is underlain by 14,700 to 16,400 feet of nearly horizontally bedded sedimentary rock, the surface of which is moderately to deeply dissected. The implication of this is that the topographic relief within the Park, and all the relief in the vicinity is due largely to erosion and geologic processes such as

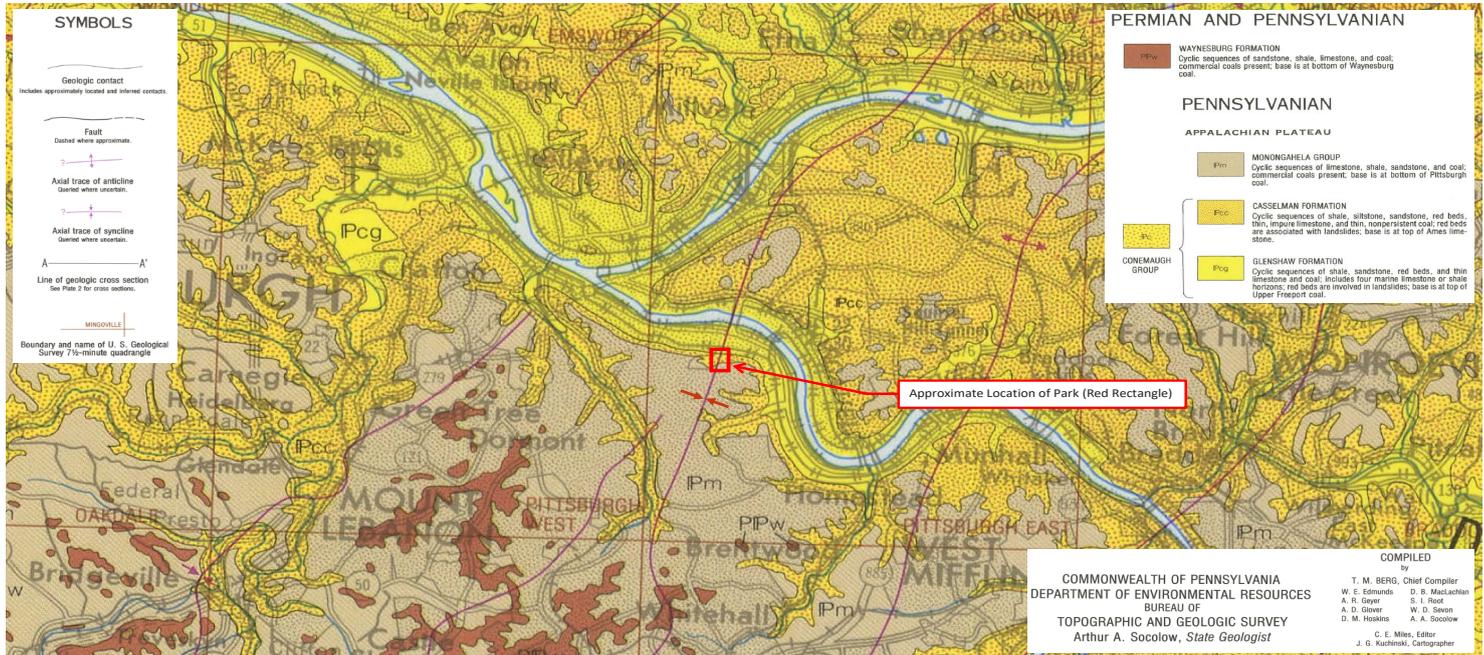


Figure – 2: A portion of the 1980 Geologic Map of Pennsylvania showing the approximate location of South Side Park. Scale: N.T.S.  
Source: As Shown

physical, chemical and biological weathering, temperature extremes and ice wedging, and mass wasting - all of which has occurred over geologic time scales. These geologic processes moved the soil and rock that used to fill what are now valleys to the streams and rivers, and ultimately to the lakes and oceans where the material was deposited as sediment, which eventually will turn into sedimentary rock. However, geologic processes take place every day in the Park, and although slow and

obscure, these processes and their affects can be seen by a trained eye. Examples include soil creep and landslides along the steep slopes; valley stress-relief fractures in the rock, rock falls and talus along the steep, rocky cliffs; and the chemical, mechanical, and thermal weathering of the rock and concrete structures within the Park.

Figure – 2 shows a portion of the 1980 Geologic Map of Pennsylvania showing the

approximate location of South Side Park. The Geologic Map depicts the aerial extent of surface rock types by geologic age, formation, and group, as well as the locations of mapped anticlines and synclines, which are centerlines of high and low points respectively in the rock layers due to regional folding. Note that Figure -2 shows that the Park lies along a mapped syncline (the McMurray Syncline), which trends approximately north-south in the park. Figure – 3 shows a Generalized Geologic Section of

Allegheny County with cumulative distances added above and below the Pittsburgh Coal for each rock type. Used together, Figures – 2 and 3 provide an idea of the rock one may expect to find below the soil, and/or these figures may facilitate the identification of the rock exposed in outcrops at the site.

There are several prominent “marker beds” of rock shown on Figure – 3 that are, or may be exposed within the Park. These include the following:

- A. The Pittsburgh Coal, which outcrops at approximately Elev. 1040 MSL along one of the upper trails in the Park.
- B. The Morgantown Sandstone, which outcrops about 90-feet below the Pittsburgh Coal (Elev. 950+/-) and forms the steep cliff just below the “Plateau” in the Park.

C. The Birmingham (a.k.a. Schenley) and Pittsburgh Red Beds, which consist of mostly reddish, greenish, and grayish shales and claystones that weather readily to weak, relatively unstable soils associated with landslides. These materials will be found between the base of the cliffs below the Plateau and the UPMC employee parking lot along Josephine Street. An easy to identify marker bed that may lie within the layers of rock just above or below Josephine Street is the fossiliferous (containing many fossils)

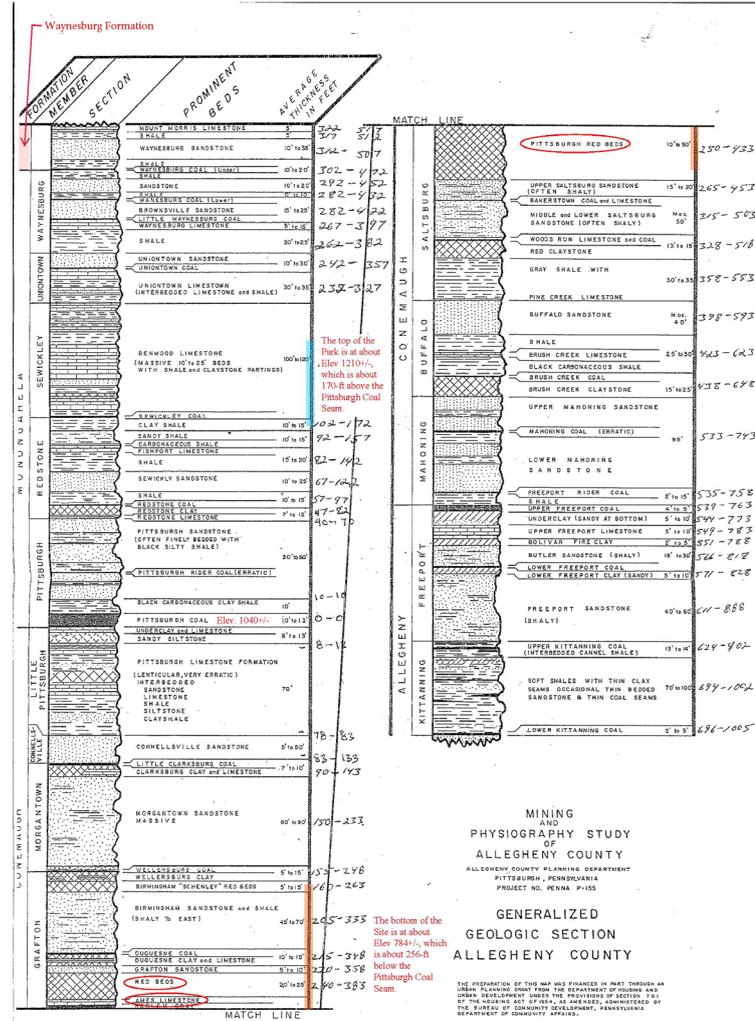


Figure – 3

MINING AND PHYSIOGRAPHY STUDY OF ALLEGHENY COUNTY  
 ALLEGHENY COUNTY PLANNING DEPARTMENT  
 PITTSBURGH, PENNSYLVANIA  
 PROJECT NO. PENNA. P-105

GENERALIZED GEOLOGIC SECTION  
 ALLEGHENY COUNTY

THE PREPARATION OF THIS MAP WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT UNDER THE PROVISIONS OF SECTION 103 OF THE HOUSING AND URBAN DEVELOPMENT ACT, AS AMENDED BY THE BUREAU OF COMMUNITY DEVELOPMENT, PENNSYLVANIA DEPARTMENT OF COMMUNITY AFFAIRS.

A.C. ACKERMEIER, INC. & ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 PITTSBURGH, PENNSYLVANIA

Ames Limestone, which is dark brown to light gray and usually only a few feet thick. Figure – 4 shows several photographs of typical samples of the Ames Limestone.

Stratigraphically, the top portion of the Park (Elev. 1210 MSL) should lie within the Sewickley Member of the Monongahela Group (See Figure – 3), which would include the Benwood Limestone. In general, the Monongahela Group is characterized by cyclic sequences of limestone, shale, sandstone, and coal. The base of the Monongahela Group is the relatively thick Pittsburgh Coal, which is a historically significant mineral resource that has been extensively mined and mapped, and as a result, is a prominent marker bed for geologists and geotechnical engineers.

The lower portion of the Park (between the Pittsburgh Coal and Josephine Street) lies within the Conemaugh Group (see Figure – 3), which includes the following:

- A. The Casselman Formation, which is characterized by cyclic sequences of shale, siltstone, sandstone, red beds (associated with landslides), thin impure limestone, and thin nonpersistent coal; and
- B. The Glenshaw Formation, which is characterized by cyclic sequences of shale, sandstone, red beds (associated with landslides), and thin limestone and coal. This



Photo – A: Weathered Surface of Sample of Ames Limestone



Photo – B: Fresh Surface of Sample of Ames Limestone

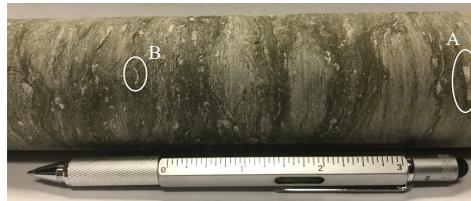
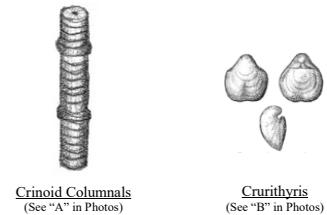


Photo – C: NX Core Sample of Ames Limestone from Test Boring

Figure – 5: Photos of samples of the 290 to 325-million-year-old Ames Limestone showing the color variation and fossils. Scale: As Shown  
Source: Gary L. Van Balen, PE



formation includes four marine limestone or shale horizons (including the Ames Limestone mentioned above).

The bottom of the Conemaugh Group is the Upper Freeport Coal, which lies 539 to 763-feet below the Pittsburgh Coal in Allegheny County. The Upper Freeport Coal is the only other coal resource within the Park boundaries, but it is likely too deep and thin in the vicinity of the

Park to be economically minable.

As shown on Figure – 5 and as mentioned above, the Pittsburgh Coal is known to outcrop at approximately Elev. 1040 MSL within the Park (magenta line on Figure - 5). This figure also shows the extent of deep mining in and around the Park (the green stippled areas are mined out). Figure – 6 shows the approximate location of the Pittsburgh Coal outcrop on a

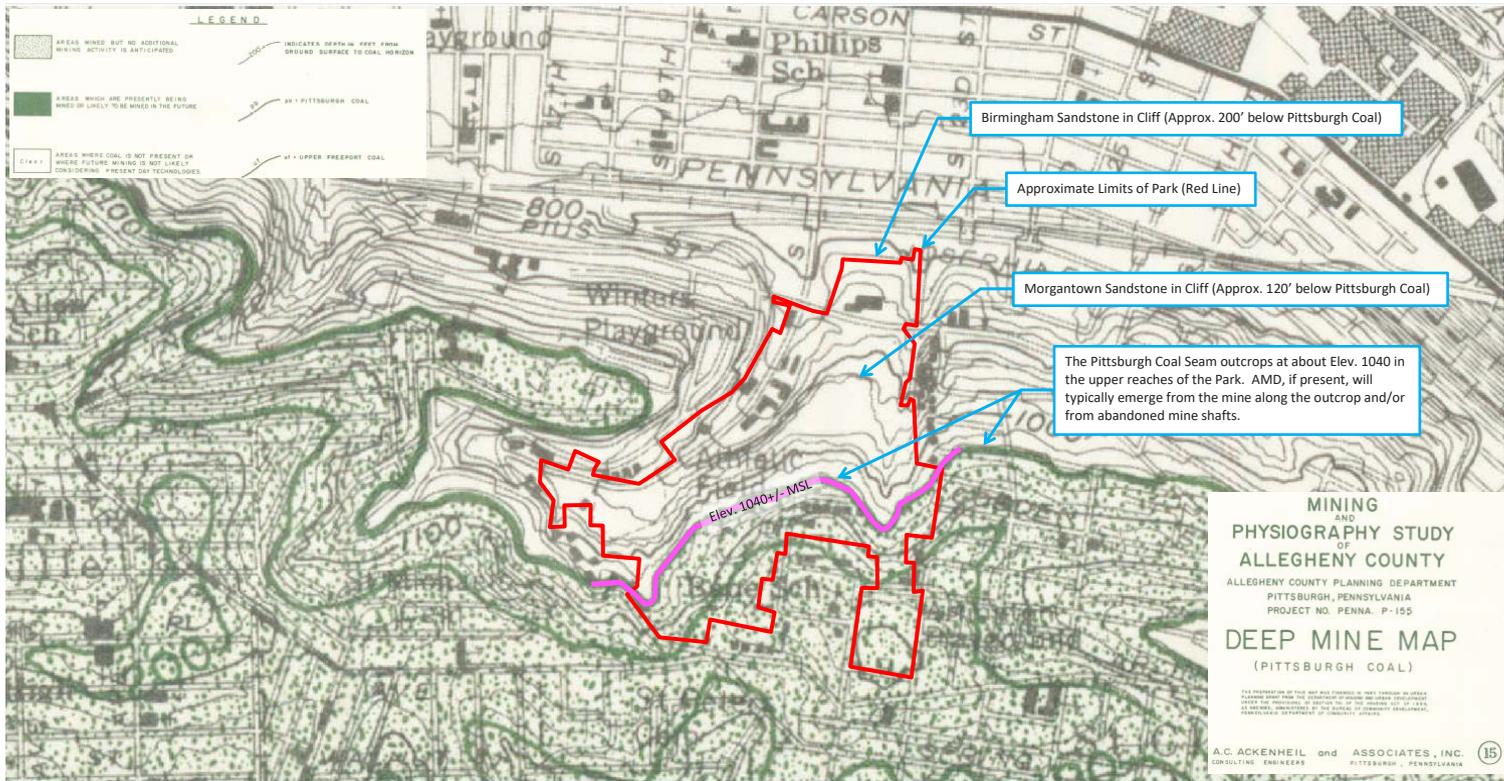


Figure – 5: Deep Mine Map - Pittsburgh Coal Seam Showing Approximate Limits of Park (Red Line). Scale: N.T.S.  
 Source: Mining and Physiographic Study, Allegheny County, PA, November 4, 1968, by A. C. Ackenheil & Associates, Inc.

Google Earth satellite image of the Park for reference. There are collapsed mine entries, disturbed, unnatural-looking ground, and mine seeps along the Pittsburgh Coal outcrop within the Park.

Figure – 7 shows a portion of the Structure Contour Map of the Base of the Pittsburgh

Coal Bed in the vicinity of the Park. These contours show the slope of the floor of the abandoned mine workings in the Pittsburgh Coal as well as the slope or contour of the layers of rock above and below the Pittsburgh Coal. This structure is caused by gentle folds in the rock, which were caused by geologic forces acting on the North American Continent,

which are the same forces that created the Appalachian Mountains east of Pittsburgh. The structure contour map shows the locations of mapped Anticlines and Synclines, which are respectively the high and low points in the folds or structure of the rock.

As noted above, the Park is situated along the

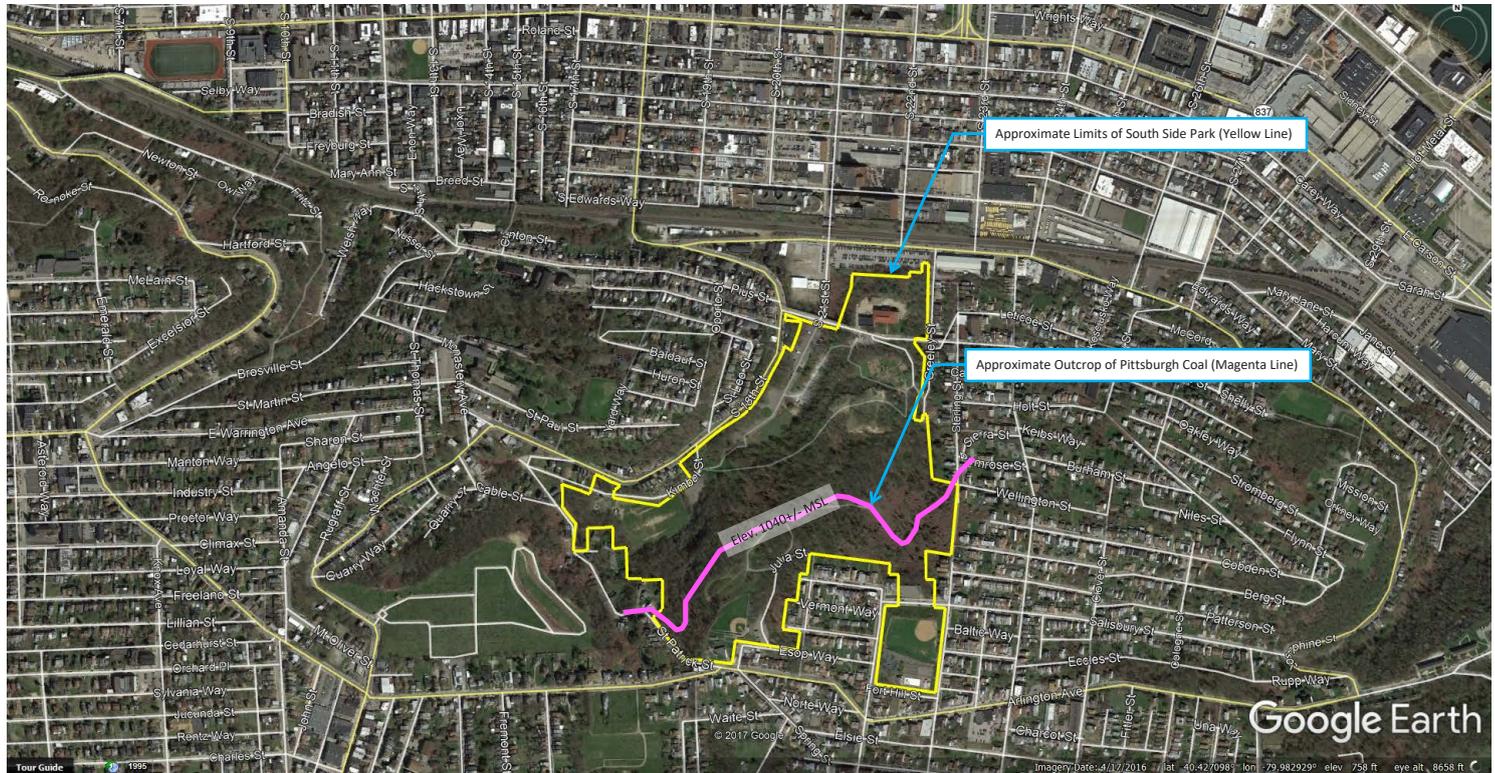
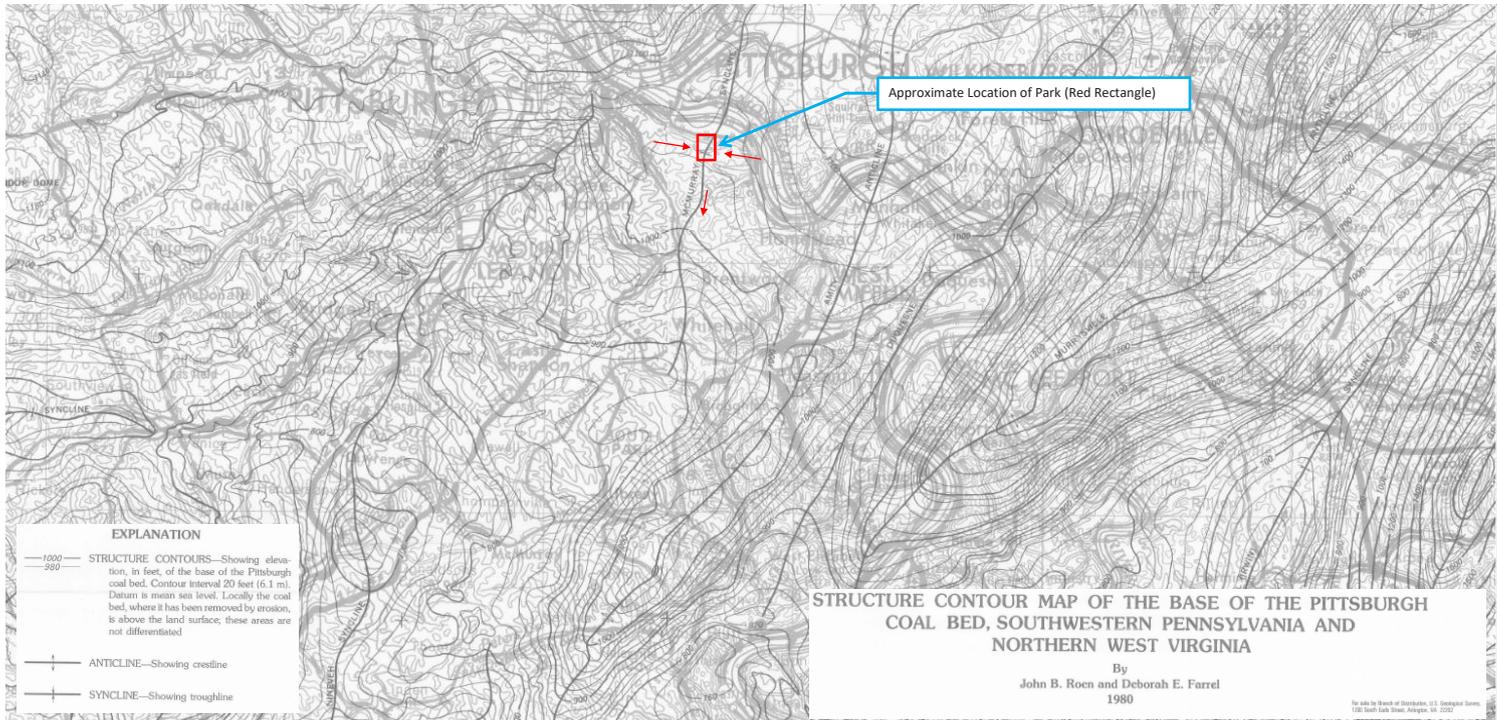


Figure – 6: Google Earth satellite image showing the approximate limits of South Side Park (yellow line), and the approximate location of the outcrop of the Pittsburgh Coal (magenta line). Scale: N.T.S.  
 Source: Google Earth

McMurray Syncline. Groundwater flowing within the sedimentary rock layers and abandoned mine voids will tend to flow perpendicular to the structure contour lines toward the synclines along aquitards (relatively impervious rock). Figure – 7 has been annotated with red arrows near the Park indicating the local direction of groundwater flow based on the structure

contours. However, groundwater flow within the abandoned mine will also be affected by debris on the mine floor and by the rooms (areas where coal was removed) and pillars (coal left to support the overburden) within the mine. There is an “under clay,” or weak claystone just beneath the Pittsburgh Coal that weathers and softens when exposed to air and water. This

under clay is an effective aquitard, which helps to retain groundwater within the abandoned mine workings. Mine water accumulates and follows the path of least resistance through the mine as “underground streams” and may accumulate in “mine pools” when the flow is blocked. When conditions are right, mine water can emerge along the coal outcrop as



Structure Contour Map of the Base of the Pittsburgh Coal. Approximate location of Park shown with red rectangle.

Source: As shown and see original map for additional source details.

Note: South Side Park appears to be situated along the McMurray Syncline, or troughline. Red arrows show the trend in groundwater flow within the rock and abandoned mine workings within the Pittsburgh Coal.

seeps or springs of acid mine drainage (AMD), which can degrade water quality and habitat in receiving surface streams.

There are approximately nine mine drainage seeps along the Pittsburgh Coal outcrop at Elev. 1040+/- MSL within the Park. Each of these seeps flow down the east slope of the park toward the Quarry Playground, Athletic Field and Parking Lot; the former ice skating

rink; and Plateau area of the Park. Most if not all the mine drainage enters the combined sewer system within the park contributing to the combined sewer overflow problems in the area. The volume of water in these seeps will fluctuate seasonally, but will likely flow nearly continuously given the amount of precipitation in this area, which averages 38.2 inches per year.

Physical hazards within the Park include trails along trails on steep slopes, vertical fall hazards along high cliffs at the edges of the Plateau, and rock falls and slides along the steep cliffs. Figure – 8 shows the approximate location and distribution of these hazards and an example of a precariously hanging mass of rock on the cliff below the Plateau. This rock mass will likely fail as part of the natural, mass wasting geologic process.

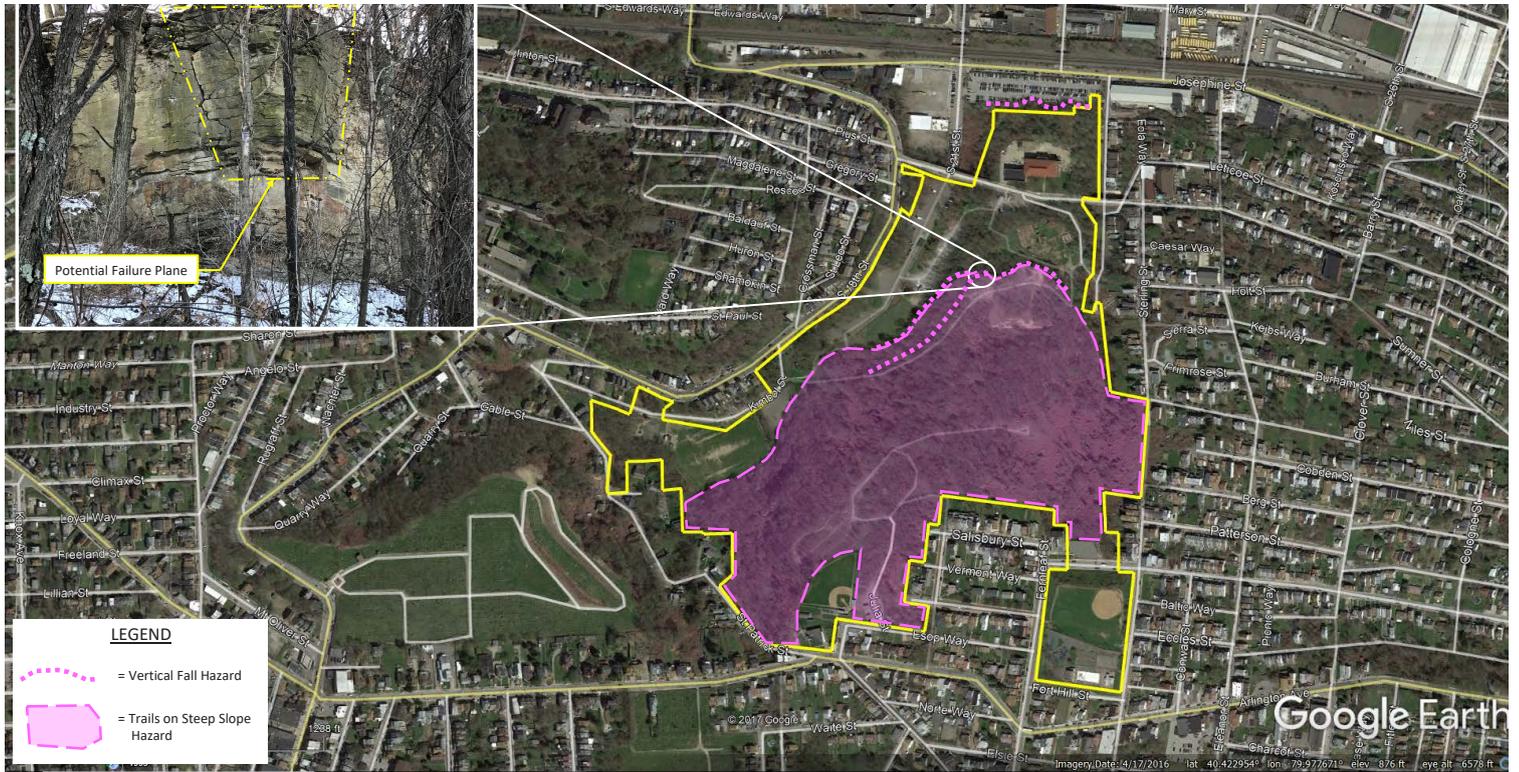


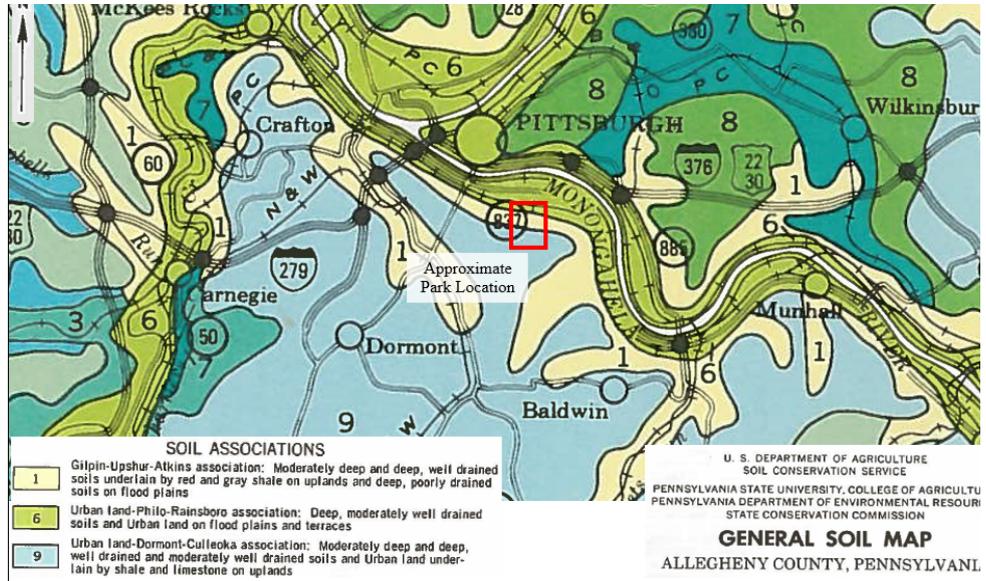
Figure – 8: Trails On Steep Slope and Vertical Fall Hazards. Also showing An Example of a Potential Rock Fall Hazard Along the Edge of the Plateau. Scale: None  
 Source: Satellite Image is from Google Earth. Photo is from Gary L. Van Balen, PE.

## SOIL ASSESSMENT

This assessment provides a summary of publicly available soil data, as well as a few opinions based on that data and Sci-Tek’s knowledge and experience about how soil conditions at South Side Park may affect decisions moving forward.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices for planning purposes. The information contained in this report is very limited and is not intended for facility design. Facility design must be based on site-specific subsurface investigations that may be performed later. No other warranty, expressed or implied, is made as to the data or opinions included in this report. In the event that conclusions or recommendations based upon the data obtained in this report are made by others, such conclusions or recommendations are the responsibility of the others.

Soil information for the Park is available from the Soil Survey of Allegheny County, Pennsylvania, published in 1981 by the United States Department of Agriculture, Soil Conservation Service. A portion of the General Soil Map of Allegheny County from this reference is provided as Figure – 1. According to the General Soil Map, the soils within the Park are generally described as follows:



Figure—1: A portion of the General Soil Map of Allegheny County, PA showing the approximate location of South Side Park. Scale: N.T.S.

Source: August 1981 Issue of the Soil Survey of Allegheny County, Pennsylvania by the United States Department of Agriculture Soil Conservation Service, in cooperation with the Pennsylvania State University College of Agriculture and the Pennsylvania Department of Environmental Resources State Conservation Commission.

- A. (Map Key 6, medium green) The low-lying area of the Park approximately within 200 feet of the railroad tracks adjacent to Josephine St is the Urban land-Philo-Rainsboro association, which is composed of deep, moderately well-drained soils and Urban land on flood plains and terraces,
- B. (Map Key 1, light yellow) The area farther south to approximately Mission Street is the Gilpin-Upshur-Atkins association, which is

moderately deep and deep, well-drained soils underlain by red and gray shale on uplands and deep, poorly-drained soils on flood plains

- C. (Map Key 9, light blue) The area south of Mission Street is the Urban land-Dormont-Culleoka association, which is moderately deep and deep, well-drained and moderately well drained soils and Urban land underlain by shale and limestone on uplands.

Additional soil information is available online from the Web Soil Survey located at <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. The Web Soil Survey provides soil data and information similar to that provided in the surveys published by the Soil Conservation Service, but the Web Soil Survey is produced by the National Cooperative Soil Survey, which is operated by the USDA Natural Resources Conservation Service.

This Soil Assessment includes soil data for the Area of Interest (AOI) shown on Figure – 2, which encompasses the limits of the Park well enough for the purposes of this assessment. The Web Soil Survey describes the soil information available online for the AOI as follows:

“The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the selected area. The component descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit. A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the associated soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape,



**Figure – 2:** Soil survey assumed Area of Interest (AOI) encompassing South Side Park Limits. Scale: As Shown

**Source:** United States Department of Agriculture, Web Soil Survey at <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

however, the soils are natural phenomena, and they have the characteristic variability of all-natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas (components) for which it is named and some minor components that

belong to taxonomic classes other than those of the major soils.

The “Map Unit Component Nontechnical Descriptions” report gives a brief, general description of the soil components that occur in a map unit. Descriptions of nonsoil (miscellaneous areas) and minor map unit components may or may not be included. This description is written by the local soil scientists responsible for the respective soil survey

area data. A more detailed description can be generated by the “Map Unit Description” report.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Only those map units and the components that have entries for the various component text table description categories are included in this report.”

According to the Web Soil Survey, mapped soils within the Park and AOI include natural soils derived from the weathering of the underlying rock, and “urban soils,” which are typically fills composed of natural soil that is not native to the Park, or that has been disturbed and/or moved from sources within the Park. Examples of urban soils at the Park include apparent (based on visual observations), or known (based on available drawings or other records) fill embankments that were constructed for the following relatively flat-lying areas of the Park:

A. Quarry Athletic Field, Playground, and Parking Lot (formerly known as Sophia Evert



Figure – 3: Soil Map for assumed AOI. Scale: As Shown

Source: United States Department of Agriculture, Web Soil Survey at <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

Playground), which, based on available construction drawings, were constructed from cutting and filling the area. Some off-site borrow may have been needed.

B. Arlington Ball field, and Parking Lot (near Esop Way and Julia St), which appears to have been constructed from cutting and filling the area. Some off-site borrow may have been needed.

C. Arlington Playground, Ball field, Basketball Court, and Swimming Pool (Sterling and Fort Hill Streets), which, based on available construction drawings, were constructed from cutting and filling the area. Some off-site borrow may have been needed.

D. Portions of the level lot north of the PWSA Mission Street Pump Station, which needed an “estimated 400 CY of grading and 25 tons of slag fill” to complete in 1934 according to

available construction drawings.

E. Portions of the Community Garden south of Mission Street and the Pump Station. This facility was formerly known as the Mission Street Ball field, and it appears to have been built by cutting and filling the area. Some off-site borrow may have been needed.

F. The broad valley bottom that once contained an ice skating rink and its associated parking lots, including the area extending from the bottom of the existing concrete steps from the Quarry Athletic Field parking lot to Josephine Street. This area appears to have been filled and some off-site borrow may have been needed.

The only other relatively broad flat topography within the Park is what is locally referred to as the “plateau,” which is a natural, weather-resistant, massive sandstone unit from which the less weather-resistant rocks above have been excavated or eroded away over geologic time.

The quality of the design and construction of the above-mentioned fill embankments is unknown, as are the foundation preparation, shear strength of the fill, and details of subsurface drainage provisions if any. Consequently, the stability of the fill embankments should be suspect, and no infiltration should be contemplated for Green

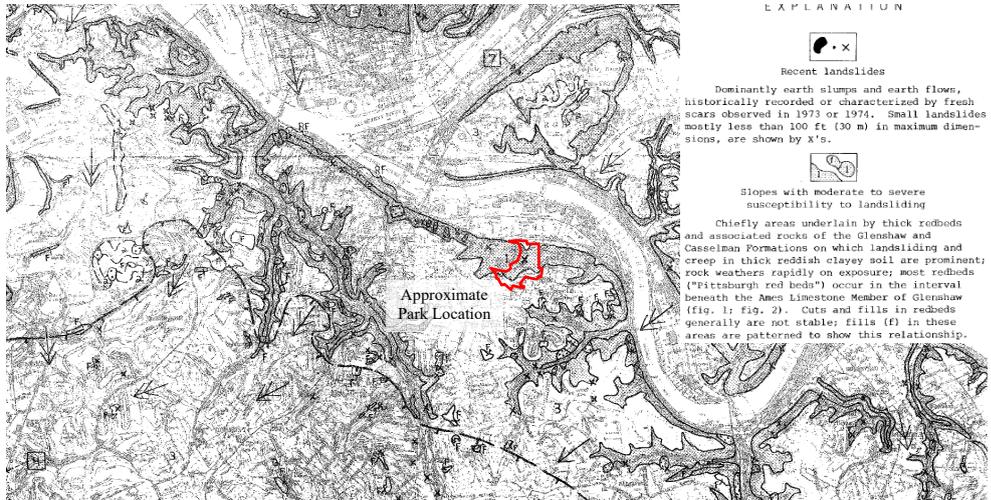


Figure - 4: A portion of the Map of Susceptibility to Landsliding, Allegheny County, Pennsylvania. Scale: N.T.S.

Source: By John S. Pomeroy and William E. Davies, 1975, United States Department of Interior, United States Geological Survey, Miscellaneous Field Studies Map MF-685 (Sheet 2 of 2).

Stormwater Infrastructure (GSI) projects that may be built on the fill embankments within the Park. Instead, subsurface detention facilities built on fill embankments should be water tight and include subsurface drains to mitigate the detrimental effects of any leakage from the detention facilities. Finally, it would be wise to investigate the existing stability of any fill embankment before investing heavily in Park improvements that rely on its support. This is especially true for Quarry Field where poorly-maintained surface drainage

facilities, ponded water on the surface of the fill embankment from constantly-flowing mine drainage sources, and potentially leaking sewers within the fill may be weakening the fill. In any case, it would not be surprising to find that the fill embankments within the Park do not meet modern slope stability standards.

Urban soils at the Park may also include, or may be mixed with man-made debris or industrial byproducts that may be relatively inert, or potentially hazardous depending on

the source. The presence of hazardous or potentially hazardous materials within the Park is beyond the scope of this study, but there is physical evidence and historic records that show past deep mining, commercial and industrial activities, and the use of industrial byproducts for fill within the Park that may have lasting environmental impacts.

The aerial extent of mapped soils is shown on Figure – 3. The mapped soils are described in relative detail as follows by the Web Soil Survey (Appendix C).

The Web Soil Survey also provides various engineering properties of the mapped soils that may be of interest when estimating runoff, infiltration capacity, etc. A few of the available engineering properties are summarized in Table -1 (Appendix C), which gives the engineering classifications and the range of engineering properties for the layers of each soil in the AOI.

Hydrologic soil group (HSG), as shown in Table – 1 may be of interest to those contemplating GSI projects within the Park. The available information is described in the Web Soil Survey (Appendix C).

#### **References:**

American Association of State Highway and

Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.”

There is a wealth of soil information available online that may be of interest to various groups associated with development within the Park and those groups are encouraged to explore the available information for themselves. Only a fraction of the information is summarized here. The available information can be accessed at the United States Department of Agriculture’s Web Soil Survey located at <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.

Natural soils on the steep slopes within the park are likely to be relatively thin, and prone to erosion and landslide. Figure – 4 shows a portion of the Map of Susceptibility to Landsliding, Allegheny County, Pennsylvania, by John S. Pomeroy and William E. Davies, which indicates that at least one “recent” landslide was mapped within the Park during the study on which the map is based (1973 or 1974). Most of the park is susceptible to landslide due to the steep slopes and relatively weak soils derived from the relatively weak

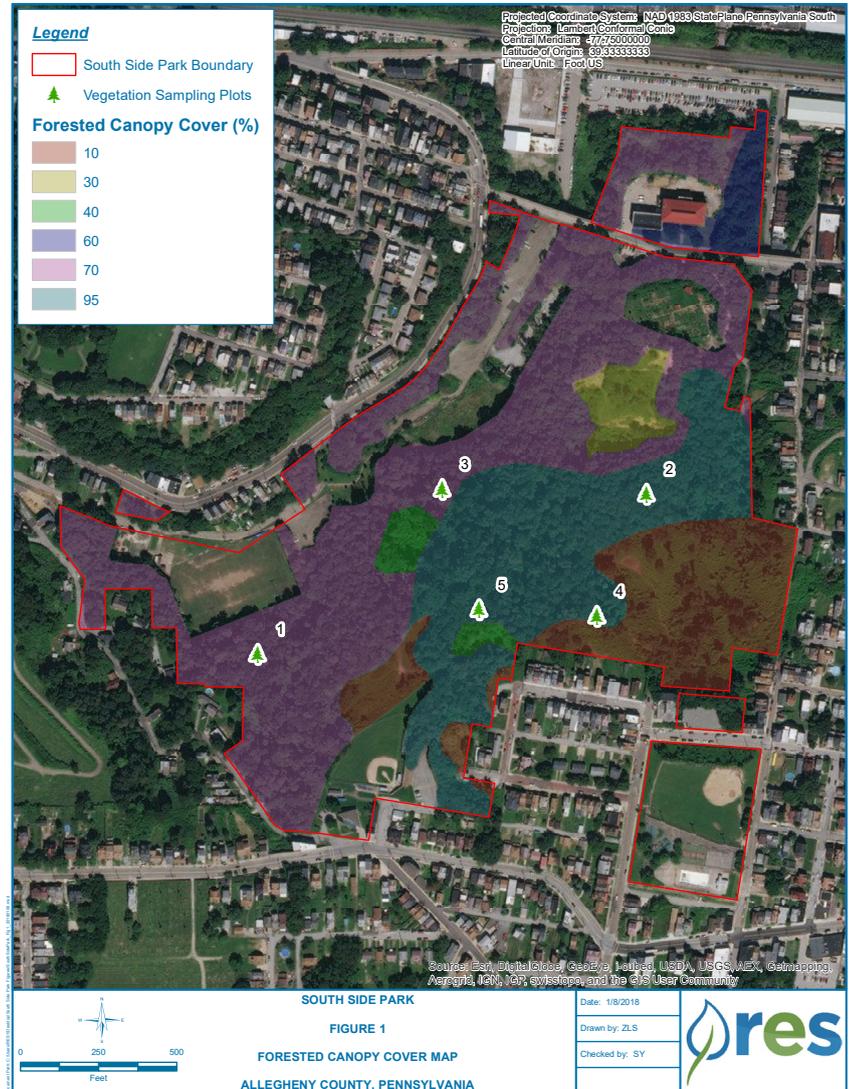
underlying rock. Fill embankments built on such material may be relatively unstable and may fail unless properly constructed and maintained, which includes keeping them relatively dry; i.e., free of high pore water pressure, which reduces soil shear strength.

## STREAM, WILDLIFE, AND FOREST ASSESSMENTS

Field investigations within the extents of South Side Park were conducted on December 13th, 2017 by qualified biologists from Resource Environmental Solutions, LLC. Investigations entailed visual observations of the on-site streams/seeps, invasive species and forest composition, wildlife and habitat suitability. Data collected from the field investigation effort, in conjunction with desktop Geographic Information System (GIS) analysis was utilized to compile the results and associated appendices provided in this memorandum. Specific details, results, and recommendations are elaborated below.

## METHODS

**Streams:** Visual observations of on-site streams/seeps were used to characterize channel geometry, channel stability, floodplain connection, riparian vegetation, riparian zone of influence (ZOI), in-stream habitat, and channel alterations. The recorded observations were used to perform a functional analysis of existing on-site streams/seeps following the Pennsylvania Riverine Condition Level 2 Rapid Assessment Protocol (PA RAP) (PADEP, 2017). This assessment is used to assess the overall resource condition of streams through visual observation of physical attributes and an associated established scoring system.

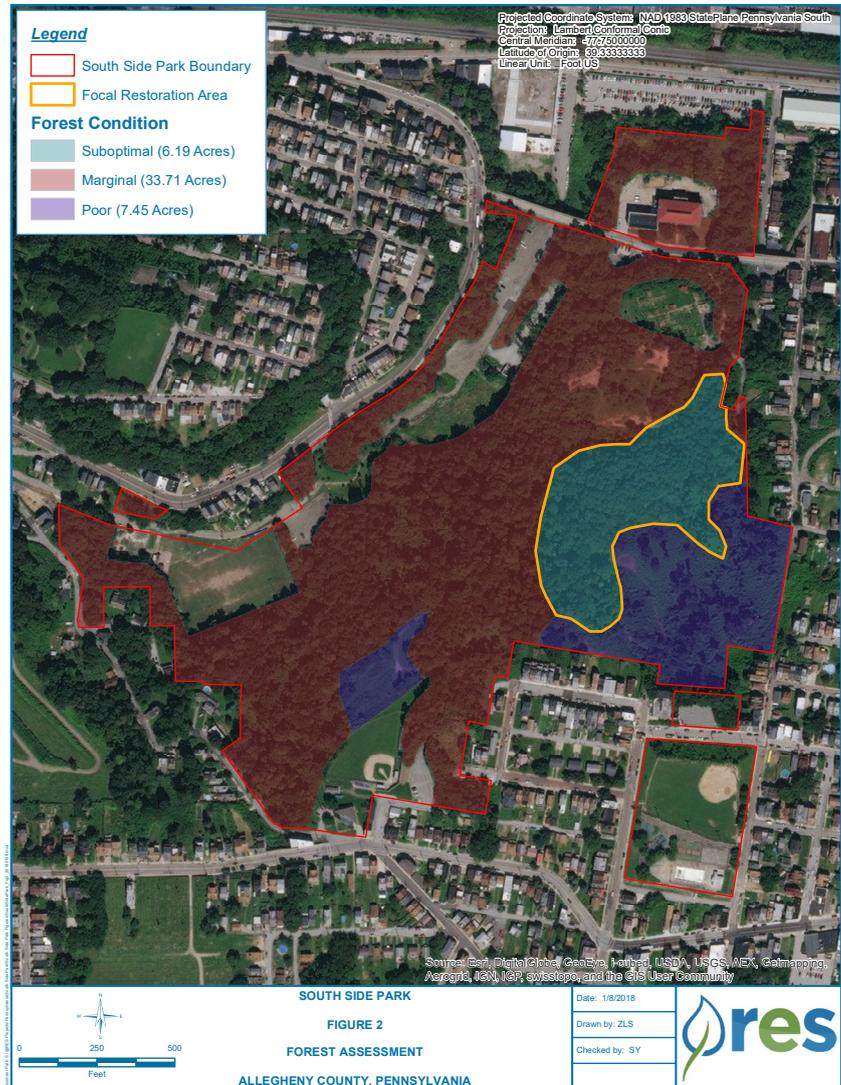


**Vegetation:** Vegetative data was collected through visual observation and utilization data sheets/sampling plots specific to the Urban Forest Effects Model (UFORE). Please note, the full UFORE model was not performed for the scope of this assessment. Data was collected so the UFORE model could be performed if chosen. Figure 1: Forested Canopy Cover Map shows the location of the five randomly generated sampling plots, as well as percent forested canopy cover. Sampling plots encompassed 1/10th of an acre. At each plot, data was collected that was relevant to the UFORE model, invasive species composition, and forest composition.

**Wildlife:** Wildlife observations were recorded while walking within the extents of South Side Park following the format of the Pittsburgh Regional Parks Natural Areas Study of June 2010. Biologists noted habitat suitability for animal fauna through best professional judgment. A recent snowfall aided in the identification of animal tracks on site.

## RESULTS

**Streams:** Streams can be characterized as small intermittent headwater seeps originating from collapsed mine shaft entrances and geologic outcroppings that can be physically observed on-site. Channels maintain gravel and silt dominated beds with heavy leaf pack and coarse woody material existing in a

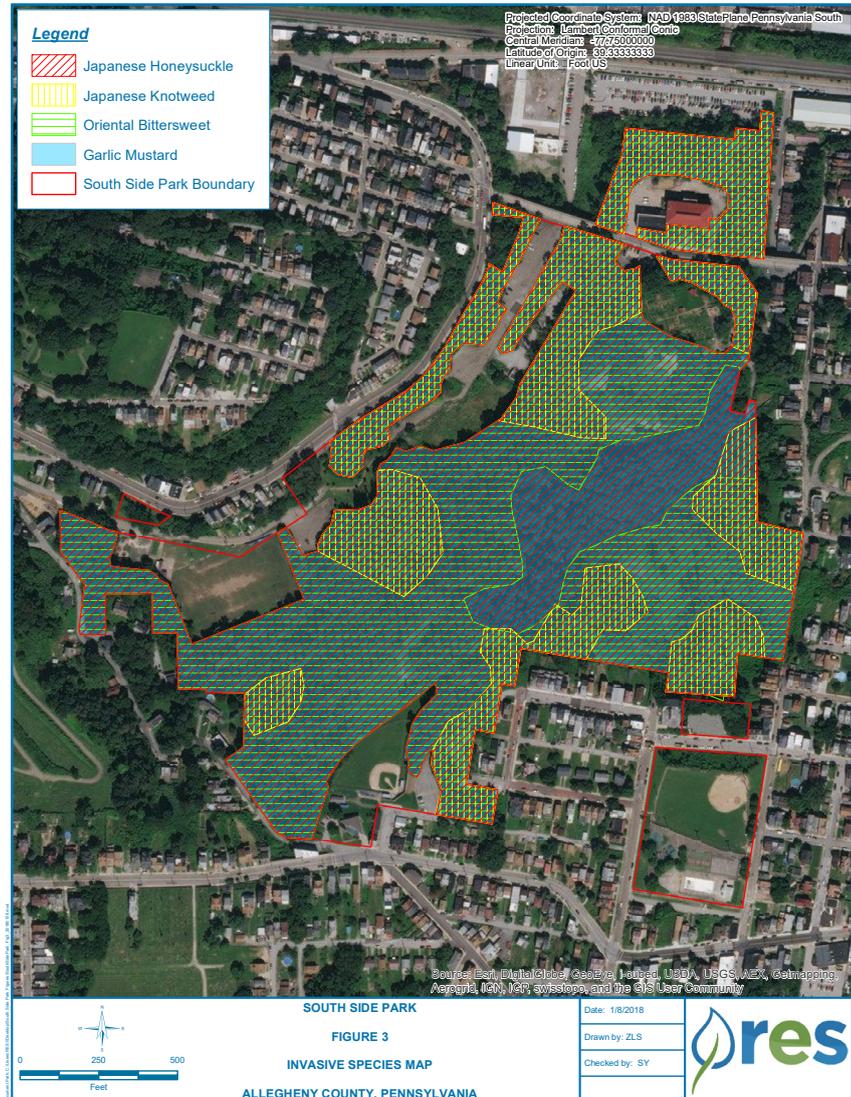


deciduous forest side slope setting. Channel and floodplain stability, riparian vegetation, riparian ZOI, in-stream habitat, and channel observation were all within the suboptimal condition rating; contributing to an overall resource condition index of 0.69, within the suboptimal range. Details are provided in Table 1: PA RAP Summary Table.

Do to the small channel size, low bank heights, and low flow regime, the streams exhibit good floodplain connection and channel stability. Additionally, the surrounding forested landscape provides important buffering capabilities, which reduce excessive storm water runoff that could lead to channel instability. Although invasive species are present in high numbers, the existing forested stand provides high canopy cover in the adjacent riparian areas and ZOI. High amounts of coarse woody material and leaf pack provide suitable habitat and cover for aquatic fauna, such as macroinvertebrates and amphibians. Human activities have influenced these resources in the past, but stream pattern and stability have recovered. Recreational paths crossing streams do exist throughout the park, but their effect is minimal.

The overall stream summary PA RAP data sheet is provided in Appendix D: PA RAP Data Sheet.

**Vegetation:** The existing deciduous forested



stand is uniform in nature and exhibits significant pressure from invasive species. Invasive species are arresting understory growth and natural regeneration.

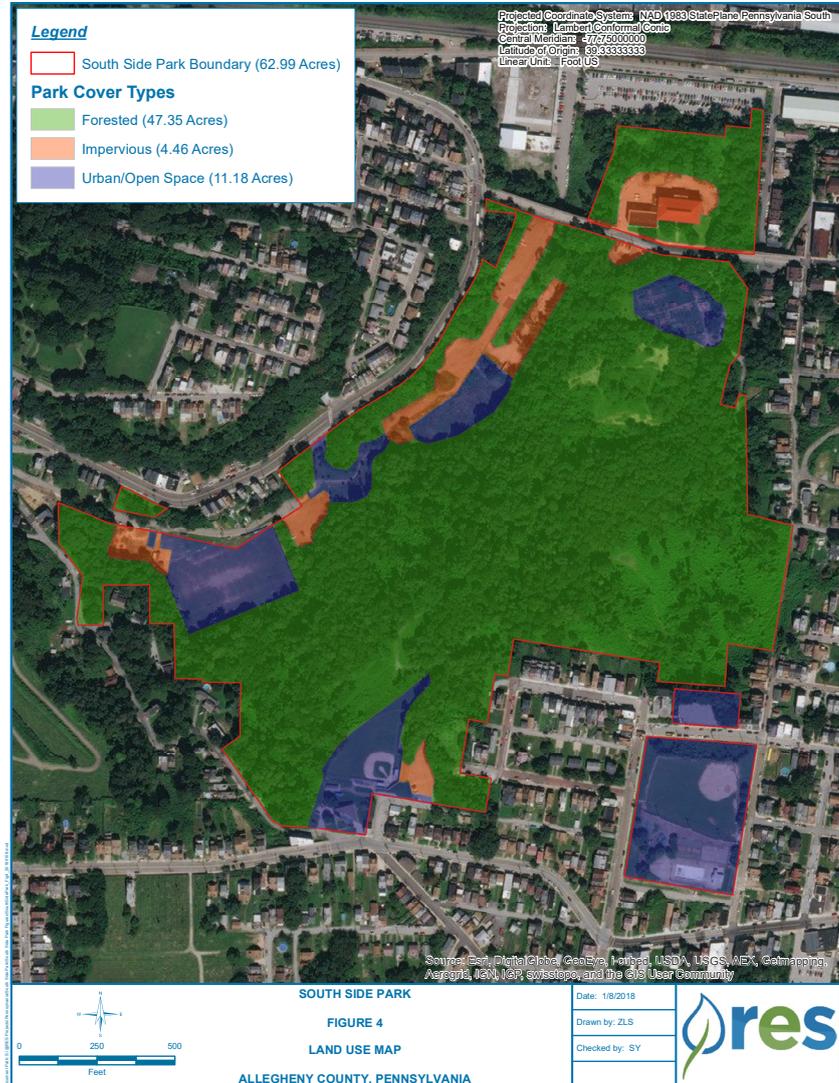
Table 2: Species List provides a running inventory of native woody and invasive species observed during the field investigation.

Figure 1: Tree Species Composition

The forested sections of the park were subdivided into 3 categories (Poor, Marginal, and Suboptimal) based on invasive species cover, forested health/diversity, and habitat quality.

Please reference Figure 2: Forest Assessment for a visual perspective. Due to the high number and volume of both herbaceous and woody invasive species on site RES identified 4 dominant species at South Side Park to guide our management focus. These species were selected for their aggressive nature and high frequency of occurrence. Please reference Figure 3: Invasive Species Map.

Forests graded as poor had canopy of cover of 30 percent or less with an invasive species component of four or more dominant invasive species. Poor grade forests made up approximately 16 percent of the forested areas in South Side Park. These areas were characterized as having few living dominant



trees, all of which were encroached by Japanese honeysuckle (*Lonicera japonica*) or oriental bittersweet (*Celastrus orbiculatus*). Additionally, an overabundance of wild grape (*Vitis* sp.) was observed in these areas, which combined with other invasive species is having an adverse impact on any living trees.

Marginal ranked forested areas made up the majority of the forest surveyed (approximately 71 percent). These areas can be described as forests with a canopy cover of 40-90 percent with three dominant invasive species present. The forested overstory did not exhibit significant invasive species encroachment or pressure, however, the understory was overlaid with non-native vegetation.

Suboptimal forests made up approximately 13 percent of South Side Park, within one lone area. This area can be characterized as having a mature and healthy overstory, which has limited the ground coverage of invasive species; predominately consisting of garlic mustard (*Alliaria petiolata*) and Japanese honeysuckle (*Celastrus orbiculatus*) due to the higher percentage of tree canopy coverage.

Please reference Figure 4: Land Use Map for a visual perspective of landuse types existing within the boundary of South Side Park.

Individual vegetative sampling plot data sheets are provided in Appendix E: Vegetation Plot

Data Sheets.

**Wild Life:** Field investigations noted several generalist avian species in the park, which utilize thick invasive pockets for nesting habitat and cover. Forested sections of the park provide suitable habitat for small to mid-size mammals. Rabbit (*Sylvilagus* sp.) and white-tailed deer (*Odocoileus virginianus*) tracks were identified in the snow throughout the park.

Please reference Figure 2: Forest Assessment for a visual perspective of forested habitat quality.

## CONCLUSIONS

The results of the field investigation effort concluded that on-site streams/seeps exist in a suboptimal condition. A high percentage of invasive species were noted throughout the extents of South Side Park. As such, existing streams/seeps would benefit from riparian buffer invasive species control/management and supplemental woody plantings to promote the reestablishment of a more diverse native woody stand.

Additionally, communities would also benefit from these restoration efforts, through the enhancement of overall habitat complexity and heterogeneity.

Existing upland forests are suppressed by invasive species throughout the majority of the park extents. With the high number of invasive species and the large seedbank coming from the surrounding urban landscape the suboptimal forested section would be a great focal point to reduce invasive species while also limiting exasperating and extensive control efforts along the forested edge transition.

Within the suboptimal forested setting, overstory trees are healthy enough that a chemical and mechanical treatment of the understory could be completed in an efficient and effective manner without ecological harm. Within this area, it is recommended that control efforts move outwards into the marginal forested communities focusing on the understory and more aggressive invasive species referenced in Figure 3. These invasive species can arrest succession and the overall positive effect of a forested stand. Maintaining canopy shade while attacking invasive ground cover will provide the best chances to improve the forested health.

## LIST OF APPENDICES

Appendix D: PA RAP Data Sheet  
Appendix E: Vegetation Plot Data Sheets

## REFERENCES

- City of Pittsburgh Department of City Planning. 2010. Natural Areas Program Phase 1 Report: Assessment Results and Management Plan Framework. Pittsburgh Regional Parks Natural Areas Study.
- Nowak, D.J., and D.E. Crane. 2000. The Urban Forest Effects (UFORE) Model: quantifying urban forest structure and functions. In: Hansen, M. and T. Burk (Eds.) Integrated Tools for Natural Resources Inventories in the 21st Century. Proc. Of the IUFRO Conference. USDA Forest Service General Technical Report NC-212. North Central Research Station, St. Paul, MN. pp. 714-720. <http://www.ufore.org/about/05-00.html> and <http://www.nrs.fs.fed.us/tools/ufore/>
- Pennsylvania Department of Environmental Protection. 2017. Pennsylvania Riverine Condition Level 2 Rapid Assessment. Bureau of Waterways Engineering and Wetlands.



# V. OUTREACH



# OUTREACH

## OVERVIEW

The Advisory Committee, the Department of City Planning, and the Design Team worked to facilitate community involvement via multiple types of outreach and methods of engagement throughout the master planning process.

Outreach materials included mailers, posters, social media posts, coasters, and temporary tattoos. Methods to facilitate community feedback took place through a series of meetings, interviews, surveys, and events.

## OUTREACH MATERIALS

Outreach material played an important role in the South Side Master Plan process. About 5600 mailers and 1200 coasters advertising community events were distributed and posters were hung throughout the Slopes, the Flats and Arlington. In addition to DCP and the Advisory Committee representatives, many community and stakeholder group members generously volunteered their time for the outreach process. Groups posted on social media, sent emails to members, and included articles in newsletters. Temporary tattoos were passed out at community events and by the Advisory Committee members as a way to invite and remind residents to get involved. Vinyl cutout signs were added at park entrances to advertise to park users who might live outside the immediate neighborhoods.



# SOUTH SIDE PARK MASTER PLAN

#SouthSideParkPGH







**COMMUNITY EVENTS START JANUARY 18<sup>TH</sup>!**

**TIME:** 5:00 - 8:00 PM; drop in when you can!  
**LOCATION:** Arlington Rec Center, 2201 Salisbury Street  
 (next to Henry Kaufmann Neighborhood House)

Questions? Comments?  
 Contact: Project Manager Josh Lippert,  
 Department of City Planning,  
 412-255-2616 | [joshua.lippert@pittsburghpa.gov](mailto:joshua.lippert@pittsburghpa.gov)

	EVENT 1 JAN 18 <sup>th</sup>	EVENT 2 FEB 15 <sup>th</sup>	EVENT 3 MAR 15 <sup>th</sup>	EVENT 4 APR 19 <sup>th</sup>	
OCT	NOV	DEC	JAN	FEB	MAR
SITE INVENTORY & ANALYSIS			DESIGN DEVELOPMENT		FINAL PLAN
OCT	NOV	DEC	JAN	FEB	MAR
APR	MAY				



## STAKEHOLDER INTERVIEWS

### City of Pittsburgh

Office of Management & Budget: David Hutchinson, Sr. Manager, Capital Budget  
Department of Public Works: Andrea Ketzler, Project Landscape Architect  
Department of City Planning: Yesica Guerra, Public Art & Civic Design Manager

### Pittsburgh Water & Sewer Authority

Megan Zeigler, Green Infrastructure Technical Coordinator

### Pittsburgh Parks Conservancy

Susan Rademacher, Parks Curator  
Erin Tobin, Community Outreach Coordinator  
Erin Copeland, Senior Restoration Ecologist

### Hilltop Alliance

Sarah Baxendell, Project Manager, Green Space Asset Development

### Community Members

Ruth Isaacson, Arlington  
Teri Fazio, Arlington  
Kitty Vagley, South Side Flats  
Donna Tarkett, South Side Slopes

### LandForce

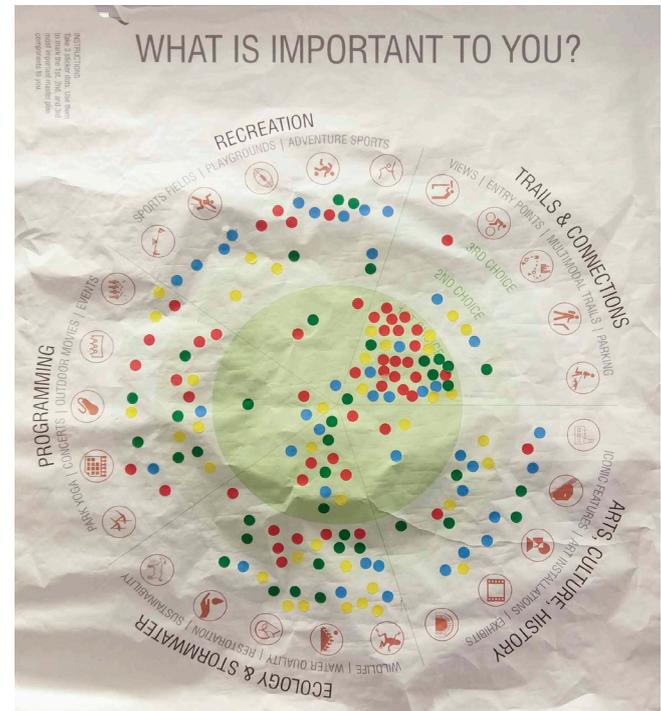
Ilyssa Manspeizer, Executive Director

### South Side Chamber of Commerce

Candice Gonzalez, Executive Director

### Brashear Association

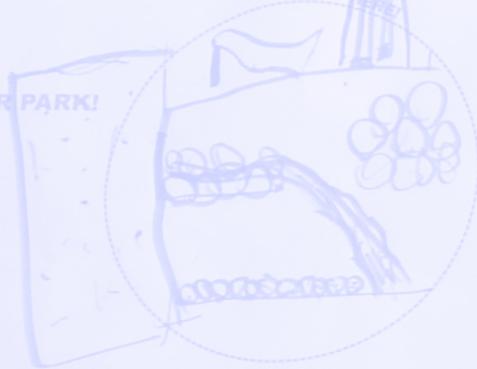
Hugh Brannan, Executive Director  
Barbara Rudiak, Treasurer



Dot activity poster with responses collected at StepTrek 2017

# PARK

WHAT YOU WANT IN YOUR PARK!









# TOWARDS DESIGN

There was a reoccurring request for open-air pavilions, outdoor gathering spaces, nature trails, and showcasing water. A preference for play features, adventure recreation, and art sculptures was also consistently expressed. Improvements to the existing park facilities, including the sports fields, were repeatedly requested.

## PRELIMINARY PLANNING + DESIGN

In conjunction with the results from Community Event 1 and feedback from stakeholder interviews, the Design Team developed three schemes that revolved around four common elements that were consistently identified.

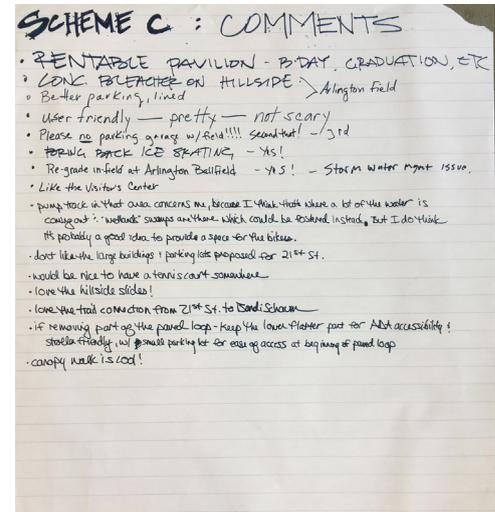
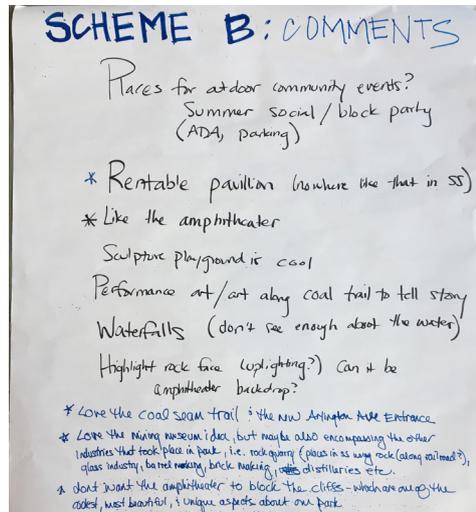
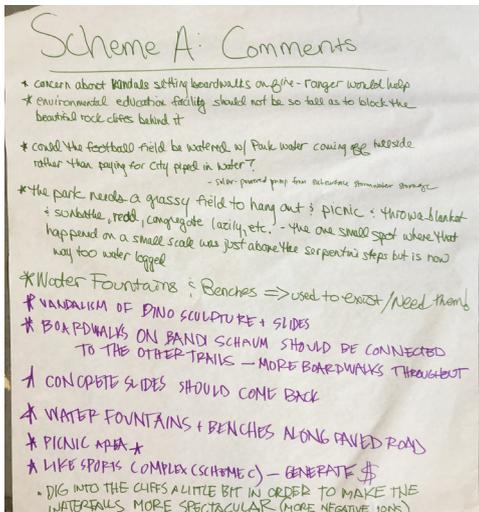
## COMMUNITY EVENT 2

The goal of Community Event 2 was to present preliminary design concepts to get a feel for the design direction and to present specific design elements in order to identify elements that were popular enough to carry forward into the Draft Master Plan. Thirty-three people attended. Residents came from the following neighborhoods: South Side Slopes, South Side Flats, Arlington, and Allentown.

Community Event 2 was designed around three schemes: A) Environmental Education; B) Arts + History + Culture; C) Adventure Recreation. The Design Team explained that

participants need not choose between the schemes; instead they were asked to comment on and/or prioritize a variety of elements that were featured within the schemes.

Scheme A - Environmental Education showcased natural elements such as water, green infrastructure, outdoor classrooms, and a native plant nursery. Scheme B - Arts + History + Culture was centered around creating social spaces and opportunities for vendors. Scheme B also focused on bringing history into the design in order to reveal the park's unique industrial heritage. Scheme C - Adventure Recreation prioritized recreation and emphasized signature



Comments from flip charts Community Event 2's stations



Community Event 2 exit survey



Community Event 2 photos



Community Event 2 photos



Community Event 2 photos

### SURVEY - SCHEME A: ENVIRONMENTAL EDUCATION

**1** A primary feature of Scheme 'A' is a series of boardwalks and picnic pavilions through a wet meadow at the plateau. The boardwalk extends beyond the plateau offering expansive views of the city and allowing park visitors to engage with the rock escarpment in a way they currently cannot. What do you think? **(Circle one)**

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**2** In addition to renovations to Quarry Field, Scheme 'A' relocates the existing playground and eliminates the existing basketball courts in favor of additional parking spaces. What do you think?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**3** Imagine how you might use the park. What do you think of the arrangement of new paths and the pedestrian experiences offered along the way?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**4** What is your overall impression of Scheme 'A'?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**5** Please leave any additional comments on the back!



**THANK YOU FOR YOUR HELP!**

Scheme A Survey (front)

### SURVEY - SCHEME C: RECREATION + ADVENTURE

**1** Scheme 'C' addresses multiple concerns we heard throughout the community. Two of those issues are a need for parking and a need for additional fields. The scheme includes a new rectangular field above a new parking structure at the 21st St. entrance. What do you think? **(Circle one)**

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**2** The scheme incorporates a new bicycle pump track. The pump track could be run by the City, or a third party vendor to offer opportunities for off-road terrain riding. What do you think?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**3** This scheme suggests a new indoor ice rink on the site of the former rink. Is this a park amenity that you would like to see return to the park?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**4** What is your overall impression of Scheme 'C'?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**5** Please leave any additional comments on the back!



**THANK YOU FOR YOUR HELP!**

Scheme C Survey (front)

### SURVEY - SCHEME B: ARTS + HISTORY + CULTURE

**1** Scheme 'B' includes a small amphitheater set into the slope near the base of the Serpentine Steps. There is a plaza area adjacent intended for food trucks, flea markets and other types of gatherings. What do you think? **(Circle one)**

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**2** The scheme incorporates a series of marble rings to celebrate and promote the city's long history with the sport. What do you think?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**3** The sculptural playground near the 21st St. entrance is intended to reflect the industrial heritage of the site, the neighborhood and the city in general. How do you feel about the idea of playable sculpture fashioned to reflect this history?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**4** What is your overall impression of Scheme 'B'?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

**5** Please leave any additional comments on the back!



**THANK YOU FOR YOUR HELP!**

Scheme B Survey (front)

CE2 STATION SURVEYS	Like it a lot	Like it somewhat	Dislike it somewhat	Strongly dislike it	Not sure	Total responses
<b>TOTAL: 59 surveys completed</b>						
<b>SCHEME A</b>						
Question 1: boardwalks	10	6	2	1		19
Question 2: playground to parking	4	4	3	4	3	18
Question 3: new paths	9	8			1	18
Question 4: overall impression	8	10	1			19
<b>19 total surveys:</b>	<b>31</b>	<b>28</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>74</b>
<b>SCHEME B</b>						
Question 1: amphitheater/food trucks	12.5	6	0.5	1		20
Question 2: marble rings	9	3	2		4	18
Question 3: sculpture playground	13	3	2			18
Question 4: overall impression	10	8				18
<b>19 total surveys:</b>	<b>44.5</b>	<b>20</b>	<b>4.5</b>	<b>1</b>	<b>4</b>	<b>74</b>
<b>SCHEME C</b>						
Question 1: garage/rect field	3	8	2	4	3	20
Question 2: pump track	2	8	1	5	4	20
Question 3: indoor ice rink	6	3	2	8	1	20
Question 4: overall impression	4	6	6	2	2	20
<b>21 total surveys:</b>	<b>15</b>	<b>25</b>	<b>11</b>	<b>19</b>	<b>10</b>	<b>80</b>

Totaled Responses from Community Event 2's Scheme's Survey Stations

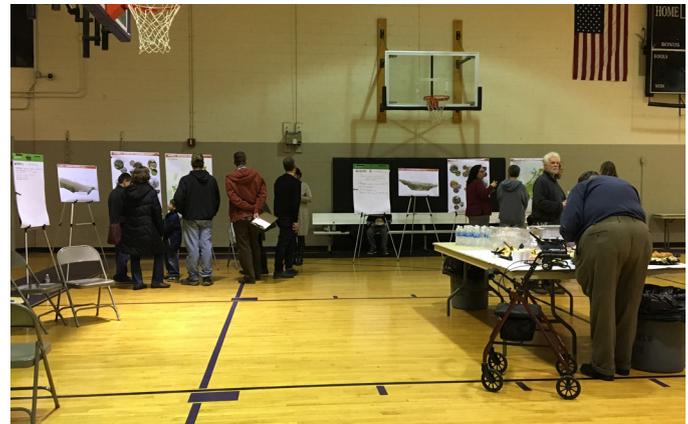
recreational opportunities that would take advantage of the park's topography. Surveys and flip charts were located throughout the gym at the community event. The station surveys and compiled results are shown on pg. 74. Complete descriptions, enlarged plans, precedent images, and section perspectives for each Scheme may be found in Appendix F.

### SCHEMES ONLINE SURVEY

The Design Team also created a survey to gather additional feedback from those unable to attend Community Event 2. The Schemes Survey was posted on the City Planning website and stakeholder group Facebook pages. The survey was also sent out to community group listservs. It was open from 2/21 to 3/2/2018 and 66 people responded. (See complete survey results may be found in Appendix I.)

The most popular elements from the Schemes are highlighted in the summary table on pg. 76. Lightly highlighted elements received one-third of the votes (20) or more. heavily highlighted elements received two-thirds of the votes (30) or more.

In addition to the elements the community identified as important, DCP identified a BMX pump track and an adventure recreation opportunity as elements that would help meet the some of the City's Openspace PGH goals. The next step for the Design Team entailed pulling all the elements popular with the community and elements recommended for the park by DCP (as per the OpenSpace PGH goals) together to create a draft of the master plan.



(Above) Community Event 2 photos

# PLAN DRAFTS - Schemes

## SCHEMES SURVEY MONKEY RESULTS

TOTAL: 62 surveys completed (as of 9 PM 3.1.2018)

### SCHEME A 58 responses

natural play area	33
parking lots	16
open-air pavilion	35
environmental education center	14
outdoor classroom	9
native plant nursery	24
plateau boardwalk and picnic platforms	37
dinosaur sculpture	11
embankment slides	25
pools/wet meadows/seep	32

### SCHEME B 53 responses

sculpture playground	20
amphitheater	28
food truck plaza	26
mining heritage museum	14
marble rings	9
parking at 21 St. entrance	16
trail along former coal seam	33
climbable sculpture tower	18
18th St. art	21
tour of historic/remnant houses	18

### SCHEME C 54 responses

Visitors center	12
parking garage	10
indoor court	18
rectangular field	14
new bleachers and bathrooms at Quarry	18
BMX pump track	12
zip line	15
canopy walk	23
renovated basketball courts	17
playground at 21st St.	17

Positive votes for elements in schemes A, B, and C. Elements with high % of positive votes are highlighted.



## SCHEME A - ENVIRONMENTAL EDUCATION

- Acquire parcel for green infrastructure use
- Parking (50 spots)
- Natural play area
- Open air pavilion (2500 SF)
- Native plant nursery
- Outdoor classroom
- Environment education center (9,000 SF)
- Green infrastructure: pools and wetlands
- Parking (68 spots)
- Revealed seeps a boardwalks with seating
- Embankment slides
- Resurface loop trail
- Dinosaur sculpture and outdoor classroom
- Boardwalk and picnic pavilions
- Wet meadow



## SCHEME B - ARTS + HISTORY + CULTURE

- Surface parking (75 spaces)
- Sculpture playground
- Mining Heritage Museum (14,000 SF)
- Food truck plaza (23,000 SF)
- Amphitheater
- Acquire adjacent parcel
- 18th St. art
- Marble rings and new play space
- Coal Seam trail along 1040 contour
- Arlington Ave entrance
- Overlook sculpture tower
- Historic “House Tour” of remnant foundations, stairs, etc.
- Renovate Arlington Rec Center
- Wellington St. entrance
- Wetland boardwalk



## SCHEME C - ADVENTURE RECREATION

- Visitors Center (5,000 SF)
- Playground at S. 21st St. entrance
- Parking garage (200 spaces)
- Rectangular field (over garage)
- Green infrastructure: planted swales and channels
- Indoor tennis courts or hockey rink (25,000 SF)
- Pedestrian-only entrance from 18th St.
- Acquire adjacent parcel
- Steps between 18th St. and Saber Way
- New hillside slides; renovate playground and basketball courts
- Pump track
- Arlington Ave entrance
- Zip line
- East-West connector trail
- Canopy walk (ADA-accessible)
- Drivable access from parking garage to Mission St.

# DRAFT PLAN

## DRAFT MASTER PLANNING + DESIGN

As the Design Team collected and summarized the results from Community Event 2 and the Schemes Survey, the team also simultaneously continued to conduct stakeholder interviews and to discuss the needs and wants of the Department of City Planning. Together these sources of information informed the Draft Master Plan which was presented at Community Event 3.

## COMMUNITY EVENT 3

The goal of Community Event 3 was to present

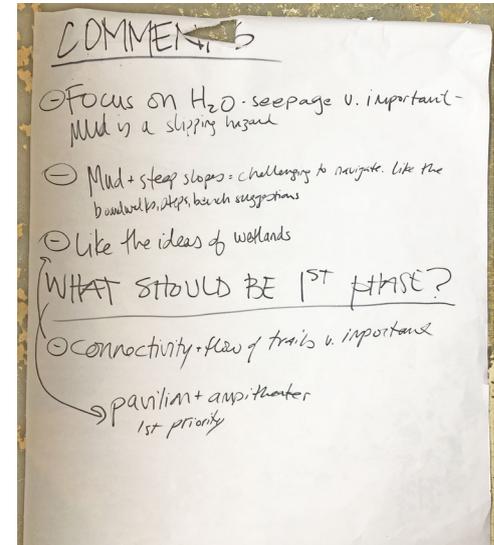
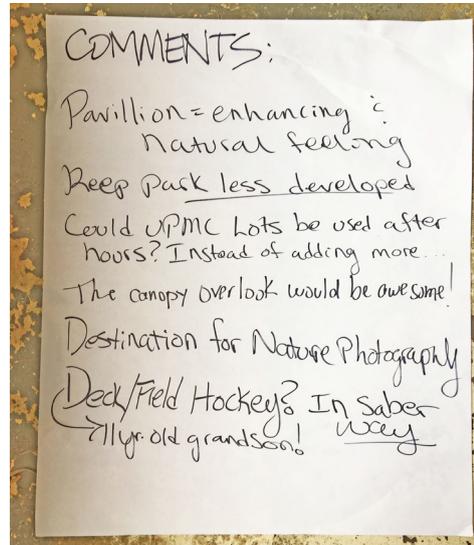
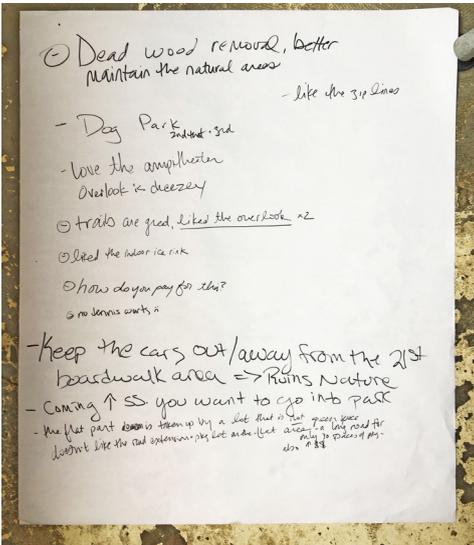
one cohesive plan that aimed to incorporate all of the feedback that had thus far been acquired. Fifty-nine residents attended from South Side Slopes, South Side Flats, Arlington, Mt. Oliver, Whitehall, Manchester, Allentown, and Carrick.

The Draft Master Plan incorporated the following elements: natural play areas, the plateau boardwalk and picnic platforms, an open air pavilion, pools/wet meadows/seeps, embankment slides, a trail along the former coal seam, a sculpture playground, an amphitheater, a food truck playground, 18th St. art, a canopy walk, a BMX pump track,

and an opportunity for a third party adventure recreation operator, in addition to important baseline improvements.

Participants were very excited about the Draft Master Plan although there was hesitation about some of the bigger and more expensive design elements (see pg. 82-83). The general consensus was that the Draft Master Plan contained the appropriate elements, but that some of them could be rearranged. Station surveys completed at the Community Event 3 are shown on pg. 80.

After the event, a few additional elements were



Flip-chart comments from Community Event 3

discussed during Advisory Committee meetings as elements that should be considered for inclusion: a bike route through the park and tennis courts.

### DRAFT MASTER PLAN ONLINE SURVEY

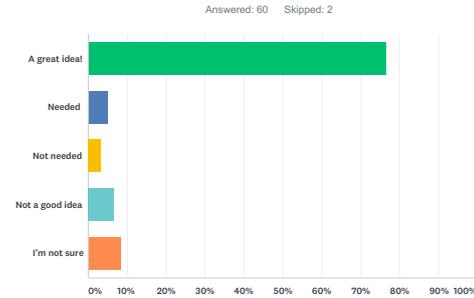
The Design Team also created a survey to gather additional feedback from those unable to attend the Community Event. The Schemes Survey was posted on the City Planning website and stakeholder group Facebook pages. The survey was also sent out to community group listservs.

An additional online survey depicted the Draft Master Plan, a precedent board, and the perspectives that were shown at the event. Respondents were provided the same set of questions that participants at the community event were asked via station survey. It was open from 3/23 to 3/31/2018 and 66 people responded. Almost all of the items got the support of roughly 70% or more participants. The two program elements that had a more mixed response were: 1) the need for a BMX pump track; 2) whether a tennis court should be added to the plan. The complete results of the Draft Plan Survey are listed in Appendix H.

### TOWARDS A FINAL PLAN

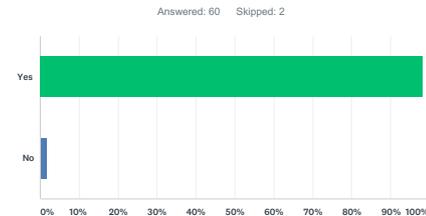
After conversations with the Advisory Committee and City Planning, the Design Team developed the final South Side Park Master Plan.

**Q8 Many people wanted to see the unique topography and rock formations made a feature in the park. They also mentioned the beautiful views. This plan adds an overlook west of the plateau that offers views of the city and the rock face. What are your thoughts about this feature?**



ANSWER CHOICES	RESPONSES
A great idea!	76.67%
Needed	5.00%
Not needed	3.33%
Not a good idea	6.67%
I'm not sure	8.33%
TOTAL	60

**Q9 We heard from many residents that there are not many children who use the park. The draft plan removes the playground at Saber Way and creates a larger, sunnier play area that can be seen from the 18th Street Entrance. It also creates a play area with slides and climbable sculpture near the Julia Street entrance. Does this seem like the right amount of dedicated play space?**



ANSWER CHOICES	RESPONSES
Yes	98.33%
No	1.67%
TOTAL	60

Sample responses from the Draft Plan Online Survey

### SURVEY - DRAFT PLAN

1. This plan adds one new trail (Coal Seam Trail) and two connector trails (East-West Connector and Bandi Schaum Connector). How do you feel about adding these trails to the park's trail network? **(Circle one)**

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

2. A bike route through the park to connect the Flats to the Hilltop neighborhoods is... **(Circle as many as you like)**

**A great idea!**   **Needed**   **Not needed**   **Not a good idea**   **I'm not sure**

3. The draft plan shows two opportunities for unique recreation: a BMX track and a zone for an adventure course, potentially operated by a third-party vendor. What are your thoughts on these additions to the park?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

4. The plan does not add any new sports fields to the park. It does include renovations to Quarry Field and new bleachers at Arlington Field. It also replaces the existing basketball court with a new one.

1. Does this seem like the right number of sports fields for the park? **(Circle one)**

**Yes   No**

2. Are there any other kinds of fields you'd suggest for the park?

5. This plan proposes removing pavement and increasing the amount of vegetated area in the park. How do you feel about the balance of developed vs. more natural spaces shown on the plan?



Community Event 3 Station Survey (front)

### SURVEY - DRAFT PLAN

1. This plan adds one new trail (Coal Seam Trail) and two connector trails (East-West Connector and Bandi Schaum Connector). How do you feel about adding these trails to the park's trail network? **(Circle one)**

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

2. A bike route through the park to connect the Flats to the Hilltop neighborhoods is... **(Circle as many as you like)**

**A great idea!**   **Needed**   **Not needed**   **Not a good idea**   **I'm not sure**

3. The draft plan shows two opportunities for unique recreation: a BMX track and a zone for an adventure course, potentially operated by a third-party vendor. What are your thoughts on these additions to the park?

**I like it a lot!**   **I like it somewhat**   **I dislike it somewhat**   **I strongly dislike it**   **I'm not sure**

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1. Does this seem like the right number of sports fields for the park? **(Circle one)**

**Yes   No**

2. Are there any other kinds of fields you'd suggest for the park?

5. This plan proposes removing pavement and increasing the amount of vegetated area in the park. How do you feel about the balance of developed vs. more natural spaces shown on the plan?



Community Event 3 Station Survey (back)

### CE3 STATION SURVEYS

TOTAL: 37 surveys completed

#### DRAFT PLAN

##### 1: Trails

Like it a lot	28
Like it somewhat	6
Dislike it somewhat	1
Strongly dislike it	0
Not sure	0
(no answer = 2)	

##### 2: Bike route

Great idea	25
Needed	12
Not needed	1
Not a good idea	1
I'm not sure	3
(other response)	1
(no answer = 1)	

##### 3: Adventure rec

Like it a lot	9
Like it somewhat	17
Dislike it somewhat	4
Strongly dislike it	1
Not sure	8

##### 4: Sports fields

Right number	31
Not the right number	6
Other fields	15

Other fields	
Soccer	2
Dog park	2
Open lawn	1
Tennis	4
Ice rink	2
Skate park or trampoline park	1
Basketball	1
Bocce court	1
Pickleball court	1

#### PERSPECTIVES

##### 1: Water

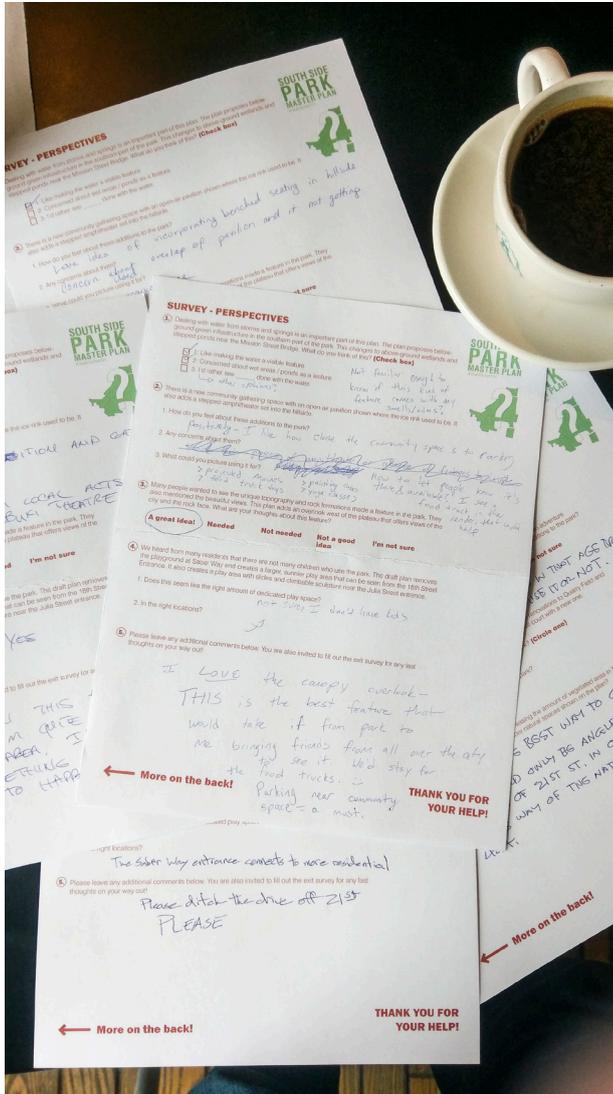
Like visible	36
Concerned	4
Rather see...	2

##### 3: Overlook

Great idea	28
Needed	1
Not needed	1
Not a good idea	2
I'm not sure	5
(no answer = 1)	

##### 4: Play areas

Right amount	24
Not the right amount	1
Maybe / not sure	4
Right locations	16
Not the right locations	
Maybe / not sure	4
(no answer = 4)	



Community Event 3 survey responses



Photos from Community Event 3

# DRAFT PLAN

1. Acquire parcel for stormwater management
2. Formalized trail between S. 21st St. entrance + Bandi Schaum Drive
3. Entry drive
4. Boardwalk over stormwater ponds
5. Parking (60 spots)
6. Stormwater pond
7. Community gathering/event area
8. Open air pavilion
9. Amphitheater
10. Lawn
11. Bike push ramp
12. New basketball court
13. New natural play area + marble rings
14. 18th St. Art
15. Parking (30 spots)
16. New bathrooms + scoreboards
17. Renovate field with subsurface detention
18. Embankment bleachers
19. BMX pump track
20. Trail for BMX access
21. Embankment bleachers
22. Sculptural overlook + embankment slides
23. Renovate Arlington Rec Center
24. Manage invasive species with native planting
25. Adventure rec. opportunity by 3rd party operator
26. Coal Seam Trail
27. East/West Connector
28. Revealed seeps + boardwalk
29. ADA accessible trail
30. Formalized trail through plateau and constructed wetlands with picnic platforms
31. Canopy overlook
32. Boardwalk and constructed wetland
33. Entry seating area + renovated parking





Precedents for elements shown in the Draft Master Plan.





# VII. FINAL PLAN



# MASTER PLAN

The final South Side Park Master Plan is a delicate combination of prioritizing the park's hydrology, creating much-needed outdoor spaces for community events, capturing the beauty of the park's unique topography, and providing opportunities for art and recreation, while making important baseline improvements. The most essential goal of the master plan is to guide the creation of a safe and healthy park in which residents, park stewards, and stakeholder groups feel invested, involved, and inspired to work together. The final plan can be broken into a series of components:



View of site model looking northwest towards Bandi Schaum Community Garden

## PROGRAM

- Entrances
  - New + Existing Entrances
  - Entrance amenities
- Circulation + Access
  - Bike + Pedestrian Network
  - Trail difficulty
  - Vehicular Circulation + Access
- Social+Cultural Destinations
  - Community Gathering Spaces
  - Canopy Overlook + Picnic Platforms
  - Public Art
  - S. 21st St. Boardwalk
  - Jurassic Valley Overlook
- Play
  - Embankment slides
  - Play area
- Recreation
  - Sports Fields + Courts
  - Adventure Rec BMX pump track (rocks and ropes course, BMX pump track)
- Environment
  - Green infrastructure
  - Planting + Restoration Areas
  - Paving

## PROGRAM ALTERNATES

- Tennis Courts
- Bike Route

## GENERAL RECOMMENDATIONS

- Baseline Improvements
- Environmental Design

# MASTER PLAN - Overview

1. Parcel acquired for green infrastructure
2. Renovated parking (30 spots)
3. Drive
4. ADA-accessible boardwalk
5. Parking (60 spots)
6. Shared-use (bike) path
7. Community event area
8. Open-air pavilion over small building (includes bathrooms)
9. Amphitheater
10. Lawn
11. Paved push-ramp for cyclists and green infrastructure detention cells
12. Renovated entrance with parking (5 spots)
13. Children's Discovery Garden
14. Basketball court + marble rings
15. Resurfaced rectangular field with subsurface detention
16. Embankment bleachers
17. Renovated bathrooms, concessions, scoreboard
18. Parking (40 spots)
19. Public art opportunity
20. BMX pump track (third-party operator)
21. Trail for BMX access
22. Embankment slides
23. Ropes course (third-party operator)
24. Embankment bleachers and new scoreboard
25. Sculptural overlook + parking (9 spots)
26. Basketball court and play area renovations
27. Renovate Arlington Rec Center
28. Manage invasive species with native planting
29. Seating at Jurassic Valley Overlook
30. 1040 Trail and interpretive art

31. East/West Connector Trail
32. Revealed seeps + seating
33. Tombstone Trail considered for ADA accessibility
34. Trail through plateau and wetlands +picnic platforms
35. New Sierra St. entrance, steps + Sierra Connector Trail
36. Canopy overlook
37. Boardwalk and wetlands
38. Mission St. Connector Trail
39. Renovated parking and entrance area with seating
40. Drive gated (vehicle access for garden members)





**D** Perspective rendering showing the community event area (#7); looking towards Mission St. Bridge.

# PROGRAM - Improve Entrances

## OVERVIEW

One of the most important components of the South Side Park Master Plan is improving park entrances. This entails creating new entrances where the park feels cut off from residents and improving the legibility of the existing entrances.

## NEW ENTRANCES

The plan proposes the addition of three new entrances, labeled as A, B, and C in the image on the right. Each of these entrances should also meet the “General Recommendations - Improve Entrances” guidelines (pg. 110-111).

A) The Eccles St. Entrance would create a new connection at the end of Eccles that would lead into the Julia St. parking area and Arlington ball field. Currently, this area is dark and dangerous. By adding lighting, seating, and creating activity in the area, the space will likely become a safer, less neglected space, which may deter crime. This new entrance also includes a climbable sculptural overlook and 9 parking spaces. A trail will connect neighbors from this entrance to the Julia St. parking area and ball field.

B) The Sierra St. Entrance proposes the acquisition of a parcel at Sterling and Sierra St. for a new park entrance, with steps leading to a connector trail to the Bandi Schaum Trail. This connection would create a much-needed east-west route for South Side Slopes residents on



either side of the park and increase the park's visibility from the eastern part of the neighborhood.

C) The Pump House Parking and Entrance would reconfigure the existing parking lot to create a new entry hub into the park with a seating area, bike racks, and picnic tables. The re-designed parking area would provide 14 parking spots. The entrance formalizes small desire-line trails and connects to the S. 21st St. portion of the park and to the former Bandi Schaum drive, which this plan suggests be closed off to vehicles.

### EXISTING ENTRANCES

Currently, park entrances are easy to miss and do not convey welcoming moments into the park. The plan recommends targeting the following entrances for improvement:

1. S. 21st St. Bridge
2. 18th St.
3. Saber Way
4. Julia St.
6. Bandi Schaum

Each of these existing entrances should follow the "General Recommendations - Improve Entrances" guidelines referred to on pg. 110-111.



*Overlook climbable sculpture precedent study for entry "A", located at Washington Avenue Green in Philadelphia, PA. Designed by Biohabitats and Stacy Levy.*

# PROGRAM - Circulation + Access

## OVERVIEW - TRAIL NETWORK + BIKE NETWORK

The plan proposes adding a few key trail connections to the existing trail network, while also making a few improvements to the existing trails.

### BREAKDOWN

1. Sidewalks on either side of the S. 21st St. drive bring people into the park
2. ADA access boardwalk over the stepped stormwater ponds
3. Shared-Use Path runs alongside the boardwalk at a 6-7% slope
4. Sidewalk along the back of the parking lot connects up to Bandi Schaum or to the plaza
5. Three-foot wide bicycle push ramp runs along Serpentine Stairs at about 22-25% slope
6. Sidewalk from 18th St. connects to a network of walkways through the play area and basketball courts - connecting to existing trail heads for Tombstone Trail and Quarry Trail
7. Renovated sidewalk at Saber Way
8. Tombstone Trail considered for ADA accessibility
9. East/West Connector Trail proposes 580 LF of new trail (natural surface)
10. 1040 Trail proposes 900 LF of new trail (natural surface) that runs along the former coal seam.
11. Eccles St. Tower Overlook, lighting, + parking
12. Formalized trail at the Marengo St.
13. South Side Trail is resurfaced and seating is added at the Jurassic Valley Overlook.
14. Acquisition of Parcel at Sierra St. for new entrance - proposes steps and connector trail to





**F** Perspective rendering showing the 1040 trail and a coal car viewing deck as an example of historic interpretive art and seating

15. Plateau Trail and Picnic Platforms  
470 LF of new trail across plateau and boardwalk over constructed wetlands

16. Canopy Overlook and trail  
17. Mission St. Connector Trail with boardwalk over Bandi Schaum wetlands  
18. Gated vehicular access at Bandi Schaum

Drive; vehicle-accessible to gate key holders; drive has been reduced to 10 feet and is intended for pedestrian and bicycle use primarily

# PROGRAM - Circulation + Access

## OVERVIEW - TRAIL ACCESS + LOOPS

The plan proposes new key connection trails that will allow for more diverse hiking loops throughout the park of varying levels of difficulty. Hiking loop signage at the points indicated will significantly aid in landscape legibility and also give park users more confidence, and ultimately making the park safer. The plan adds a couple of ADA trails and access points to increase the park's accessibility.

## BREAKDOWN

1. ADA access loop up to plaza and back using boardwalk
2. Feasibility study for ADA access loop up to canopy walk and picnic platforms
3. ADA Access loop around basketball court and play area
4. Difficult hiking trails allow for new networks of short but challenging hiking trips through the park
5. Intermediate level loop out to Jurassic Valley overlook for hikers or bikers which can also be combined with more difficult trails
6. Blue asterisks indicate the need for signage that identifies the lengths and difficulties of the varying possible loops through this trail network



# PROGRAM - Circulation + Access

## OVERVIEW - VEHICULAR ACCESS + PARKING

The proposed plan minimally reconfigures vehicular circulation and also adds parking spaces that will be needed as the number of park users and the amount of park programming increases over time. (See Appendix B for a diagram of existing parking).

## BREAKDOWN

1. S. 21st St. entrance resurfaces the parking lot which provides about **30 parking spots**
2. Steep drive (20%+/-) up to a new parking that provides about **60 spots**
3. Restricted vehicular access for food trucks, special events, and maintenance vehicles
4. Entrance at 18th St. gets reconfigured to provide **5 spots** and bike racks
5. Existing drive is bumped outwards and aligned with the drive off of 18th St. allowing the boundary of the park to expand. This drive is opened to the public and becomes a drop off loop for the playground and fields.
6. Saber Way parking lot provides **40 spots**
7. Eccles St. entrance provides **9 spots**
8. Gated vehicular access at Bandi Schaum Drive; vehicle-accessible to gate key holders; drive has been reduced to 10 feet and is intended for pedestrian and bicycle use primarily
9. Parking lot at the PWSA Pump House has been reconfigured and now provides **14 spots**
10. Existing parking lots at Bandi Schaum and Julia St. are re-stripped providing **26-30 spots**



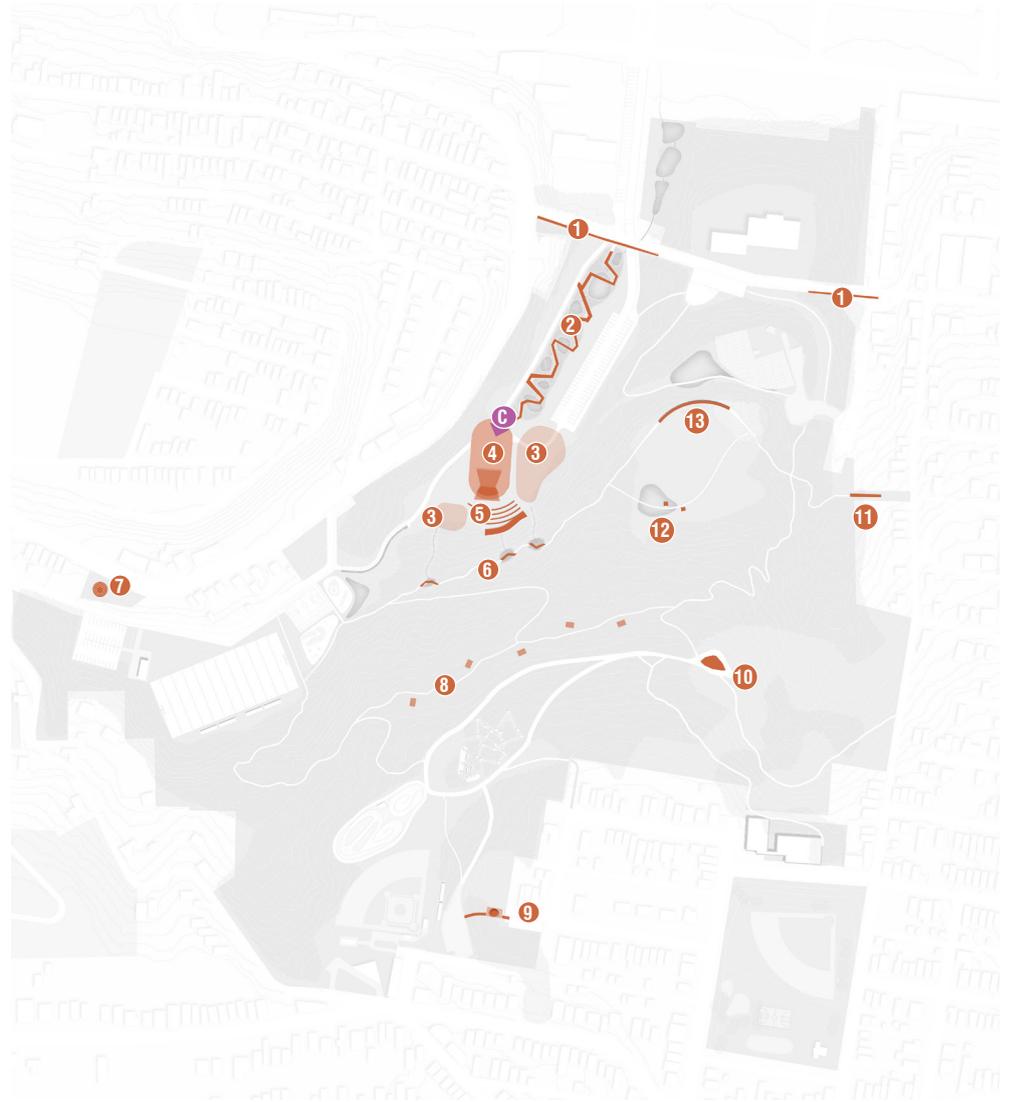
# PROGRAM - Social + Cultural Destinations

## OVERVIEW

The plan proposes adding a network of culturally, historically, and/or socially oriented spaces throughout the park which will serve as destinations for park visitors. Some of the destinations are large community gathering areas. Some of these spaces provide interesting views and small group gatherings. Others are intended to be more tucked away inspiring reflection and curiosity.

## BREAKDOWN

1. Public art and lighting installation under Mission St. Bridge
2. S. 21st St. boardwalk provides views and seating areas for reflection and wildlife observation
3. Lawns on either side of the amphitheater provide space for picnicking and lawn games
4. Community event area (20K SF) with picnic tables and chairs that allows for food truck access
5. Open-air pavilion (4,250 SF) provides enclosed bathrooms, and storage area, and stage that faces a 600-person amphitheater
6. Boardwalks over “formalized” seeps - existing seeps are channeled into small constructed streams with step pools and waterfalls
7. Art installation opportunity - welcome icon
8. Historic interpretive signage or art along 1040 Trail





**C** Perspective rendering showing the community event area, looking towards the Serpentine Steps

- 9. Eccles St. Overlook Sculpture provides a climbable sculptural overlook and lighting
- 10. Jurassic Valley overlook and rest spot
- 11. Sierra Steps vista
- 12. Raised picnic platforms over wetland boardwalk
- 13. 200 LF elevated Canopy Overlook + seating over the plateau

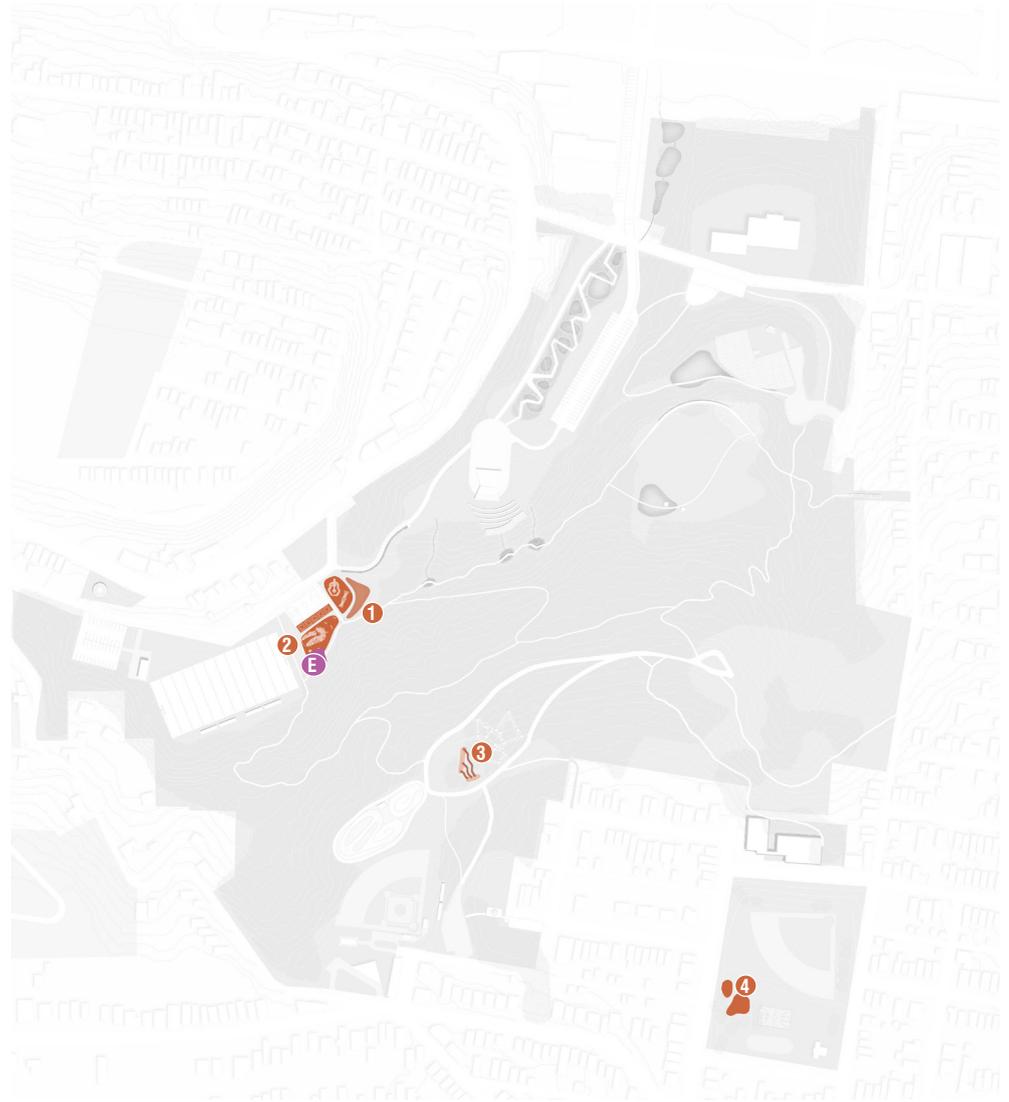
# PROGRAM - Play

## OVERVIEW

Throughout the design process, community members consistently mentioned the lack of children in the park. The master plan proposes a larger play area and a Children's Discovery Garden near the community event area and amphitheater, which provides another node in this new activated corridor extending off S. 21st St. The plan also proposes a set of embankment slides up near the Arlington baseball field, a great spot for kids to come if their siblings have a baseball game or are using the BMX pump track.

## BREAKDOWN

1. Children's Discovery Garden - two exploration play spaces geared towards children ages 2-5 and 5-12, and a sensory rain garden
2. Six new marble rings
3. Three embankment slides on-grade 25' to 75' long, proposed for the interior of the South Side Loop Trail, along with cushioning surface at bottom
4. Renovated play area at the Fort





**E** Perspective rendering showing the Children's Discovery Garden, looking towards the 18th St. Entrance

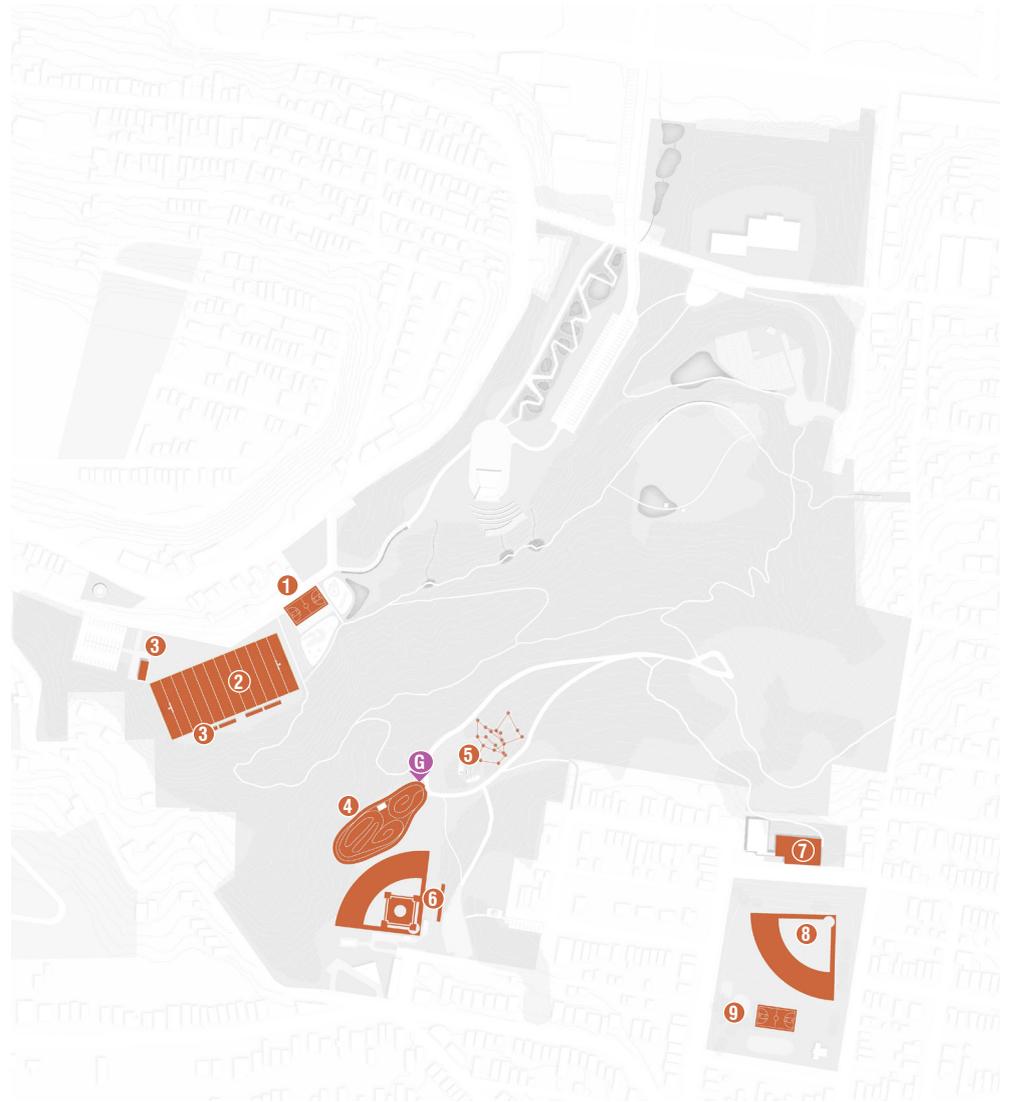
# PROGRAM - Recreation + Adventure Recreation

## OVERVIEW

The master plan proposes making essential improvements to the existing recreational facilities, in addition to a few adventure recreation opportunities that could be operated by 3rd party vendors.

## BREAKDOWN

1. Full size basketball court and seating
2. Renovations to Quarry Field; includes new turf field and with a subsurface green infrastructure drainage system
3. Renovations to Quarry Field facilities including concrete embankment bleachers, scoreboard, renovated concessions area, and bathrooms
4. BMX pump track and storage unit
5. Rocks and ropes adventure course
6. Improvements to Arlington baseball field, including new embankment bleachers and a new scoreboard
7. Renovations to the Arlington Rec Center; includes adding windows and a more visible entrance
8. Renovations to the Fort's softball fields
9. Resurfacing of the Fort's basketball court and seating





6 Perspective rendering showing BMX pump track

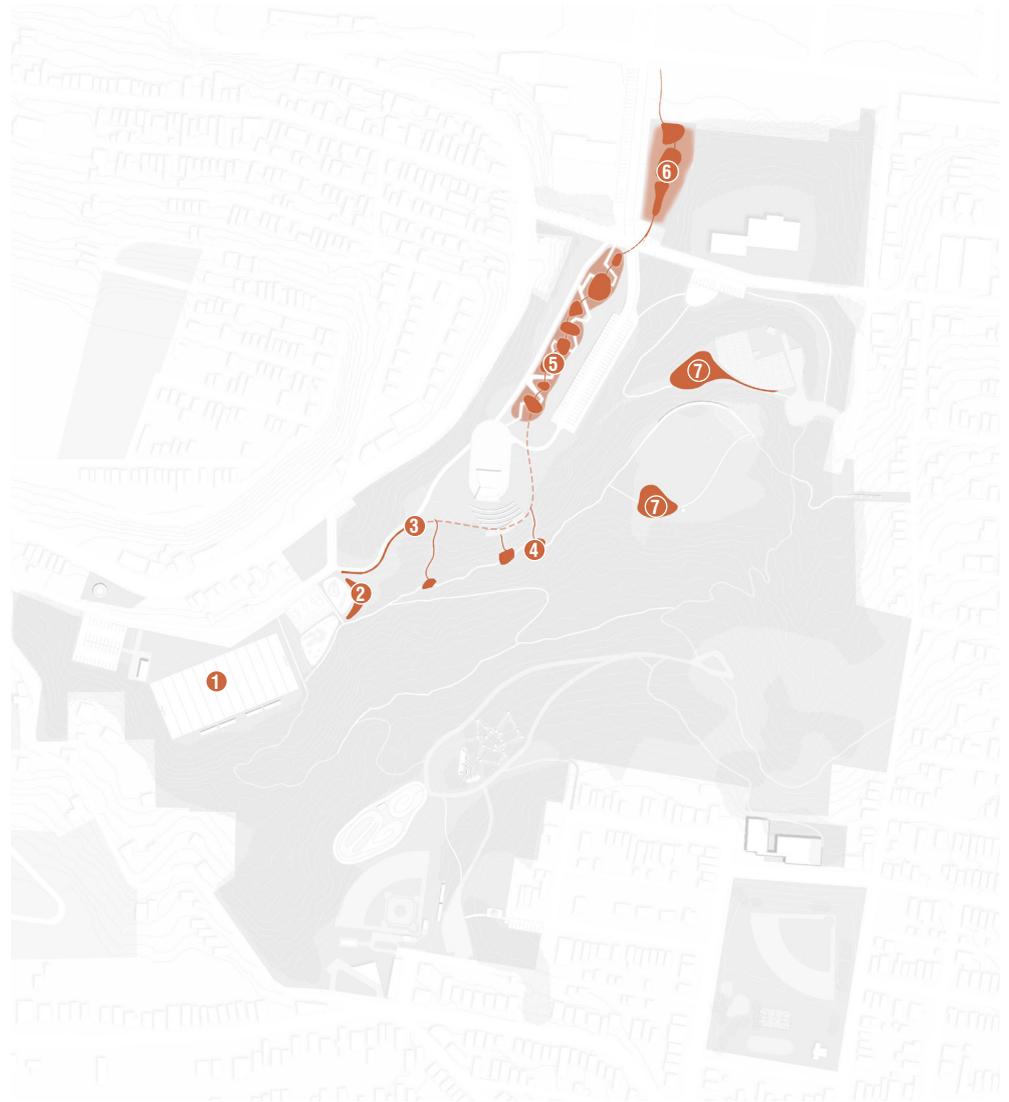
# PROGRAM - *Environment*

## GREEN INFRASTRUCTURE OVERVIEW

South Side Park's unique hydrologic system is an essential element to the master plan. In the schematic green infrastructure system shown at right, groundwater seeps and stormwater are disconnected from the existing catch basin network. Instead, this design proposes that a combination of gray and green infrastructure to artfully and ecologically manage groundwater seeps and stormwater, balancing the needs of park users with the needs of a healthy landscape. Water from South Side Park's steep slopes is slowed in a series of green infrastructure systems that begin at Quarry Field and continue downhill, intercepting additional water sources along the way, eventually joining the South S. 21st St. green infrastructure system. (Note: The term "water" in this section refers to untreated groundwater seeps and stormwater; it is not potable and not for recreational use by the public.)

## BREAKDOWN

1. Water rushing down the hillside toward Quarry Field is intercepted in a strip or sediment forebay behind proposed embankment bleachers before it is conveyed into lined subsurface detention cells below Quarry Field.
2. The detained water is then daylighted in a lined bioretention basin (potentially also a sensory garden) at the top of the Serpentine Steps, where additional groundwater seeps from the hillside above also collect.





- 3. Overflow is channeled through a series of lined stepped bioretention cells before being piped underneath the plaza (to be daylighted at the top of the constructed wetland/pond system).
- 4. Groundwater seeps emerging from the cliffs along Tombstone Trail empty into pockets of pooling water and waterfalls in small, formalized, constructed streams (which take the place of the existing drainage ditches). These streams flow down to a sediment forebay/filter strip behind the proposed amphitheater before it is piped underground to combine with

- the piped water coming from Quarry Field. The combined piped water passes under the plaza to the top of the green infrastructure ponds/wetlands.
- 5. The water is daylighted in a series of stepped green infrastructure wet ponds and/or constructed wetlands. These ponds could be designed to have a permanent baseflow, with additional storage volume for wet weather conditions.
- 6. From here, water flows through stepped bioinfiltration cells that have the potential to create small waterfalls in attractive

- landscaped areas, where the park's green infrastructure system can beckon passersby into the park. Water is then subsurface channeled and connected to the S. 21st St. green infrastructure system.
- 7. Wet meadows are softscape green infrastructure systems that are not connected to gray infrastructure; water loving plants soak up and transpire excess water.

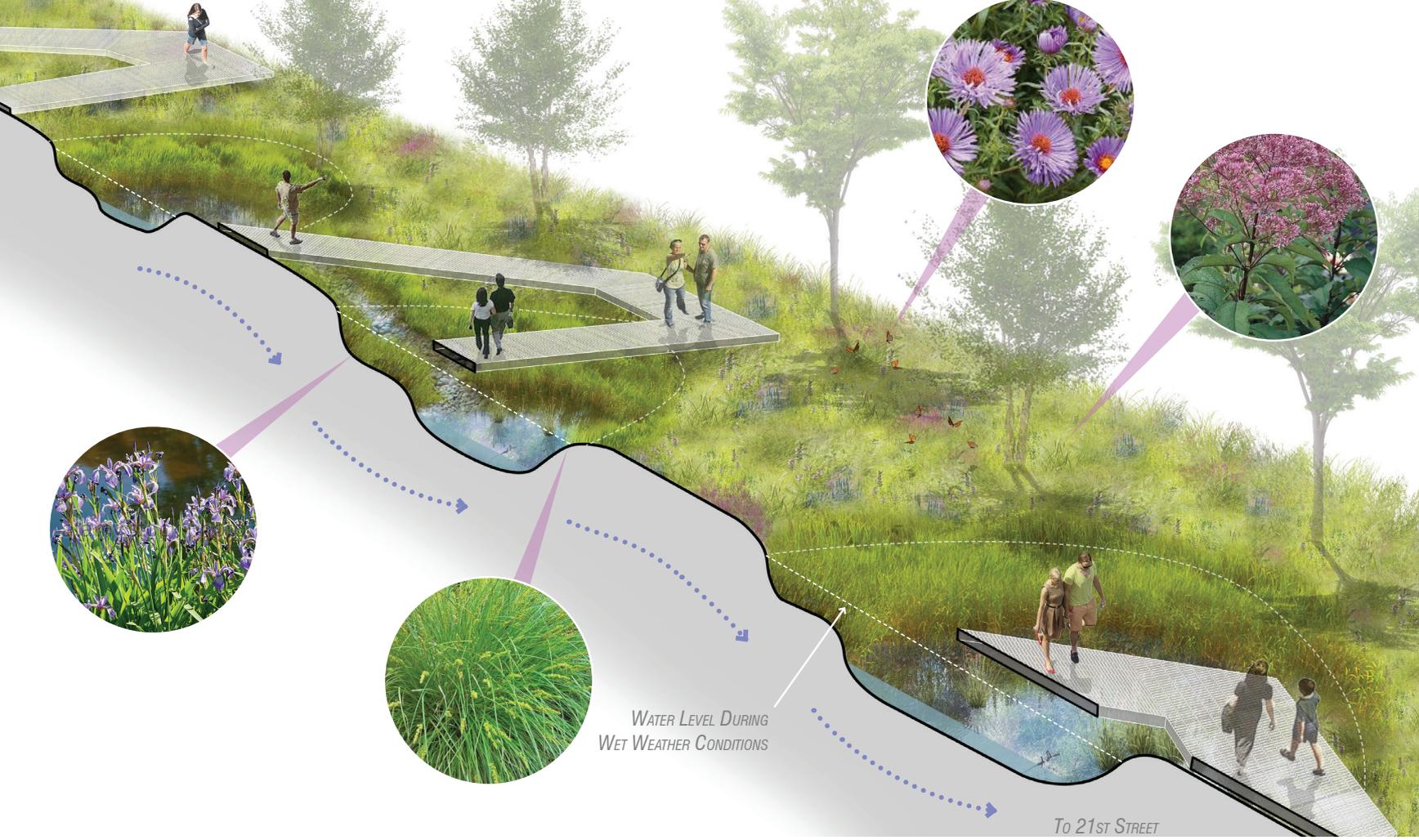


**A** Perspective rendering showing green infrastructure stormwater ponds and wetlands at the S. 21st St. entrance

Geotechnical studies will need be conducted to determine the feasibility of this schematic recommendation. Specifically, it will be important to

determine whether and where infiltration is possible. There are additional groundwater seeps and drainage ditches that have not been accounted for in this

plan. A thorough investigation of soils and baseflow is recommended.



WATER LEVEL DURING  
WET WEATHER CONDITIONS

To 21ST STREET

Conceptual rendering of stormwater pond and wetland green infrastructure system

# PROGRAM - *Environment*

## PLANTING + INVASIVE SPECIES OVERVIEW

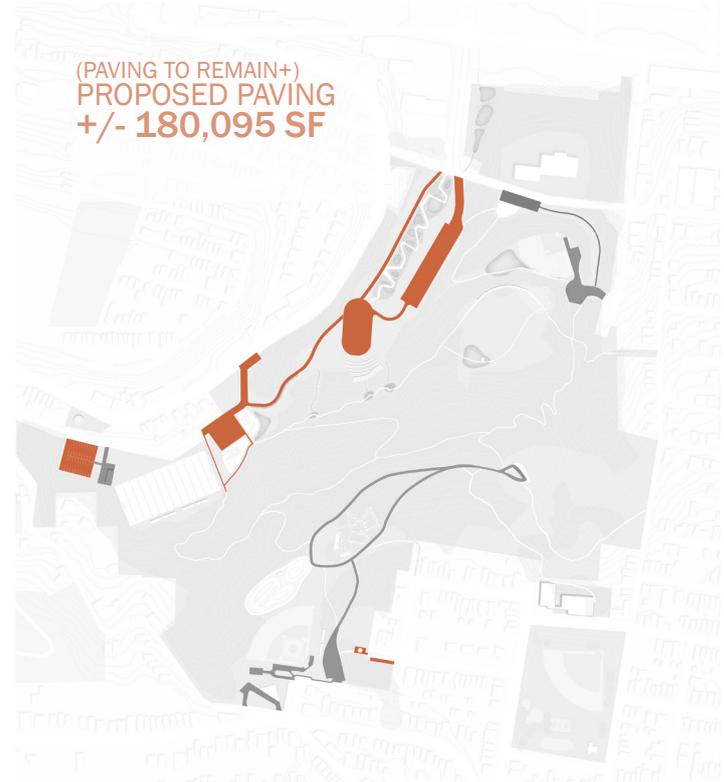
The master plan proposes managing invasive species and targeting a few key areas for new plantings, especially in conjunction with groundwater seeps and stormwater management. Planting is an essential part of some of the green infrastructure best-management practices. Invasive species management is an important part of managing the forest composition in Jurassic Valley and maintaining a healthy landscape at the Fort.

## BREAKDOWN

1. Landscaping surrounding vegetated bioretention basins
2. Water-loving and wetland plants tiered to match anticipated water/moisture levels
3. Shade-loving riparian plantings support reinforced stream beds
4. Vegetated stepped detention cells
5. Native water-loving pollinator planting in the Children's Discovery Garden (approx. 3600 SF)
6. Wet meadows green infrastructure systems (not connected to gray infrastructure); water loving plants soak up and transpire excess water
7. Invasive species management and restoration planting in Jurassic Valley
8. Invasive species removal and planting of native species on north slope facing the Rec Center



## PROGRAM - *Environment*



### PAVING OVERVIEW

The plan proposes new paving in a few key locations and re-uses existing paving base material where possible, in order to minimize disturbance. The overall reduction in paved surfaces amounts to over one acre.

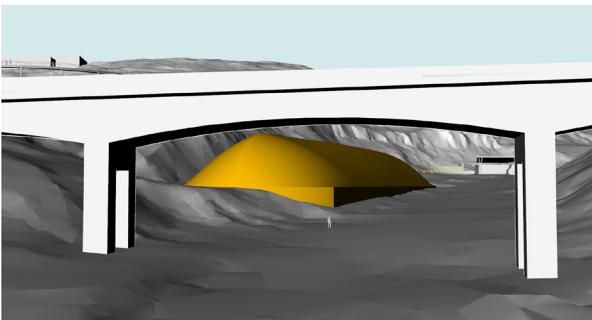
# PLAN ALTERNATES - Tennis Courts

## OVERVIEW

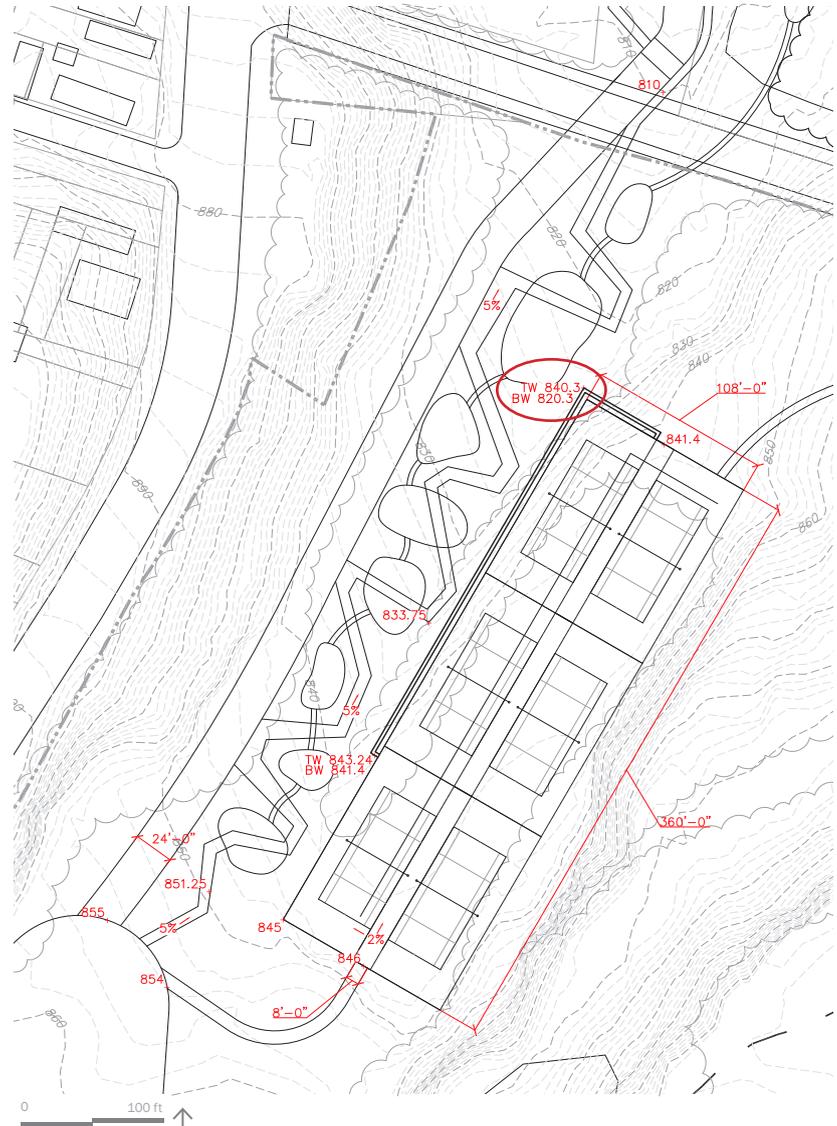
The final plan does not propose adding new courts, but the Design Team explored an alternate that would add 6 tennis courts in an inflatable enclosure for all-weather use, pedestrian paths to access courts, exterior lighting, and a 24-foot drive along side the boardwalk instead of a 10-foot multi-use path. A large retaining wall would be necessary that would range from 2 feet at its shortest height to approximately 20 feet tall at its highest point.



Precedent image: Mellon Tennis court (268' X 118' X 36' tall)



Model of tennis dome shown in existing topography showing a general idea of how the dome would sit in the landscape (360' X 108' 36' tall)

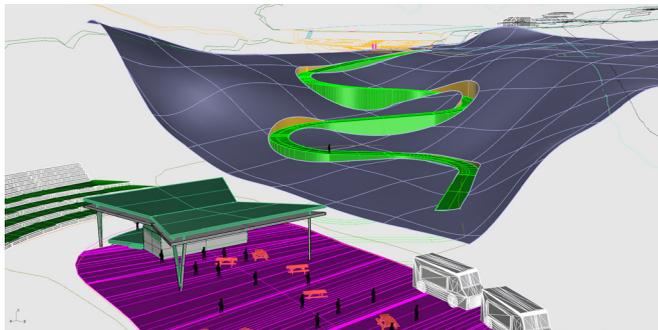


# PLAN ALTERNATES - *Bike Path*

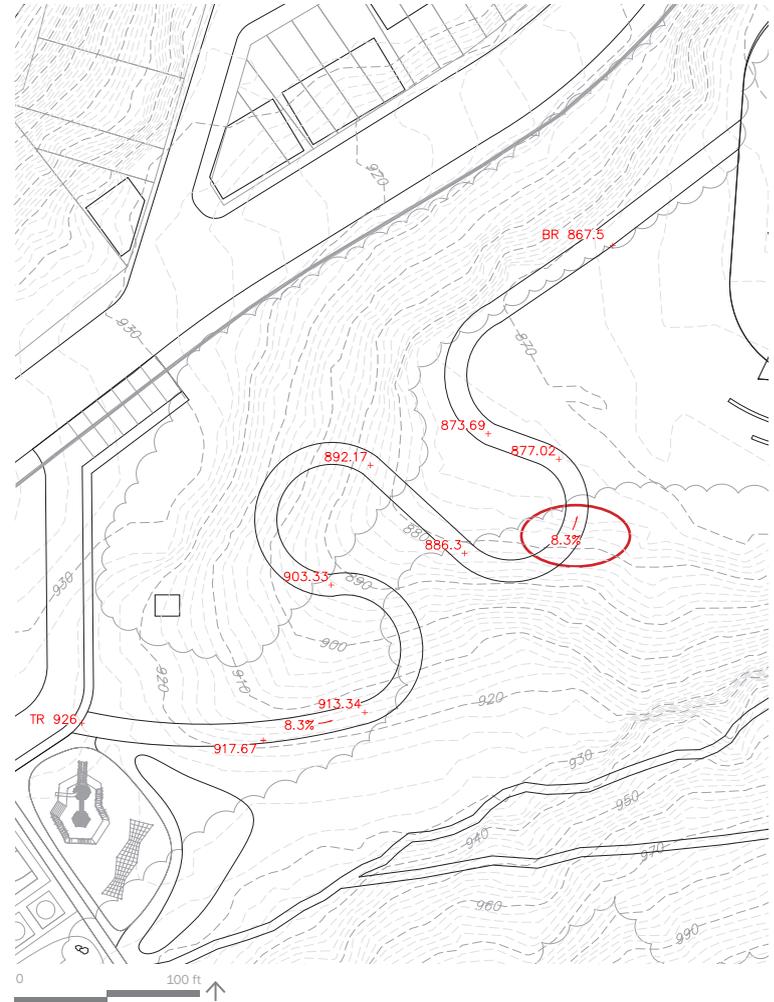
## OVERVIEW

Another plan alternate that was explored at the request of the community was a Shared-Use Path that would connect the upper and lower tiers of the park along 18th St. This would require removing and replacing the Serpentine Steps. The goal of the alternate is to complete the off-street bikeway network from the Flats to the Hilltop neighborhoods.

This 10' wide asphalt path would need an additional 2' on both sides of the path and likely railing on one side. The path would need to comply with federal accessibility standards and AASHTO regulations. The path is shown at 8.3% and would need rest intervals every 300 feet. The 8.3% portion of the shared-use path is approximately 785 feet long. This option would require an enormous amount of earth work, and it would also require re-locating utilities (see Appendix B for a map of existing utilities). An alternate path for the proposed green infrastructure system would need to be identified.



Model shows approximate relationship of how the Shared-Use Path would sit in the existing landscape



# GENERAL RECOMMENDATIONS - *Baseline Improvements*

## OVERVIEW

General baseline improvements will not only improve user comfort, but may also make the park feel safer and more cared for, potentially reducing unwanted behavior in the park.

## IMPROVE ENTRANCES

Currently, park entrances are easy to miss and do not convey welcoming moments into the park. Though DCP has recently installed wayfinding signs at each of the park's official entrances, there are other important site amenities that can help to demarcate an entrance.

## RECOMMENDED ENTRANCE AMENITIES

A palette of materials and furnishings can help signify to park users they have come upon a new type of space: an entrance. Entrances should be a notable place where people can wait to meet friends, drop someone off, and where a park user can plan their exploration through the park. All of the entrances throughout the park should have a palette of materials that are identifiable and consistent across entrances.

Some examples of these kinds of materials are as follows:

- Entry signage
- Paving material
- Bollards and/or swing gates
- Seating
- Lighting
- Sight Lines
- Planting
- Trash receptacles with doggie bags
- Bike Racks
- Water Fountains

### Vertical entry signage

Vertical entry signage is important to increase the park visibility from the street, and it can also serve as a visible marker for how to get out of the park. While many of the existing entrances already have signs, proposed entrances and less formal entrances should also provide signage. Recommended information or entrance signage includes:

- Name of the trail-head
- "You Are Here" locator icon
- Park rules
- Location of bathrooms
- Location of water
- Difficulty of the trail
- Distances of various possible loops

### Paving Material

A unique layout of unit pavers can indicate a visible, physical change that shows park users they have entered a space.

### Removable/collapsible bollards

Removable/collapsible bollards can also be installed at entrances to allow access for maintenance vehicles, but restrict other vehicles from entering. Where bollards are not possible, swing gates may also be used.

### Seating

Entrances should also include seating, allowing park users to rest and wait for a friend who is a couple steps behind. Seating can also provide designated meeting points.

### Lighting

Vertical lights can help park users find their ways out of the park at dusk. Properly sited lights may also make adjacent neighbors feel more comfortable by increasing visibility helping to reduce loitering and/or unwanted behavior. Lighting along the periphery of the park's edge can also help create a sense of park presence and identity.

### Sight Lines

Sight lines into the park and out of the park can help a park user orient themselves in relation to the streets and trails before entering the park. Sight lines that create deep views into the park can also inspire a hiker or passerby to enter the park. Sight lines also help reduce unwanted behavior, if there is less of a neglected, hidden feel to a space. Sight lines also help park rangers and police patrol the park.

## **Planting**

Unique plantings can help establish entrances and park identity. Diverse planting can also create habitat and attract and curious passersby.

## **Trash Receptacles**

Providing trash receptacles that include doggie bags will help reduce unwanted dog droppings along paths. Trash receptacles should be located where maintenance vehicles may easily access them. Trash cans with sensors can help DPW monitor them, so that they do not overflow and attract dumping.

## **Bike Racks+Bike Stations**

Providing bike racks at entrances may encourage park users not to drive to the park. Also, some residents may not have cars, and by providing bike parking (in addition to car parking), those residents are equally accommodated for. Bike stations that offer tools for changing flat tires or small mechanical adjustments also increases biker safety and comfort.

## **Water Fountains**

Water fountains or water pumps should be provided at a few of the main entries to encourage active recreation. This may allow park users to stay hydrated while using the park, thus possibly extending the length of their stay.

## **PARK AMENITIES**

Amenities that should be located throughout the park include the following:

- Seating
- Wayfinding Signs
- Trash receptacles
- Water sources where possible

In addition to park entrances, seating should be located along trails between 200-300 feet apart. It is recommended that seating should be located between 3 ft and 10 ft from the edge of a trail. Seating should be installed at designated vistas, important trail intersections, and at points of interest (e.g. interpretative signage, art sculptures, and other built structures). (See pg. 33 of Greenways for Pittsburgh's Policy Guide for more information.)

## **WAYFINDING**

Increased signage throughout the park allows users to feel safe and in control of their journey. Signage should be standardized and in keeping with other City parks. Trail markers should be located at the intersection of trails. A recommended maximum distance between trail markers along a trail is two miles. Trail signs should include:

- Name of the trail
- "You Are Here" locator icon
- Location of bathrooms
- Location of water
- Difficulty of the trail
- Distance to entrances
- Distances of various possible loops

Refer to Greenways for Pittsburgh's Resource Guide for more recommendations.

## **CONCLUSION**

Each of these amenities alone do not create a successful park user experience. But when combined, they can begin to build the park's identity and enable park users to have a more comfortable and safer experience of the park. The addition of park amenities within the park together with entrance improvements will help South Side Park be more visible and attractive to its surrounding neighborhoods, contributing to creating a healthier, more active park.

# GENERAL RECOMMENDATIONS - *Environmental Design*

## OVERVIEW

The plan indirectly or directly addresses many of concerns that were identified in the Controversial Activities Assessment (pg. 37). In general, a more positive approach is to managing unwanted behavior is to discourage unwanted activities by activating the spaces in which they occur with welcomed activities. In addition to specific design interventions, there are also general ways of managing unwanted behavior. Below is a compilation of both general recommendations and site specific recommendations for South Side Park.

### **Dumping + ATV use**

Access control fencing can help reduce dumping and ATV use. These types of fences make it more challenging for individuals to enter the park with vehicles. In locations where there are reports of dumping and ATV use, access control fences can be considered along roads that border the park, at the ends of roads, or at the back of parking lots that abut or are within the park. Where access control fencing connects to a swing gate at an entry point, a 36" wide opening should be provided for pedestrian access. Entrances that are big enough for a vehicle to access should have either a swing gate or removable bollard to prohibit unwanted vehicular use in the park.

### **Unwanted BMX Use**

While BMX use is not and should not be a

controversial activity, unprofessional trail building can cause environmental problems and also frustrate other park users. The plan proposes a BMX pump track in a more visible location that is more accessible to vehicles for maintenance and safety purposes.

### **Encampments**

To help deter encampments, public art and lighting is recommended under Mission St. Bridge. A more active parking lot in place of the existing former paved tennis courts will also help to deter encampments. Lighting at entrances and historically neglected portions of the park may also help reduce unwanted encampments.

### **Hunting**

An entrance with a view into the park has been added at the Sierra Steps. This part of the park has reportedly been a hot spot for hunting. By revealing this side of the park, it is opened to public scrutiny. Park users can also help patrol the park by reporting incidents to the City.

### **Littering**

Installing trash receptacles equipped with sensors and a doggie bag station may help reduce littering. The receptacles should be easily accessible by maintenance vehicle.

### **Fires**

Material choice is important in relation to managing arson. It is important to select

durable, fire proof materials where possible. This is especially true for the proposed features in tucked away places (e.g. canopy walk, picnic platforms).

### **Encroachment**

Encroachment is a sensitive and complex issue. There are different kinds of encroachment, that should each be dealt with differently. Please contact DCP for more information regarding ways to approach encroachment.

## CONCLUSION

Some activities that are difficult to discourage through design alone, and do require programmatic intervention. There are many ways that the Design Team's recommendations for South Side Park may affect the occurrence of controversial activities; however, these environmental design elements are intended to be explored in conjunction with programmatic interventions and park patrol.



## VII. IMPLEMENTATION



# ROLES AND RESPONSIBILITIES

## CITY OF PITTSBURGH

The Department of City Planning will lead the implementation of this Master Plan: deciding which projects to implement, seeking funding, and coordinating fundraising efforts and park work by other groups. They also have the responsibility for maintaining an ongoing relationship with the people who gave time and input throughout this process. Project communication should continue through the implementation phases.

- The Pittsburgh Water and Sewer Authority (PWSA) manages the design and construction of green infrastructure (GI) in the park, including operations and maintenance.
- The Department of Public Works manages the (non-GI) design and construction projects in the park and sometimes performs construction. DPW is also responsible maintaining the park, including forestry. They issue permits for volunteers to perform work in the park.
- CitiParks handles recreation programming.
- The Office of Management and Budget is responsible for securing funding through the City budget and grant sources.

## IMPLEMENTATION COMMITTEE

To coordinate implementation work between the City and park partners, DCP

will create a South Side Park Master Plan Implementation Committee. In addition to the neighborhood and environmental planners for the South Side, the committee will include representatives from each of the adjacent neighborhoods as well as PWSA, FOSSP, and non-profit organizations. The goals of the committee will be to provide regular updates about the progress made in implementing the plan, encourage continued communication between different groups working in the park, and facilitate and coordinate funding efforts.

## FOSSP & VOLUNTEERS

FOSSP in conjunction with other community organizations like the Hilltop Alliance and SSSNA has organized park clean-up days and led the fundraising and implementation of projects like Jurassic Valley restoration work and projects that support Bandi Schaum Community Gardens. They have also advocated for park improvements, including a park ranger and trail building work. They will continue to play an important role in South Side Park through advocacy work, marketing, and resident engagement. FOSSP will also contribute to the implementation of projects in the 'Stand-Alone / Ongoing Restoration' portion of the Master Plan.

## CONTRACTORS

Organizations like LandForce, SCA, and

Allegheny Goatscape have been contracted in the past by non-profit groups to do work in the park, under a blanket agreement with the City; this agreement is anticipated to continue.

## POTENTIAL & CURRENT PARK PARTNERS

Pittsburgh is rich in potential partners for South Side Park. Some listed below are already well connected to the park; others may not yet be involved. Even among those who already support the park, there may be new ways these groups would be willing to assist, either through funding, providing expertise, or making in-kind donations. Current and potential partners include:

Pittsburgh Parks Conservancy (PPC)  
Urban Redevelopment Authority (URA)  
Local Universities & Pittsburgh Public Schools  
FOSSP, SSSNA, Hilltop Alliance, Bandi Schaum Community Garden, 4th River Music Collective, Arlington Civic Council, area RCOs  
South Side Athletic Association, South Side Bears, Pittsburgh Sports League, Monster Sports, Venture Outdoors, REI  
South Side business community  
South Side Chamber of Commerce  
Western Pennsylvania Conservancy (WPC)  
Student Conservation Association  
Grounded Strategies (formerly GTECH)  
Pittsburgh Cares  
Penn State Cooperative Extension, Audubon, Treevitalize, Tree Pittsburgh, Grow Pittsburgh  
BikePGH, Outward Bound



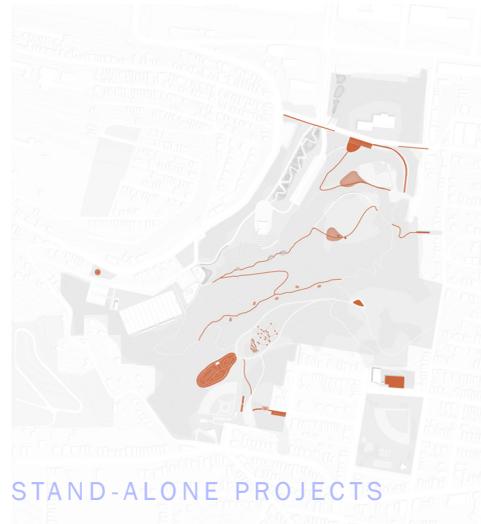
PHASE 1



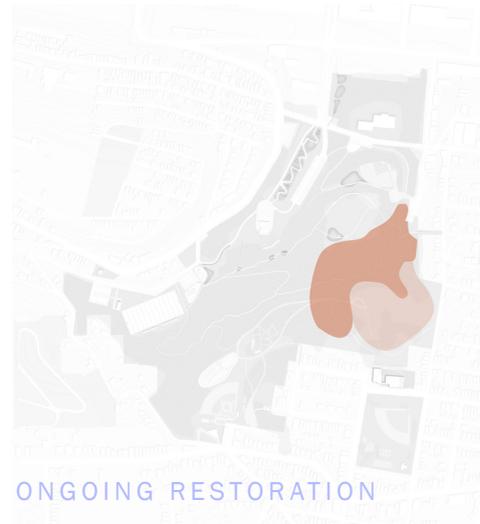
PHASE 2



PHASE 3



STAND-ALONE PROJECTS



ONGOING RESTORATION

# PHASING & COSTS

## OVERVIEW

The Master Plan is broken down into sets of phased projects for implementation alongside a set of projects that can be done by the City whenever funding becomes available or as they align with other City initiatives.

*(Note: PWSA may elect to prepare a Stormwater Plan for South Side Park. The specifics of PWSA's Stormwater Plan for green infrastructure in South Side Park are yet to be determined. The Authority's recommendations for order of implementation for GI may ultimately alter the phasing recommendations listed below.)*

## PHASE 1

Phase 1 prioritizes work that creates visibility and amenity at the South 18th St. and S. 21st St. entrances. It also includes the green infrastructure that connects to the work underway on S. 21st St. The City should seek to acquire the parcel along South 21st, currently owned by the URA, immediately. This will give the park a presence north of Mission St. Bridge and improve the important connection to the Flats and Carson St.

The 18th St. entrance enhancement, relocation of the basketball court along Saber Way, creation of the discovery garden, and renovated parking is an early-action project

of a manageable size with good potential for grant funding. Including it in Phase 1 boosts the awareness of the park and provides easy-to-access new amenities early on in.

*Cost estimate: \$2.41 million including GI*

## PHASE 2

The second phase creates the larger community gathering and event spaces that link Phase 1 projects. In addition, it completes the bike route connection from the Flats to the Slopes begun in Phase 1. Phase 2 encompasses the amphitheater and adjacent gathering space, the open-air pavilion, and the north parking lot to serve them.

*Cost estimate: \$2.65 million including GI*

## PHASE 3

The canopy overlook and renovations to Quarry Field are proposed for Phase 3. The Quarry Field area is at the top of the GI corridor and connects to the infrastructure work done in Phases 1 and 2. The canopy overlook will be a draw to a wider population, who once they visit the park will also be able to enjoy the rest of the projects completed in Phases 1 and 2.

*Cost estimate: \$1.90 million including GI*

## STAND-ALONE PROJECTS

Stand-alone projects include adding signage at major intersections beyond the park, installing

public art pieces, gating the Bandi Schaum drive, improving existing parking areas, and constructing bleachers at Arlington Field and embankment slides. The improvements to The Fort and Arlington Rec Center and acquiring the Sierra St. parcel and/or the 18th St. parcel are as-time-and-funds-permit.

## ONGOING RESTORATION

The recommended restoration work in Jurassic Valley and the focal area of woodlands identified by RES (see pg. 57) are ongoing projects that will require continued funding.

*Cost estimate for stand-alone + one-time restoration work: \$899 thousand*

*For detailed order-of-magnitude cost estimates including a list of projects in each phase see Appendix H.*

# FUNDING

## OVERVIEW

There are a number of funding streams to enable the implementation of projects included in the Master Plan. Some improvements can be funded directly by the City in its annual budget: ball field improvements, parking lot construction, and building renovations are items regularly funded by the City in other parks.

Green infrastructure work may be funded in part or entirely by PWSA, supplemented with grant funding, or funded by the City's Stormwater Trust Fund.

For government-offered grants, in most cases either the City or a non-profit organization could be the applicant. For foundation funding, a non-profit like the Hilltop Alliance or the Parks Conservancy would be more likely to apply.

The larger construction projects like the amphitheater and pavilion or the canopy overlook are candidates for capital campaigns specifically for those elements.

Appendix H provides a Master Plan Implementation Matrix, modeled on the matrix developed for Pittsburgh's OpenSpace Plan. The City should take the lead in identifying potential funding sources, concentrating on those projects in Phase 1 and Stand-Alone

projects that already have an interested group to support their realization.

## CITY / AGENCIES

- City General Fund: Maintenance, Planning, Programming, Construction
- PWSA

## COUNTY, STATE, AND FEDERAL GRANTS

- Allegheny County Conservation District
- Allegheny County/PA Gaming Economic Development Fund
- PA DCNR C2P2 for Trails; Park Rehabilitation & Development, Community Rec & Conservation Planning
- PA DCED Small Water & Sewer Program, Municipal Assistance Program, Watershed Restoration & Protection Program
- USDA Conservation Innovation Grant

## NATIONAL ORGANIZATIONS

NRPA Great Urban Parks Campaign Grant

## LOCAL FOUNDATIONS

Laurel Foundation  
Birmingham Foundation

## LOCAL ORGANIZATIONS

Brashear Association (SCA work)  
South Side Slopes Neighborhood Association  
Neighborhood Allies

The list of potential funding sources above is not exhaustive; the City and Implementation

Committee should continue to seek grant opportunities and coordinate applications.

## REVENUE-GENERATING ACTIVITIES

There may also be opportunities to incorporate revenue-generating activities into the park that could help offset some of the costs.

For example, the pavilion and amphitheater could be rented out or used to host paid events. There is an opportunity for metered parking along S. 21st St. The City could issue permits special activities in the park, charging a fee. Fees from third-party operators may be able to generate some revenue to sustain the park.

The amounts generated from these activities would not be large but they could be directed to the funding of a particular project or used for increased park maintenance.

# MAINTENANCE

## RESPONSIBILITIES

As a City park, all elements proposed in the South Side Park Master Plan will be maintained by the Department of Public Works (DPW) except for 1) green infrastructure, which will be maintained by PWSA or a PWSA-hired contractor and 2) third-party operator sites like a BMX pump track or ropes course, which will be maintained by the operator under an agreement with the City.

South Side Park and Arlington Park are in the Southern Division of DPW. A crew of 12 is responsible for this division of parks.

Stewardship groups like FOSSP can assist with some maintenance tasks like monitoring site conditions, invasive species removal, and trail clearing using hand tools. Any task that falls under a union agreement, like painting or paving, can only be done by DPW. Use of any tools other than hand tools should be done by DPW or an insured contractor.

Constructing the features proposed in the South Side Park Master Plan will increase the maintenance time needed at the park, both because there will be more elements to maintain and because an increase in park users brings an increase in wear and tear on the park. The greater annual operating expense may be justified because as a signature community park that provides benefits to a larger community, South Side Park merits greater investment.

The park may be able to generate revenue to offset some of the increased maintenance costs. The green infrastructure components will alleviate some current maintenance issues related to water management, especially the perpetually clogged catch basins and the poor drainage at Quarry Field.

Durable materials such as stone, concrete, and metal should be used in the design of constructed features.





# APPENDICES

# APPENDIX A - Needs + Suitability Analysis

Note: This analysis also considered Winters and Cobden Parks as potential divestment / naturalization opportunities.

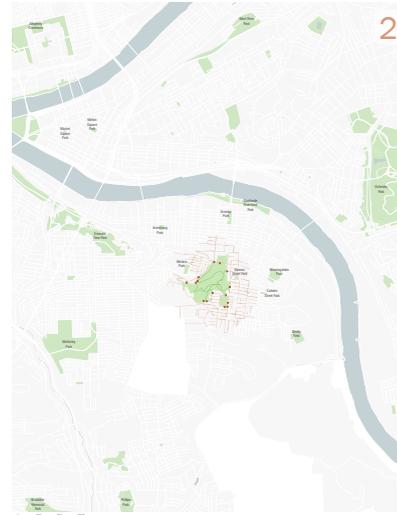
## OPENSACE PGH GOAL

Residents should be within:

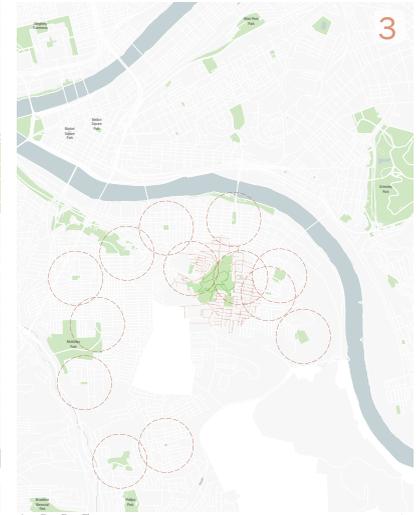
1. 3/4 mile access to community parks in high-population-density (>30.29 people/acre) areas. (Regional parks can serve as well.)
- 2+3. 1/4 mile access to open space in higher-density areas. (This is also the goal for neighborhood parks.)
4. 1/4 mile access to open space. Removal of Winters and Cobden Parks will create a gap in the to open space 1/4 mile access goal (highlighted).
5. 2 mile access to rec centers at community parks, with transit access, Arlington Rec Center does not have as much programming as the Rec Center at Ormsby.
6. 2-3 miles access to swimming pools. Closest pools are at Ormsby (radius shown) and Oliver Bath House.



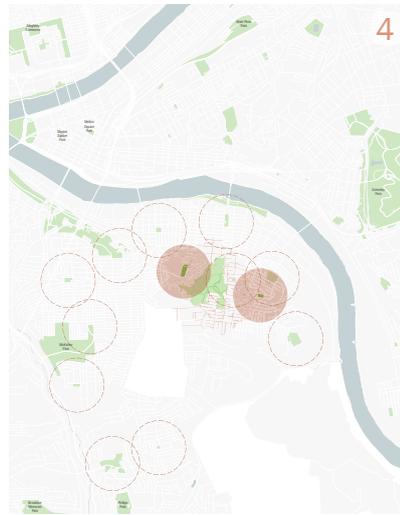
Community Parks



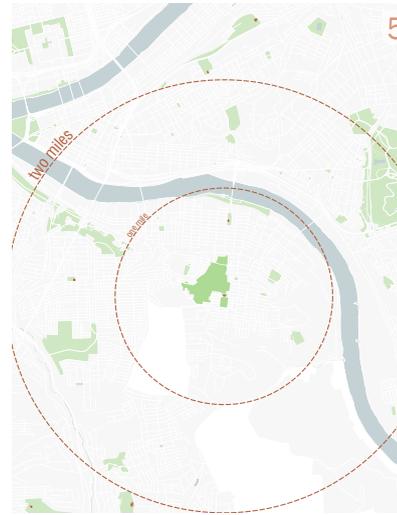
Community Parks



Open Space



Open Space

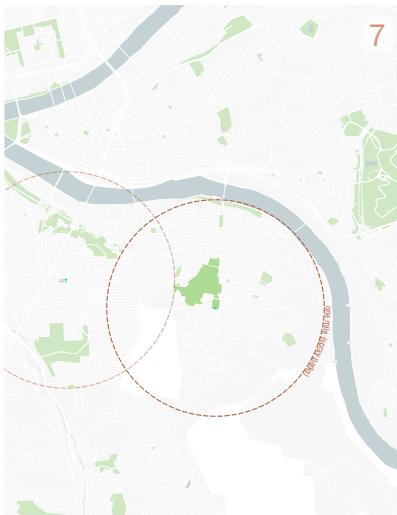


Rec Centers

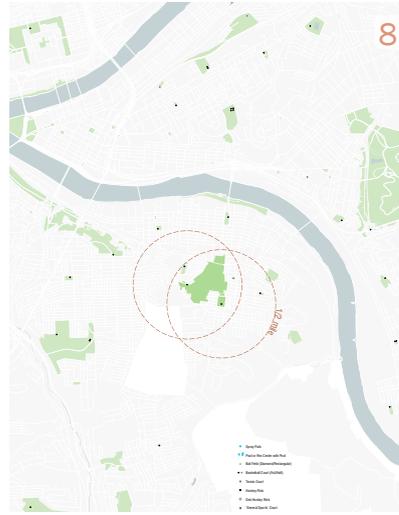


Pools

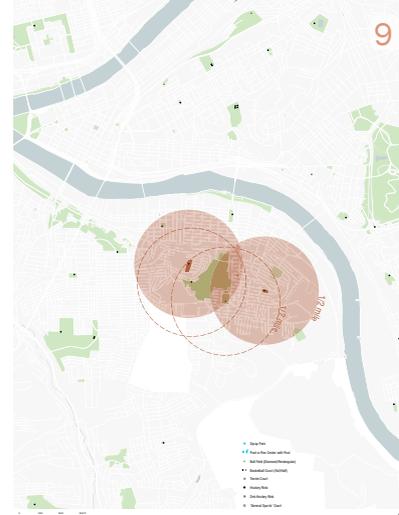
# APPENDIX A - Needs + Suitability Analysis



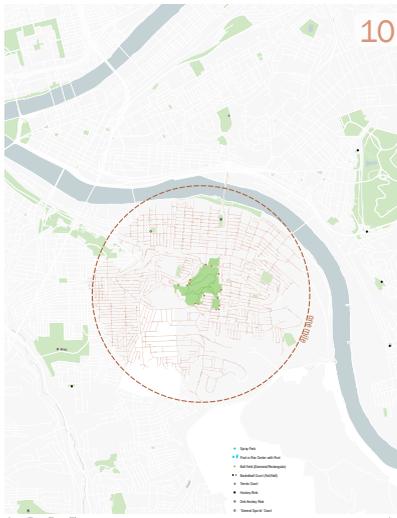
Spray Parks



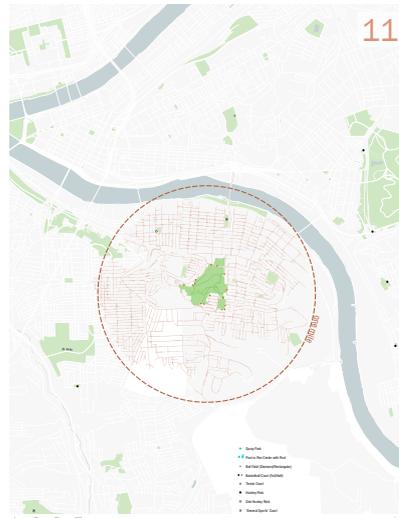
Basketball Courts



Open Space



Other Courts



Fields



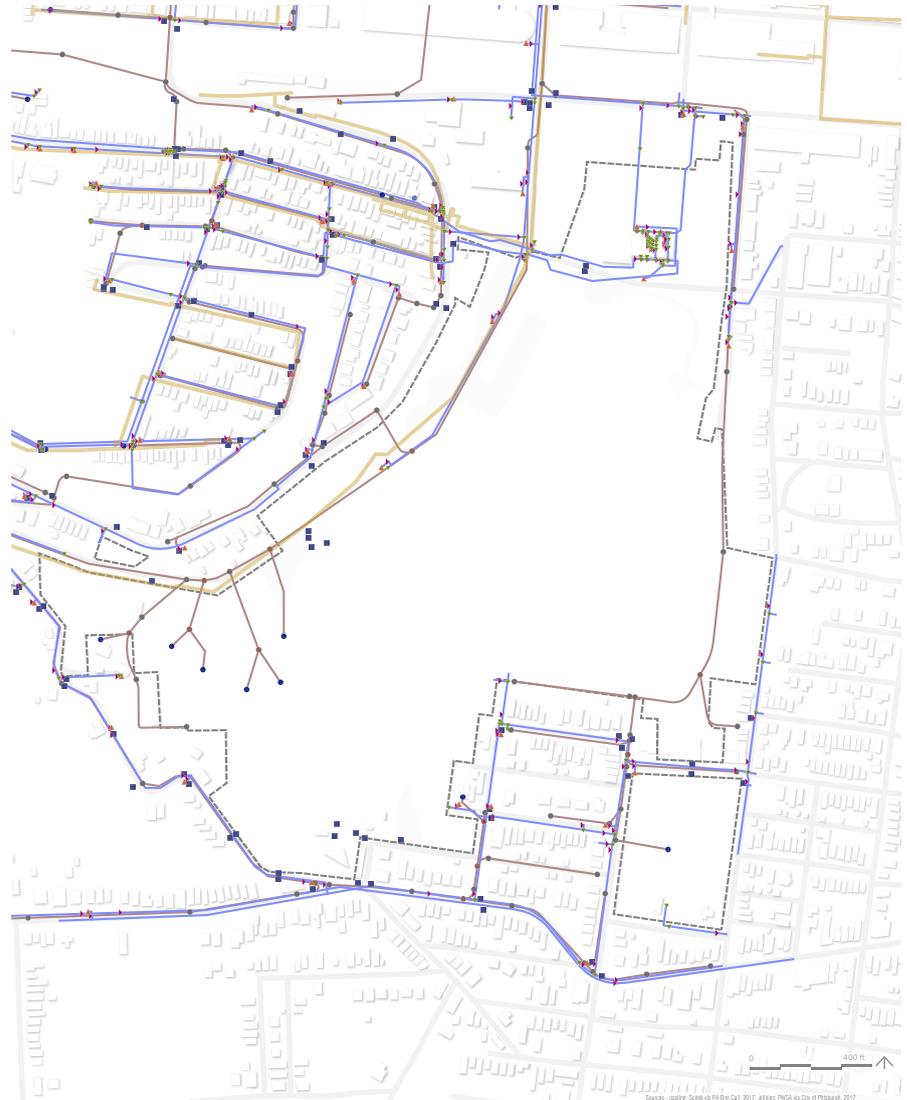
Rec Centers

- 7. 1 mile access to local spray parks and 2 mile access to community-scale spray parks. The Fort has a spray park.
- 8. 1/2 miles access to a basketball court.
- 9. 1/2 miles access to a basketball court. Removal of Winters and Cobden parks will eliminate 1/2 mile access to a basketball court for some residents.
- 10. Removal of Winters and Cobden parks has created a gap in open space access
- 11. 1 mile access to other courts. General sports court at Armstrong Park, deck hockey rink at Ormsby, no other courts within SSP.
- 12. 1 mile access to neighborhood-scale sports fields. Residents should be within 2 mile access of community-scale sports field group. (Target supply of diamond fields and rectangular fields: 1/5000 residents,

# APPENDIX B - Site Assessment

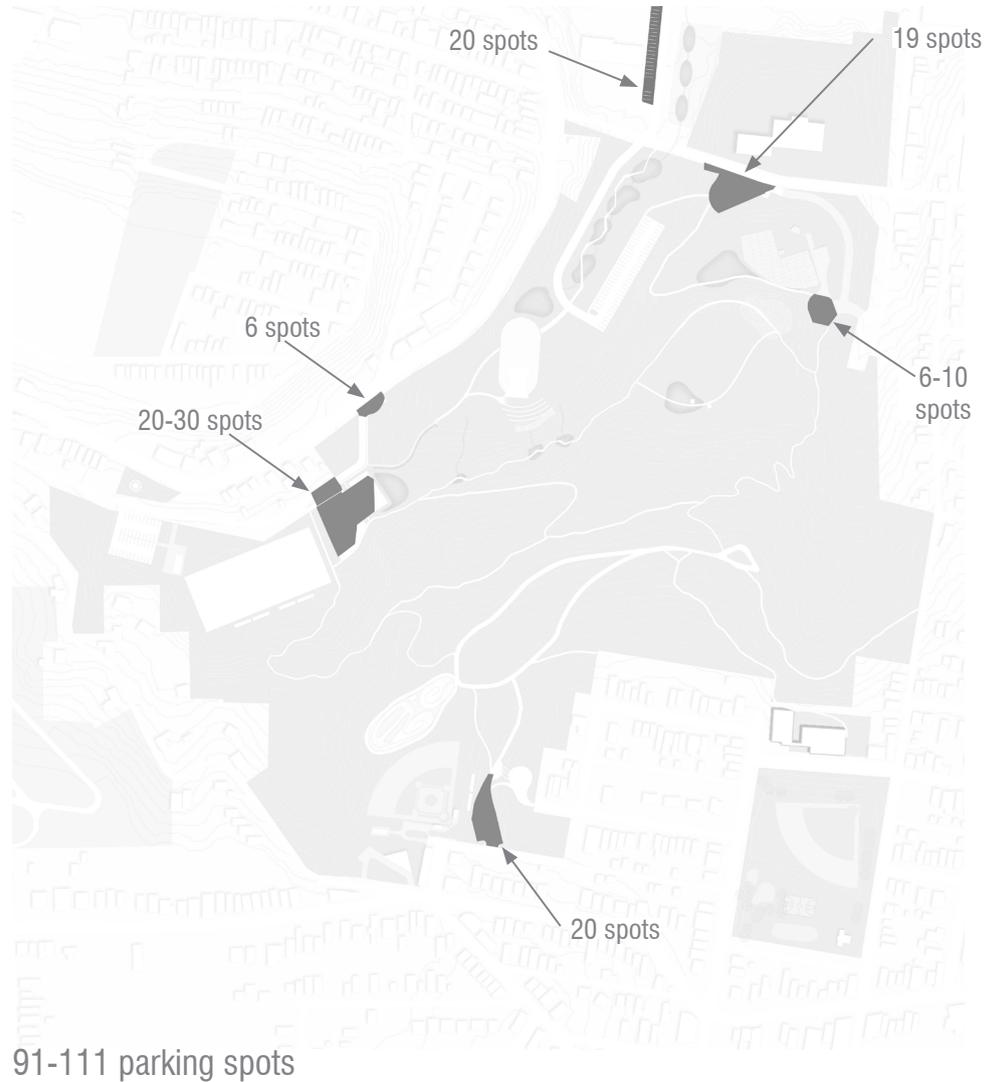
## EXISTING UTILITIES

-  hydrant
-  PTWP Gasline
-  sewer
-  endcap
-  inlet/catch basin
-  junction
-  manhole
-  water
-  fitting
-  valve



# APPENDIX B - Site Assessment

APPROXIMATE EXISTING PARKING + PAVING



# APPENDIX C - Web Soil Survey Descriptions

## “Map Unit: GSF—Gilpin, Weikert, Culleoka channery silt loams and 25 to 80 percent slopes

Description Category: GENSOIL  
Gilpin: 35 percent

The Gilpin component makes up 35 percent of the map unit. Slopes are 25 to 80 percent. This component is on hillslopes on hills. The parent material consists of acid fine-loamy residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 30 to 36 inches (depth from the mineral surface is 29 to 34 inches). The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 69 percent. Below this thin organic horizon, the organic matter content is about 4 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Description Category: GENSOIL  
Weikert: 30 percent

The Weikert component makes up 30 percent of the map unit. Slopes are 25 to 80 percent. This component is on hillslopes on hills.

Table - 1  
Web Soil Engineering Information for Mapped Soils

Map Unit Symbol and Soil Name	Percent of Map Unit	Hydrologic Group	Depth	USDA Texture	Classification		Pct Fragments		Percentage Passing Sieve Number				Liquid Limit	Plasticity Index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
						L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	
GSF—Gilpin, Weikert, Culleoka channery silt loams and 25 to 80 percent slopes			In											
Gilpin	35	C	0-1	Slightly decomposed plant material	PT	A-8	—	—	—	—	—	—	—	
			1-8	Channery silt loam	GM, ML, CL	A-4, A-7-6	0-0-0	12-15-21	70-80-85	69-79-84	58-73-84	46-60-71	18-32-41	
			8-24	Channery silt loam, silty clay loam, channery loam, clay loam	GC-GM, CL	A-4, A-7-6, A-6	0-0-0	7-17-34	60-76-90	59-75-90	48-69-90	40-62-87	21-35-49	
			24-33	Extremely channery silty clay loam, extremely channery loam, very channery silt loam, very channery loam, channery silty clay loam, extremely channery silt loam	GC, GM, CL	A-1-B, A-2-6, A-7-6	0-0-0	0-33-71	25-44-73	23-43-72	20-38-71	17-34-66	17-36-45	
			33-43	Bedrock	—	—	—	—	—	—	—	—	—	
Weikert	30	D	0-1	Slightly decomposed plant material	PT	A-8	—	—	—	—	—	—	—	
			1-7	Channery silt loam	CL, CL-ML	A-6, A-4	0-0-0	12-18-21	73-78-87	73-77-87	60-67-79	53-60-71	25-30-35	
			7-15	Extremely channery silt loam, very channery loam, very channery silt loam, extremely channery loam	GC-GM, CL, GC	A-1-B, A-2-6, A-6	0-0-0	24-27-40	34-64-69	33-63-68	26-52-61	22-45-54	20-26-33	
			15-17	Extremely channery silt loam, extremely channery loam	GC, GP-GC	A-2-4, A-2-6	0-0-0	41-44-47	13-23-33	11-21-32	8-17-26	7-15-23	23-27-30	
			17-26	Bedrock	—	—	—	—	—	—	—	—	—	
Culleoka	25	B	0-1	Slightly decomposed plant material	PT	A-8	—	—	—	—	—	—	—	
			1-10	Channery silt loam	CL, ML	A-6, A-7-6	0-0-0	13-13-23	71-85-85	70-85-85	63-79-81	58-73-76	32-39-46	
			10-19	Channery silt loam, very channery silt loam, silty clay loam	CL, GC	A-7-6, A-6	0-1-3	4-11-34	52-88-96	51-88-96	45-80-90	42-76-86	31-35-43	
			19-26	Extremely channery silty loam, very channery silty clay loam, very channery silt loam, channery silt loam	CL, GC	A-6, A-2-6	0-0-0	22-27-42	29-64-73	27-63-73	24-57-68	22-54-65	33-36-40	

The parent material consists of acid loamy residuum weathered from shale. Depth to a root restrictive layer, bedrock, lithic, is 14 to 19 inches (depth from the mineral surface is 13 to 17 inches). The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth

of 72 inches. Organic matter content in the surface horizon is about 69 percent. Below this thin organic horizon, the organic matter content is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Description Category: GENSOIL  
Culleoka: 25 percent

The Culleoka component makes up 25 percent

# APPENDIX C - Web Soil Survey Descriptions

of the map unit. Slopes are 25 to 80 percent. This component is on hillslopes on hills. The parent material consists of nonacid fine-loamy residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 24 to 40 inches (depth from the mineral surface is 23 to 38 inches). The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 69 percent. Below this thin organic horizon, the organic matter content is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Description Category: GENSOIL  
Hazleton: 5 percent

The Hazleton component makes up 5 percent of the map unit. Slopes are 25 to 80 percent. This component is on hillslopes on hills. The parent material consists of residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 44 to 84 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This

**Table - 1**  
Web Soil Engineering Information for Mapped Soils

Map Unit Symbol and Soil Name	Percent of Map Unit	Hydrologic Group	Depth In	USDA Texture	Classification		Pct Fragments		Percentage Passing Sieve Number				Liquid Limit	Plasticity Index
					Unified	AASHTO	>10 inches L-R-H	3-10 inches L-R-H	4 L-R-H	10 L-R-H	40 L-R-H	200 L-R-H		
			26-31	Very channery silty clay loam, channery silt loam, very channery silt loam, extremely channery silt loam, channery silty clay loam	GC, CL	A-2-6, A-6	0-3-5	16-35-44	24-49-73	23-48-72	19-42-65	18-39-62	29-33-37	13-16-19
			31-41	Bedrock	—	—	—	—	—	—	—	—	—	—
UCB—Urban land-Culleoka complex, gently sloping														
Culleoka	40	B	0-10	Channery silt loam	CL, CL-ML, ML	A-4	0-0-0	5/17/2024	72-81-95	71-81-95	62-76-95	52-63-81	15-25-35	NP-5-10
			26-Oct	Channery silt loam, very channery silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0-1-4	4/20/1930	64-77-95	64-77-95	56-74-95	47-63-87	20-30-40	2-11-20
			26-31	Very channery silt loam, extremely channery silt loam, very channery silty clay loam, flaggy loam	CL, GC, GM, ML	A-2, A-4, A-6	0-4-8	17-33-44	41-59-81	39-58-80	35-56-80	31-49-80	20-30-40	2-11-20
			31-33	Bedrock	—	—	—	—	—	—	—	—	—	—
UCD—Urban land-Culleoka complex, moderately steep														
Culleoka	40	B	0-10	Channery silt loam	CL, CL-ML, ML	A-4	0-0-0	5-17-24	72-81-95	71-81-95	62-76-95	52-63-81	15-25-35	NP-5-10
			10-26	Channery silt loam, very channery silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0-1-4	4-20-30	64-77-95	64-77-95	56-74-95	47-63-87	20-30-40	2-11-20
			26-31	Very channery silt loam, extremely channery silt loam, very channery silty clay loam, flaggy loam	CL, GC, GM, ML	A-2, A-4, A-6	0-4-8	17-33-44	41-59-81	39-58-80	35-56-80	31-49-80	20-30-40	2-11-20
			31-33	Bedrock	—	—	—	—	—	—	—	—	—	—
UCE—Urban land-Culleoka complex, steep														
Urban land	80		0-6	Variable	—	—	—	—	—	—	—	—	—	—
Culleoka	15	B	0-7	Silt loam	CL, CL-ML, ML	A-4	0-0-0	0-3-5	89-94-100	74-86-100	65-81-100	54-68-85	15-25-35	NP-5-10
			7-27	Channery silt loam, flaggy loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0-0-0	5-16-24	80-87-96	60-75-96	53-73-96	46-65-90	20-30-40	2-11-20
			27-29	Very flaggy clay loam, flaggy loam	CL, GC, GM, ML	A-2-6, A-4, A-6	0-0-0	11-32-50	57-74-98	10-49-98	8-44-98	6-34-82	20-30-40	2-11-20
			29-31	Bedrock	—	—	—	—	—	—	—	—	—	—

soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Description Category: GENSOIL  
Wharton: 5 percent

The Wharton component makes up 5 percent

of the map unit. Slopes are 25 to 80 percent. This component is on hillslopes on hills. The parent material consists of fine-loamy residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 71 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded.

# APPENDIX C - Web Soil Survey Descriptions

It is not ponded. A seasonal zone of water saturation is at 16 inches during January, February, March, April. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

## Map Unit: UB—Urban land

Description Category: GENSOIL

Urban land: 90 percent

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Description Category: GENSOIL

Udorthents, steep: 10 percent

The Udorthents component makes up 90 percent of the map unit. Slopes are 0 to 50 percent. This component is on mountains. The parent material consists of coal extraction mine spoil. Depth to a root restrictive layer, bedrock, lithic, is 20 to 99 inches. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Nonirrigated land capability classification is 8s. This soil does not meet hydric criteria.

## Map Unit: UCB—Urban land-Culleoka complex,

Table - 1  
Web Soil Engineering Information for Mapped Soils

Map Unit Symbol and Soil Name	Percent of Map Unit	Hydrologic Group	Depth In	USDA Texture	Classification		Pct Fragments		Percentage Passing Sieve Number				Liquid Limit	Plasticity Index
					Unified	AASHTO	>10 inches L-R-H	3-10 inches L-R-H	4 L-R-H	10 L-R-H	40 L-R-H	200 L-R-H		
URB—Urban land-Rainsboro complex, gently sloping														
Urban land	75		0-6	Variable	—	—	—	—	—	—	—	—	—	—
Rainsboro	20	C	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0-0-0	0-0-0	100-100-100	95-96-100	87-96-100	81-89-99	25-33-40	5-9-12
			9-26	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0-0-0	0-0-0	100-100-100	95-97-100	89-96-100	85-93-100	25-35-45	5-11-17
			26-40	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0-0-0	0-0-0	100-100-100	96-97-100	90-97-100	86-93-100	25-35-45	5-11-17
			40-60	Sandy clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-0-0	0-2-4	82-94-96	49-86-96	45-85-96	31-61-75	20-30-40	5-10-15
			60-72	Gravelly sandy loam, stratified gravelly sandy loam to clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-0-0	0-3-4	81-87-95	47-68-95	41-64-95	31-51-78	20-30-40	5-10-15

Table - 1: Web Soil Survey Engineering Information for Mapped Soils  
Source: United States Department of Agriculture, Web Soil Survey at <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

Absence of an entry indicates that the data were not estimated. The asterisk "\*" denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

## gently sloping

Description Category: GENSOIL

Urban land: 60 percent

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Description Category: GENSOIL

Culleoka: 40 percent

The Culleoka component makes up 40 percent of the map unit. Slopes are 0 to 8 percent. This component is on hills, uplands. The parent material consists of fine-loamy residuum weathered from sandstone and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most

restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

## Map Unit: UCD—Urban land-Culleoka complex, moderately steep

Description Category: GENSOIL

Urban land: 60 percent

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

## APPENDIX C - Web Soil Survey Descriptions

Description Category: GENSOIL  
Culleoka: 40 percent

The Culleoka component makes up 40 percent of the map unit. Slopes are 8 to 25 percent. This component is on hillslopes, uplands. The parent material consists of fine-loamy residuum weathered from sandstone and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. Map Unit: UCE—Urban land-Culleoka complex, steep

Description Category: GENSOIL  
Urban land: 80 percent

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Description Category: GENSOIL  
Culleoka: 15 percent

The Culleoka component makes up 15 percent

of the map unit. Slopes are 25 to 65 percent. This component is on hills. The parent material consists of residuum weathered from nonacid siltstone, fine-grained sandstone, and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Description Category: GENSOIL  
Gilpin: 5 percent

Generated brief soil descriptions are created for major soil components. The Gilpin soil is a minor component.

### **Map Unit: URB—Urban land-Rainsboro complex, gently sloping**

Description Category: GENSOIL  
Urban land: 75 percent

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Description Category: GENSOIL  
Rainsboro: 20 percent

The Rainsboro component makes up 20 percent of the map unit. Slopes are 0 to 8 percent. This component is on terraces. The parent material consists of old alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 26 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Description Category: GENSOIL  
Ginat: 5 percent

Generated brief soil descriptions are created for major soil components. The Ginat soil is a minor component.”

The Web Soil Survey also provides various engineering properties of the mapped soils that may be of interest when estimating runoff, infiltration capacity, etc. A few of the engineering properties are summarized in Table -1, which gives the engineering

## APPENDIX C - Web Soil Survey Descriptions

classifications and the range of engineering properties for the layers of each soil in the AOl. Hydrologic soil group (HSG), as shown in Table – 1 may be of interest to those contemplating GSI projects within the Park. The available information is described in the Web Soil Survey as follows:

“HSG is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007

(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete, and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a

seasonal high-water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change.

The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of

moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high-water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.”

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004). The Unified system classifies soils according to

## APPENDIX C - Web Soil Survey Descriptions

properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade

material to 20 or higher for the poorest. Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H). Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H). Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

# APPENDIX D - PA RAP Data Sheet (Stream Assessment)

## Riverine Assessment Form 1

Pennsylvania Riverine Condition Level 2 Rapid Assessment Protocol (Document No. 310-2137-003)  
Pennsylvania Department of Environmental Protection  
For use in intermittent or perennial watercourses with drainage areas ≤ 2,000 square mile drainage areas.

Project #	Project Name	Locality	Date	Ch 93 Classification	AA Id	Length
	South Side Park	Pittsburgh, PA	12/13/2017	Designated: N/A Existing: N/A	N/A	N/A
Latitude	40 D 25' 14.97"N	Longitude	-79 D 58' 40.01" W	FGM Level 1 Channel Classification		
Evaluator(s)	ZS, HK, SY	Stream Name and Information		Notes: Various seeps from collapsed mine shaft entrances and geologic outcroppings.		
		Unnamed Tributaries and Seeps				

**1. CHANNEL/FLOODPLAIN:** Assess the cross-section of the stream and prevailing conditions along the AA.

	Condition Category																			
	Optimal		Suboptimal		Marginal		Poor		Severe											
<b>Channel / Floodplain</b>																				
	<p><b>Channel Geometry:</b> These channels show very little incision or widening and little or no evidence of active erosion. Anastomosing channels may be present.</p> <p><b>Channel Stability:</b> Visual indicators include: 1) the banks are not eroding along greater than 7% of the reach; 2) natural vegetative or rock stability features are present along greater than 80% of the reach; 3) stable point bars and bankfull benches may be present; 4) mid-channel bars and transverse bars are rare and if present channel sediment deposition is present; it covers less than or equal to 10% of the stream bottom; 5) baseflow is connected to the routing depths of vegetation in the active floodplain.</p> <p><b>Active Floodplain Connection:</b> The bankfull stream flows have frequent access to the active floodplain and fully developed point bars or bankfull benches that are accreted at most flows greater than baseflow.</p>		<p><b>Channel Geometry:</b> These channels are slightly incised or overwidened and contain a few areas of active erosion.</p> <p><b>Channel Stability:</b> Visual indicators include: 1) the banks are actively eroding along less than 25% of the reach; 2) depositional features such as point bars and bankfull benches are present and stable during high flows and occur along greater than 50% of the reach; 3) natural bank protection like vegetation or rock is providing stability along greater than 60% of the reach; 4) baseflow is connected to vegetated point bars and bankfull benches.</p> <p><b>Active Floodplain Connection:</b> The bankfull stream flows frequently access bankfull benches or point bars along portions of the reach and may frequently inundate the active floodplain.</p>		<p><b>Channel Geometry:</b> These channels are over-widened or incised but to a lesser degree than the Severe and Poor channel conditions.</p> <p><b>Channel Stability:</b> Visual indicators include: 1) the banks are eroding or severely undercut along greater than 25% and less than or equal to 50% of the reach; 2) depositional features or bankfull benches occur along greater than 25% and less than or equal to 50% of the reach; 3) the stream banks may consist of some vertical or undercut banks or nick points associated with head cuts.</p> <p><b>Active Floodplain Connection:</b> The bankfull stream flows have infrequent connection to the active floodplain.</p>		<p><b>Channel Geometry:</b> These channels are over-widened or incised and eroding vertically and/or laterally.</p> <p><b>Channel Stability:</b> Visual indicators include: 1) the banks are eroding or severely undercut along greater than 50% of the reach; 2) active or recent bank sloughing is present along greater than 50% of the reach; 3) natural bank protection like vegetation is not preventing bank erosion along the reach; 4) depositional features, such as point bars and bank full benches, are absent from the reach or newly developing along less than 25% of the reach; 5) bank full benches and point bars frequently occur during high flow; 6) baseflow is disconnected from plant rooting depths and the active floodplain.</p> <p><b>Active Floodplain Connection:</b> The bankfull stream flows are not connected to the active floodplain.</p>		<p><b>Channel Geometry:</b> These channels are deeply incised and actively eroding vertically and/or laterally. Over widened channels may contain sections of unstable braided channels from aggradation.</p> <p><b>Channel Stability:</b> Visual indicators include: 1) the banks are actively eroding or being undercut along greater than 80% of the reach; 2) active or recent bank sloughing is occurring along greater than 80% of the reach; 3) natural bank protection like vegetation is not preventing bank erosion or sloughing; 4) depositional features such as point bars and bankfull benches are absent; 5) flood flows are disconnected from the active floodplain.</p> <p><b>Active Floodplain Connection:</b> The bankfull stream flows are never connected to the active floodplain.</p>											
<b>SCORE</b>	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

**Comments:** Moderate stability, park protection, and lack of runoff flow. Seeps at steady and constant flow.

<b>C<sub>i</sub> = (Score)/20</b>	<b>C<sub>i</sub></b>
<b>SCORE</b>	<b>16</b>
	<b>0.80</b>

**2. RIPARIAN VEGETATION:** Assess the floodplain along the entire AA (Visual estimates of areal coverage from aerial photos with field verification acceptable).

	Condition Category										Comments: Protected area with forested vegetation, but numerous invasive species.									
	Optimal		Suboptimal		Marginal		Poor													
<b>Riparian Vegetation (Floodplain)</b>	<p><b>High Suboptimal:</b> Riparian area vegetation consists of a tree stratum (dbh &gt; 3 inches) present, with greater than or equal to 30% tree canopy cover and containing both herbaceous and shrub layers of a non-maintained understory.</p>		<p><b>Low Suboptimal:</b> Riparian area vegetation consists of a tree stratum (dbh &gt; 3 inches) present, with greater than or equal to 30% tree canopy cover with less than 60% tree canopy cover and a maintained understory.</p>		<p><b>High Marginal:</b> Riparian area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh &gt; 3 inches) present, with less than 30% tree canopy cover.</p>		<p><b>Low Marginal:</b> Riparian area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (&lt; 10 acres). If trees are present, tree stratum (dbh &gt; 3 inches) present, with less than 30% tree canopy cover with maintained condition.</p>		<p><b>High Poor:</b> Riparian area consists of impervious surfaces, mine spoil banks, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.</p>		<p><b>Low Poor:</b> Riparian area consists of impervious surfaces, mine spoil banks, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.</p>									
<b>SCORE</b>	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1. Identify Condition Category areas along the floodplain using the descriptors above.  
2. Estimate the % area within each condition category.  
3. Enter the % Riparian Area in in decimal form (0.00) and Score for each category in the blocks below.

Condition Category	Right Side						Left Side						Side Sub-Index
	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	
% Riparian Area:	13	0	0	0	0	0	13	0	0	0	0	0	
Score:	13.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	0.00	0.00	0.00	
Total Sub-score:	13.00						13.00						0.65
Ensure the sum of the % Riparian Area Blocks equal 100													
Side Sub-Index = SUM(%Areas*Scores)/20													
C <sub>i</sub> = (Left Side C <sub>i</sub> + Right Side C <sub>i</sub> )/2													
C <sub>i</sub> = 0.65													

# APPENDIX D - PA RAP Data Sheet (Stream Assessment)

## Riverine Assessment Form 1 - Page 2

2/4/2017

**3. RIPARIAN ZONE OF INFLUENCE:** Assess land cover along both sides, 100 feet from edge of floodplain into the upland along the entire AA. (rough measurements of length & width may be acceptable)

Riparian ZOI	Condition Category										Comments: Protected area with forested vegetation, but numerous invasive species.									
	Optimal		Suboptimal				Marginal		Poor											
	Riparian ZOI area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and facultative resources > 10 acres are scored as optimal.		High Suboptimal: Riparian ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understorey.	Low Suboptimal: Riparian ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understorey.	High Marginal: Riparian ZOI area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.	Low Marginal: Riparian ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum. Areas of heavy production, and ponds or open water areas (< 10 acres), if trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with.	High Poor: Riparian ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-tilt cropland; actively grazed pasture; sparsely vegetated non-maintained area, previous trails, recently seeded and stabilized, or other condition.	Low Poor: Riparian ZOI area consists of impervious surfaces, mine spoil lands, denuded surfaces, low crops, active feed lots, impervious trails, or other comparable conditions.												
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1. Identify Condition Category areas along the floodplain using the descriptors above.  
 2. Estimate the % area within each condition category.  
 3. Enter the % Riparian Area in decimal form (0.00) and Score for each category in the blocks below.

Condition Category		Side Sub-Index										Ensure the sums of % Riparian ZOI Blocks equal 100										
Right Side	% Riparian Area:	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Side Sub-Index = SUM(%Areas*Scores)/20	
	Score:	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0.65
	Total Sub-score:	13.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.65
Condition Category		Side Sub-Index										CI = (Left Side CI + Right Side CI)/2										
Left Side	% Riparian Area:	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.65	CI
	Score:	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.65
	Total Sub-score:	13.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.65

**4. INSTREAM HABITAT:** Varied substrate sizes, water velocity and depths, woody and leafy debris, stable substrate, low embeddedness, shade, undercut banks, root mats, SAV, macrophytes, emergent vegetation, riffle-pool complexes, stable features.

Instream Habitat/ Available Cover	Condition Category										Comments: Habitat available for benthic macroinvertebrates. Woody debris.												
	Optimal		Suboptimal				Marginal		Poor														
	Physical Elements that enhance a stream's ability to support aquatic organisms are present in greater than or equal to 50% of the reach. Substrate is favourable for colonization by a diverse and abundant epifaunal community, and there are many suitable areas for epifaunal colonization and/or fish cover.		Physical Elements that enhance a stream's ability to support aquatic organisms are present in greater than or equal to 30% and less than 50% of the reach. Conditions are mostly desirable and are generally suitable for full colonization by a moderately diverse and abundant epifaunal community.				Physical Elements that enhance a stream's ability to support aquatic organisms are present in greater than or equal to 10% and less than 30% of the reach. Conditions are generally suitable for partial colonization by epifaunal and/or fish communities.		Physical Elements that enhance a stream's ability to support aquatic organisms are present in less than 10% of the reach. Conditions are generally unsuitable for colonization by epifaunal and/or fish communities. The reach.														
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SCORE	15	0.75

**5. CHANNEL ALTERATION:** Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel/channelization, embankments, spoil piles, constrictions, etc.

Channel Alteration	Condition Category										Comments: Streams have recovered, but still show signs of human impacts, mines, bike trails, and human traffic.												
	Negligible		Minor		Moderate		Severe																
	Channel alterations listed above are absent in the SAR. The stream has unaltered pattern or has normalized.		Minor High: Less than or equal to 20% of the stream reach is disrupted by any of the channel alterations listed above. Alteration or channelization present, usually adjacent to structures, (such as bridge abutments or culverts); evidence of past alteration, (i.e., channelization) may be present, but stream pattern and stability have recovered; recent alteration is not present.	Minor Low: Greater than 20% and less than or equal to 40% of the stream reach is disrupted by any of the channel alterations listed above. Alteration or channelization present, usually adjacent to structures, (such as bridge abutments or culverts); evidence of past alteration, (i.e., channelization) may be present, but stream pattern and stability have recovered; recent alteration is not present.	Moderate High: Greater than 40% and less than or equal to 60% of reach is disrupted by any of the channel alterations listed above. If the stream has been channelized, normal stable stream meander pattern has not recovered.	Moderate Low: Greater than 60% and less than or equal to 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If the stream has been channelized, normal stable stream meander pattern has not recovered.	Greater than 80% of reach is disrupted by any of the channel alterations listed above. Greater than 80% of banks shored with gabion, riprap, or concrete.																
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SCORE	12	0.60

RIVERINE CONDITION INDEX (RCI)											RCI	
NOTE: The CIs and RCI should be rounded to 2 decimal places.											RCI = (Sum of all CIs)/5	0.69

If a CI is not applicable (e.g. due to use an intermittent watercourse or >100 sq. mile drainage area) in order to utilize the auto calculator feature the user will need to modify the RCI formula or enter the maximum score for that CI to achieve a CI of 1.0 which will offset the divisor difference.

General Comments:

# APPENDIX E - Vegetation Plot Data Sheets

## Appendix B. Field Data Sheets

Location South Side Park Year 2017 Plot ID: 1  
 Date 11/13/17 Crew 25 H-H-SY Field Land Use P Percent In 100 Completed:

Two Land Uses Must be Entered for Split

Split Plot  \*\* If it is a split plot then two separate data sheets must be used for following categories. \*\*

### Plot / Contact Information

Address \_\_\_\_\_ Phone Number \_\_\_\_\_  
 Resident \_\_\_\_\_ Notes: \_\_\_\_\_

### GPS / Photograph

GPS X  GPS Y  GPS Z  Photo #

### Reference Objects

ID	Description	Direction	Distance	Notes/Comments (DBH)
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____

### Percent of Plot

Tree Cover 80 Shrub Cover 30 Plantable Space 0

### Ground Covers (Percents)

Building  Cement  Tar  Other Impervious  Main Grass  Unmain Grass  Duff/Mulch   
 Bare Soil  Seedlings 5 Herb/ivy 35 Agrt. Crops  Pervious Rock  Water

Ground Covers Must Add to 100%

### Shrub Data

Shrub ID	Species Code	% Shrub Area	Height	% Mass Missing	ID	Species Code	% Shrub Area	Height	% Mass Missing
1	<u>RUAL</u>	<u>30</u>	<u>4</u>	<u>0</u>	6	_____	_____	_____	_____
2	_____	_____	_____	_____	7	_____	_____	_____	_____
3	_____	_____	_____	_____	8	_____	_____	_____	_____
4	_____	_____	_____	_____	9	_____	_____	_____	_____
5	_____	_____	_____	_____	10	_____	_____	_____	_____

Shrub Area Must Add to 100%

Notes: Garlic Mustard, Oriental Bittersweet, \* Japanese Knotweed noted in plot dominating herbaceous cover

Plot 1 UPOLE South Side Park

Tree ID	Date	Dir	Sp.	DBH	DBH1	DBH2	DBH3	DBH4	DBH5	DBH6	Crown Base	Tot.H.	Can. Volem. 1	Can. Volem. 2	CLE	Canopy Missing	Dir. Back	Insect	Distance	Direction
1	/	/	<u>RSE1</u>	11	/	/	/	/	/	/	<u>35</u>	<u>50</u>	<u>30</u>	/	/	<u>0</u>		2		
2				8							<u>20</u>	<u>30</u>	<u>10</u>					1		
3				8							<u>25</u>	<u>40</u>	<u>25</u>					1		
4				16							<u>45</u>	<u>65</u>	<u>30</u>					1		
5				10							<u>15</u>	<u>40</u>	<u>25</u>					2		
6				8							<u>15</u>	<u>35</u>	<u>15</u>					2		
7				11							<u>35</u>	<u>55</u>	<u>30</u>					1		
8				9							<u>35</u>	<u>50</u>	<u>26</u>					1		
9				4							<u>10</u>	<u>20</u>	<u>20</u>					2		
10				4							<u>10</u>	<u>20</u>	<u>20</u>					2		
11				7							<u>10</u>	<u>20</u>	<u>10</u>					2		
12				8							<u>20</u>	<u>40</u>	<u>25</u>					2		
13				22							<u>45</u>	<u>55</u>	<u>35</u>					1		
14				16							<u>45</u>	<u>55</u>	<u>15</u>					2		
15				5							<u>20</u>	<u>30</u>	<u>10</u>					2		
16				6							<u>10</u>	<u>20</u>	<u>20</u>					2		
17				3							<u>5</u>	<u>20</u>	<u>10</u>					2		
18				2							<u>5</u>	<u>15</u>	<u>5</u>					2		
19				2							<u>5</u>	<u>15</u>	<u>5</u>					2		

# APPENDIX E - Vegetation Plot Data Sheets

## Appendix B. Field Data Sheets

Location South Side Park Year 2017 Plot ID: 2  
 Date 12/13/17 Crew 2.5 Hls 57 Field Land Use P Percent In 100 Completed:   
Two Land Uses Must be Entered for Split

Split Plot  \*\*If it is a split plot then two separate data sheets must be used for following categories.\*\*

### Plot / Contact Information

Address \_\_\_\_\_ Phone Number \_\_\_\_\_  
 Resident \_\_\_\_\_ Notes: \_\_\_\_\_

GPS / Photograph GPS X  GPS Y  GPS Z  Photo #

### Reference Objects

ID	Description	Direction	Distance	Notes/Comments (DBH)
1				
2				
3				

### Percent of Plot

Tree Cover 90 Shrub Cover 2 Plantable Space

### Ground Covers (Percents)

Building  Cement  Tar  Other Impervious  Main. Grass  Unmain. Grass  Duff/Mulch 2  
 Bare Soil  Seedlings  Herb/ Ivy 25 Agr. Crops  Pervious Rock  Water

Ground Covers Must Add to 100%

### Shrub Data

Shrub ID	Species Code	% Shrub Area	Height	% Mass Missing	ID	Species Code	% Shrub Area	Height	% Mass Missing
1	LOJA	<u>2</u>	<u>3</u>		6				
2					7				
3					8				
4					9				
5					10				

Shrub Area Must Add to 100%

Notes: Japanese Honeysuckle, Japanese Knotweed, Garlic Mustard,  
Japanese Stinkgrass all noted in plot.

#24

Tree ID	Date	Dir	Sp.	DBH	DBH2	DBH3	DBH4	DBH5	DBH6	Tree Base	Total	Can. Width 1	Can. Width 2	CLE	N. Canopy Missing	Can. Deck	Inclined	Distance	Direction
1	/	/	PRSE1	16	/	/	/	/	/	55	70	05	1	/	0	0	1		
2				15						40	60	05					2		
3				5						20	30	5					3		
4				12						30	50	00					4		
5				10						35	45	10					5		
6				7						25	35	6					6		
7				8						20	30	20					7		
8				10						45	60	15					8		
9			ROFS	10						45	55	10					9		
10				6						35	45	10					10		
11				7						45	55	10					11		
12				10						35	45	10					12		
13			WIAM	7						10	35	25					13		
14			ACPL	6						10	35	35					14		
15			BOVA	5						10	25	20					15		
16				25						45	70	45					16		
				25						45	70	45					17		
				10						45	60	25					18		

Plot 2 UFORE

# APPENDIX E - Vegetation Plot Data Sheets

## Appendix B. Field Data Sheets

Location South Side Park Year 2017 Plot ID: 3  
 Date 12/13/17 Crew 25 HESJ Field Land Use P Percent In 100 Completed:   
Two Land Uses Must be Entered for Split

Split Plot  \*\* If it is a split plot then two separate data sheets must be used for following categories. \*\*

### Plot / Contact Information

Address \_\_\_\_\_ Phone Number \_\_\_\_\_  
 Resident \_\_\_\_\_ Notes: \_\_\_\_\_

### GPS / Photograph

GPS X  GPS Y  GPS Z  Photo #

### Reference Objects

ID	Description	Direction	Distance	Notes/Comments (DBH)
1				
2				
3				

### Percent of Plot

Tree Cover 75 Shrub Cover 75 Plantable Space 0

### Ground Covers (Percents)

Building  Cement  Tar  Other Impervious  Main Grass  Unmain. Grass  Duff/Mulch   
 Bare Soil  Seedlings  Herb/ Ivy  Agr. Crops  Pervious Rock  Water   
Ground Covers Must Add to 100%

### Shrub Data

Shrub ID	Species Code	% Shrub Area	Height	% Mass Missing	ID	Species Code	% Shrub Area	Height	% Mass Missing
1	<u>RUAL</u>	<u>5</u>	<u>3</u>		6				
2	<u>LOJA</u>	<u>70</u>	<u>Yamat</u>		7				
3					8				
4					9				
5					10				

Shrub Area Must Add to 100%

Notes: Japanese Honeyuckle, Japanese Knotweed, Garlic Mustard, Oriental Bittersweet all noted in large quantities

Plot 3

Plot ID	Dir	Dir	Spp.	Number	DBH1	DBH2	DBH3	DBH4	DBH5	DBH6	Crown Base	Total	DBH	CLE	Category Missing	Dir. Back	Intensity	Diagonal	Division
1	/	/	RESE	11	/	/	/	/	/	/	20	45	25	/	0	0	1		
2	/	/	↓	14	/	/	/	/	/	/	35	75	45	/	0	0	2		
3	/	/	ACPL	8	/	/	/	/	/	/	10	35	35	/	0	0	3		
4	/	/	↑	3	/	/	/	/	/	/	5	20	15	/	0	0	4		
5	/	/	↓	9	/	/	/	/	/	/	10	40	30	/	0	0	5		
6	/	/	↑	10	/	/	/	/	/	/	15	45	35	/	0	0	6		
7	/	/	ROPS	10	/	/	/	/	/	/	35	45	15	/	0	0	7		
8	/	/	↓	10	/	/	/	/	/	/	25	40	20	/	0	0	8		
9	/	/	↑	8	/	/	/	/	/	/	30	40	15	/	0	0	9		
10	/	/	MAA	13	/	/	/	/	/	/	5	35	35	/	0	0	10		
11	/	/	ACME	2	/	/	/	/	/	/	5	10	5	/	0	0	11		
12	/	/	AIAL	9	/	/	/	/	/	/	15	35	15	/	0	0	12		

# APPENDIX E - Vegetation Plot Data Sheets

## Appendix B. Field Data Sheets

Location South Side Park Year 2017 Plot ID: 4  
 Date 12/13/17 Crew 254651 Field Land Use P Percent In 100 Completed:   
Two Land Uses Must be Entered for Split

Split Plot  \*\* If it is a split plot then two separate data sheets must be used for following categories. \*\*

### Plot / Contact Information

Address \_\_\_\_\_ Phone Number \_\_\_\_\_  
 Resident \_\_\_\_\_ Notes: \_\_\_\_\_

GPS / Photograph GPS X  GPS Y  GPS Z  Photo #

### Reference Objects

ID	Description	Direction	Distance	Notes/Comments (DBH)
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____

### Percent of Plot

Tree Cover 45 Shrub Cover 70 Plantable Space 0

### Ground Covers (Percents)

Building  Cement  Tar  Other Impervious  Main Grass  Unmain. Grass  Duff/Mulch 80  
 Bare Soil  Seedlings  Herb/ Ivy 70 Agri. Crops  Pervious Rock  Water   
Ground Covers Must Add to 100%

### Shrub Data

Shrub ID	Species Code	% Shrub Area	Height	% Mass Missing	ID	Species Code	% Shrub Area	Height	% Mass Missing
1	<u>QUAI</u>	<u>30</u>	<u>2</u>		6				
2	<u>LOJA</u>	<u>40</u>	<u>Variable</u>		7				
3					8				
4					9				
5					10				

Shrub Area Must Add to 100%

Notes: Japanese Amur lily, Japanese Knotweed, & native invasive  
Grass Vine choking out trees & other vegetation

Plot 4

Tree ID	Dir	Dist	Sp	DBH	DBH2	DBH3	DBH4	DBH5	DBH6	Crown Base	Tot. Ht.	Shrub Width 1	Shrub Width 2	CLE	Crown Missing	Dir. Back	Intersect	Distance	Division
1	/	/	PRSE1	10	/	/	/	/	/	85	50	15					2		
2	/	/		9	/	/	/	/	/	80	30	5					1		
3	/	/		18	/	/	/	/	/	45	70	35					2		
4	/	/	URV	15	/	/	/	/	/	45	60	50					2		
5	/	/	MRX	5	/	/	/	/	/	10	25	15					2		
6	/	/	ACPI	11	/	/	/	/	/	15	35	20					2		

# APPENDIX E - Vegetation Plot Data Sheets

## Appendix B. Field Data Sheets

Location South Side Park Year 2017 Plot ID: 5  
 Date 12/3/17 Crew ZSHEST Field Land Use P Percent In 100 Completed:   
Two Land Uses Must be Entered for Split

Split Plot  \*\* If it is a split plot then two separate data sheets must be used for following categories. \*\*

### Plot / Contact Information

Address \_\_\_\_\_ Phone Number \_\_\_\_\_

Resident \_\_\_\_\_ Notes: \_\_\_\_\_

### GPS / Photograph

GPS X  GPS Y  GPS Z  Photo #

### Reference Objects

ID	Description	Direction	Distance	Notes/Comments (DBH)
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____

### Percent of Plot

Tree Cover 80 Shrub Cover 35 Plantable Space 0

### Ground Covers (Percents)

Building  Cement  Tar  Other Impervious  Main Grass  Unmain Grass  Duff/Mulch 80

Bare Soil  Seedlings  Herb/ivy 10 Agr. Crops  Pervious Rock  Water

Ground Covers Must Add to 100%

### Shrub Data

Shrub ID	Species Code	% Shrub Area	Height	% Mass Missing	ID	Species Code	% Shrub Area	Height	% Mass Missing
1	<u>RVAL</u>	<u>14</u>	<u>3</u>		6				
2	<u>LUSA</u>	<u>20</u>	<u>1</u>		7				
3	<u>ROMV</u>	<u>1</u>	<u>5</u>		8				
4					9				
5					10				

Shrub Area Must Add to 100%

Notes: Oriental Bittersweet, Japanese Honeyuckle, Multiflora Rose, Barkis mustered all noted on plot

24

Tree 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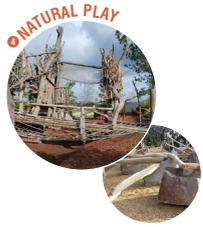
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# APPENDIX F - Scheme A

## ENVIRONMENTAL EDUCATION

1. Acquire parcel for stormwater management
2. New trail between S. 21st St. entrance and Bandi Schaum community garden
3. Parking (50 spots)
4. Natural play area
5. Open air pavilion (2500 SF)
6. Native plant nursery
7. Outdoor classroom
8. Environment education center (9,000 SF)
9. Green infrastructure: pools and wetlands
10. Renovated field with subsurface green infrastructure
11. New bleachers and bathrooms
12. Parking (68 spots)
13. Revealed seeps a boardwalks with seating
14. Embankment slides
15. Resurface loop trail
16. Renovate Arlington Rec Center
17. Dinosaur sculpture and outdoor classroom
18. Invasives management and native planting
19. Boardwalk and picnic pavilions
20. Wet meadow





Above: Precedents for elements shown in Scheme A.  
 Below: Section through the plateau and cantilevered boardwalk (A-A')



# APPENDIX F - Scheme B

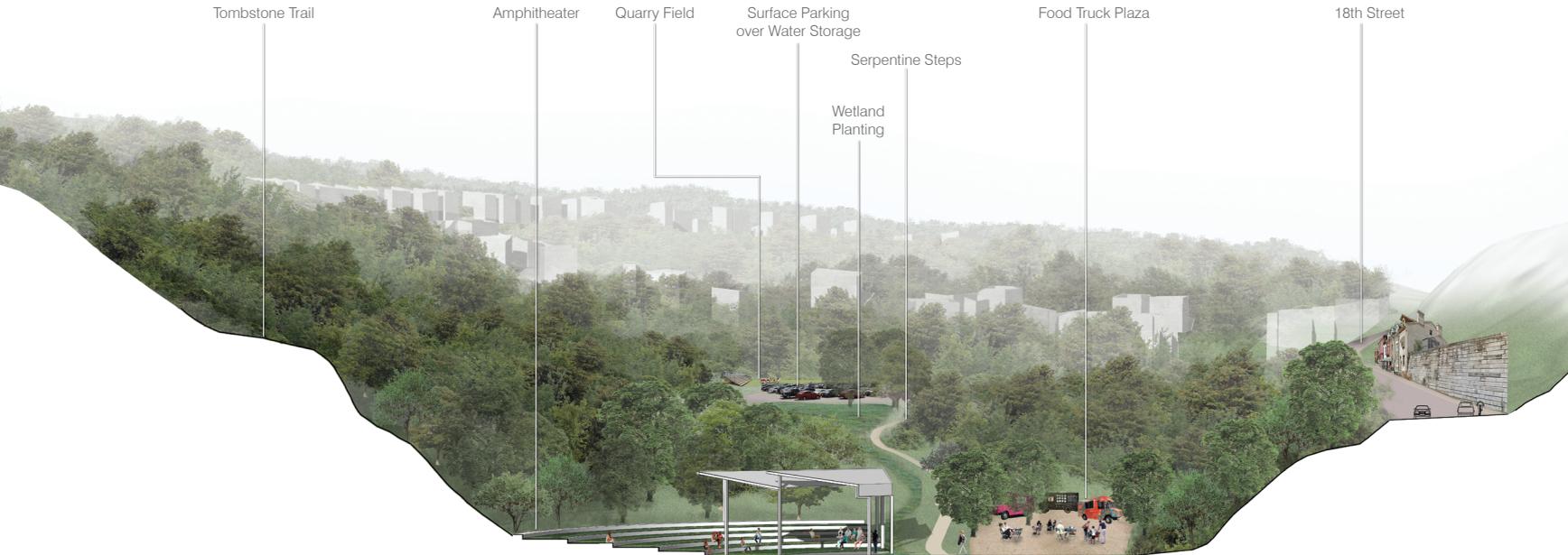
## ARTS + HISTORY + CULTURE

1. Surface parking (75 spaces)
2. Sculpture playground
3. Mining Heritage Museum (14,000 SF)
4. Food truck plaza (23,000 SF)
5. Amphitheater
6. Green infrastructure: bioretention
7. Acquire adjacent parcel
8. 18th St. art
9. Marble rings and new play space
10. New bleachers and bathrooms
11. Renovated field and subsurface water storage
12. Coal Seam trail along 1040 contour
13. Arlington Ave entrance
14. Overlook sculpture tower
15. Historic "House Tour" of remnant foundations, stairs, etc.
16. Renovate Arlington Rec Center
17. Invasives management and native planting
18. Wellington St. entrance
19. Wetland boardwalk
20. New trail between S. 21st St. entrance and Bandi Schaum Community Garden





Above: Precedents for elements shown in Scheme B.  
 Below: Section through the food truck plaza, pavilion, and amphitheater (B-B')



# APPENDIX F - Scheme C

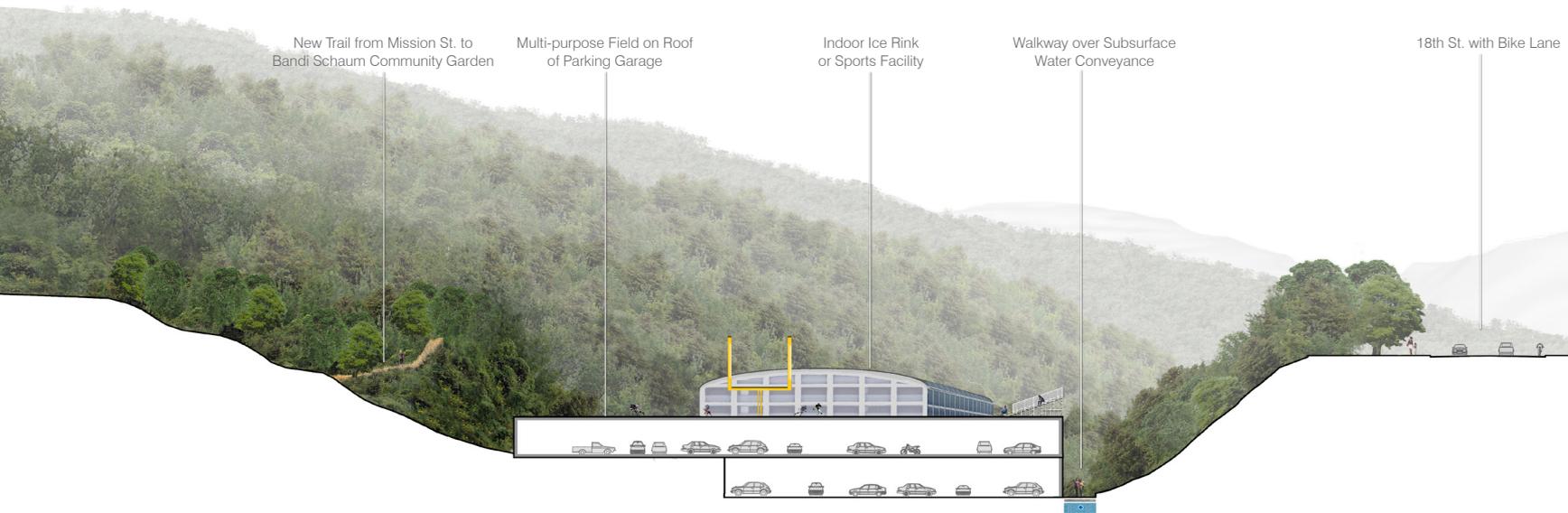
## ADVENTURE RECREATION

1. Visitors Center (5,000 SF)
2. Playground at S. 21st St. entrance
3. Parking garage (200 spaces)
4. Rectangular field (over garage)
5. Green infrastructure: planted swales and channels
6. Indoor tennis courts or hockey rink (25,000 SF)
7. Pedestrian-only entrance from 18th St.
8. 18th St. bike lane
9. Acquire adjacent parcel
10. Steps between 18th St. and Saber Way
11. New hillside slides; renovate playground and basketball courts
12. New bleachers and bathrooms
13. Renovate Quarry Field
14. Pump track
15. Arlington Ave entrance
16. Renovate Arlington Rec Center
17. Zip line
18. East-West connector trail
19. Invasives management and native planting
20. Canopy walk (ADA-accessible)
21. Acquire parcel for connection to steps at Sierra St. and renovate Sierra St. steps
22. New trail between S. 21st St. entrance and Bandi Schaum Community Garden
23. Drivable access from parking garage to Mission St.





Above: Precedents for elements shown in Scheme C.  
 Below: Section through the parking garage and rectangular field (C-C')



New Trail from Mission St. to  
 Bandi Schaum Community Garden

Multi-purpose Field on Roof  
 of Parking Garage

Indoor Ice Rink  
 or Sports Facility

Walkway over Subsurface  
 Water Conveyance

18th St. with Bike Lane

## APPENDIX G- Implementation Matrix

	KEY: Priority: VH = very high; H = high; M = medium; L = low Funding level: \$ = 50K or less; \$\$ = 51K to 250K; \$\$\$ = over 250k	PRIORITY (Very High, High, Medium, Low)	CITY LEAD	FUNDING LEVEL (\$,\$,\$,\$,\$)	FUNDING SOURCE		
					CITY	GRANT (SOUGHT BY CITY OR NON-PROFIT)	THIRD PARTY / ANOTHER ORG (Donation; For-Profit; Authority)
<b>PHASE 1</b>	Prioritizes entrances and connections, pilot project and visible improvement of doable size, and green infrastructure						
	<b>18th Street Entrance Enhancement</b> Includes 5 parking spaces, signage, bike racks, lighting, planting, new sidewalk and curb, drive realignment, and public art piece <b>Potential Funding Sources:</b>		X	\$\$	X		
	<b>Children's Discovery Garden</b> Includes two discovery / exploration zones geared towards children ages 2-5 and 5-12 with combined 14k SF; lighting, site furnishings, and planting <b>Potential Funding Sources:</b>		X	\$\$\$	X	X	
	<b>Basketball Court and Marble Rings</b> Replaces the current court on Saber Way and provides 6 new marble rings; includes fencing, sports equipment, and marking <b>Potential Funding Sources:</b>		X	\$\$	X		
	<b>Steps &amp; Paths</b> Replaces steps to Quarry Field and adds new paths connecting to existing trailheads and 18th St entrance <b>Potential Funding Sources:</b>		X	\$	X		
	<b>Saber Way Parking Area</b> 40 spots; includes paving, striping, lighting, litter & recycling receptacles <b>Potential Funding Sources:</b>		X	\$\$	X		
	<b>Rain Garden @ Discovery Area</b> Approx. 3600 SF rain garden to capture seep / stormwater runoff before it reaches garden and courts <b>Potential Funding Sources:</b>			\$	X	X	X

## APPENDIX G - Implementation Matrix

<p><b>Green Infrastructure @ North of Park / 21st Street</b>                  Green infrastructure including stormwater ponds and planted bioswale to detain stormwater runoff  <b>Potential Funding Sources:</b></p>			\$\$\$	X	X	X
<p><b>21st Street Connection &amp; Parking</b>                  ADA-accessible boardwalk over stormwater ponds; metered parking for 30 spots along South 21st St; new sidewalks and paths; segment of shared-use path  <b>Potential Funding Sources:</b></p>		X	\$\$\$	X		
<p><b>Land Acquisition</b>                  Acquire URA-owned parcel at 21st Street Entrance  <b>Potential Funding Sources:</b></p>		X	\$	X		

## APPENDIX G- Implementation Matrix

PHASE 2						
Prioritizes community event spaces and associated parking, multi-modal connections, and green infrastructure						
<b>21st Street Entrance Drive &amp; Parking</b> Includes realignment of existing drive, 60-spot parking area at site of former tennis courts, paving, striping, lighting, new sidewalk and curb, litter and recycling receptacles <b>Potential Funding Sources:</b>		X	\$\$\$	X		
<b>Open-Air Event Space</b> 20k SF flexible event space (paved plaza) with picnic tables and chairs; 4250 SF pavilion, stage, enclosed bathrooms and storage area, and 600-person amphitheater <b>Potential Funding Sources:</b>		X	\$\$\$	X	X	X
<b>Shared-Use Path &amp; Push-Ramp along Serpentine Steps</b> Additional segment of shared-use path (approx 230 LF) and 3'-wide paved bicycle push-ramp (could be biked up, but does not meet shared path requirements) alongside the serpentine steps; signage at top and bottom <b>Potential Funding Sources:</b>		X	\$	X		
<b>Green Infrastructure @ Seeps, along Steps, and Under Event Space</b> GI to detain stormwater: detention cells, reinforced stream beds and step pools at seeps, and potential subsurface detention and conveyance under event space <b>Potential Funding Sources:</b>		X	\$\$	X	X	
PHASE 3						
Prioritizes renovations to recreation facilities and the addition of a signature park element (canopy overlook)						
<b>Quarry Field Renovation</b> Includes new grass field, concrete embankment bleachers, scoreboard, renovated concessions area and bathrooms <b>Potential Funding Sources:</b>		X	\$\$\$	X		X
<b>Canopy Overlook</b> A 200 LF elevated walkway overlook at the plateau <b>Potential Funding Sources:</b>		X	\$\$\$	X		X
<b>Green Infrastructure Under Quarry Field</b> Subsurface detention area under approx. half of Quarry Field <b>Potential Funding Sources:</b>		X	\$\$\$	X	X	

## APPENDIX G - Implementation Matrix

STAND-ALONE PROJECTS / PARKWIDE	Includes additional public art opportunities, improvements to existing buildings, courts and fields, amenities operated by third parties, and smaller projects like a new park entrance or embankment slides					
<p><b>Julia Street Entrance Enhancement</b> Improved lighting and visibility @ entrance; potential acquisition of parcel adjacent to fire house should it become available <b>Potential Funding Sources:</b></p>		?	\$		X	
<p><b>Pump House Parking &amp; Trailhead</b> Repaving of parking area with 14 spots and new trailhead with signage and seating; connector trail to larger parking area <b>Potential Funding Sources:</b></p>		X	\$\$	X		
<p><b>Eccles Street Entrance &amp; Overlook Sculpture</b> Includes a climbable sculptural overlook, connecting steps to Julia Street parking area, lighting, and 9 parking spots along Eccles Street <b>Potential Funding Sources:</b></p>		X	\$\$	X	X	X
<p><b>Sierra Street Entrance &amp; Connector Trail</b> Tax-delinquent parcel at Sterling and Sierra Street to be acquired for new park entrance; steps and connector trail to Bandi Schaum Trail <b>Potential Funding Sources:</b></p>		X	\$	X		
<p><b>East-West Connector Trail</b> 580 LF of new trail (natural surface); includes alignment, clearing vegetation, water control elements <b>Potential Funding Sources:</b></p>		?	\$		X	
<p><b>Mission Street Connector Trail</b> 740 LF of new trail (natural surface); includes trail alignment, clearing vegetation, water control elements <b>Potential Funding Sources:</b></p>		?	\$		X	
<p><b>1040 Trail</b> 900 LF of new trail (natural surface); includes alignment, clearing vegetation, water control elements <b>Potential Funding Sources:</b></p>		?	\$		X	
<p><b>Tombstone Trail Enhancement</b> Includes realignment, widening, and regrading if necessary and new stabilized earth surface along 800 LF of trail; evaluation of trail for ADA accessibility; extension of trail across Plateau; two 10' x 10' picnic platforms with seating <b>Potential Funding Sources:</b></p>		?	\$	X	X	

## APPENDIX G- Implementation Matrix

<p><b>South Side Trail Enhancement</b> Mill &amp; overlay South Side Trail (20K SF); 2eating at the end of the trail overlooking the Jurassic Valley <b>Potential Funding Sources:</b></p>		?	\$\$		X	
<p><b>Gated Access @ Bandi Schaum Drive</b> Drive connecting Mission Street and Greeley Street to be gated and become pedestrian only; vehicle-accessible to gate key holders <b>Potential Funding Sources:</b></p>		X	\$	X		
<p><b>Public Art</b> Opportunities for additional art installations along the 1040 Trail, under the Mission Street Bridge, and at the parcel on 18th Street <b>Potential Funding Sources:</b></p>		X	\$ to \$\$\$	X	X	X
<p><b>Embankment Slides</b> Includes 2-3 on-grade slides 25' to 75' long, proposed for the interior of the Loop Trail, along with cushioning surface at bottom <b>Potential Funding Sources:</b></p>		X	\$\$	X		
<p><b>Arlington Rec Center Renovation</b> Adds windows and a more visible entrance with canopy and signage to existing Rec Center <b>Potential Funding Sources:</b></p>		X	\$	X		
<p><b>Arlington Baseball Field Improvements</b> Includes embankment bleachers; new scoreboard <b>Potential Funding Sources:</b></p>		X	\$	X		
<p><b>Improvements @ the Fort</b> Invasive species removal and planting of native species on north slope facing the Rec Center; renovated play and basketball areas; fix field drainage <b>Potential Funding Sources:</b></p>		X	\$\$	X		
<p><b>Jurassic Valley Restoration Work</b> Approx. 5 acres of removals and replanting in Jurassic Valley <b>Potential Funding Sources:</b></p>		?	\$	X	X	
<p><b>Woodlands Focal Area Restoration Work</b> Approx. 6 acres of of invasive species management and supplemental planting in focal area for restoration work <b>Potential Funding Sources:</b></p>		?	\$	X	X	

## APPENDIX G - Implementation Matrix

<p><b>Wet Meadow Planting @ Bandi Schaum</b> 10k SF of wet meadow southwest of Bandi Schaum Community Gardens <b>Potential Funding Sources:</b></p>		?	\$	X	X	
<p><b>Planting @ North Slope of The Fort</b> Approximately 20K SF of removals and no-mow seeding on the north slope of The Fort facing Arlington Rec Center <b>Potential Funding Sources:</b></p>		?	\$	X	X	
<p><b>Adventure Rec Opportunity 1 (Below Arlington Field)</b> Potentially a BMX pump track with BMX access trail connecting to Julia Street parking area <b>Potential Funding Sources:</b></p>			NA			X
<p><b>Adventure Rec Opportunity 2 (Interior of South Side Trail)</b> Potentially a ropes / adventure course <b>Potential Funding Sources:</b></p>			NA			X
<b>ALTERNATES</b>						
Alternates to master plan						
<p><b>Shared-Use Path Connection (Replacing Serpentine Steps)</b> Completes the off-street bikeway from the Flats to the Hilltop neighborhoods; includes earthwork, paved path, railing, and lighting <b>Potential Funding Sources:</b></p>	NA	X	\$\$\$	X		
<p><b>Indoor Tennis Courts</b> Includes 6 tennis courts in inflatable enclosure for all-weather use, pedestrian paths to access courts, exterior lighting <b>Potential Funding Sources:</b></p>	NA	X	\$\$\$	X		

# APPENDIX H - Cost Estimate Phase 1 - Summary

**STUDIO BRYAN HANES  
SOUTH SIDE PARK MASTER PLAN  
PHASE 1 IMPROVEMENTS  
PITTSBURGH, PENNSYLVANIA**

SBH #: 1714  
Prep: BH  
Date: 4/2/2018  
Revised: 5/1/2018

## SUMMARY - COST ESTIMATE

Account	Description	Area	Cost/SF	Amount
	Demolition & Protection	NA	NA	\$ 293,195
	21st Street Connection & Parking	124,550 SF	\$ 4.52	\$ 562,508
	18th Street Entrance	11,730 SF	\$ 13.18	\$ 154,653
	Discovery Garden	13,730 SF	\$ 20.33	\$ 279,093
	Basketball Court & Marble Rings	8,620 SF	\$ 8.15	\$ 70,275
	Steps & Paths	1,720 SF	\$ 7.91	\$ 13,600
	Saber Way Parking Area	15,720 SF	\$ 5.24	\$ 82,450
	Green Infrastructure	35,750 SF	\$ 10.27	\$ 367,295
	Land Acquisition (URA-owned parcel)	NA	NA	\$ 1
	Subtotal			<b>\$ 1,823,069</b>
	Contingency 15%			273,460
	Subtotal			<b>2,096,529</b>
	General Requirements 15%			314,479
<b>Total Construction Cost</b>				<b>\$ 2,411,008</b>

*Note: Costs are current for May 2018, escalation is not included.  
Estimates are for construction costs only and do not include design fees or project administration.*

# APPENDIX H - Cost Estimate Phase 1 - Details

**STUDIO BRYAN HANES  
SOUTH SIDE PARK MASTER PLAN  
PHASE 1 IMPROVEMENTS  
PITTSBURGH, PENNSYLVANIA**

SBH #: 1714  
Prepared By: BH  
Date: 4/2/2018  
Revised: 5/1/2018

## SUMMARY - COST ESTIMATE

Account	Description	Quantity	Unit	Unit Cost	Amount
<b><i>Demolition &amp; Protection</i></b>					
	Site clearing - demo ext paving	122610	SF	\$ 1.00	\$ 122,610
	Site clearing - tree removal	1	LS	\$ 15,000.00	\$ 15,000
	Erosion & sediment control	1	LS	\$ 15,000.00	\$ 15,000
	Rough grading & site prep	191170	SF	\$ 0.50	\$ 95,585
	Miscellaneous removals - allowance	1	LS	\$ 20,000.00	\$ 20,000
	Tree protection	1	LS	\$ 5,000.00	\$ 5,000
	Relocate utilities	1	LS	\$ 20,000.00	\$ 20,000
<b><i>21st Street Connection</i></b>					
	Fine grading	15540	SF	\$ 0.25	\$ 3,885
	Boardwalk - metal grating, no railing	3220	SF	\$ 90.00	\$ 289,800
	Lighting	12	EA	\$ 6,000.00	\$ 72,000
	Path on grade - stone fines	3760	SF	\$ 5.00	\$ 18,800
	Sidewalk + curb, to City std	2100	SF	\$ 15.00	\$ 31,500
	Crosswalk striping	80	LF	\$ 15.00	\$ 1,200
	ADA curb cuts	2	EA	\$ 10,000.00	\$ 20,000
	Asphalt @ parking along 21st St	9710	SF	\$ 3.50	\$ 33,985
	Striping	620	LF	\$ 5.00	\$ 3,100
	Multi-space meter	1	EA	\$ 15,000.00	\$ 15,000
	Seeding - meadow	16030	SF	\$ 0.25	\$ 4,008
	Trees	20	EA	\$ 1,200.00	\$ 24,000

## APPENDIX H - Cost Estimate Phase 1 - Details

### **18th Street Entrance & Connection**

Fine grading	11730	SF	\$	0.25	\$	2,933
Asphalt paving	8010	SF	\$	7.00	\$	56,070
Sidewalk + curb	3310	SF	\$	15.00	\$	49,650
Signage	1	EA	\$	5,000.00	\$	5,000
Trees	5	EA	\$	1,200.00	\$	6,000
Lighting	1	LS	\$	15,000.00	\$	15,000
Public art installation	1	LS	\$	20,000.00	\$	20,000

### **Children's Discovery Garden**

Fine grading	13730	SF	\$	0.25	\$	3,433
Wood mulch	13730	SF	\$	2.00	\$	27,460
Edging	1	LS	\$	25,000.00	\$	25,000
Climbable / discovery elements	1	LS	\$	200,000.00	\$	200,000
Furnishings / benches	3	EA	\$	2,000.00	\$	6,000
Trees and planting	6	EA	\$	1,200.00	\$	7,200
Lighting	1	LS	\$	10,000.00	\$	10,000

### **Basketball Court & Marble Rings**

Asphalt @ court	6190	SF	\$	3.50	\$	21,665
Fencing - 10' high, metal	110	LF	\$	100.00	\$	11,000
Court marking	300	LF	\$	5.00	\$	1,500
Hoops / standards	2	EA	\$	5,000.00	\$	10,000
Concrete paving @ marble rings	2430	SF	\$	7.00	\$	17,010
Ring - 14' sq concrete	980	SF	\$	7.00	\$	6,860
Ring - paint	980	SF	\$	2.00	\$	1,960
Ring - wood backstop	280	LF	\$	1.00	\$	280

### **Steps & Paths**

Steps to Quarry Field	1	LS	\$	6,000.00	\$	6,000
Paths / connection to trailhead	1520	SF	\$	5.00	\$	7,600

## APPENDIX H - Cost Estimate Phase 1 - Details

### **Saber Way Parking Area**

Fine grading	15720	SF	\$	0.25	\$	3,930
Asphalt	15720	SF	\$	3.50	\$	55,020
Striping	900	LF	\$	5.00	\$	4,500
Lighting	1	LS	\$	15,000.00	\$	15,000
Litter / recycling receptacles (VS with sensor)	2	EA	\$	2,000.00	\$	4,000

### **GI Rain Garden at Discovery Garden**

Excavation @ 3' deep	400	CY	\$	50.00	\$	20,000
Trees	4	EA	\$	1,200.00	\$	4,800
Perennial planting	3630	SF	\$	7.50	\$	27,225

### **GI Areas at 21st Street Entrance**

Excavation @ 3' deep	2930	CY	\$	50.00	\$	146,500
Fine grading	26400	SF	\$	0.25	\$	6,600
Planting - bioswales	8580	SF	\$	7.50	\$	64,350
Stormwater ponds - lined	17820	SF	\$	1.00	\$	17,820
Allowance - piping, aggregate, inlets, etc.	1	LS	\$	80,000.00	\$	80,000

### **Land Acquisition - URA-owned parcel**

	1	LS	\$	1.00	\$	1
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						<u>\$ 1,823,069</u>
						<u>273,460</u>
						2,096,529
						314,479
<b>TOTAL ESTIMATED COST</b>						<b><u>\$ 2,411,008</u></b>

## APPENDIX H - Cost Estimate Phase 2 - Summary

STUDIO BRYAN HANES  
SOUTH SIDE PARK MASTER PLAN  
PHASE 2 IMPROVEMENTS  
PITTSBURGH, PENNSYLVANIA

SBH #: 1714  
Prep: BH  
Date: 4/24/2018  
Revised: 5/1/2018

### SUMMARY - COST ESTIMATE

Account	Description	Area	Cost/SF	Amount
	Demolition & Protection	NA	NA	\$ 168,815
	Main Drive & Parking Area	57,410 SF	\$ 9.58	\$ 550,223
	Community Gathering & Event Space	62,660 SF	\$ 17.56	\$ 1,100,065
	18th Street Connection & Serpentine Steps	13,360 SF	\$ 3.17	\$ 42,388
	Green Infrastructure	10,690 SF	\$ 13.32	\$ 142,353
	Subtotal			<b>\$ 2,003,843</b>
	Contingency 15%			300,576
	Subtotal			<b>2,304,419</b>
	General Requirements 15%			345,663
<b>Total Construction Cost</b>				<b>\$ 2,650,082</b>

*Note: Costs are current for May 2018, escalation is not included.*

*Estimates are for construction costs only and do not include design fees or project administration.*

## APPENDIX H - Cost Estimate Phase 2 - Details

**STUDIO BRYAN HANES  
SOUTH SIDE PARK MASTER PLAN  
PHASE 2 IMPROVEMENTS  
PITTSBURGH, PENNSYLVANIA**

SBH #: 1714  
Prepared By: BH  
Date: 4/24/2018  
Revised: 5/1/2018

### SUMMARY - COST ESTIMATE

Account	Description	Quantity	Unit	Unit Cost	Amount
<b><i>Demolition &amp; Protection</i></b>					
	Site clearing - demo ext paving	17280	SF	\$ 1.00	\$ 17,280
	Site clearing - tree removal	1	LS	\$ 10,000.00	\$ 10,000
	Erosion & sediment control	1	LS	\$ 15,000.00	\$ 15,000
	Rough grading & site prep	163070	SF	\$ 0.50	\$ 81,535
	Miscellaneous removals - allowance	1	LS	\$ 20,000.00	\$ 20,000
	Tree protection	1	LS	\$ 5,000.00	\$ 5,000
	Relocate utilities	1	LS	\$ 20,000.00	\$ 20,000
<b><i>Main Drive &amp; Parking Area</i></b>					
	Fine grading	57410	SF	\$ 0.25	\$ 14,353
	Fill @ main drive	1	LS	\$ 10,000.00	\$ 10,000
	Asphalt @ main drive	15850	SF	\$ 3.50	\$ 55,475
	Asphalt @ parking area (60 spaces)	18820	SF	\$ 3.50	\$ 65,870
	Asphalt @ access road	2050	SF	\$ 3.50	\$ 7,175
	Sidewalk & curb to City std	8010	SF	\$ 15.00	\$ 120,150
	Lighting	13	EA	\$ 6,000.00	\$ 78,000
	Striping	1240	LF	\$ 5.00	\$ 6,200
	Fiber soils for fire truck access	1930	CY	\$ 100.00	\$ 193,000
<b><i>Community Gathering &amp; Event Space</i></b>					

## APPENDIX H - Cost Estimate Phase 2 - Details

Fine grading	62660	SF	\$	0.25	\$	15,665
Plaza paving, material TBD	20660	SF	\$	25.00	\$	516,500
Lawn - seeding and fertilizing	42000	SF	\$	0.25	\$	10,500
Amphitheater seatwalls, stone	1200	LF	\$	150.00	\$	180,000
Stage	1090	SF	\$	40.00	\$	43,600
Canopy - painted mtl; wood underside; stl col	4320	SF	\$	40.00	\$	172,800
Building - bathrooms, back of house	640	SF	\$	150.00	\$	96,000
Utility connections	1	LS	\$	15,000.00	\$	15,000
Furnishings	1	LS	\$	20,000.00	\$	20,000
Lighting	1	LS	\$	30,000.00	\$	30,000

### **18th Street Connection & Serpentine Steps**

Fine grading	7290	SF	\$	0.25	\$	1,823
Asphalt	4490	SF	\$	3.50	\$	15,715
New steps - 7' wide, concrete	2100	SF	\$	6.00	\$	12,600
Handrail - mtl, one side only	230	LF	\$	40.00	\$	9,200
Push-ramp along steps - 3' wide, asphalt	700	SF	\$	3.50	\$	2,450
Signs @ top and bottom of ramp	2	EA	\$	300.00	\$	600

## APPENDIX H - Cost Estimate Phase 2 - Details

### **Green Infrastructure - Revealed Seeps**

Fine grading along route to detention area	5530	SF	\$	0.25	\$ 1,382.50
Stonework @ seep emergence	3	EA	\$	500.00	\$ 1,500.00

### **Green Infrastructure - Subsurface Detention**

Excavation	1480	CY	\$	50.00	\$ 74,000.00
Infrastructure - allowance	1	LS	\$	50,000.00	\$ 50,000.00

### **Green Infrastructure - Stepped Detention Cells**

Excavation	160	CY	\$	50.00	\$ 8,000.00
Lining	1470	SF	\$	1.00	\$ 1,470.00
Weirs - stone, 6' long x 1.5' wide	24	EA	\$	250.00	\$ 6,000.00

	Subtotal			<u>\$ 2,003,843</u>
	Contingency	15%		<u>300,576</u>
	Subtotal			<u>2,304,419</u>
	General Requirements	15%		<u>345,663</u>
	<b>TOTAL ESTIMATED COST</b>			<b><u>\$ 2,650,082</u></b>

## APPENDIX H - Cost Estimate Phase 3 - Summary

**STUDIO BRYAN HANES  
SOUTH SIDE PARK MASTER PLAN  
PHASE 3 IMPROVEMENTS  
PITTSBURGH, PENNSYLVANIA**

SBH #: 1714  
Prep: BH  
Date: 4/24/2018  
Revised: 5/1/2018

### SUMMARY - COST ESTIMATE

Account	Description	Area	Cost/SF	Amount
	Demolition & Protection	NA	NA	\$ 143,675
	Quarry Field Renovation	123,750 SF	\$ 3.86	\$ 477,400
	Canopy Overlook	9,750 SF	\$ 36.92	\$ 360,000
	Green Infrastructure	28,800 SF	\$ 15.85	\$ 456,500
	Subtotal			<b>\$ 1,437,575</b>
	Contingency 15%			215,636
	Subtotal			<b>1,653,211</b>
	General Requirements 15%			247,982
<b>Total Construction Cost</b>				<b>\$ 1,901,193</b>

*Note: Costs are current for May 2018, escalation is not included.*

*Estimates are for construction costs only and do not include design fees or project administration.*

## APPENDIX H - Cost Estimate Phase 3 - Details

**STUDIO BRYAN HANES  
SOUTH SIDE PARK MASTER PLAN  
PHASE 3 IMPROVEMENTS  
PITTSBURGH, PENNSYLVANIA**

SBH #: 1714  
Prepared By: BH  
Date: 4/24/2018  
Revised: 5/1/2018

### SUMMARY - COST ESTIMATE

Account	Description	Quantity	Unit	Unit Cost	Amount
<b><i>Demolition &amp; Protection</i></b>					
	Site clearing - tree removal @ overlook	1	LS	20,000.00	\$ 20,000
	Erosion & sediment control	1	LS	15,000.00	\$ 15,000
	Rough grading & site prep	131350	SF	0.50	\$ 65,675
	Miscellaneous removals - allowance	1	LS	15,000.00	\$ 15,000
	Tree protection	1	LS	8,000.00	\$ 8,000
	Relocate utilities	1	LS	20,000.00	\$ 20,000
<b><i>Quarry Field Renovation</i></b>					
	Natural grass surface & sand drainage bed	57600	SF	\$ 5.00	\$ 288,000
	Concrete embankment bleachers	1	LS	\$ 39,000.00	\$ 39,000
	Building renovation - concessions, bathrooms	1560	SF	\$ 90.00	\$ 140,400
	New scoreboard	1	LS	\$ 10,000.00	\$ 10,000
<b><i>Canopy Overlook</i></b>					
	Excavation & footers	1	LS	\$ 30,000.00	\$ 30,000
	Overlook support structure - stl cols, beams	1	LS	\$ 80,000.00	\$ 80,000
	Walkway - mtl grate	1630	SF	\$ 90.00	\$ 146,700
	Guardrail - mtl and stl mesh	410	LF	\$ 130.00	\$ 53,300
	Painting	1	LS	\$ 30,000.00	\$ 30,000
	Furnishings - allowance	1	LS	\$ 20,000.00	\$ 20,000

## APPENDIX H - Cost Estimate Phase 3 - Details

### **Green Infrastructure - Subsurface Detention**

Excavation	8530	CY	50.00	\$ 426,500
Infrastructure - allowance	1	LS	30,000.00	\$ 30,000

				<u>\$ 1,437,575</u>
				215,636
				<u>1,653,211</u>
				247,982
				<u><b>\$ 1,901,193</b></u>

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## APPENDIX H - Cost Estimate for Stand-Alone Projects - Summary

**STUDIO BRYAN HANES  
SOUTH SIDE PARK MASTER PLAN  
STAND-ALONE IMPROVEMENTS  
PITTSBURGH, PENNSYLVANIA**

SBH #: 1714  
Prep: BH  
Date: 4/24/2018  
Revised: 5/1/2018

### SUMMARY - COST ESTIMATE

Account	Description	Area	Cost/SF	Amount
<b>ENTRANCES, TRAILS, ROADS</b>				
	Julia Street Entrance - Enhancement	NA	NA \$	35,000
	Pump House Parking & Trailhead - Enhancement	9,880 SF	\$ 5.99 \$	59,135
	Eccles Street Entrance - New	4,560 SF	\$ 7.92 \$	36,130
	Sierra Street Entrance & Connector Trail - New	5,940 SF	\$ 4.26 \$	25,321
	East-West Connector Trail - New	4,640 SF	\$ 0.95 \$	4,390
	Mission Street Connector Trail - New	5,920 SF	\$ 1.46 \$	8,670
	1040 Trail - New	7,200 SF	\$ 0.85 \$	6,150
	Tombstone Trail - Enhancement	10,360 SF	\$ 1.43 \$	14,785
	South Side Trail - Enhancement	20,760 SF	\$ 3.03 \$	62,880
	Mission Street Spur Road - Gated Access	NA	NA \$	3,000
	<b>PUBLIC ART</b>	NA	NA \$	130,000

## APPENDIX H - Cost Estimate for Stand-Alone Projects - Summary

### **RECREATION**

Embankment Slides	3,570 SF	\$ 14.76	\$	52,693
Arlington Rec Center Renovation	6,950 SF	\$ 6.47	\$	45,000
Arlington Baseball Field Improvements	47,350 SF	\$ 1.03	\$	48,600
The Fort Improvements	82,300 SF	\$ 1.03	\$	85,000

### **ECOLOGICAL RESTORATION**

Jurassic Valley	217,800 SF	\$ 0.16	\$	35,000
Woodlands Focal Area	261,360 SF	\$ 0.05	\$	12,380
Wet Meadow @ Bandi Schaum	10,000 SF	\$ 0.95	\$	9,500
North Slope of the Fort	21,230 SF	\$ 0.27	\$	5,808

Subtotal			\$	<b>679,441</b>
Contingency	15%		\$	101,916
Subtotal			\$	<b>781,357</b>
General Requirements	15%		\$	117,204

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**Total Construction Cost** **\$ 898,561**

*Note: Costs are current for May 2018, escalation is not included.*

*Estimates are for construction costs only and do not include design fees or project administration.*

# APPENDIX H - Cost Estimate for Stand-Alone Projects - Estimate

**STUDIO BRYAN HANES**  
**SOUTH SIDE PARK MASTER PLAN**  
**STAND-ALONE IMPROVEMENTS**  
**PITTSBURGH, PENNSYLVANIA**

SBH #: 1714  
 Prepared By: BH  
 Date: 4/24/2018  
 Revised: 5/1/2018

## SUMMARY - COST ESTIMATE

Account	Description	Quantity	Unit	Unit Cost	Amount
<b><i>Julia Street Entrance - Enhancement</i></b>					
	Entrance enhancements	1	LS	\$ 35,000.00	\$ 35,000.00
<b><i>Pump House Parking &amp; Trailhead - Enhancement</i></b>					
	Fine grading	9880	SF	\$ 0.25	\$ 2,470.00
	Asphalt paving	5690	SF	\$ 3.50	\$ 19,915.00
	Striping	470	LF	\$ 5.00	\$ 2,350.00
	Signage @ trailhead	1	EA	\$ 4,000.00	\$ 4,000.00
	Benches	2	EA	\$ 1,200.00	\$ 2,400.00
	Bike racks	1	LS	\$ 10,000.00	\$ 10,000.00
	Lighting	3	EA	\$ 6,000.00	\$ 18,000.00
<b><i>Eccles Street Entrance - New</i></b>					
	Fine grading	4480	SF	\$ 0.25	\$ 1,120.00
	Sidewalk & curb to City std	115	LF	\$ 15.00	\$ 1,725.00
	Asphalt paving	1810	SF	\$ 3.50	\$ 6,335.00
	Striping	290	LF	\$ 5.00	\$ 1,450.00
	Lighting	2	EA	\$ 6,000.00	\$ 12,000.00
	Steps to Julia Street parking area	54	LF	\$ 250.00	\$ 13,500.00
<b><i>Sierra Street Entrance &amp; Connector Trail - New</i></b>					
	Clearing & trail construction	240	LF	\$ 5.50	\$ 1,320.00
	Steps from entrance to trail	80	LF	\$ 250.00	\$ 20,000.00
	Signage @ trailhead	1	EA	\$ 4,000.00	\$ 4,000.00
	Parcel acquisition	1	LS	\$ 1.00	\$ 1.00

## APPENDIX H - Cost Estimate for Stand-Alone Projects - Estimate

### **East-West Connector Trail - New**

Clearing & trail construction	580	LF	\$	5.50	\$	3,190.00
Signage along trail	2	EA	\$	600.00	\$	1,200.00

### **Mission Street Connector Trail - New**

Clearing & trail construction	740	LF	\$	5.50	\$	4,070.00
Signage @ trailhead	1	EA	\$	4,000.00	\$	4,000.00
Signage along trail	1	EA	\$	600.00	\$	600.00

### **1040 Trail - New**

Clearing & trail construction	900	LF	\$	5.50	\$	4,950.00
Signage along trail	2	EA	\$	600.00	\$	1,200.00

### **Tombstone Trail - Enhancement**

Re-grade and widen to min 5' for ADA - stabilized earth	800	LF	\$	9.50	\$	7,600.00
Continuation of trail across plateau	470	EA	\$	5.50	\$	2,585.00
Picnic platform - 10'x10', mtl, with 15 LF seating	2	EA	\$	2,300.00	\$	4,600.00

### **South Side Trail - Enhancement**

Mill & resurface	20760	SF	\$	3.00	\$	62,280.00
Seating @ Jurassic Valley Overlook	2	EA	\$	300.00	\$	600.00

### **Mission Street Spur Road - Gated Access**

Gate - mtl, with key access	2	EA	\$	1,500.00	\$	3,000.00
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### **Interpretive Art along 1040 Trail**

	1	LS	\$	20,000.00	\$	20,000.00
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### **Art Under Mission Street Bridge (lit)**

	1	LS	\$	40,000.00	\$	40,000.00
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### **Art Installed on 18th Street parcel**

	1	LS	\$	20,000.00	\$	20,000.00
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### **Overlook Sculpture @ Eccles Street**

	1	LS	\$	50,000.00	\$	50,000.00
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### **Embankment Slides**

Fine grading	3570	SF	\$	0.25	\$	892.50
Slides - 3 @ lengths from 25' to 75'	1	LS	\$	50,000.00	\$	50,000.00
Play surface - mulch	900	SF	\$	2.00	\$	1,800.00

## APPENDIX H - Cost Estimate for Stand-Alone Projects - Estimate

### **Arlington Rec Center Renovation**

Additional windows	1	LS	\$	15,000.00	\$	15,000.00
Canopy & signage @ entrance	1	LS	\$	30,000.00	\$	30,000.00

### **Arlington Baseball Field Improvements**

Embankment bleachers - concrete	1	LS	\$	39,000.00	\$	39,000.00
New scoreboard - use ext posts	1	LS	\$	9,600.00	\$	9,600.00

### **The Fort Improvements**

Play area upgrade	1	LS	\$	35,000.00	\$	35,000.00
Renovations to basketball court	1	LS	\$	35,000.00	\$	35,000.00
New sub-base for field drainage	1	LS	\$	15,000.00	\$	15,000.00

### **Jurassic Valley**

Invasive species management - goats, 1x	5	AC	\$	3,000.00	\$	15,000.00
Invasive species management - manual, 1x	5	AC	\$	1,000.00	\$	5,000.00
Planting - native woody species, 2-yr liner	1500	EA	\$	10.00	\$	15,000.00

### **Woodlands Focal Area**

Invasive species management - manual, 1x	6.19	AC	\$	1,000.00	\$	6,190.00
Planting - native woody species, 2-yr liner	619	EA	\$	10.00	\$	6,190.00

### **Wet Meadow @ Bandi Schaum**

Wet meadow species - seeding	10000	SF	\$	0.25	\$	2,500.00
Planting - native woody species, 3" cal	20	EA	\$	350.00	\$	7,000.00

### **North Slope of the Fort**

Removal of ext vegetation - herbicide	1	LS	\$	500.00	\$	500.00
No-Mow seeding	21230	SF	\$	0.25	\$	5,307.50

						<u>\$ 679,441</u>
						101,916
						<u>781,357</u>
						117,204
						<u><b>\$ 898,561</b></u>

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# APPENDIX I - Schemes Survey Results

## Q1 If you could make three changes to South Side Park tomorrow, what would they be?

Answered: 57 Skipped: 5

ANSWER CHOICES	RESPONSES	
Change 1:	100.00%	57
Change 2:	98.25%	56
Change 3:	87.72%	50

#	CHANGE 1:	DATE
1	beautify	3/1/2018 6:40 PM
2	Pickup Glass and litter on trails	2/28/2018 9:40 PM
3	Add a Pickleball court	2/28/2018 3:23 PM
4	Cultural change to usage of the park, ie. dirt bike/ ATV use, hunting, dumping.	2/28/2018 12:54 PM
5	A bike path for climbing the hill in lieu of a bike lane on S 18th st	2/28/2018 8:41 AM
6	Better maintenance	2/28/2018 5:41 AM
7	better trail maintenance	2/27/2018 10:35 PM
8	Add playground	2/27/2018 9:24 PM
9	Restore the wetlands to the top of the plateau	2/27/2018 8:43 PM
10	Better walking trails	2/27/2018 8:19 PM
11	Clean up the park. Including greater access to garbage cans throughout the hiking trails.	2/27/2018 5:50 PM
12	There is a walkway below the field that has been there since I can remember. It's a small loop but it is over grown. If the path was cleared, to the original, it would add to the walk of the park.	2/27/2018 4:26 PM
13	trails less confusing, there are too many social trails that braid throughout the park	2/27/2018 3:40 PM
14	More and improved trails	2/27/2018 12:56 PM
15	better trail maintenance, including blazing	2/26/2018 7:34 PM
16	Improve trails and access	2/26/2018 7:14 PM
17	Grand entrance on 21st street and 18th street	2/26/2018 6:02 PM
18	Add more signage toward/into park from nearby areas in neighborhoods	2/26/2018 2:46 PM
19	Enhance security. Did not feel safe entering	2/26/2018 11:13 AM
20	Stormwater/runoff catchment aimed at beneficial uses	2/26/2018 11:09 AM
21	DISC GOLF COURSE	2/24/2018 11:08 AM
22	Fix trails and stairways and plant more trees	2/24/2018 9:57 AM
23	Convert existing athletic field to artificial turf	2/23/2018 4:42 PM
24	Clean up the garbage	2/23/2018 12:54 PM
25	Have picnicables,shady area where grassy hill was!! Make it family friendly !!	2/23/2018 12:38 PM
26	Better lighting	2/23/2018 11:53 AM
27	Trail improvement	2/23/2018 11:25 AM
28	A map of the trails would be nice.	2/23/2018 11:04 AM
29	Picnic groves that can be rented	2/23/2018 10:33 AM

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## South Side Park Master Plan - Preliminary Schemes Survey

SurveyMonkey

30	Clean up the garbage	2/23/2018 8:24 AM
31	Build a dog park	2/22/2018 9:38 PM
32	update signage	2/22/2018 7:41 PM
33	Repair all pavement & steps, add landscaping	2/22/2018 6:41 PM
34	Enforce ATV and Dirtbike bans in city park	2/22/2018 3:56 PM
35	figure out how to keep ATV's and dirt bikes out	2/22/2018 2:18 PM
36	Remove invasive weeds	2/22/2018 2:08 PM
37	Make it safer	2/22/2018 10:31 AM
38	Better lighting of the fields.	2/22/2018 9:26 AM
39	Make it safer	2/22/2018 8:44 AM
40	clean walking/running paths	2/22/2018 7:08 AM
41	Less invasive species	2/22/2018 1:36 AM
42	A nicer entrance from Josephine street.	2/21/2018 7:44 PM
43	Clear, marked trails	2/21/2018 5:11 PM
44	Easier Accessibility	2/21/2018 4:48 PM
45	More native plants	2/21/2018 4:41 PM
46	Better paths	2/21/2018 2:54 PM
47	Remove some dead wood	2/21/2018 12:55 PM
48	Stop the illegal hunting that takes place	2/21/2018 12:23 PM
49	More dedicated activity space (athletic fields)	2/21/2018 12:12 PM
50	an off road path/ sidewalk up to bandi shaum	2/21/2018 11:51 AM
51	clean up all the litter	2/21/2018 11:45 AM
52	more benches	2/21/2018 11:07 AM
53	Make the plateau a usable space for relaxation and outdoor gatherings.	2/21/2018 10:30 AM
54	More police presence to help deter the people who dump in the park	2/21/2018 10:28 AM
55	Increased cleanliness.	2/21/2018 10:22 AM
56	Remove all concrete and parking from lower "Josephine" section of the park	2/21/2018 10:15 AM
57	Control vegetation and weeds	2/21/2018 9:58 AM
#	CHANGE 2:	DATE
1	add signage	3/1/2018 6:40 PM
2	Wider safer trails	2/28/2018 9:40 PM
3	Add a Bocci court	2/28/2018 3:23 PM
4	Storm water management infrastructure with dual use, ie. fishing pond, ice skating trail, waterfall.	2/28/2018 12:54 PM
5	Stop using the lower valley area as a dumping ground/equipment storage/test area, shows disrespect to residents	2/28/2018 8:41 AM
6	Environmental/ecological maintenance (removal of invasives)	2/28/2018 5:41 AM
7	better trail maintenance	2/27/2018 10:35 PM
8	More shelters	2/27/2018 9:24 PM
9	Build at least one pond at one of the three natural springs in the park	2/27/2018 8:43 PM
10	Better drainage for Saber field and along side. Breeding ground for mosquitoes!	2/27/2018 8:19 PM

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# APPENDIX I - Schemes Survey Results

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
11	Additional lighting and set park hours to prevent unwanted people in park during late hours.	2/27/2018 5:50 PM
12	There is a clearing right across from the walk by the field. If it were mowed and "kept up" a few picnic benches would be great.	2/27/2018 4:26 PM
13	stairs on steep slopes	2/27/2018 3:40 PM
14	Further clearing of invasive species	2/27/2018 12:56 PM
15	rain water management	2/26/2018 7:34 PM
16	Add a restroom	2/26/2018 7:14 PM
17	More Parking	2/26/2018 6:02 PM
18	Block/hide illegal dirt bike trails so hiking trail users don't accidentally use them	2/26/2018 2:46 PM
19	Clean up the litter. Tons of trash when I went.	2/26/2018 11:13 AM
20	Eliminate dumping, including from DPW	2/26/2018 11:09 AM
21	Less Hobos	2/24/2018 11:08 AM
22	Enforce no dumping with cameras and police	2/24/2018 9:57 AM
23	Two additional artificial turf fields on ice rink site.	2/23/2018 4:42 PM
24	Better signage	2/23/2018 12:54 PM
25	Make an entrance by Marengo that u can drive a car down ,used too be able to do that !!!!	2/23/2018 12:38 PM
26	Trash removal and better prevention of dumping	2/23/2018 11:53 AM
27	Sted riding hill	2/23/2018 11:25 AM
28	Better maps on site	2/23/2018 10:33 AM
29	Better signage	2/23/2018 8:24 AM
30	Build a bike lane	2/22/2018 9:38 PM
31	new resources - like playground	2/22/2018 7:41 PM
32	Rebuild the ice rink or and a different attraction at the bottom	2/22/2018 6:41 PM
33	Remove homeless	2/22/2018 3:56 PM
34	keep people from partying in the park	2/22/2018 2:18 PM
35	Pavillions / picnic areas	2/22/2018 2:08 PM
36	Stop people from using it as a short cut in their car	2/22/2018 10:31 AM
37	More fields.	2/22/2018 9:26 AM
38	Clear the trash and debris	2/22/2018 8:44 AM
39	picnic/family areas	2/22/2018 7:08 AM
40	Continued trail development	2/22/2018 1:36 AM
41	More activity like a frisbee golf course or even a driving range. A gold driving range would make it a destination for tons of Pittsburgh's	2/21/2018 7:44 PM
42	spots/stations for dog waste bags/pick up	2/21/2018 5:11 PM
43	Better Signage	2/21/2018 4:48 PM
44	Climbing trees!!!	2/21/2018 4:41 PM
45	Open up the bottom section that has a vacant parking lot and add some kind of track/field there	2/21/2018 2:54 PM
46	Make use of area where ice rink used to be	2/21/2018 12:55 PM
47	Stop the illegal four-wheeling that takes place	2/21/2018 12:23 PM
48	Clean public restrooms	2/21/2018 12:12 PM
49	a sidewalk that goes around the community garden, for getting laps, walking the dog without muddying the shoes	2/21/2018 11:51 AM
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South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
50	playground equipment repaired/replaced	2/21/2018 11:45 AM
51	better lighting	2/21/2018 11:07 AM
52	Water runoff mitigation	2/21/2018 10:30 AM
53	Something rad to make it stand out. Like a zip line or unique sculptures	2/21/2018 10:28 AM
54	Removal of vagrants.	2/21/2018 10:22 AM
55	Add a staircase from lower section to Bindi Schaum	2/21/2018 10:15 AM
56	Beautify man made surfaces. Some areas look like dumpsters.	2/21/2018 9:58 AM
#	CHANGE 3:	DATE
1	get rid of vines	3/1/2018 6:40 PM
2	Invasive vines in Jurassic park	2/28/2018 9:40 PM
3	clean up the trails to make them more accessible during cold and wet weather	2/28/2018 3:23 PM
4	Holistic ecological restoration through invasive plant removal, reseeding erosion points, biodiversity of plant and tree species.	2/28/2018 12:54 PM
5	Movies on the plateau during the summer	2/28/2018 8:41 AM
6	Better management/programming (addition of park rangers, an entity to program the park)	2/28/2018 5:41 AM
7	better trail maintenance	2/27/2018 10:35 PM
8	Fitness trail	2/27/2018 9:24 PM
9	Do a better job of stopping the dirt bikes that destroy the trails	2/27/2018 8:43 PM
10	More parking for Saber Field	2/27/2018 8:19 PM
11	Addition of a disc golf course and running trails.	2/27/2018 5:50 PM
12	Don't keep making new paths! It disrupts the environment and creates more soil erosion	2/27/2018 4:26 PM
13	trail signage on the trail. Trail signage at trailheads is good.	2/27/2018 3:40 PM
14	Aesthetic improvements	2/27/2018 12:56 PM
15	parking signage	2/26/2018 7:34 PM
16	Improve parking for the flats residents	2/26/2018 7:14 PM
17	Bike lane thru park	2/26/2018 6:02 PM
18	Remove litter/trash from firepit areas on The Plateau	2/26/2018 2:46 PM
19	Make the overlook area nicer. It is a killer view of the city.	2/26/2018 11:13 AM
20	Parking	2/26/2018 11:09 AM
21	Better monitoring	2/24/2018 11:08 AM
22	Develop plateau above bandi schaum garden	2/24/2018 9:57 AM
23	Multi-level parking at existing UPMC 21st @ Josephine lot	2/23/2018 4:42 PM
24	start work on more trails	2/23/2018 12:54 PM
25	entrance by arlington Recorastion,with a board walk ,into the park,,!!	2/23/2018 12:38 PM
26	An entrance from the South Side Flats	2/23/2018 11:53 AM
27	Trash/debris removal	2/23/2018 11:25 AM
28	More complex trails with benches	2/23/2018 8:24 AM
29	interactive technology - maps connected with cell phones	2/22/2018 7:41 PM
30	Revamp 21st street so there is a connection to Carson Street & Ormsby Park	2/22/2018 6:41 PM
31	Install shelter and amphitheater	2/22/2018 3:56 PM
32	Cleaner/safer	2/22/2018 2:08 PM
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# APPENDIX I - Schemes Survey Results

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
33	Have events there	2/22/2018 10:31 AM
34	Provide security or more police monitoring	2/22/2018 8:44 AM
35	amphitheatre/concert area	2/22/2018 7:08 AM
36	More facilities like bathrooms, picnic shelters	2/22/2018 1:36 AM
37	More community events	2/21/2018 7:44 PM
38	recycling bins	2/21/2018 5:11 PM
39	Better trail system	2/21/2018 4:48 PM
40	Invasive species removal blitzes	2/21/2018 4:41 PM
41	Bring back the goats or do something else with the over growth	2/21/2018 2:54 PM
42	Plant new trees around sterling street extension trail	2/21/2018 12:55 PM
43	Enhanced walking/hiking/snowshoe trails.	2/21/2018 12:23 PM
44	Lights on facilities for use at night.	2/21/2018 12:12 PM
45	more trash cans	2/21/2018 11:51 AM
46	better policing of off-leash dogs and dirt bikes	2/21/2018 11:45 AM
47	Get rid of invasive weeds and vines.	2/21/2018 10:30 AM
48	Do something amazing with the plateau that over looks the city/Bandi Schaum. Such a waste of such an amazing spot!	2/21/2018 10:28 AM
49	Glanders on stairs for bikes.	2/21/2018 10:15 AM
50	Improve signage. Specially at entrances. Looks like you are entering a dumpster.	2/21/2018 9:58 AM

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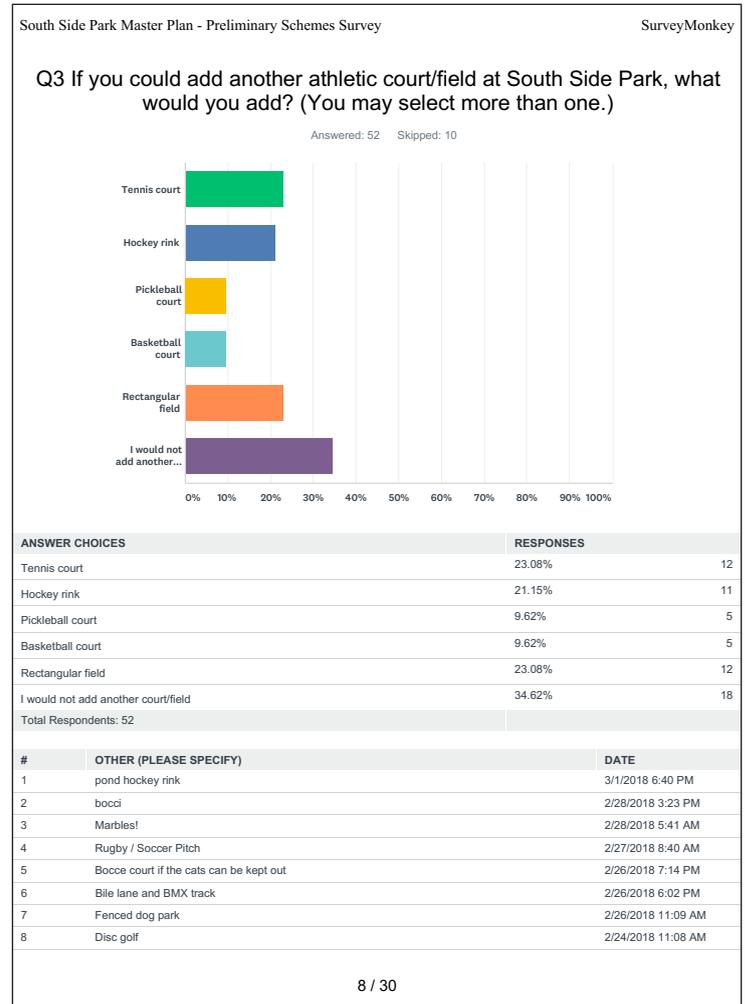
South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
<h2>Q2 What should stay the same?</h2> <p>Answered: 51 Skipped: 11</p>		
#	RESPONSES	DATE
1	It should remain an escape to nature as much as possible.	3/11/2018 6:40 PM
2	Natural setting. Not over developed	2/28/2018 9:40 PM
3	I like the woods; I would keep as much of the trees as possible	2/28/2018 3:23 PM
4	Community garden, trail system, playing fields (once rehabbed).	2/28/2018 12:54 PM
5	I like the fact it is lightly developed and low key.	2/28/2018 8:41 AM
6	The peacefulness of the park. Don't overbuild it up. If you create an observation deck, don't overprogram the space.	2/28/2018 5:41 AM
7	everything	2/27/2018 10:35 PM
8	Boat launch	2/27/2018 9:24 PM
9	Everything else is good	2/27/2018 8:43 PM
10	The wooded area for wildlife.	2/27/2018 8:19 PM
11	Garden, baseball fields	2/27/2018 5:50 PM
12	The "natural" atmosphere of the park. Don't over develop the area. It's nature. Let it be what it is not what you think it should be.	2/27/2018 4:26 PM
13	Number and length of trails. Current trail signs. multi use aspect	2/27/2018 3:40 PM
14	natural areas & vistas	2/26/2018 7:34 PM
15	The views	2/26/2018 7:14 PM
16	The way the park has well defined areas of wilderness and the developed area.	2/26/2018 6:02 PM
17	Trail network that serve not only as recreation but also as some people's commuting routes.	2/26/2018 2:46 PM
18	The community garden is awesome!	2/26/2018 11:13 AM
19	Community garden and trail system.	2/26/2018 11:09 AM
20	Magnets	2/24/2018 11:08 AM
21	Keep the forest intact	2/24/2018 9:57 AM
22	Maximum canopy. Hiking/biking trails	2/23/2018 4:42 PM
23	I like that it has the feel of wilderness/nature. I think it should remain a hidden gem.	2/23/2018 12:54 PM
24	Leave the ball field but make entrance somewhere near there!!!make it by car,walking !!!	2/23/2018 12:38 PM
25	The hiking trails through the woods	2/23/2018 11:53 AM
26	"Wild" atmosphere	2/23/2018 11:25 AM
27	Everything. I like the park the way it is.	2/23/2018 11:04 AM
28	Bandi Schaum Community Garden	2/23/2018 10:33 AM
29	The natural elements. I think it should shoot for a Frick Park vibe. Walking there should feel like walking in the woods.	2/23/2018 8:24 AM
30	Parking, general set up	2/22/2018 7:41 PM
31	Trails	2/22/2018 3:56 PM

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# APPENDIX I - Schemes Survey Results

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
32	My back yard runs directly into the park by the Urban Garden off of Mission street. I love the garden and I love the nature. Unfortunately, the peace of that is ruined all summer long and on any given sunny day. We can not sit outside on our deck to enjoy dinner, often, because of the noise of dirt bikes and ATVs. We are woken in the middle of the night more often than not because all summer long people party on the plateau. Often these parties continue (or sometimes begin) until 3 or 4am. Trees are being cut down and burned for fires during these parties and by campers who live in the park all summer. I am actually considering selling my home because of this. We have contacted Bruce Krause's in the past because the police do not come when we call. The people who own property and pay taxes should be able to live in peace on their own property. I love the idea of development of the part for all to use but I think that barriers and signs need to be in place and that there should be a way for police to actually access the area in a car to patrol. Thanks for your time.	2/22/2018 2:18 PM
33	Trails	2/22/2018 2:08 PM
34	The amount of acreage green space.	2/22/2018 10:31 AM
35	Try to conserve the green spaces.	2/22/2018 9:26 AM
36	Keep the natural green space.	2/22/2018 8:44 AM
37	Open space, natural, not overbuilt/developed	2/22/2018 7:08 AM
38	Natural state, not a ton of programmed space	2/22/2018 1:36 AM
39	The step trek event!	2/21/2018 7:44 PM
40	Ruggedness, Stay a bit unkempt, not dirty, not unsafe, just perfectly unkempt.	2/21/2018 4:41 PM
41	Trails	2/21/2018 12:55 PM
42	Love the garden!	2/21/2018 12:23 PM
43	Lots of green space.	2/21/2018 12:12 PM
44	paths in the woods	2/21/2018 11:51 AM
45	interesting terrain, continued work to manage invasive species, community garden	2/21/2018 11:45 AM
46	everything else	2/21/2018 11:07 AM
47	As much of the tree canopy and "natural" spaces as possible. Needs to be an outdoor oasis in the city.	2/21/2018 10:30 AM
48	The goats should be a tradition!	2/21/2018 10:28 AM
49	The trails.	2/21/2018 10:22 AM
50	Wilderness	2/21/2018 10:15 AM
51	The wild aspect of it. Fick Park is a nice example to follow	2/21/2018 9:58 AM

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# APPENDIX I - Schemes Survey Results

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
9	Multiple basketball courts or indoor gym atop multi-level parking	2/23/2018 4:42 PM
10	There are a lot of ball fields,we need things that everyone can do!!we need family things!!	2/23/2018 12:38 PM
11	Volley ball	2/23/2018 10:33 AM
12	Soccer field	2/22/2018 9:38 PM
13	Amphitheater	2/22/2018 3:56 PM
14	Golfing driving range	2/21/2018 7:44 PM
15	zen maze	2/21/2018 4:41 PM
16	Gaga court	2/21/2018 2:54 PM
17	Section for dog park	2/21/2018 12:55 PM
18	Sand Volleyball court	2/21/2018 12:12 PM
19	Fenced in dog area	2/21/2018 11:51 AM
20	Bocci ball court!	2/21/2018 10:28 AM
21	Frisbee golf	2/21/2018 10:15 AM

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# APPENDIX I - Schemes Survey Results

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
16	I don't know.	2/23/2018 11:25 AM
17	There is never enough parking on the South Side :)	2/23/2018 10:33 AM
18	Not if additional amenities are built and more people come.	2/22/2018 9:38 PM
19	I don't drive there	2/22/2018 6:41 PM
20	Remove the gate on S21st	2/22/2018 3:56 PM
21	Could use more	2/22/2018 10:31 AM
22	During events...too much carryover to 18th street	2/22/2018 8:44 AM
23	While I walk to the park, I've heard that parking, especially near fields, is lacking. That said, I'd want the additional parking to be where old ice rink was, and maybe replacing existing play equipment near 18th.	2/22/2018 7:08 AM
24	I am within walking distance to the park	2/21/2018 5:11 PM
25	Very few people drive to the park and there is always ample parking for those who do. That's not to say there wouldn't be if/when the park has changes.	2/21/2018 4:48 PM
26	The upper lot fills up during softball games pretty easily, not that too much can be done about this. I'd imagine the same is true for the football field.	2/21/2018 2:54 PM
27	Open up parking from down off Josephine, like it used to be.	2/21/2018 12:55 PM
28	There is for now, but if the park is expanded and renovated more will be needed	2/21/2018 12:12 PM
29	I've never had to park, I always walk over. Not sure how to answer. Sorry.	2/21/2018 11:51 AM
30	Not if it going to be a destination park.	2/21/2018 10:30 AM
31	Bandi Schaum and then the parking near the ball fields is sufficient. I would hate to take away from the park for something as lame as a parking lot	2/21/2018 10:28 AM
32	DO NOT USE GREEN SPACE AS PARKING!!!! REMOVE PARKING!	2/21/2018 10:15 AM

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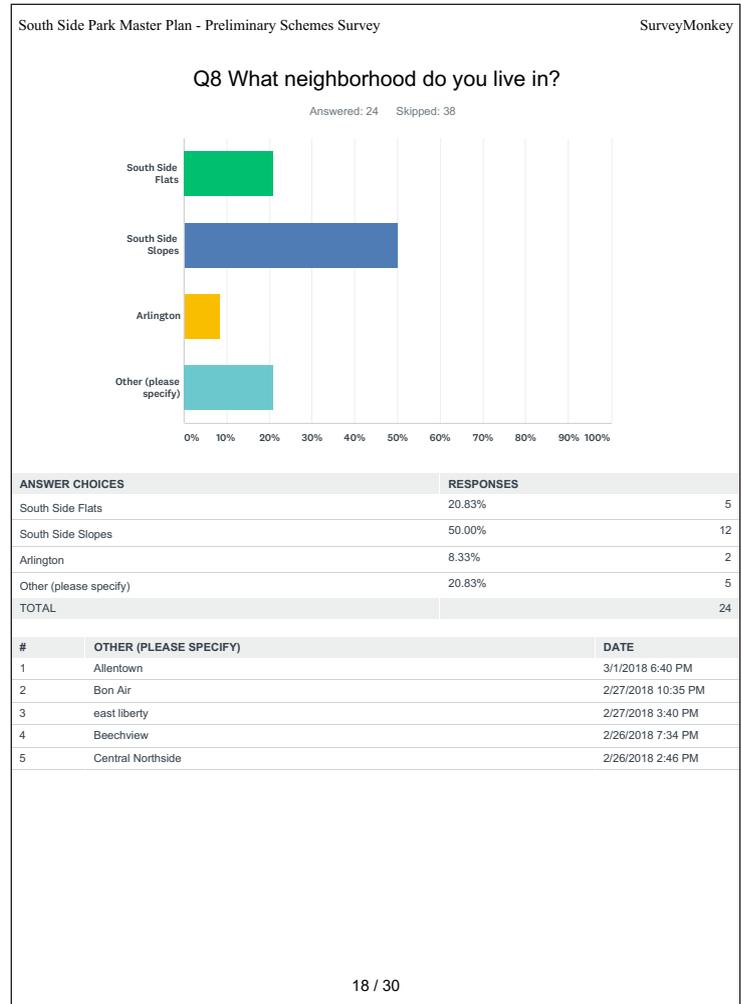
South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
<b>Q5 What would make South Side Park a neighborhood destination?</b>		
Answered: 56 Skipped: 6		
#	RESPONSES	DATE
1	Great public art installations and that round cantilevered sidewalk doohickey that was envisioned.	3/1/2018 6:40 PM
2	It already is	2/28/2018 9:40 PM
3	Pickleball and Bocci as they are seldom seen in the area.	2/28/2018 3:23 PM
4	Food truck/ craft beer events, live music space, things that kids want and that will keep them engaged for years to come.	2/28/2018 12:54 PM
5	More welcoming entrances	2/28/2018 8:41 AM
6	People knowing about it. SIGNAGE to get to the park, not just once you are there. Better understanding of all the already existing amenities in the park. There is ALREADY so much to do and so many people don't even know its there.	2/28/2018 5:41 AM
7	better trail maintenance	2/27/2018 10:35 PM
8	More picnic shelters.	2/27/2018 9:24 PM
9	Not sure	2/27/2018 8:43 PM
10	Walking trails	2/27/2018 8:19 PM
11	Addition of food court or other amenities that would provide a continues people presence. More open spaces t to add Feeling of safety and positive environment is highest concern. Examples include food court in open space in Oakland.	2/27/2018 5:50 PM
12	It already is	2/27/2018 4:26 PM
13	Better signage on the roads so people know that it exists	2/27/2018 3:40 PM
14	Safe and beautiful place to walk or bike like Frick Park.	2/27/2018 12:56 PM
15	promotion of park & its amenities	2/26/2018 7:34 PM
16	"Playtime" activities would do the trick - such as a bocce court etc	2/26/2018 7:14 PM
17	Its proximity to downtown and the south side	2/26/2018 6:02 PM
18	More welcoming entry points	2/26/2018 2:46 PM
19	No trash and sketchy behavior	2/26/2018 11:13 AM
20	It already is in my opinion. encourage more positive use and decrease litter would help.	2/26/2018 11:09 AM
21	Clean it up and put a disc golf course it in The open area near the garden needs to be managed better	2/24/2018 11:08 AM
22	Cleanliness	2/24/2018 9:57 AM
23	Field space akin to what exists at Schenley Sportsplex. Field space is lacking in the City of Pittsburgh and in high demand. Rec leagues etc. would gobble it up. "If you build it, they will come. More bodies, more wallets..."	2/23/2018 4:42 PM
24	More interesting programming. Funky potlucks and organized nature walks.	2/23/2018 12:54 PM
25	The quaintness, peacefulness!	2/23/2018 12:38 PM
26	Unique views of the city and well secluded trails	2/23/2018 11:53 AM
27	Easy access	2/23/2018 11:25 AM
28	It is already wonderful. The trails and trees are all it needs to be a destination.	2/23/2018 11:04 AM
29	More community spaces; toilets and small center for events like Step Trek, etc. Picnic groves. My family hosts a huge picnic every year and we have to trek to a park outside the neighborhood.	2/23/2018 10:33 AM

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# APPENDIX I - Schemes Survey Results

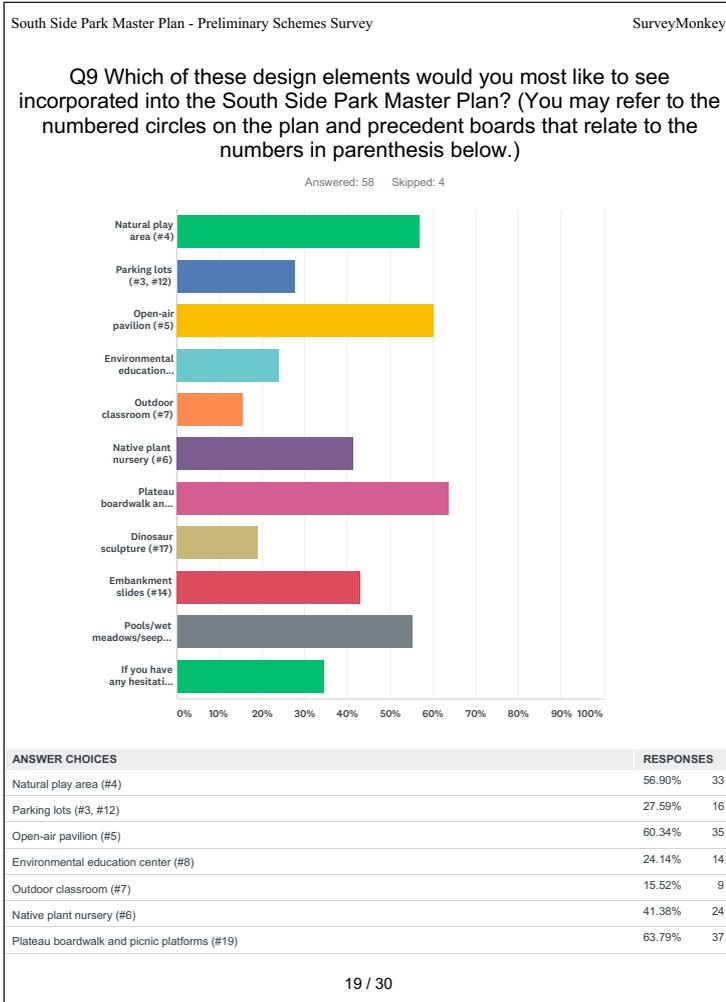
South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
29	Rentable Pavilion for picnics/events	2/23/2018 11:25 AM
30	I like that it is not developed, please leave it natural, its a place to get away from the city. No development needed. There is enough of that in every other portion of the city.	2/23/2018 11:04 AM
31	rentable pavilions, cafe, not sure if it's possible with light pollution, but some sort of star watching program tied to John Brashear would be cool.	2/23/2018 10:33 AM
32	A cafe would be amazing.	2/23/2018 8:24 AM
33	Bike rentals, other sports equipment rentals, rentable pavilions, maybe an ice skating rink in the winter to keep people coming year round, coffee shop	2/22/2018 9:38 PM
34	not sure this would work	2/22/2018 7:41 PM
35	A lift to take people up the hill after they slide down it!	2/22/2018 6:41 PM
36	Rent-able pavilion, cafe, museum	2/22/2018 3:56 PM
37	Cafe	2/22/2018 2:51 PM
38	An Environmental educational center would be fantastic. A nice café would be great as well and how about a museum focused on the history of the Southside/mills etc.	2/22/2018 2:18 PM
39	Pavilion / parking / cafe	2/22/2018 2:08 PM
40	Rentable pavilion.	2/22/2018 10:31 AM
41	Rentable pavilion for parties and community events.	2/22/2018 8:44 AM
42	A South Side Museum, featuring everything from mining to steel mills to Kaufman's first store, to anything and everything to do with South Side. A small concession stand with a few, select items for sale, at reasonable prices.	2/22/2018 7:08 AM
43	I don't think we need a cafe or museum at this point	2/22/2018 1:36 AM
44	A gold driving range would generate revenue and bring in new people to the area	2/21/2018 7:44 PM
45	rent-able pavilions, destination for a farmers market	2/21/2018 5:11 PM
46	Why do we need to earn revenue from it? Isn't this why we pay taxes??	2/21/2018 4:48 PM
47	members only unleashed dog area, pay toilets, food carts, booze carts, rent-a-nap tent rentals on workdays, extract rare earth minerals from mine drainage?? Wishing well in old mine. Fortune teller	2/21/2018 4:41 PM
48	Potentially rent-able pavilions if there were more playgrounds or something for kids to do while at the park, again this lower area with the room for parking would be ideal for something like this. Again, this park just feels dirty year around. The combination of trash throughout the trail areas, the general disrepair of the steps leading towards the flats and unkempt nature of the trees and underbrush. I walk my dog here almost every weekend, and its not uncommon to see a gentlemen with a bow and arrow walk around, which I'd imagine if you were a parent is a bit alarming.	2/21/2018 2:54 PM
49	Pavilions	2/21/2018 12:55 PM
50	Rent-able pavilion, Education Center, cafe, museum all great ideas!	2/21/2018 12:23 PM
51	A small cafe, athletic contests, events requiring tickets.	2/21/2018 12:12 PM
52	Pavilions with bbqs, fountains, landscaping	2/21/2018 11:51 AM
53	Educational center focusing on the history of the neighborhood perhaps?	2/21/2018 11:45 AM
54	rent-able pavilion and cafe for sure would be great additions.	2/21/2018 11:07 AM
55	I think simple is better. Something maintainable like pavilion rental and maybe a small outdoor amphitheater.	2/21/2018 10:30 AM
56	Zip line, rentable pavilions, having events there to bring the residents together and raise money (like a Pterogi fest or something like that)	2/21/2018 10:28 AM
57	None.	2/21/2018 10:15 AM
58	Rentable pavilion and a cafe	2/21/2018 9:58 AM

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# APPENDIX I - Schemes Survey Results



South Side Park Master Plan - Preliminary Schemes Survey SurveyMonkey

Dinosaur sculpture (#17)	18.97%	11
Embankment slides (#14)	43.10%	25
Pools/wet meadows/seepts (#13, #9)	55.17%	32
If you have any hesitations or reservations about elements chose to select, or not to select, please explain here:		
Total Respondents: 58		
#	IF YOU HAVE ANY HESITATIONS OR RESERVATIONS ABOUT ELEMENTS CHOSE TO SELECT, OR NOT TO SELECT, PLEASE EXPLAIN HERE:	DATE
1	maybe instead of dinosaurs let artists propose sculptures - natural history museums have dinosaurs covered	3/1/2018 6:43 PM
2	Please make sure to vet the final recommendations with the city. Not just planning, but DPW, the dept of mobility and infrastructure, public safety, and public art depts. The city works in silos and just because one dept likes it, does not mean any of the others will. It is important to recommend things in the master plan that can actually happen.	2/28/2018 5:45 AM
3	None	2/27/2018 10:37 PM
4	I don't think keeping the wet lands idea is good. There is already a problem with mosquitos which will become a bigger problem if something isn't done to handle the existing problem. I think the pavilion idea for summer concerts is a good idea.	2/27/2018 8:31 PM
5	Develop the plateau and leave the wooded area barely touched	2/27/2018 4:32 PM
6	# 19 Bandi Schaum overlook looks expensive & unnecessary	2/26/2018 7:54 PM
7	Please no dinosaurs.	2/23/2018 12:55 PM
8	Wetlands would bring mosquitos, and if we can't swim or fish, what's the point. Sculptures are nice but no one comes just to see a sculpture.	2/22/2018 9:48 PM
9	Love it all!	2/22/2018 7:00 PM
10	Confession Stand	2/22/2018 2:53 PM
11	Once again, if area 19 can not be closed off or patrolled then the people living in the park and 4am parties will only continue. I bought my house because of the park and the nature and now regret that because I am trapped inside with windows closed and air running so we can even sleep.	2/22/2018 2:22 PM
12	Safety	2/22/2018 10:33 AM
13	Anything that will make insurance, upkeep, monitoring either too expensive or unreasonable should not be included.	2/22/2018 7:09 AM
14	Not sure we need a dinosaur sculpture... more historical signage and art	2/22/2018 1:39 AM
15	people in south side make a big deal about parking and I am afraid additional parking lot spaces are just going to be occupied 24/7 by residents who couldn't get a spot near their house. any "natural areas" sculptures etc.: I'm afraid could be vandalized or trashed because people drink in the park and leave their garbage behind. It is important that most elements within the park are ADA accessible However. I do also believe that improvements to the park may spark care within the neighborhood so I'm hoping people will be less inclined to trash everything	2/21/2018 5:16 PM
16	Dinosaur sculpture? Holy hell	2/21/2018 4:53 PM
17	Love the ideas in this scheme to keep the park more of a PARK and not over-developed.	2/21/2018 10:46 AM
18	Parking lots	2/21/2018 10:29 AM
19	#3 is an incredibly terrible plan and kills the lower "Flats" section of the park. It is completely unacceptable to use that space as a parking lot.	2/21/2018 10:20 AM
20	I am interested in shelters for picnics.	2/21/2018 8:36 AM

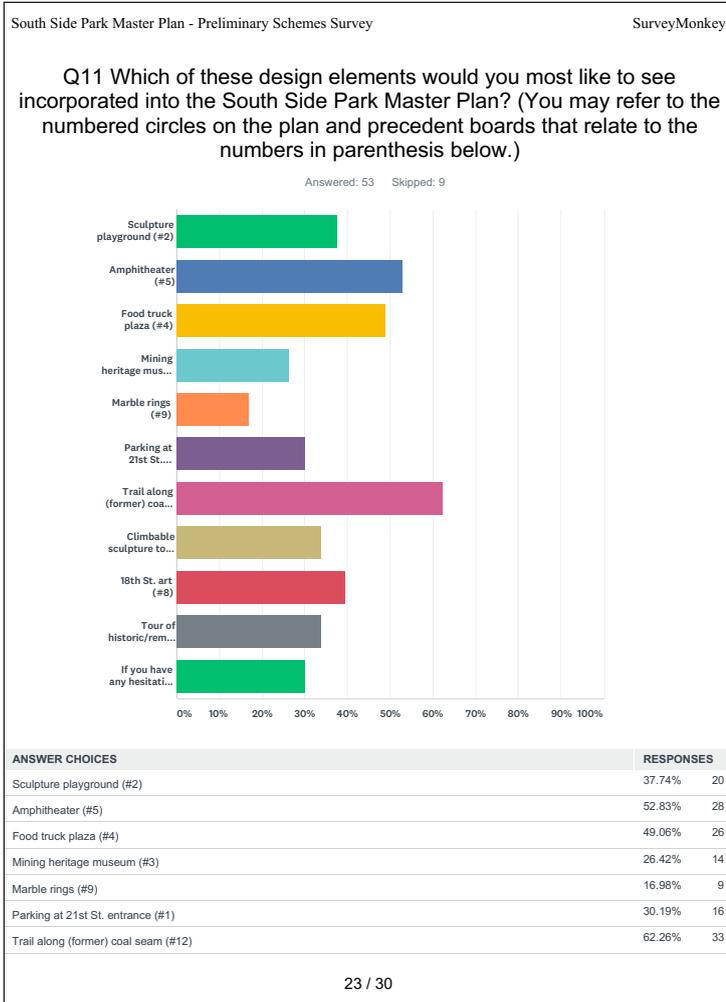
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# APPENDIX I - Schemes Survey Results

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
<b>Q10 This scheme feels:</b>		
Answered: 44 Skipped: 18		
#	RESPONSES	DATE
1	like a pretty good, natural feel	3/1/2018 6:43 PM
2	Like a good fit	2/28/2018 9:47 PM
3	It feels as though in a few years it will be taken over by that wild grape vine that is all over the slopes. The natural playground will fall apart unless routinely maintained.	2/28/2018 3:28 PM
4	Okay	2/28/2018 12:55 PM
5	Exciting possibilities but the recommendations need to fit within what is ACTUALLY possible within the city of pgh. The City itself has a lot of reservations about the types of things being recommended here (slides and natural play spaces) and the plan should NOT recommend things that are not properly vetted by the city.	2/28/2018 5:45 AM
6	overdone	2/27/2018 10:37 PM
7	Nice	2/27/2018 9:25 PM
8	There is a lot of wildlife which need to be preserved and not erased. We have so few woods and wildlife left in and around the city.	2/27/2018 8:31 PM
9	Minimal change to improve image	2/27/2018 5:54 PM
10	Like commercializing a small green space in the city that has done fine for years and you want to turn it into a theme park. Ridiculous. Just saying.	2/27/2018 4:32 PM
11	very imposing and like you are turning SSP into something other than what it is	2/27/2018 3:41 PM
12	Like what I want in a park.	2/27/2018 1:16 PM
13	compatible with existing topography & logical park use	2/26/2018 7:54 PM
14	Exhilarating!	2/26/2018 7:16 PM
15	dull, good for seniors in walkers	2/26/2018 6:05 PM
16	A natural fit for the Park.	2/26/2018 2:49 PM
17	appropriate	2/26/2018 11:10 AM
18	Just get a disc golf course	2/24/2018 11:09 AM
19	Great	2/24/2018 10:01 AM
20	Interesting	2/23/2018 4:43 PM
21	Organic and uses the natural elements available to their best advantage—except for the dinosaur.	2/23/2018 12:55 PM
22	Great. It retains the feeling of seclusion that is most attractive about the park, and it connects the park better to the South Side Flats	2/23/2018 11:56 AM
23	Ok	2/22/2018 9:48 PM
24	Family friendly and interesting	2/22/2018 7:43 PM
25	Fabulous!	2/22/2018 7:00 PM
26	Forced.	2/22/2018 3:57 PM
27	Enviornmental	2/22/2018 2:53 PM
28	Doable	2/22/2018 10:33 AM
29	Welcoming...natural and educational.	2/22/2018 8:47 AM
30	Overall good.	2/22/2018 7:09 AM
21 / 30		

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
31	Pretty good	2/22/2018 1:39 AM
32	very good	2/21/2018 8:23 PM
33	modern	2/21/2018 5:16 PM
34	Like there aren't enough trails for people to walk/bike on. Take a look at the city parks that folks drive out of their way to attend - Frick, S. Park, N. Park... these are filled with trails and not too many people are hanging out in an outdoor classroom, education center or elsewhere. Biggest bang for the buck is to build a trail system that has very little operating cost once it's implemented.	2/21/2018 4:53 PM
35	Not bad, like the wet meadow/water control. Might be too kiddie centered? I don't know how many kids are living in South Side. This one comes 2nd to art and history theme	2/21/2018 4:49 PM
36	I like what is mentioned within this scheme	2/21/2018 12:59 PM
37	Like a good use of space similar to the frick part environmental center.	2/21/2018 12:14 PM
38	Like a wonderful way to welcome families to the outdoors	2/21/2018 11:46 AM
39	A perfect compliment to the more "developed " ideas for the park like a performance space or additional courts or fields for sports.	2/21/2018 10:46 AM
40	Like someone rad is in charge and is willing to make something good happen FINALLY!!	2/21/2018 10:29 AM
41	exciting!	2/21/2018 10:24 AM
42	ok.	2/21/2018 10:20 AM
43	Very nice	2/21/2018 10:01 AM
44	Natural, simple, I like it	2/21/2018 8:36 AM
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# APPENDIX I - Schemes Survey Results



South Side Park Master Plan - Preliminary Schemes Survey SurveyMonkey

Climbable sculpture tower (#14)	33.96%	18
18th St. art (#8)	39.62%	21
Tour of historic/remnant houses (#15)	33.96%	18
If you have any hesitations or reservations about elements chose to select, or not to select, please explain here:	30.19%	16
Total Respondents: 53		
#	IF YOU HAVE ANY HESITATIONS OR RESERVATIONS ABOUT ELEMENTS CHOSE TO SELECT, OR NOT TO SELECT, PLEASE EXPLAIN HERE:	DATE
1	wonder how much use amphitheater will get - there's a decrepit old bandshell in Grandview Park as well as Stage AE and numerous places for concerts and shows	3/1/2018 6:46 PM
2	I don't know what a mining heritage museum is...	2/28/2018 3:30 PM
3	Love public art. Worried about the amphitheater... how will the neighbors feel? But if it is recommended I think that is a good location where you have it. Marble rings YES. Food truck plaza - NO WAY. Why?	2/28/2018 5:46 AM
4	Don't try soo hard to fix nature. It's not broken	2/27/2018 4:34 PM
5	All of these images invoke large crowds and that is not how we see the park. These items all seem to invite abuse in off hours and could be of enormous maintenance expense.	2/26/2018 7:22 PM
6	Yes, coal is in the history of the Park and City, but I like the more positive, toward the future feel of the Scheme A, not this look into the past of Scheme B.	2/26/2018 2:52 PM
7	Disc golf	2/24/2018 11:09 AM
8	I'm just not sure about the amphitheater. That seems like it could be really intrusive. And noise issues would be pretty impossible to mitigate.	2/23/2018 12:58 PM
9	Variety of affordable food	2/22/2018 2:54 PM
10	I like a lot of this scheme.	2/22/2018 2:24 PM
11	None	2/22/2018 10:34 AM
12	While I think food is important, I am not a huge food truck person. I'd rather see a small concession stand that with restrooms nearby. I would rather see a South Side Museum than a dedicated mining museum, which I don't think would be a success over time.	2/22/2018 7:11 AM
13	Way too programmed	2/22/2018 1:40 AM
14	I love everything about this plan. Food would be a great addition to the park and can help local businesses. The same concerns from scheme A apply	2/21/2018 5:18 PM
15	Love these ideas. Will make the park unique.	2/21/2018 11:51 AM
16	#1 is again an completely unacceptable parking lot in the lower section of the park. This is the green space section of the park for South Side Flats residents, and should not be cut off this way. We want a park, not a car lot. Disgusting. 100% COMPLETELY UNACCEPTABLE	2/21/2018 10:24 AM

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# APPENDIX I - Schemes Survey Results

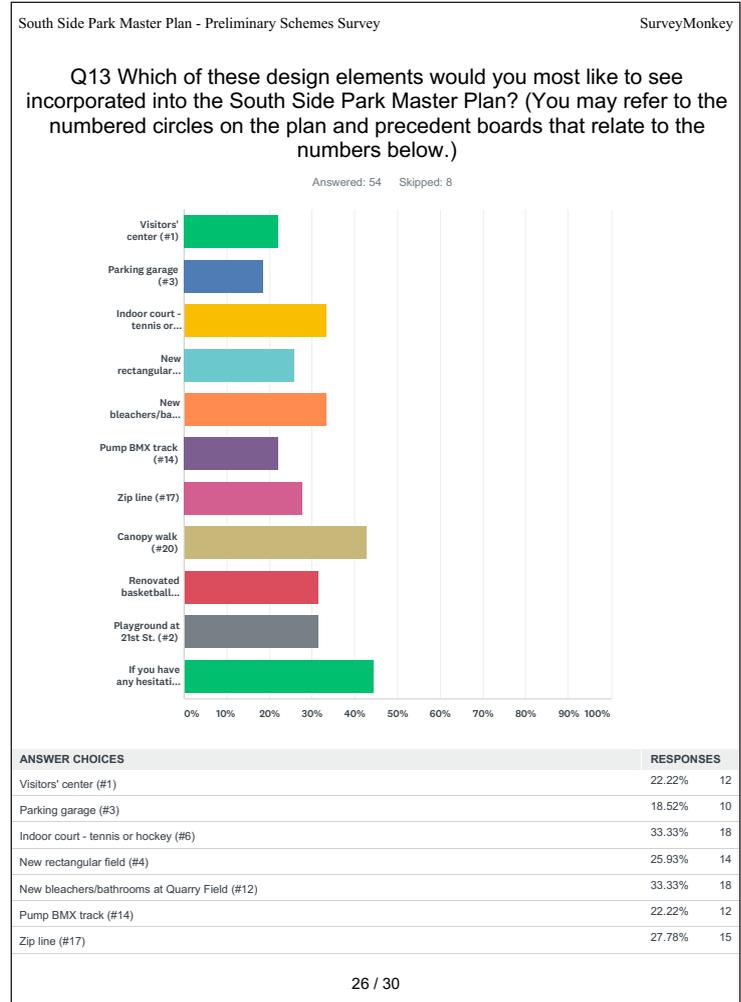
South Side Park Master Plan - Preliminary Schemes Survey SurveyMonkey

**Q12 This scheme feels:**

Answered: 33 Skipped: 29

#	RESPONSES	DATE
1	pretty good, perhaps more concrete than necessary	3/1/2018 6:46 PM
2	Forced	2/28/2018 9:49 PM
3	FUN!	2/28/2018 3:30 PM
4	Okay	2/28/2018 12:55 PM
5	A little off base and unorganized.	2/28/2018 5:46 AM
6	ok	2/27/2018 10:39 PM
7	Active	2/27/2018 9:26 PM
8	ugly and imposing. lots of man made structures going into one of the least developed parks in the city. I would cease to go	2/27/2018 3:43 PM
9	Social	2/27/2018 1:18 PM
10	too much emphasis on arts, not balanced	2/26/2018 8:07 PM
11	Uncomfortable	2/26/2018 7:22 PM
12	Interesting, fills a variety of diverse interestss	2/26/2018 6:05 PM
13	Like romanticizing the past.	2/26/2018 2:52 PM
14	overly enthusiastic for funding limitations	2/26/2018 11:11 AM
15	Ok	2/24/2018 10:02 AM
16	Less organic than the first plan. A little over reaching with the amphitheater.	2/23/2018 12:58 PM
17	too costly to justify. It seems unlikely to me that a mining museum would be well utilized, and the climbing structure feels like a liability	2/23/2018 12:00 PM
18	Ok	2/22/2018 9:48 PM
19	Fabulous!	2/22/2018 7:00 PM
20	Good	2/22/2018 2:54 PM
21	Doable	2/22/2018 10:34 AM
22	Active and event driven.	2/22/2018 8:48 AM
23	Overall good.	2/22/2018 7:11 AM
24	Overbuilt	2/22/2018 1:40 AM
25	fun, adventurous, exciting, Pittsburgh	2/21/2018 5:18 PM
26	Commercial. It's a park... with trees, and grass, and streams.	2/21/2018 4:54 PM
27	Different, interesting, timeless elements.	2/21/2018 4:49 PM
28	Another well executed scheme	2/21/2018 1:02 PM
29	Good and different than other parks in the city.	2/21/2018 12:14 PM
30	Not as exciting or interesting as the first one	2/21/2018 10:30 AM
31	Overzealous.	2/21/2018 10:26 AM
32	DO NOT PLACE PARKING AT 21st street entrance.	2/21/2018 10:24 AM
33	Modern, hit to make SS an arts destination and not just a party part of town	2/21/2018 10:02 AM

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# APPENDIX I - Schemes Survey Results

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
Canopy walk (#20)	42.59%	23
Renovated basketball courts (#11)	31.48%	17
Playground at 21st St. (#2)	31.48%	17
If you have any hesitations or reservations about elements chose to select, or not to select, please explain here:	44.44%	24
Total Respondents: 54		
#	IF YOU HAVE ANY HESITATIONS OR RESERVATIONS ABOUT ELEMENTS CHOSE TO SELECT, OR NOT TO SELECT, PLEASE EXPLAIN HERE:	DATE
1	I think some courts or fields for the kids may be warranted, but some of these seem too big to me. Thank you.	3/1/2018 6:47 PM
2	This isn't a tennis and hockey neighborhood. While a zip line seems fun, it would ruin the natural green space of the woods!	2/28/2018 9:54 PM
3	Not interested in Tennis. There are already plenty of empty courts in the city. I would prefer to see Pickleball courts.	2/28/2018 3:34 PM
4	Again, I like almost everything that is being recommended across the board. However, my main reservations come along with management and maintenance.... none of this matters with out a very detailed M&M plan and the buy in from the city. None of these recommendations will actually work out if we don't have someone to maintain them and then manage them when they exist. I hope that is part of the plan. New bleachers/bathrooms at Quarry field are a must do. The use of that field is the highest in the entire park and it is one of the most neglected portions of the park. I like the idea of a BMX track to (maybe) deter from the dirt bike riding that happens in the park and produce an option for less damaging uses.	2/28/2018 5:49 AM
5	Need for connection steps unnecessary and brings park visitors close to people houses.	2/27/2018 6:06 PM
6	M	2/27/2018 4:34 PM
7	zip line & canopy too expensive	2/26/2018 8:21 PM
8	Cost is a concern for some of these items.	2/26/2018 7:26 PM
9	Parking garage kills the connectivity vibe from Josephine Street.	2/26/2018 2:55 PM
10	..	2/24/2018 11:10 AM
11	Would be amazing to have the indoor facility be a combination turf, tennis, wood floor gym, to give multiple activity participants a location for all weather situations.	2/23/2018 5:20 PM
12	Put bathrooms in south side park .close at the end of day!!!	2/23/2018 2:28 PM
13	Nope, nope, nope. Definitely no on the BMX track. Without a formal track there are crazy bike people in there making tons of noise. This is a little too jocky for me. It leans old Pittsburgh, not new Pittsburgh. We can be more innovative than this! I will be disappointed if the park heads in this direction.	2/23/2018 1:00 PM
14	I hate this plan, please leave the park a natural place for hiking and to getaway from the city. No more sports arenas please.	2/23/2018 11:09 AM
15	This is nice but it targets only a certain demographic. Not everyone plays sports. We need a mix of activities that appeal to different people: the active and the lazy, the young and old. Each scheme feels a bit extreme, not very well balanced. Why can't we have bike lanes but also hiking trails, performance Amphitheater and tennis courts, educational things, dog park....a mix of everything.	2/22/2018 9:50 PM
16	Affordable	2/22/2018 2:55 PM
17	Although I love the idea of a ADA accessible walk way, I do not care for more easily accessible access to the park directly above my home. as I've stated previously, we have so much trouble with parties that this just makes it easier for people to enter after dark or with dirt bikes.	2/22/2018 2:29 PM
18	Anything that will increase insurance, attract groups of visitors that might deter other visitors, and anything that will require monitoring that would be unreasonable or too expensive to sustain.	2/22/2018 7:13 AM
19	Too many structured activities	2/22/2018 1:40 AM
27 / 30		

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
20	this plan is more ideal for the younger crowds in pittsburgh and it would be difficult for older folks and those with disabilities to enjoy. However, I do think more sports activities will keep the kids in the neighborhood busy-but we have to make sure they clean up after themselves.	2/21/2018 5:20 PM
21	I think drivable access from 21st St to Mission St is a great idea. Not so keen on the parking structure on 21st St. The structures (indoor court and parking garage) in this plan are: 1) expensive to build, and 2) expensive to program and maintain.	2/21/2018 12:06 PM
22	Hillside slides are missing and I would LOVE to see that! Also the hockey/tennis rink idea is whack. You can do that at almost any park. I want South Side Park to stand out and be unique	2/21/2018 10:32 AM
23	Cease all planning regarding placing parking at 21st street entrance. South Side Flats residents also want a park. DO NOT kill it with parking lots and garages. I find myself in opposition to this entire project if its going to make green space into parking. DO NOT DO THIS	2/21/2018 10:26 AM
24	No parking garage/ice rink/structure....if any ice skating, use the stormwater to create ponds that will freeze in the winter for open air ice skating.	2/21/2018 8:39 AM
28 / 30		

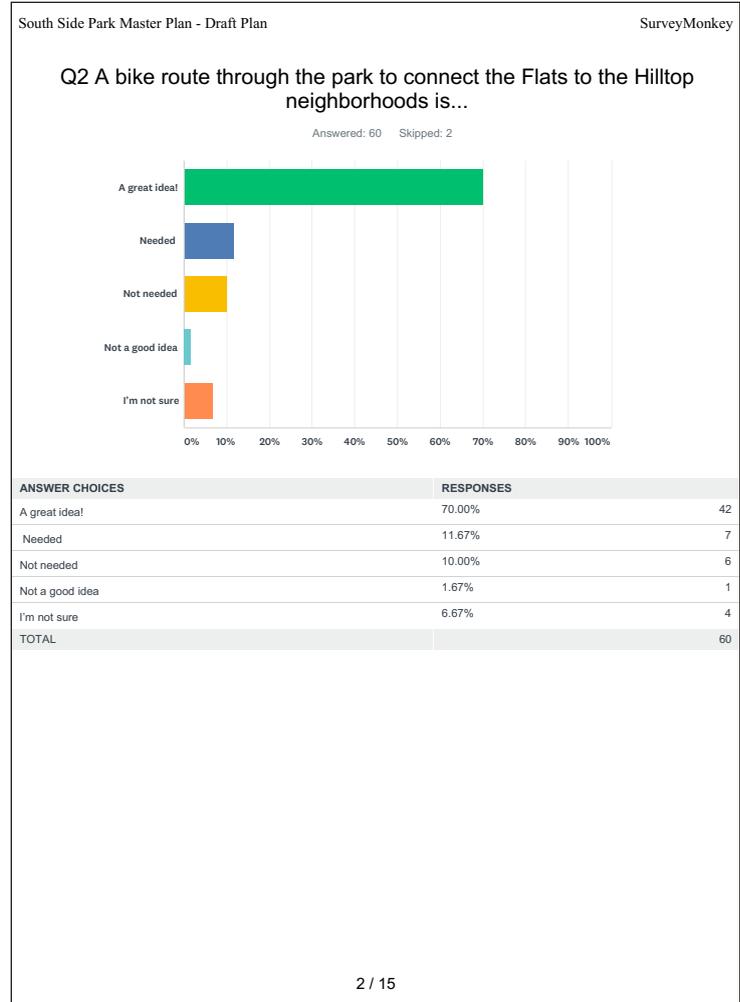
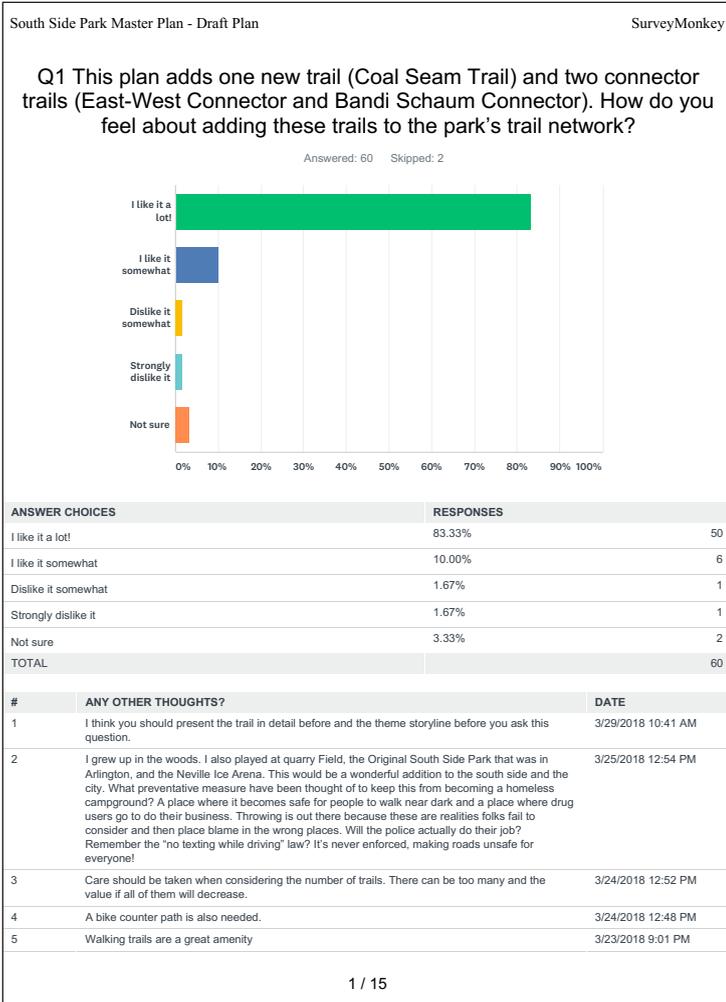
# APPENDIX I - Schemes Survey Results

South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
<b>Q14 This scheme feels:</b>		
Answered: 40 Skipped: 22		
#	RESPONSES	DATE
1	too much building IMHO	3/1/2018 6:47 PM
2	Like the least fitting of all the options	2/28/2018 9:54 PM
3	This scheme feels exciting! I love Scheme 2 and 3. Maybe a combination of the two would be perfect!	2/28/2018 3:34 PM
4	Okay	2/28/2018 12:56 PM
5	Exciting for the possibilities but we first need to upgrade the existing amenities that are so well used or that COULD be well used if they were maintained and in safe conditions.	2/28/2018 5:49 AM
6	overdone	2/27/2018 10:41 PM
7	Sporty, but difficult to maintain	2/27/2018 9:27 PM
8	Better than the rest	2/27/2018 8:42 PM
9	Revenue generating ideas for sustained improvement	2/27/2018 6:06 PM
10	I like renovating the existing facilities. I feel like the charm of the park is lost to all of the building.	2/27/2018 3:45 PM
11	Too sporty	2/27/2018 1:19 PM
12	The best option. Get more usable field space.	2/27/2018 8:46 AM
13	too expensive, unbalanced with natural environment	2/26/2018 8:21 PM
14	Too ambitious	2/26/2018 7:26 PM
15	Exciting, youthful atracing a new generation to the park	2/26/2018 6:06 PM
16	Almost a bit overkill, but would turn the Park into a bigger destination.	2/26/2018 2:55 PM
17	overly enthusiastic for funding limitations.	2/26/2018 11:12 AM
18	Good	2/24/2018 10:06 AM
19	Pretty awesome!	2/23/2018 5:20 PM
20	Bro-ey, Sports, jocky, loud. No.	2/23/2018 1:00 PM
21	also too costly, particularly the visitor center and parking garage. I feel like the park needs to invest more in cleanliness and maintenance before committing so much of its budget to major projects.	2/23/2018 12:02 PM
22	Too developed. Hate.	2/23/2018 11:09 AM
23	not natural enough	2/23/2018 10:37 AM
24	No	2/22/2018 9:50 PM
25	Fabulous!	2/22/2018 7:01 PM
26	Ok	2/22/2018 2:55 PM
27	Active exercise play	2/22/2018 8:49 AM
28	My least favorite.	2/22/2018 7:13 AM
29	Over programmed and over built	2/22/2018 1:40 AM
30	sporty, young, family friendly	2/21/2018 5:20 PM
31	too expensive and again, commercialized.	2/21/2018 4:56 PM
32	expensive, unrealistic, gimmicky	2/21/2018 4:50 PM
33	I liked a few elements	2/21/2018 1:04 PM
29 / 30		

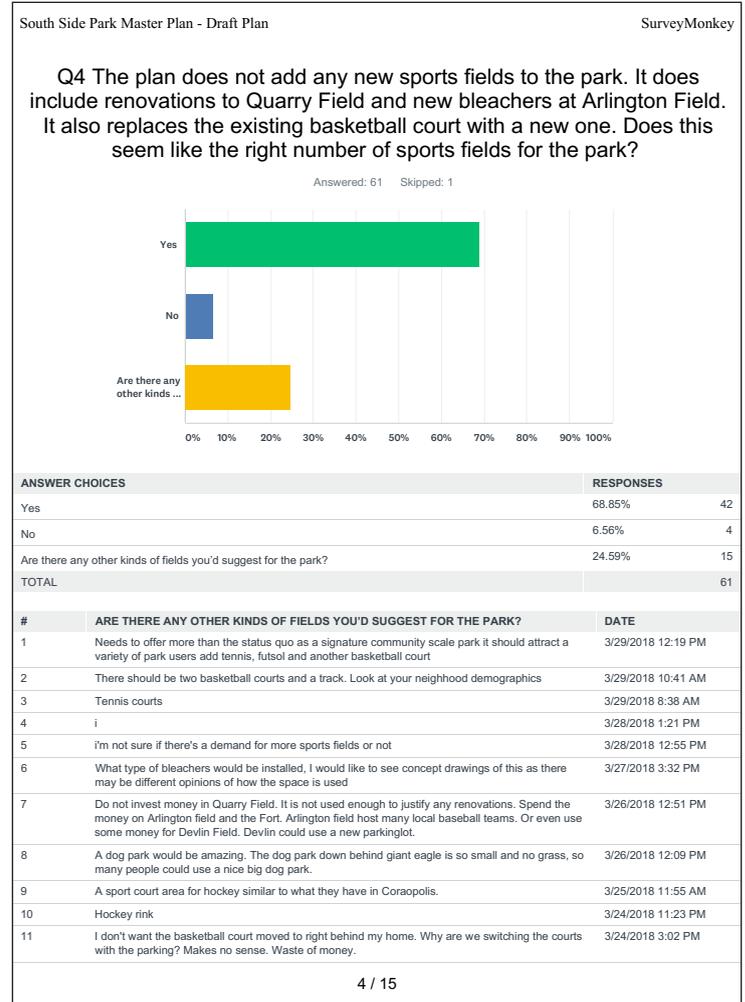
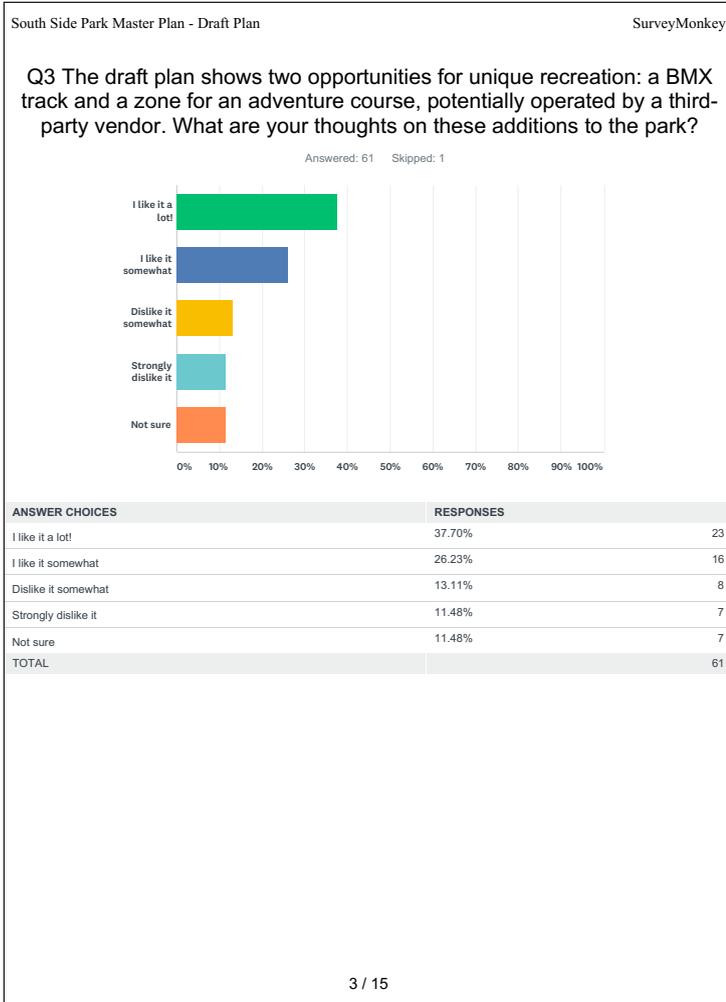
South Side Park Master Plan - Preliminary Schemes Survey		SurveyMonkey
34	Like a great, diverse use of space.	2/21/2018 12:15 PM
35	Great to improve what we have and add a couple more features (pump track is cool).	2/21/2018 12:06 PM
36	Like I would want to come here all the time	2/21/2018 10:32 AM
37	like a pipe dream.	2/21/2018 10:28 AM
38	Vile	2/21/2018 10:26 AM
39	Will actually people use all these facilities? Some are nice but this may be overdone. If this indeed atracks all these people, parking will be needed...	2/21/2018 10:04 AM
40	too intrusive	2/21/2018 8:39 AM
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# APPENDIX I - Draft Master Plan Survey Results



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South Side Park Master Plan - Draft Plan		SurveyMonkey
12	Deck hockey. Hockey is a big sport here. This type is useful to practice when the ice is gone.	3/24/2018 12:52 PM
13	Deck hockey, archery range	3/24/2018 12:48 PM
14	Small baseball field should be incorporated into lower park	3/23/2018 9:01 PM
15	Soccer	3/23/2018 12:51 PM

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South Side Park Master Plan - Draft Plan		SurveyMonkey
<p><b>Q5 This plan proposes removing pavement and increasing the amount of vegetated area in the park. How do you feel about the balance of developed vs. more natural spaces shown on the plan?</b></p> <p>Answered: 45 Skipped: 17</p>		
#	RESPONSES	DATE
1	To much parking, why give up park spaces to a car park?	3/29/2018 12:19 PM
2	this limited the use of the park for the winter months. Great if you live in warmer climates	3/29/2018 10:41 AM
3	I wish the lower area of the park could be open for flats parking but it's also a park and should be green space.	3/29/2018 9:35 AM
4	I feel neutral. I feel that any sign of care or improvement is positive regardless of developed or natural space.	3/29/2018 8:38 AM
5	Keep natural	3/29/2018 8:23 AM
6	Excellent!	3/29/2018 8:13 AM
7	Nature is a better choice	3/28/2018 9:13 PM
8	I like the addition of more natural spaces.	3/28/2018 12:56 PM
9	i like more natural spaces..i would add safety call boxes, because currently i don't see the natural spaces as super safe (vagrants seem to have taken over, lots of broken glass throughout the woods)	3/28/2018 12:55 PM
10	usually a good idea to remove pavement & replace with permeable surfaces	3/27/2018 10:54 PM
11	balance to me	3/27/2018 3:32 PM
12	With more natural spaces there is a need for controlled hunting. There are already to many deer/vehicle conflicts on St. Patrick and on Spring and Arlington.	3/26/2018 12:51 PM
13	I think it's amazing thing, I loved the little overlook up there and if there is ramp to go out farther it would be such a wonderful view.	3/26/2018 12:09 PM
14	I like the balance as shown on the plan. Very well envisioned.	3/26/2018 11:42 AM
15	More natural always	3/26/2018 3:54 AM
16	Keep the homeless out!!!! Otherwise, yes! My tax dollars shouldn't pay for their poor decisions and a free inner city campground.	3/25/2018 12:54 PM
17	Only if the more natural spaces can be maintained, as in not overgrown. Overgrown spaces make parks less clean and less safe.	3/25/2018 11:55 AM
18	Like how it is currently balanced.	3/25/2018 10:36 AM
19	I think it is a great idea. It should help with things like flooding caused by urbanization. Green spaces also help keep areas cooler and help filter air.	3/25/2018 12:46 AM
20	I think it's exciting. As long as paths are clearly identified, well lit, and marked it should be a great addition and will help bring back some much needed ecosystem to the area.	3/24/2018 11:37 PM
21	More natural the better - not opposed to dirt paths though	3/24/2018 11:23 PM
22	Good	3/24/2018 6:18 PM
23	seems like a solid balance	3/24/2018 6:08 PM
24	The South Side needs more nature. I love this.	3/24/2018 5:42 PM
25	Balance is good	3/24/2018 5:26 PM
26	Fine	3/24/2018 5:18 PM

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South Side Park Master Plan - Draft Plan		SurveyMonkey
27	Sounds good as long as it is maintained	3/24/2018 4:54 PM
28	More green is great!	3/24/2018 4:34 PM
29	Need more natural especially in old asphalt area.	3/24/2018 1:43 PM
30	The more green space the better	3/24/2018 1:29 PM
31	Ok	3/24/2018 1:10 PM
32	Some development is good but natural space is needed. Something for everyone.	3/24/2018 12:52 PM
33	A 50/50 balance of development and nature is ideal.	3/24/2018 12:48 PM
34	More vegetated areas are not only beautiful, but are good for the environment.	3/24/2018 10:04 AM
35	I think it's the right balance. I'd like to see more pine trees to add greenery to the park and a home for native animals in the winter.	3/24/2018 9:38 AM
36	Moving in the right direction	3/24/2018 3:36 AM
37	Fine as long as there are walking areas	3/23/2018 9:01 PM
38	I like more natural spaces being created, although I'm not sure we're gaining any or much with this plan. Certainly don't want less unpaved surfaces than before.	3/23/2018 5:28 PM
39	I love the idea of bring a old area to an more updated era.	3/23/2018 3:51 PM
40	I like this plan.	3/23/2018 2:48 PM
41	walkways with natural materials may require more maintenance or supplies that require cost	3/23/2018 1:56 PM
42	Great!	3/23/2018 1:06 PM
43	A good balance in the plan.	3/23/2018 12:59 PM
44	Love it!	3/23/2018 12:51 PM
45	Natural is great!	3/23/2018 12:11 PM

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South Side Park Master Plan - Draft Plan SurveyMonkey

**Q6 Dealing with water from storms and springs is an important part of this plan. The plan proposes below-ground green infrastructure in the southern part of the park. This changes to above-ground wetlands and stepped ponds near the Mission Street Bridge. What do you think of this?**

Answered: 59 Skipped: 3

ANSWER CHOICES	RESPONSES
Like making the water a visible feature	83.05% 49
Concerned about wet areas / ponds as a feature	6.78% 4
I'd rather see _____ done with the water.	10.17% 6
<b>TOTAL</b>	<b>59</b>

#	I'D RATHER SEE _____ DONE WITH THE WATER.	DATE
1	Should offer dual benefits with active rec facilities on top also would help with cost sharing	3/29/2018 12:19 PM
2	A wetland will not be appreciated. better to build a fountain or running water feature	3/29/2018 10:41 AM
3	Clean up water issues	3/29/2018 8:23 AM
4	Suggest adding hardy water lilies & blue iris, e.g., to ponds	3/27/2018 12:48 PM
5	Are the wetlands jurisdictional? If so, you should publicize your plans in detail.	3/24/2018 1:10 PM
6	As long as the wetlands don't become mosquito breeding ponds	3/24/2018 3:36 AM

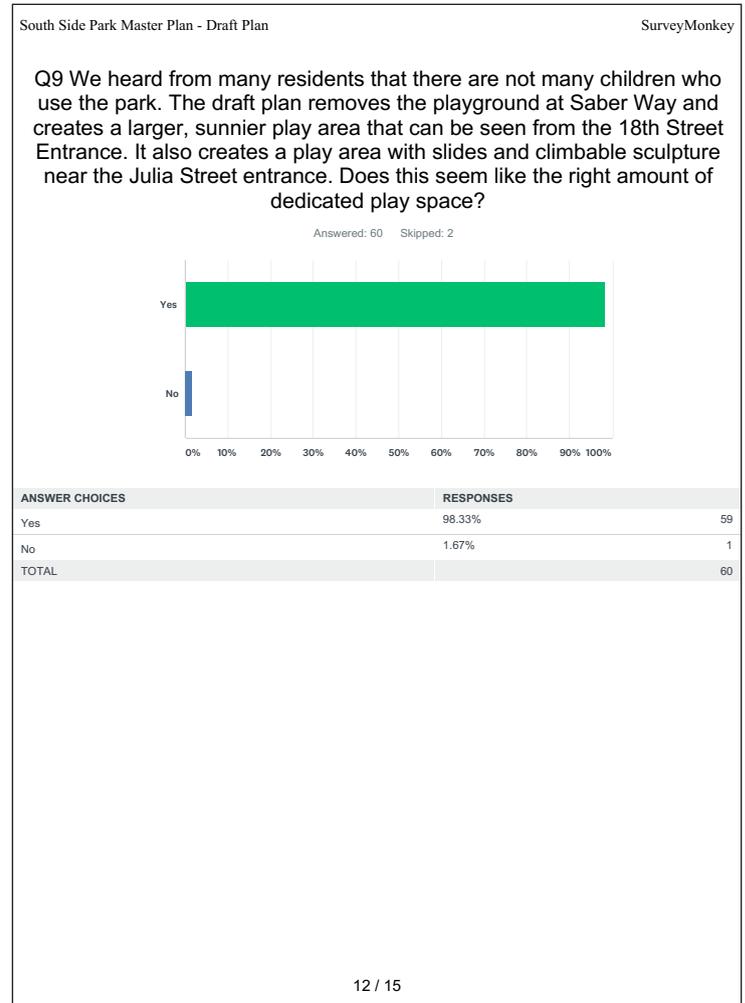
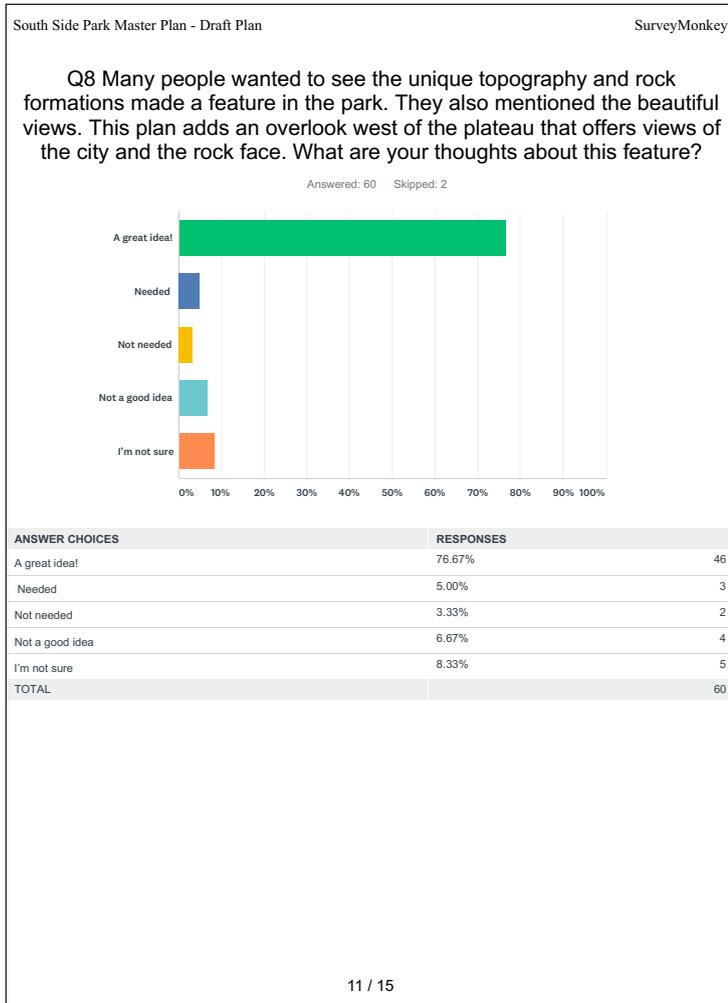
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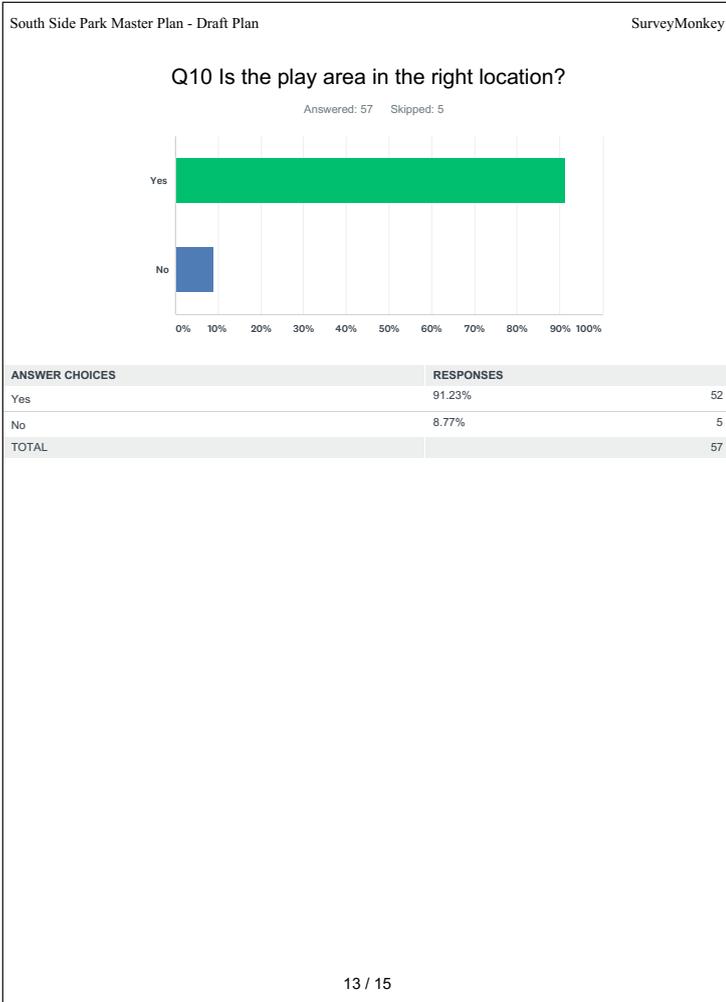
South Side Park Master Plan - Draft Plan		SurveyMonkey
<p><b>Q7 There is a new community gathering space with an open-air pavilion shown where the ice rink used to be. It also adds a stepped amphitheater set into the hillside. How do you feel about these additions to the park? Any concerns about them? What could you picture using it for?</b></p> <p>Answered: 45 Skipped: 17</p>		
#	RESPONSES	DATE
1	No sight lines from streets and will attract vandals	3/29/2018 12:19 PM
2	Hello... This is the home of the Pittsburgh Penguins. A pittsburgher did not do this. Be truthful you have a limited budget and used this to fill in what you should have maintained of the past tens years, but instead is was ignored.	3/29/2018 10:41 AM
3	My only concern is people using the place to sleep overnight	3/29/2018 9:35 AM
4	I picture them being used for community events and outdoor shows/concerts.	3/29/2018 8:38 AM
5	Great! Music, rental, outdoor movies	3/29/2018 8:13 AM
6	I always thought the ice skating rink was the best use for that space. I think we have enough amphitheater like venues in the city already. I am worried about vandals	3/28/2018 9:13 PM
7	Love it! But concerned about it due to the failure of the amphitheater at South Side Works. We have an amphitheater already on the South Side and it is NOT used.	3/28/2018 12:56 PM
8	i like the idea...as long as the vagrants don't take over	3/28/2018 12:55 PM
9	pavilion rental & outdoor classroom	3/27/2018 10:54 PM
10	would not use the space	3/27/2018 3:32 PM
11	That whole valley from Quarry field on down is not used. Leave it to the city for dumping land slides. Their is very little access, no foot traffic and i doubt people will drive to hang out in a secluded valley when their are many more open spaces in the city.	3/26/2018 12:51 PM
12	Idk about a ampetheater. Unless it was always going to happen good acts idk if it will bring people.	3/26/2018 12:09 PM
13	Terrific idea. If you build it they will come, so it's not possible to picture all the possible uses in the future.	3/26/2018 11:42 AM
14	Perfect	3/26/2018 3:54 AM
15	Concerns are the same as everything I've typed above. The pavilion will be vandalized and riddled with graffiti if there is no type of surveillance or police presence. It's a shame that we can't have nice things.	3/25/2018 12:54 PM
16	The space could be easily used as a sport court rink for ball hockey and other sports.	3/25/2018 11:55 AM
17	No concerns. These are great ideas.	3/25/2018 10:36 AM
18	I have no real opinion on this subject. I would probably like to see more trees and hiking trails.	3/25/2018 12:46 AM
19	I can see it used for community meetings, festivals, meeting places, possibly a safe spot for online transactions like EBay purchases. Farmers markets and other vendors would love this sort of space.	3/24/2018 11:37 PM
20	Worried the amphitheater would go unused	3/24/2018 11:23 PM
21	Movies in the park, local concerts, etc.	3/24/2018 6:08 PM
22	Yes please! My theater company is looking at moving into the slopes right now and could use the amphitheater for special events?	3/24/2018 5:42 PM
23	Concerts	3/24/2018 5:26 PM
24	Is there enough lighting to feel safe at night? And is there access by public transportation?	3/24/2018 5:18 PM
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South Side Park Master Plan - Draft Plan		SurveyMonkey
25	I have no use for this but it seems like a good idea	3/24/2018 4:54 PM
26	Concerts, bring back south side spectacular and have it there, community day events, art and craft shows, food truck area	3/24/2018 4:34 PM
27	Outdoor plays, music/bands	3/24/2018 3:02 PM
28	There needs to be an active schedule for usage otherwise the space will not be utilized.	3/24/2018 1:43 PM
29	It's be nice to have it style in a manor that could mimic Red Rocks Theater so people could exercise there as well	3/24/2018 1:29 PM
30	Ok	3/24/2018 1:10 PM
31	Summer concerts. Family movies after dark. Picnic pavilions nearby would add to the usage of the area.	3/24/2018 12:52 PM
32	Multiple picnic pavilions as community gathering spots and a performance amphitheater are excellent additions.	3/24/2018 12:48 PM
33	This would be great to have movies in the park. Local bands performing , shows for kids in the summer.	3/24/2018 10:04 AM
34	I love this idea as it creates a shared community space for Slopes and Flats neighbors to gather.	3/24/2018 9:38 AM
35	Great, could see it used for music	3/24/2018 3:36 AM
36	Great as a community gathering place. Major concern is with homeless/drug users in this area and park as a whole.	3/23/2018 9:01 PM
37	Love it. Could be used for music or theater productions. Only concern would be sustainability - who would maintain? who would run programming? The City?	3/23/2018 5:28 PM
38	I love the idea of having a amphitheatre to hold shows, free concert, movie night, and having a ice rink so close to where I live is better than heading to the city or South Park.	3/23/2018 3:51 PM
39	This seems like a waste of money. It will rarely be used and fall into disrepair/be vandalized quickly.	3/23/2018 2:48 PM
40	lots of different events could happen in that space. people may complain about noise though if it were to echo/travel	3/23/2018 1:56 PM
41	To rent them, concerts, festivals!	3/23/2018 1:06 PM
42	I like the potential for activities and community entertainment	3/23/2018 12:59 PM
43	Love it! Great for community festivals.	3/23/2018 12:51 PM
44	great idea	3/23/2018 12:49 PM
45	love it!	3/23/2018 12:11 PM
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# APPENDIX I - Draft Master Plan Survey Results



# APPENDIX I - Draft Master Plan Survey Results



South Side Park Master Plan - Draft Plan SurveyMonkey

### Q11 Any additional thoughts?

Answered: 34 Skipped: 28

#	RESPONSES	DATE
1	Slides by Julia street should be located in a more visible location from street to deter crime	3/29/2018 12:19 PM
2	You need to have a play area on both sides of the park with free parking for parents. Add bike paths that lead the kids to the park and your problem is solved with useage	3/29/2018 10:41 AM
3	I love the idea of an overlook!! I am very excited to see the plans come into action.	3/29/2018 8:38 AM
4	Move play area to where the ice rink was.	3/29/2018 8:23 AM
5	The more visible the better. I also think there needs to be security in the area for public safety.	3/28/2018 9:13 PM
6	I love the idea of the canopy overlook but...realistically think it is not a good idea. I am concerned about the safety of it, and in order to make it safe - would it actually look nice as it does in the drawings, and the maintenance of it. It is hard enough to keep the 18th Street Bend steps maintained. Is the city really going to maintain more large columns???	3/28/2018 12:56 PM
7	I don't know how the play areas would work best...but thinking close proximity to where they live & open & safe feeling would be best	3/28/2018 12:55 PM
8	nice plan	3/27/2018 10:54 PM
9	I think the play areas should be visible . I regularly attend baseball games at Arlington Field and think that it would be great to have a Tot park for younger children to play while there older siblings are playing ball within site of the parents attending. If the play areas are not easily seen they will be damaged	3/27/2018 3:32 PM
10	Keep the play equipment up on top by Julia St. thats a great idea. Arlington field is crazy with kids all summer durring baseball season.	3/26/2018 12:51 PM
11	There really isn't any children in the neighborhood, but at the top of the park at Julia street would be awesome.	3/26/2018 12:09 PM
12	Would the bike trail be separate from the other walking trails. I'd be concerned about having bikers and walkers on the same trails.	3/26/2018 11:42 AM
13	No man made steps, make all the trails traverse-able by bike and pedestrians. Steps add danger to cyclist who are unaware or suspecting of them I. The midst of trails. If its too steep to walk, reroute more gradually or around the sections.	3/25/2018 5:50 PM
14	Thank you for your dedication to making South Side a better neighborhood!	3/25/2018 11:55 AM
15	Keeping in mind some more modern activities such as drones, or online transactions would be good to keep in mind. A safe space that time can be spent at. Giving people a reason to spend time in the park on beautiful days would be great. I can also see teaching people about the bio diversity of the area and watershed through infographics, signs or sculptures to help cultivate a better sense of environment for future generates. Looks great!!	3/24/2018 11:37 PM
16	What will happen to the mountain bike trails? Those are a great feature!	3/24/2018 6:18 PM
17	Make the 21st street entrance visible for several blocks leading up to the park, i.e. before the railroad tracks begin and near the Brew House lofts. Please, please also have dedicated labor and funding for on-going clean up, maintenance and security within the park. There is still a high risk of vandalism in this area and making sure we have the resources to to fight it so the park isn't overrun is crucial!	3/24/2018 6:08 PM
18	Thank you!	3/24/2018 5:42 PM
19	There should be play areas next to all the sports fields	3/24/2018 5:18 PM
20	How is this going to impact the deers?	3/24/2018 4:49 PM
21	I'm concerned with security and making sure junkies don't take over the space and leave litter and needles around like what happened at Ormsby playground.	3/24/2018 4:34 PM

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22	Play area should stay where the playground is currently. During football games, that playground gets used a lot. Trash after is horrendous.	3/24/2018 3:02 PM
23	Will Pittsburgh police be able to access popular areas within the park from squad cars? A balance between proactive policing and freedom of usage needs to be part of this plan.	3/24/2018 1:43 PM
24	It's me night to have some exercise equipment similar to other parks (or: Graham Park in Cranberry Twp)	3/24/2018 1:29 PM
25	Please publish the detailed results of this survey	3/24/2018 1:10 PM
26	Parking should be in the middle of the park rather than on one side to facilitate full use of both ends. A good number of folks will only walk just so far, so the other end is out of their desired range. Overlook is good but way too fancy to fit into the overall look. It appears out of place and would not be a wise expenditure.	3/24/2018 12:52 PM
27	A commuter bike rout from 21st to the hilltop thru the park is essential. BMX mile take as a great activity for young men.	3/24/2018 12:48 PM
28	Having shelters that people could rent like in other parks would be great for families to have picnics and reunions. Can we get a few grills or a community brick oven?	3/24/2018 9:38 AM
29	Thanks for your efforts to improve this great community resource!	3/24/2018 3:36 AM
30	Have adequate walking/bike paths enabling one to transverse from Josephine or Mission Street to 18th and up to Arlington.	3/23/2018 9:01 PM
31	The overlook structure built over the edge of the Plateau would have to be designed to compliment its surroundings. The rendering didn't strike me as "blending" into the landscape.	3/23/2018 5:28 PM
32	I'm a little worried about people destroying the newly renovated park, and addicts/homeless people using this area to living, use drugs, or preform other criminal acts.	3/23/2018 3:51 PM
33	i am glad that green areas are being utilized and preserved in the city. This will prevent Pittsburgh from looking like just another concrete jungle	3/23/2018 1:56 PM
34	Love that this is being done and can't wait to be a part of it!	3/23/2018 12:51 PM

South Side Park Master Plan

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