

Quarry Field is at the upper reaches of the valley and the adjacent hillside groundwater seep could serve as baseflow for a daylighted stream that continues down the valley. At the base of the valley where South 21st Street terminates, existing unused parking lots could be depaved or transformed to pervious pavement. This area at the base of the valley has also been discussed as a potential site for a PWSA Operations Center that would be integrated into the environmental education programming in the park, complementing GI concepts in this sewershed.

6.5 A41 Heth's Run

6.5.1 Existing Sewershed Conditions

The A41 Sewershed is located in some of Pittsburgh's most stable residential neighborhoods. This sewershed is configured similar to the watershed and the sewer follows the path of the now underground Heth's Run, which once was tributary to the Allegheny River. At the highest points in the shed, Stanton Heights, Garfield, and East Liberty contribute some stormwater but the majority of runoff comes from the Morningside and Highland Park neighborhoods. The neighborhoods are mostly comprised of single family detached homes and there is little vacancy. The Heth's Run valley is currently used as a parking lot for the Pittsburgh Zoo and is contiguous with Highland Park, one of the largest municipal parks in the city. Highland Park is also home to both a covered and uncovered drinking water reservoir.

Today's sewer mains follow hydrologic flow lines very closely. Heth's Avenue and Heth's Way were built on top of the main branches of Heth's Run. The majority of A41's stormwater follows here today.

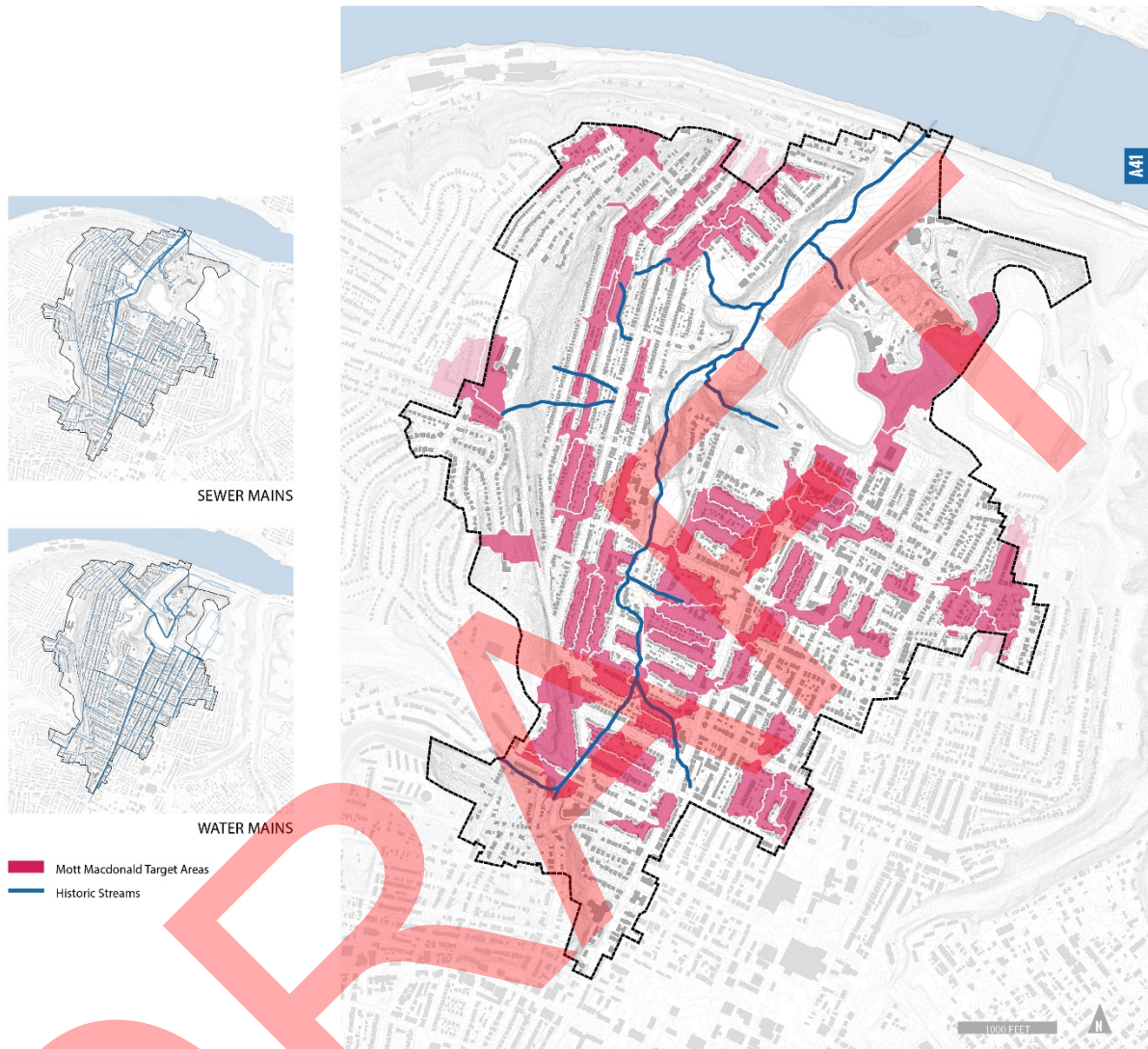


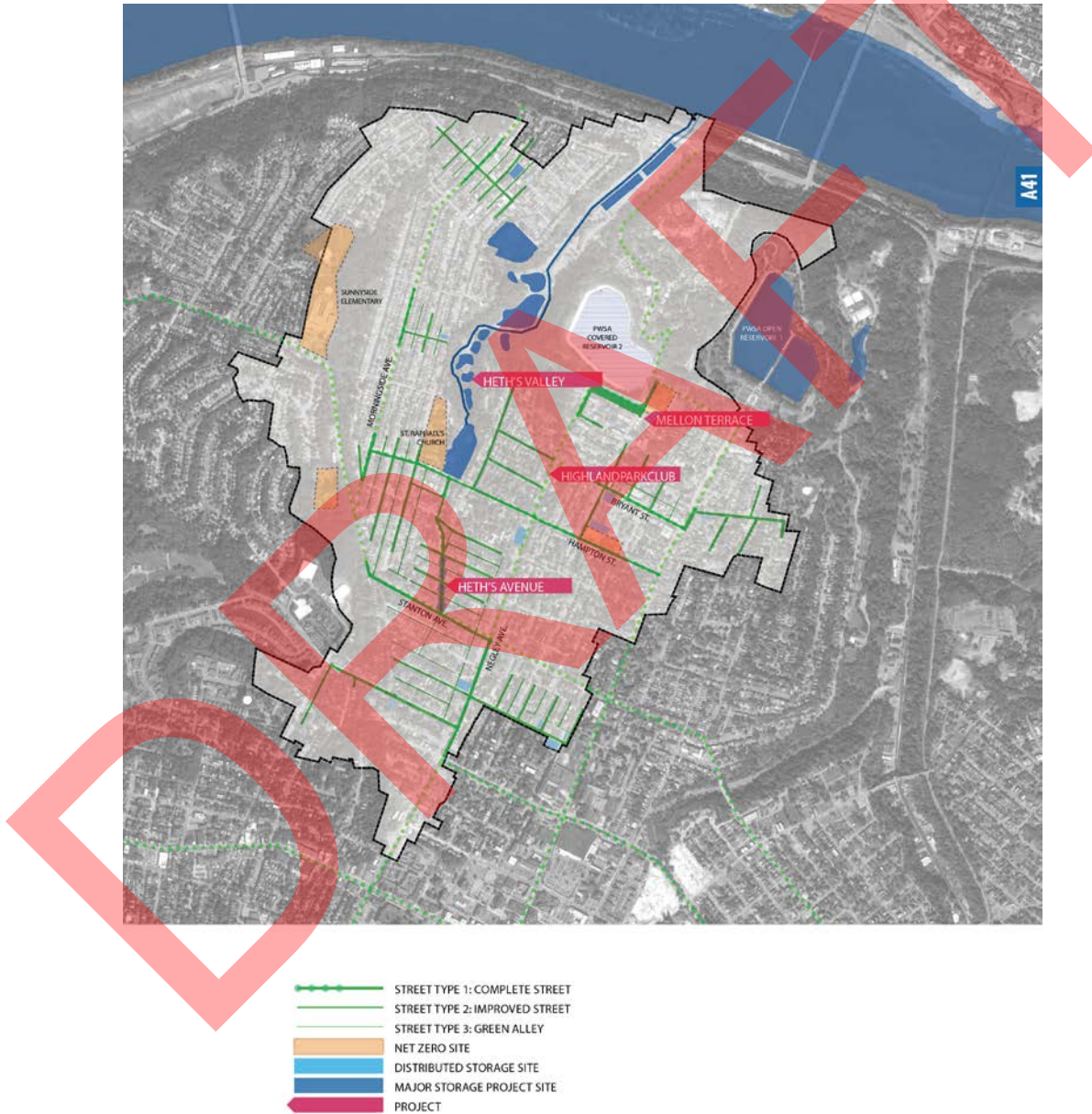
Figure 6-54

Stormwater from rainfall is the major driving force behind the geology of Pittsburgh. Recognizing where and how stormwater historically flowed can give us clues to where those flows want to occur today.

Today's sewer mains follow hydrologic flow lines very closely. Heth's Avenue and Heth's Way were built on top of the main branches of Heth's Run. The majority of A41's stormwater follows here today.

6.5.2 Urban Design Framework Plan

The A41 Sewershed is distinguished by its absence of vacant parcels and a largely open valley floor. Neighborhoods comprised of single family detached homes surround the valley of the former Heth's Run. To the east lies Pittsburgh's Highland Park, home to two large drinking water reservoirs and the Pittsburgh Zoo. The valley floor, which has been filled and graded in most places, is largely consumed by parking.



. Figure 6-55



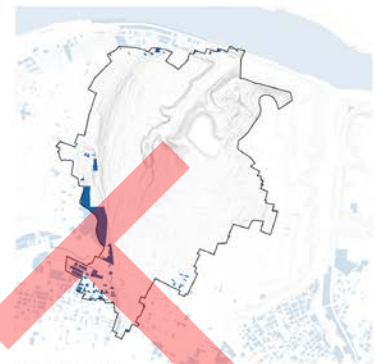
STREETS + PARKING LOTS

The street grid for Morningside is largely disconnected from the adjacent neighborhoods. Both Morningside and Highland Park have relatively consistent residential blocks.



BUILDINGS

The A41 sewershed is largely developed and has a high percentage of impervious surfaces. Much of the valley has been paved for Zoo parking.



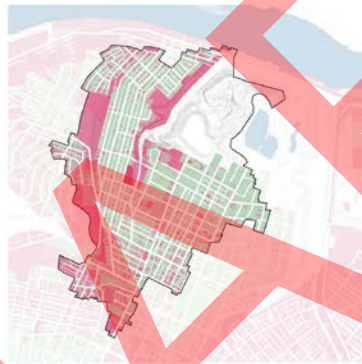
VACANT PARCELS

There are very few vacant parcels in the A41 sewershed.



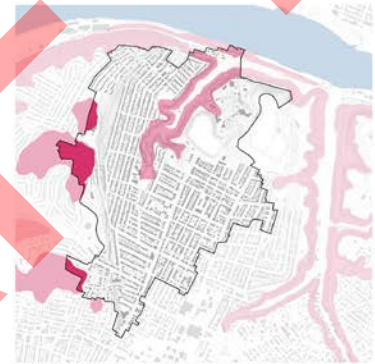
GREEN SPACE + HILLSIDES

Heth's Valley is the largest unprogrammed green space in A41 and is contiguous with Highland Park, the Pittsburgh Zoo, Natoli Field, and Heth's Playground. Other green-spaces are the steep hillsides that separate Stanton Heights



RELATIVE PROPERTY VALUES

Property values in Morningside and Highland Park are consistent and reflect a strong residential community. Property values trend lower in East Liberty and Garfield and are lowest on steep unbuildable hillsides.



UNDERMINED + LANDSLIDE PRONE

Steep slopes surround the Heth's Run valley. Hilltops in Stanton Heights and Garfield are undermined and are more expensive to develop on.

Figure 6-56

Understanding the unique urban fabric of a sewershed allows PWSA to identify potential synergies between infrastructure and communities. Better streets, better parks, better green-spaces, better hillsides, better homes, and better developments can all have positive ripple effects for people, planet, place, and performance.

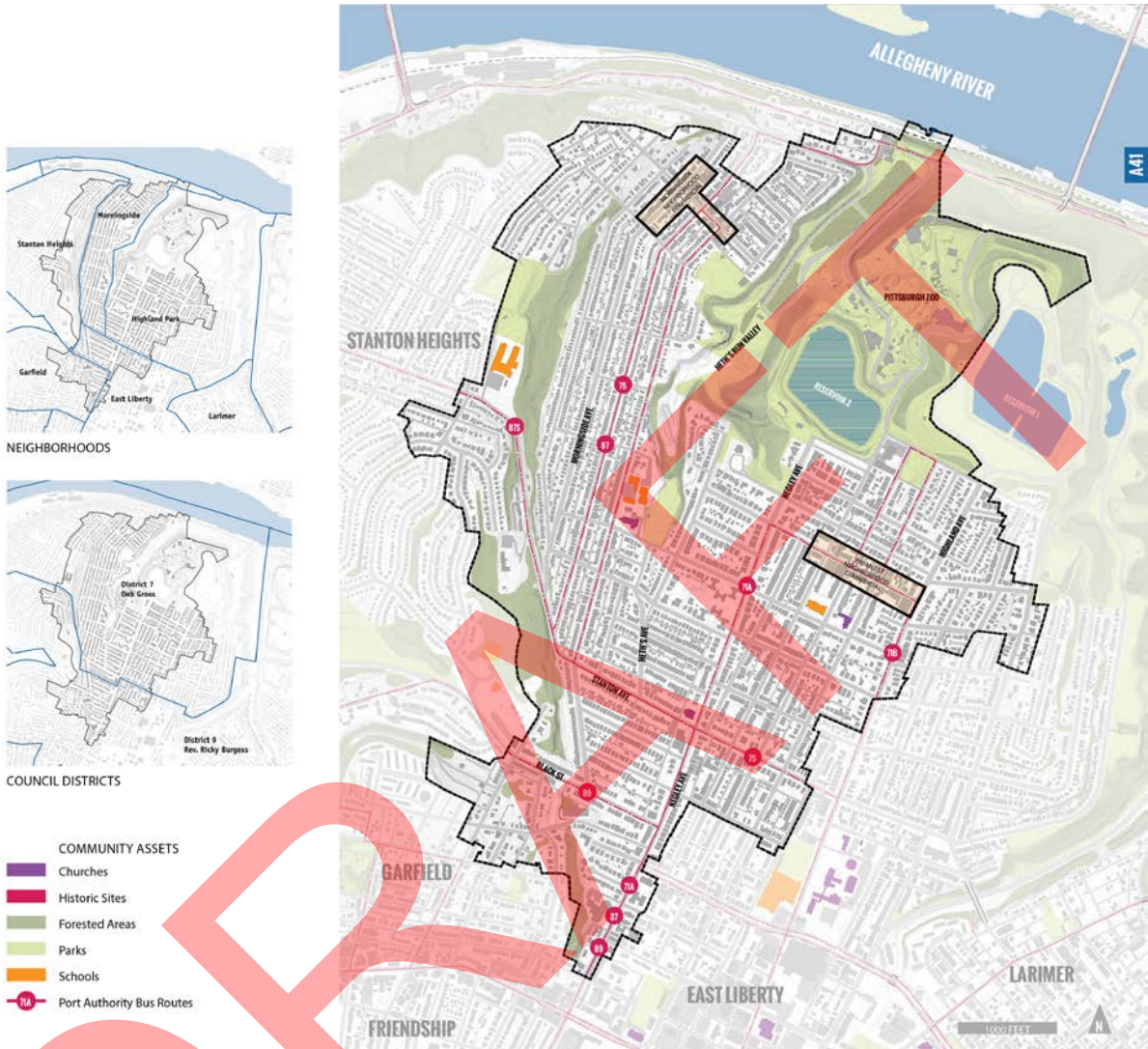


Figure 6-57



BRYANT STREET CLOSED FOR FESTIVAL
Source: Highland Park Community Council



HOMES IN HIGHLAND PARK
Source: Highland Park Club Apartments



HIGHLAND PARK ENTRY, 1900
Source: Pittsburgh Parks Conservancy

- COMMUNITY ASSETS
- Churches
 - Historic Sites
 - Forested Areas
 - Parks
 - Schools
 - Port Authority Bus Routes

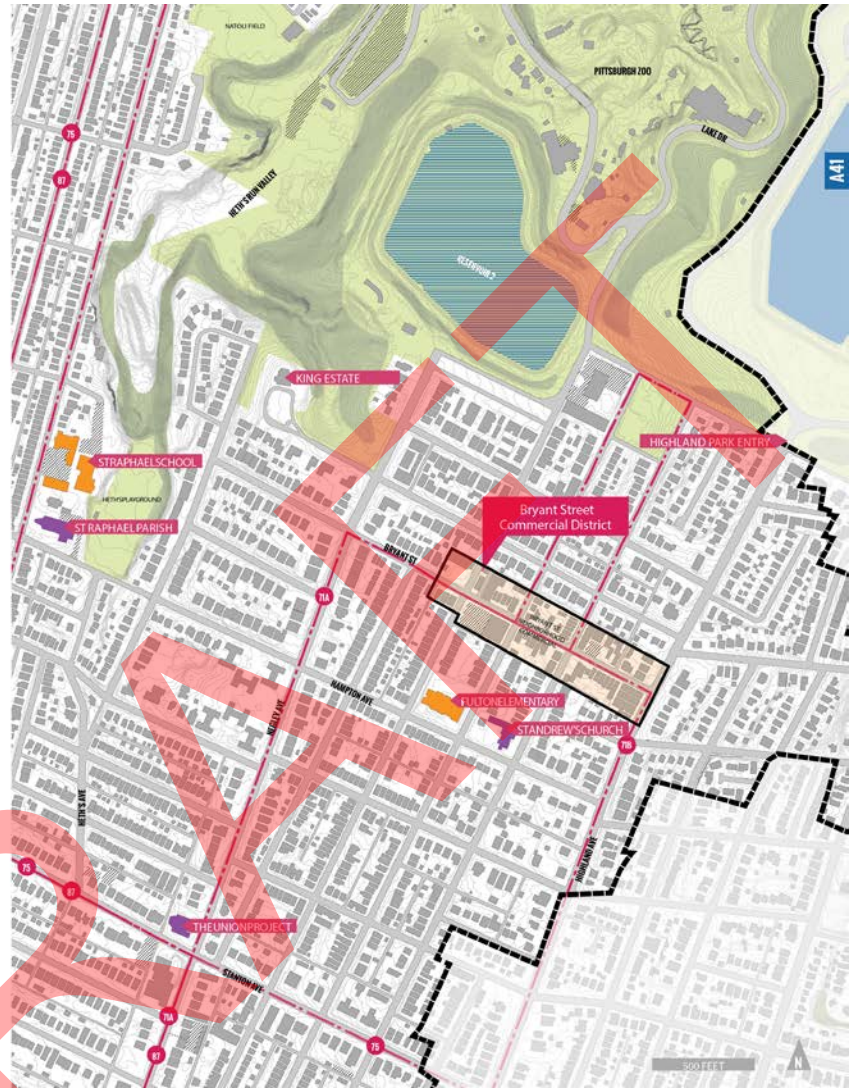


Figure 6-58

Highland Park is a quiet residential neighborhood with a vibrant neighborhood commercial district at Bryant St. It is home to Gilded Age landmarks like the King Estate and the grand entry to Highland Park. Local schools and churches remain civic landmarks, even when they are converted to other uses, as evidenced by the recently renovated Union Project community center.

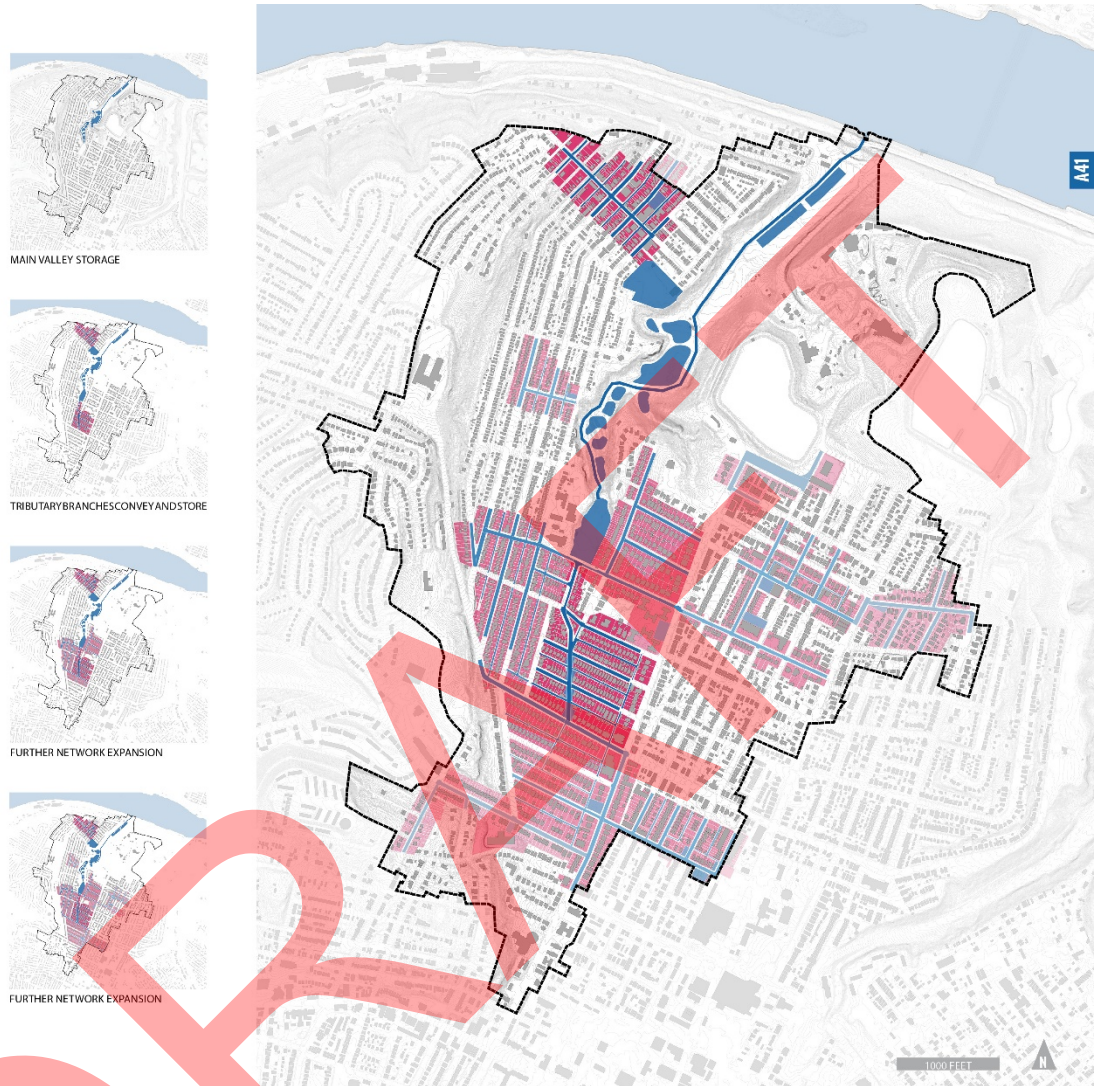


Figure 6-59

Green infrastructure works by restoring, mimicking, and supercharging natural hydrologic processes. It needs to be deployed as a network and can reconcile historical flows with modern land use. We studied the historical development of the city of Pittsburgh, and the impact of development on the city’s topography.

Hydrologic networks rely on a hierarchy of parts and differentiated functioning. Often there are critical pieces of green infrastructure that need to be installed and scaled to anticipate further expansion of the green infrastructure network.

We identified “opportunity sites” throughout each priority sewershed that could both fulfill local stormwater infrastructure needs and support healthy communities and

neighborhoods. The result is a hybridization between natural and man-made resource flows.

In A41 Heth's Run, storage infrastructure at Natoli Field and Heth's Playground could allow for street improvements throughout the shed. As street improvements and detention sites come online, the network can be further expanded until the targeted areas are served by green infrastructure.

6.5.3 Heth's Run Concept Plan

6.5.3.1 Heth's Ave Green Boulevard & Blue Valley

The A41 shed strategy reestablishes the importance of Heth's Valley as storage and Heth's Avenue as a collector, gathering water from adjacent streets, storing it in "stop-and-drop" subsurface detention under Heth's Field, and then continuing to the restored wetlands and stream in the valley.

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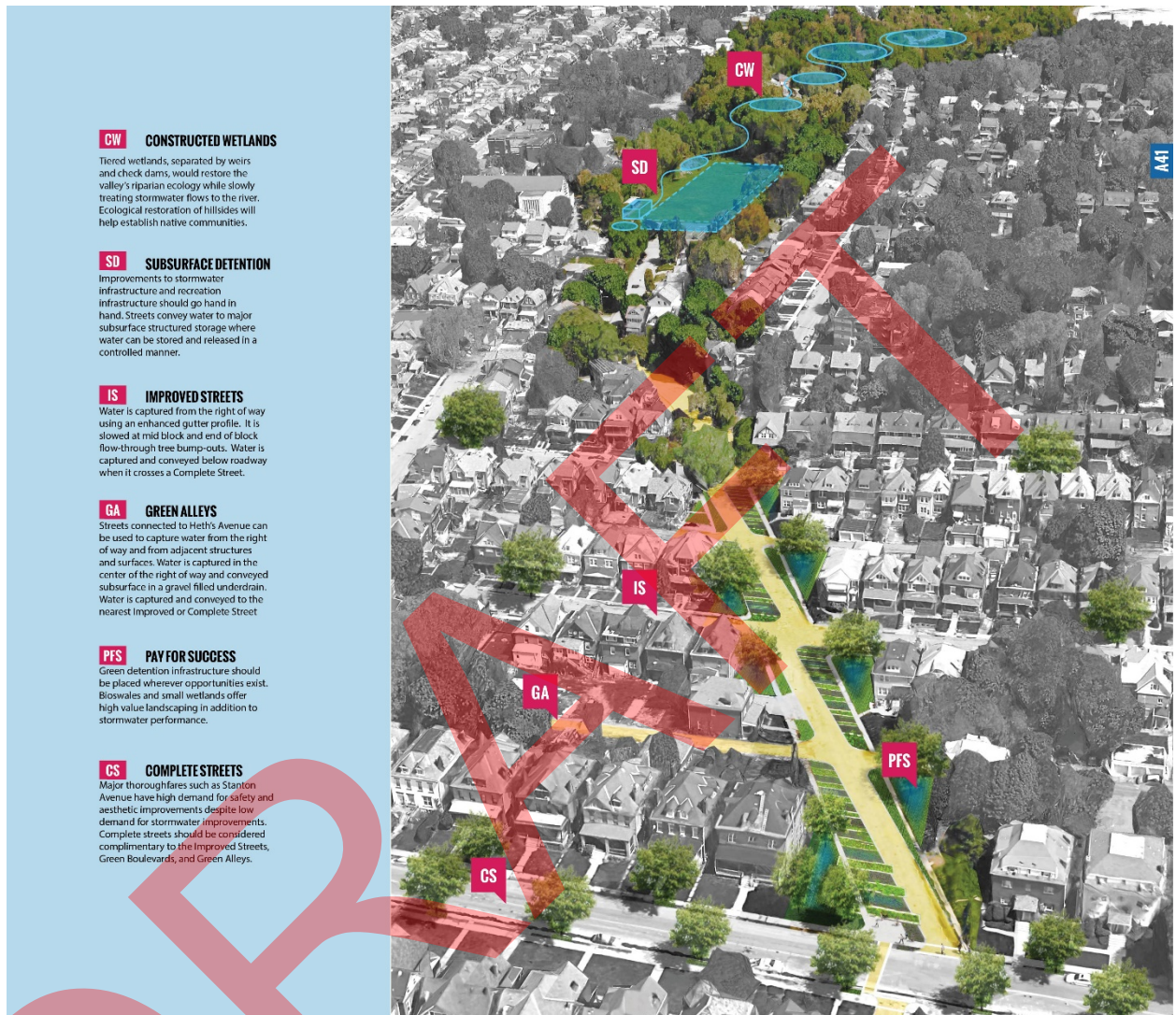


Figure 6-60

Historically Heth's Valley (Haight's Valley) was a wetlands area that captured and contained water from the shed. The Pittsburgh Parks Conservancy and the Pittsburgh Zoo are embarking on a transformation of the asphalt parking lot to an extension of Highland Park. The functioning of the valley would likely include wetlands, pass through conveyance, energy dissipation, and structured storage. Ecological restoration is needed to prevent sedimentation and to improve water quality. Ultimately, water should be released to the Allegheny without reentering the storm-sewer system.

Most of A41's sewage and stormwater flow through pipes buried below Heth's Avenue. As PWSA moves toward segregating sanitary and stormwater sewers, Heth's Ave should be considered as a priority site.

Heth's Ave is an underutilized concrete slab street on average 36 feet wide. There is low traffic count and low demand for parking on this street so an aggressive road diet is possible. Decreasing the width of the road would allow for generous rain gardens on either side and would establish the corridor as a pedestrian and cyclist friendly access to Heth's Playground and extend Highland Park into the neighborhood. Networked tree pits, improved gutter profiles, and green alleys would allow surface flows from Jackson St, Avondale Pl, and Wellesley Ave to travel to Heth's Playground without entering subsurface infrastructure.

Water could be captured and conveyed within the right of way using an enhanced gutter profile and slowed at mid-block and end of block flow-through tree bump-outs. Streets sloped toward Heth's Avenue can be used to capture water from the right of way and from adjacent structures and surfaces.

6.5.3.2 Natoli Field

Morningside's neighborhood business district is located at Greenwood Street and Morningside Avenue and connects the surrounding neighborhood to green-space, public transit, and other amenities. The district could be given a unique identity with well-designed stormwater infrastructure.



Figure 6-61

Natoli Field offers 165,000 square feet of recreational fields and is at the bottom of the Greenwood St sewershed. It is an ideal site for subsurface detention before stormwater drops into the Heth's Run Valley. A former playground at the unoccupied Morningside Elementary School could incorporate either surface or subsurface detention on a smaller scale, at 16,000 square feet.

City steps on Greenwood St descending from El Paso to Duffield could be an exciting opportunity for tiered detention and conveyance structures along a new fully accessible route, giving the public an up close look at natural resource flows within the neighborhood.

6.5.3.3 Highland Park Club Apartments

The Highland Park Club Apartments is one of the few large developed parcels in A41 and is a classic “towers in the park” community of low-rise apartments. Already endowed with generous green spaces, this site could make the most of them by incorporating green stormwater strategies including green roofs, rain gardens, and bioswales.



Figure 6-62

Maximizing the detention potential of this site could enable surface flows from the right of way to be managed on private property. This could be accomplished through a public-private partnership model called “pay-for-success” whereby the public stormwater management entity pays a private property owner for management of a certain volume of water.

6.6 M19 Soho Run

6.6.1 Existing Sewershed Conditions

The M19 Sewershed is nestled in the core of the East End between some of Pittsburgh’s largest economic centers. The M19 Sewershed is closely aligned with the watershed for the now underground Soho Run which was tributary to the Monongahela until the combined sewer network was constructed. Starting at the top of the Herron Hill, Soho Run flowed through the Upper Hill District, the Middle Hill District, Terrace Village, and Uptown (Bluff) before reaching the Monongahela River near today’s Birmingham Bridge. Once a vibrant community that was home to Pittsburgh’s Jazz scene, the Hill District today is marked by vacancy and blight. Surrounded on all sides by neighborhoods with rapid development, it is expected that M19 will soon see major land use changes. Ways to anticipate development in M19 and its impact on stormwater management were considered.