



THE HILL

A VILLAGE IN THE WOODS

Conceptual Plan

September 3, 2009

HOOD DESIGN STUDIO
URBAN LANDSCAPE AND SITE ARCHITECTURE

with
ARUP

Studio for Spatial Practice

Find the Rivers!

Pittsburgh Park Conservancy
Hill House Association
Hill District Consensus Group
Community Partners Institute

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DEDICATION

“I’m not sure anyone’s going to take us seriously but let’s run with it and have some fun.”

Community resident Loretta Comans at an early *Find the Rivers!* meeting (2003)

In the early years of the new millennium, encouraged by Pittsburgh’s renewed interest in her rivers as forces of nature rather than solely of commerce, I saw in the city’s landscape a new opportunity for creative community organizing -- for a shift toward crafting green local economies. Two important questions loomed: “What if a community were to envision its future by exploring its landscape? How can technical experts be better deployed to support a community’s vision rather than to craft it?”

Terri Baltimore of Hill House saw the possibilities right away and we instantly became collaborators. When we proposed *Find the Rivers!* to the Hill District Consensus Group, we were encouraged first and foremost by the elders – those who lived the exciting days of the Hill District when all the connections to surrounding areas were still intact. Dwayne and Myrtle Cooper, Edna Council, Samuel Lawlor and other members of the Consensus Group joined Loretta Comans in encouraging the early work of *Find the Rivers!* As youngsters they spent a lot of time outdoors and owned the landscape, forging paths down steep hillsides to the rivers and occupying slopes and valleys for play. They grew up in the buzz of the place before the wrecking ball arrived. They remained or returned to help lovingly renew the Hill and continue to work faithfully on that endeavor today. Such community leaders provided much of the early spark that energized our work.

The Greenprint is dedicated to them.

Denys Candy

ABOUT *FIND THE RIVERS!*

Find the Rivers! (*FTR!*) is a facilitated, community-driven initiative to craft a framework for future development in Pittsburgh’s Hill District by creating new connections and relationships between people, landscape, and ecology. *FTR!* invites stakeholders to consider the question, “How can we explore our future community and city by working with the beauty of our local landscape?”

Founded by Terri Baltimore (Hill House Association) and community development consultant Denys Candy (Community Partners Institute) in 2002, *FTR!* produced an innovative design vision for the Hill. Riverlife Task Force and the Urban Lab of Carnegie Mellon University provided important early support and technical assistance. The vision has been developed through planning for three strategic corridors – Kirkpatrick Park, Herron Avenue and Bedford/Cliff/Arcena area – with Klavon Design Associates. *FTR!* engages people over time in exploring and re-imagining familiar places so that they can be re-made to add further benefit to a community. By inviting Pittsburgh Parks Conservancy to join *FTR!* in 2007, the effort gained the capabilities required to re-make places with physical upgrades such as the current project to renovate Cliffside Park as a gathering place that incorporates a river overlook.

FTR! is a model of innovation in urban development by convening diverse stakeholders, including artists. It uses creative community organizing tools to facilitate the development of plans and actions to upgrade all aspects of community health – economic, ecological, cultural, physical, and psychological.

The *FTR!* consortium includes the Hill House Association (a multi-purpose service and development agency), Hill District Consensus Group (a coalition of local residents and organizations), Community Partners Institute (a consulting firm that acts as strategic facilitator) and the Pittsburgh Parks Conservancy, a city-wide Parks non-profit organization that acts as fiscal agent and manages selected projects for the consortium, including the Greenprint).

For more information, please visit www.findtherivers.net

Welcome to the Greenprint – a visionary template for the Hill’s future.

Over several years, *Find the Rivers! (FTR!)* has facilitated exploration of the Hill District -- its history and landscape, and its visual and physical connections to both the rivers and nearby neighborhoods. Over time, we moved from facilitating many small groups exploring ideas to widespread stakeholder involvement in spotting strategic opportunities and producing concept plans that laid the groundwork for Phase One of the *FTR!* Greenprint. A key step was recruiting the Pittsburgh Parks Conservancy to join *FTR!*, bringing expertise in park planning, design, construction, and management skills to the effort.

The *FTR!* core team worked closely with Walter Hood and his design team to organize the many tasks involved in producing Phase One of the Greenprint. Following our previous practice, we allowed for maximum input from residents and stakeholders by establishing a broadly representative advisory group, administering surveys, and facilitating community events such as conversations and a cookout.

We were struck by the joyful energy that greeted Walter Hood’s presentation of Greenprint Phase One at the new August Wilson Center for African American Culture on September 3rd, 2009. Our intention for the Greenprint is that it will provide an innovative ecological and aesthetic structure for the upcoming Hill District Master Plan. We view this document as an important advance in ongoing conversations that are taking place among Hill stakeholders about the future. The Greenprint offers an historic opportunity. It provides a practical framework for a beautiful urban landscape around which housing, commercial development, transportation, the arts, and community services can be woven.

We are grateful to all of those who have given their time, energy and ideas to the *Find the Rivers!* Greenprint and excited to work with you to realize the promise outlined in these pages.

Sincerely,

The *FTR!* Core Team

Terri Baltimore, Hill House Association

Denys Candy, Community Partners Institute

Susan Rademacher, Pittsburgh Parks Conservancy



The Greenprint project re-connects both the Hill to its landscape as well as its community members to the greater Pittsburgh area, while strengthening social ties through linkages to adjacent neighborhoods. It plans to:

- Craft a tool with specific guidelines for establishing the Hill District as a healthy place with better than average quality of life characterized by urban development that works in concert with natural assets and offers people substantial daily access to nature, green spaces, walking/biking routes and parks;
- Re-frame the identity of the Hill as a paragon of urban beauty: a prospective leader in preservation, restoration and value-added uses of its natural landscape;
- Identify opportunities for leadership and innovation in a growing green local economy that is connected to emerging markets and can catalyze practical local solutions to issues of local and national scope, such as energy security and food security.

Previous reports include *Arcena Connections Planning Concepts*, *Herron Corridor Coalition Planning Concepts*, *Kirkpatrick Park Planning Concepts*, *River Opportunity Report*, *Development and the Hill*, *The Hillside Study*, *Hillsides*, *Uptown Community Vision Planning Documents*, and *City of Pittsburgh Athletic Fields Analysis*. Upon investigation, the ideas behind the Greenprint preceded these studies. This document suggests that a closer look at the Hill community can derive site specific improvements that validate the historical, cultural and physical development over time. Particular sites that have been identified for future development are the cornerstone of the Greenprint. Utilizing existing resources such as reservoirs, parks, and overlooks as the framework to re-connect people to landscape demonstrates a sustainable response because it sees opportunity in the place, the Hill.

Rise and Fall

Coal mining brought thousands of jobs and generated economic stability. Because of this, the early to mid 20th century was a time of great prosperity for Hill residents. Home to diverse populations, cultures, and businesses offering goods and services, providing everything a person needed. The Lower Hill featured a diverse shopping and entertainment district. Musical culture and nightlife cultivated talent and a rich artistic heritage. Redevelopment brought more residents to the Hill.

Urban renewal and the Mellon Arena construction in the 1960s contributed to the dismantling of the Hill. Visual and physical disconnections to downtown, razed large portions of the neighborhood. Disinvestment in the community followed, contributing to property, social and cultural abandonment. Later revitalization efforts included developments like the Crawford Square and Hope 6 housing.



Historic map of the Hill, mid 20th Century

Map source: City of Pittsburgh Geodetic and Topographic Survey Maps, 1923-1961, University of Pittsburgh Maps Collection



Centre and Kirkpatrick Street *



Better Neighborhood Contest, Irene Kaufmann Settlement *



Nesbit's Restaurant; Photo courtesy Oscar J. Petite, Jr

LANDSCAPE LEGACY

The landscape is a physical marker of time and change, radically altered over time through natural ecological forces and human development; it bears the scars of time and change. There exist three landscape legacies in the Hill:

Natural History

The Ohio, Allegheny and Monongahela Rivers carved the city of Pittsburgh and much of the Hill itself, leaving deep valleys and canyons in its path. These created smaller creeks and tributary areas, which later provided circulation routes for vehicular traffic.

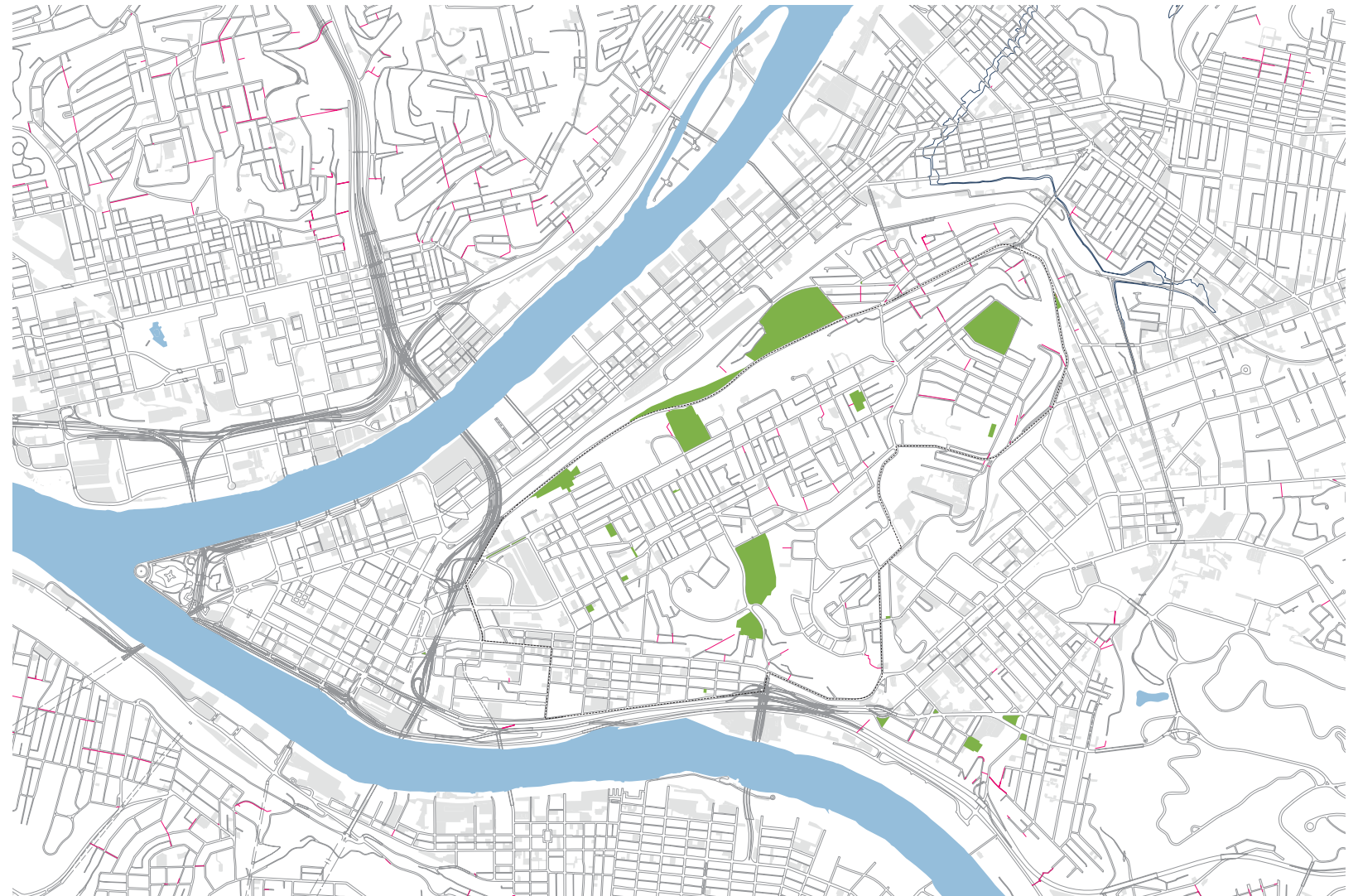
Industry

Coal in the early to mid- 19th century was one of the main industries in Pittsburgh and one of the first locations in the state of Pennsylvania. The industry brought with it an abundance of jobs and helped to generate income for the neighborhood and Pittsburgh. Coal mining removed nearly all of the coal, leaving a 15' thick open “seam” around the Hill edge. The presence of the seam has had an economic and environmental impact on the landscape, boosting the economy during its peak production and contributing to unstable ground and subsidence in the Hill after the coal was removed.

Culture

The “Hill” is actually a collection of smaller hills, all at different elevations with their own distinct ecological and cultural characteristics. The musical identity and local businesses were major entities in the Lower Hill. Mixed-use residential neighborhood development occurred on the hillsides and hilltops. These neighborhoods are Crawford-Roberts, Upper Hill, Middle Hill, Bedford Dwellings, and Terrace Village.

The Hill contained a rich public outdoor life that emanated from the mixed-use urban fabric. Stoops, porches, yards and gardens became the architectural vehicle for public social interaction in the community. People sat outside of their houses and talked with their neighbors, watched the streets, and enjoyed being outdoors. Children played in neighborhood parks like Kennard Park, Cliffside Park and Ammon Playground. This heritage is deeply embedded within the life of the Hill.



Current Map of the Hill

Map data source: City of Pittsburgh and Allegheny County GIS data



Kirkpatrick and Reed Street, looking towards Kennard Field *



Construction of Mellon Arena, Image from *The Lower Hill Renewal and Pittsburgh's Original Cultural District*, by William J. Mallett



Crawford Grill *

* Images Courtesy Carnegie Library of Pittsburgh and University of Pittsburgh Archive- Irene Kaufmann collection

ACKNOWLEDGEMENTS

Hill District Consensus Group, Carl Redwood, Convener, and all of the Hill District residents and citywide stakeholders who attended Greenprint events and told us of their ideas and favorite places in the Hill.

Find the Rivers! Project Team–

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Denys Candy, Community Partners Institute
Susan Rademacher, Pittsburgh Parks Conservancy

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Tracy Myers, Heinz Architectural Center at the Carnegie Museum of Art
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Lee Walls, Schenley Heights Community Development Program
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Senator Jim Ferlo Lloyd Wright
Joy Wright Abbott, Pittsburgh Department of City Planning
Bonnie Young, Hill District Consensus Group

Our purpose in developing the Find the Rivers! Greenprint is to create an ecologically sound template for future development in the Hill District. We hope the Greenprint will:

- Establish the Hill District as a healthy place with better-than-average quality of life characterized by urban development, working in concert with natural assets and offering people daily access to nature, green spaces, walking/biking routes and parks;
- Re-frame the identity of the Hill as a paragon of urban beauty, and a prospective leader in preservation, restoration and value-added uses of its natural landscape;
- Identify opportunities for leadership and innovation in growing a green local economy that: (1) is connected to emerging markets; and (2) can catalyze practical neighborhood-based solutions to issues both local and national in scope, such as energy security and food security.

METHODOLOGY

Following the established *FTR!* model, a broad group of stakeholders were involved in the Greenprint. Views and stories were collected in the following way:

Hill District Consensus Group:
On May 8th, 2009, a briefing on the Greenprint was delivered to the Consensus Group, a coalition of residents and organizations. During a facilitated discussion, initial ideas were aired, using a questionnaire as a guide (see Appendix). Forty people attended. On August 14th, the Hood Design team conducted a working session with Consensus Group members.

Visual Surveys:
One hundred and twenty visual surveys were collected at different locations throughout the Hill, mainly involving children and families. Respondents drew pictures and wrote of their ideas and aspirations for different parts of the Hill. A summary of key issues was prepared for the Hood Design Team.

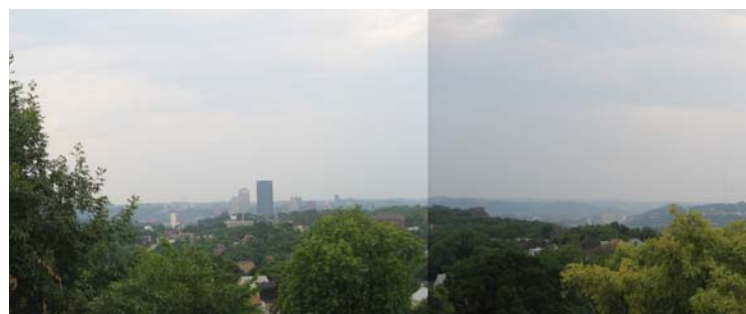
Community Cookout:
On July 21st, *FTR!* hosted an outdoor “Community Cookout and Conversation” at St. Joseph’s House of Hospitality on Bedford Avenue, featuring a talk by Walter Hood. Seventy-five people attended, of whom 50-60 were residents. They were joined by representatives of citywide agencies and organizations. Attendees mixed informally with *FTR!* and design team members to share ideas.

Greenprint Advisory Group: On July 22nd and August 13th, the Greenprint Advisory Group engaged in working sessions with the *FTR!* and Hood Design team. Twenty-five members attended in July and 20 in August. The Advisory Group is comprised of neighborhood leaders and citywide agencies and organizations, including City Planning, Urban Redevelopment Authority, Community Design Center, Tree-Vitalize, Friends of the Urban Forest, Green Innovators, Venture Outdoors, and Grow Pittsburgh.

Questionnaire: Supplemental surveys were sent to Advisory Group members who were unable to attend the July 22nd and August 13th sessions. The questionnaire was also used in interviews with community leaders. Further questionnaires may be administered as part of Greenprint, Phase Two. (See Appendix.)

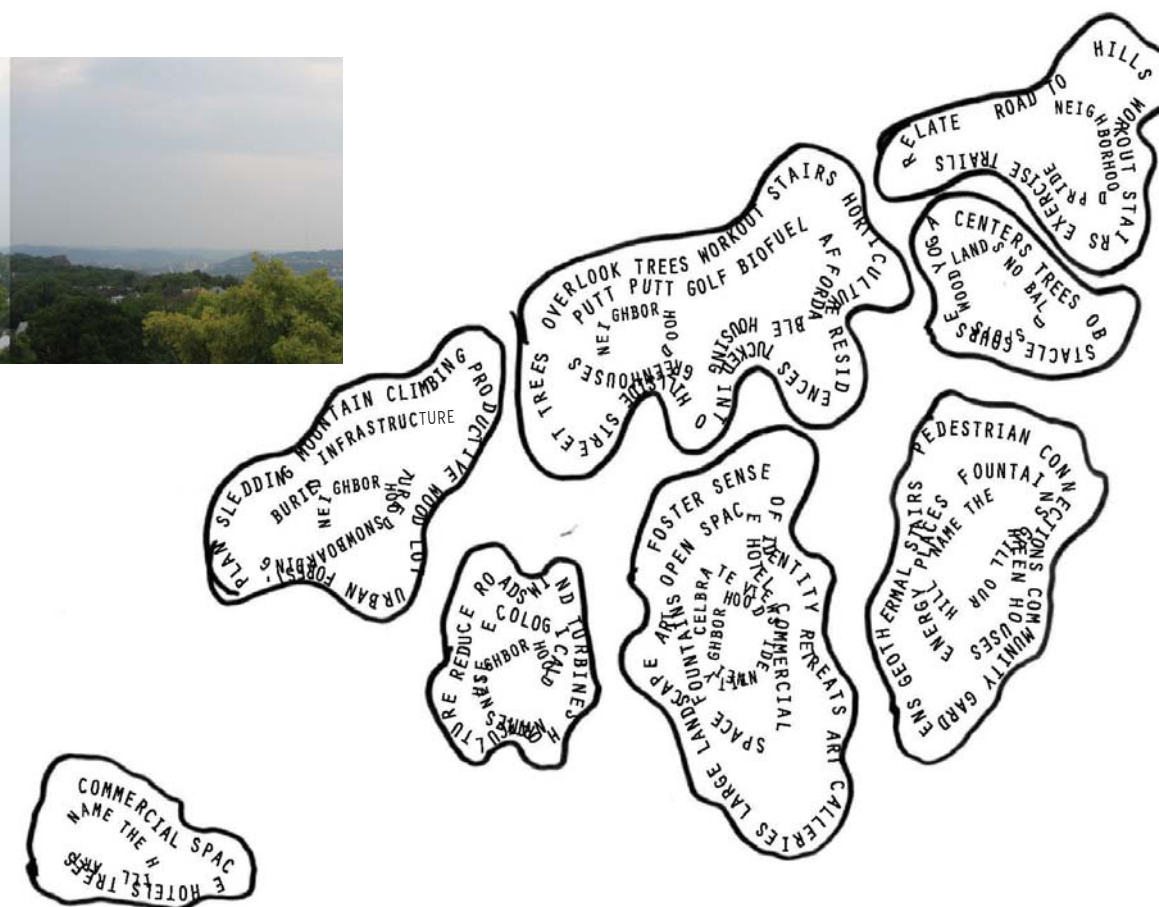


NOTE: See page 96 for a montage of photographs keyed to a map of the Hill.



View from the Herron Hill Park

- trees for run-off management
- (no “bald spots”)
- sledding
- snowboarding site
- mountain climbing
- obstacle course
- woodlands at top
- sunny orchard
- urban forest, reforestation plan
- productive wood lots
- street trees
- open space strategy
- overlap between Herron Hill and Sugar Top



HILLS

The Hill is composed of several hills, all at varying elevations. Each hill can then be subdivided according to sun orientation and location, which will influence what should happen there – “the program.”

Images below show hills in other places, including methods of construction on their surface and ways of navigating around the slopes.



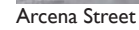
Gasworks Park, Seattle, Washington



Lombard Street, San Francisco, California



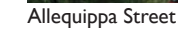
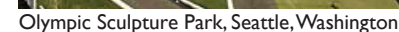
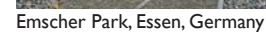
Botanical Garden, Barcelona, Spain



- expand/widen green hillside
- linear park (width of a street)
- green fence, green necklace
- waterfalls
- gateway into park space
- planting to define edge
- lookout points/overlooks/view
- defined points of entry
- bird sanctuary
- terraced gardens, multiple levels
- colorful plantings along the edge
- green stairwells
- natural woods along edge
- vineyards
- community gardens

Edge conditions in the Hill are clearly marked in the landscape through dense vegetation and steep slopes. These conditions create very distinct thresholds into and out of the neighborhood. Edges vary in different locations, according to width and elevation, which then set guidelines for program. Interior edges look toward the center of the Hill, while exterior edges look out toward the surrounding landscape.

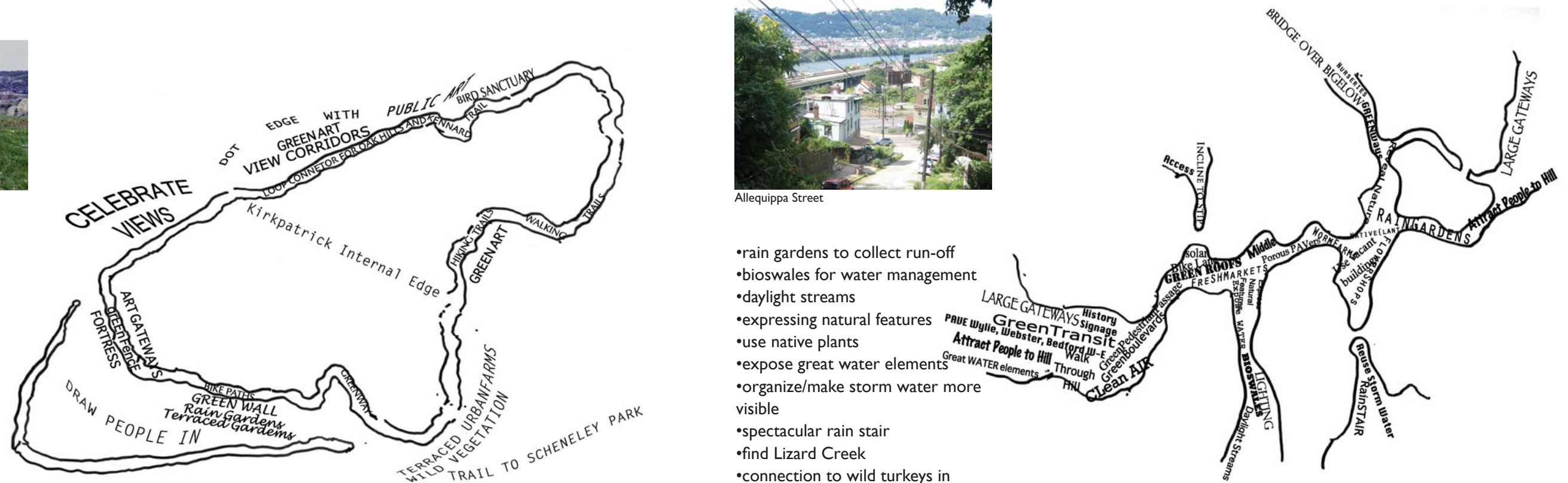
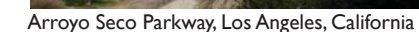
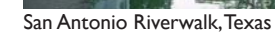
Images below highlight various edge conditions through vegetation, surface material changes, and elevation changes (retaining walls). Edges can be transparent and permeable, or dense and closed.



- rain gardens to collect run-off
- bioswales for water management
- daylight streams
- expressing natural features
- use native plants
- expose great water elements
- organize/make storm water more visible
- spectacular rain stair
- find Lizard Creek
- connection to wild turkeys in Frank Curto Park
- reveal natural assets

Tributaries refer to the topographical low points in the Hill, defined by the movement of water. Tributary areas have the potential to create opportunities for threshold and gateway conditions, according to their length, width, and geographic location.

Images below show how tributaries can be developed as amenities.



PROPOSAL

GREENPRINT SUMMARY

The existing landscape structure is a reverse figure ground with a thick verdant edge, and a center. This typology makes both inside and outside equal, and can be interchangeable through development, ecology, infrastructure, leisure, etc. The Greenprint's intent is to develop this structure that also builds upon the existing historical, ecological and cultural landscape. These two conditions can be further amplified through the landscape lens as bluff, hillside, terrace and tributary and valley, respectively. This duality suggests an urban structure providing an outside and inside condition, but more importantly gives clarity to topography – a set of hills on a hill. The ecological and social/cultural history reveals the edge as a wooded condition: a site specific ecology that has emerged from the shifting rivers rises and falls and form the fallow coal mine seams. The term “Woods” is common language, not a woodland or a single forest, but rather implies a thick collection of trees and shrubs with mythical appeal, brimming with things unknown and unexplained. In contrast, the Village is not like a downtown or main street in its character, but is rather a collection of community buildings and landscape. Conveyances are abandoned stream channels and riparian areas that cross the hilly central area before reconnecting to the rivers.

Sampling

Finding Value in Landscape

The Garden City Movement, America's rural lifestyle and our transcendentalist ideologies have influenced community building over the past two centuries. These ideas particularly inspired early suburban development with new communities outside of the city's edge. Today, many of these private developments have been engulfed by the expanding city. These communities have preserved their “green” ecology and formal logic, while maintaining their value economically, socially, culturally and politically.

Places like Chestnut Hill and the Wissahickon in Philadelphia, PA., Frick Park, Chatham Village and Schenley Park in Pittsburgh, and Radburn, NJ exhibit communities set within a verdant, wooded landscape. Woodlands, ravines, riparian areas, parks and streets and housing are all enmeshed (combined) with the larger landscape. It may be argued that these planned communities exhibit mature successional landscapes due to their age. Our community is just as old but not planned in the same manner. An emergent landscape has developed in the Hill that was caused by the ecological industrial practices and processes. It is for the same reason that communities have also gone verdant due to disinvestment and abandonment. The question arises: if the value of mid- to upper- class communities is determined through its green context, why can't all neighborhoods take advantage of those same landscape features in their own community? Redevelopment can make the most of their circumstances by copying or “sampling” their typologies to use in the Hill. These typologies are then transformed to become site specific to the Hill landscape.



Greenprint



Woods Zone



Village Zone



Conveyance Zone

Woods

Parks

- Enmeshing with adjacent woods
- Patch Ecology
 - Immersion (Inside/ Outside)
 - Program (Performative) - Large scale leisure/ recreation

Grandview Park

Schenley Park

Olympia Park

Housing

Single Family

Highland Park

Frick Park

Multi Family

Chatham Village

Enmeshing with adjacent green

- Patch Ecology
- Car is subordinate
- Interior green connected to larger green

Circulation

Roads

Rock Creek Park

Wissahickon Trail

Enmeshing with adjacent green

- Soft shoulder/ bleeding edge
- Divided
- Following or in relationship to a natural feature

Village

Parks

- Interconnected/ Sustainable Civic and Neighborhood Space
- Civic ecology (formal environmental systems)
 - Allee and bosque
 - Program is diverse

Courtland Creek

Lafayette Square Park

Housing

Harlem

Frick Park

Chatham Village

Distinct urban edge

- Porches and sidewalks
- Multi-use auto space
- Courts, courtyards

Circulation

Penn Squares

Alleys

Freedom Trail

Visible infrastructure

- Performative edges (rain gutters, etc.)
- Distinct materials
- Historic experience

Conveyance

Ponds and Streams

- Water is slowed through catchments
- Patch Ecology
- Performative systems

Shop Creek Park

Mill Creek Canyon Earthworks

Stream/ Run

Chicago River

Buffalo New York

Erie Canal

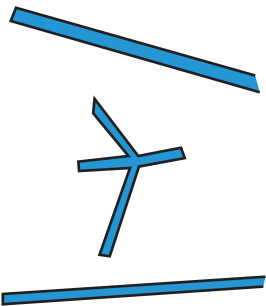
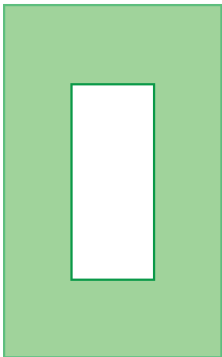
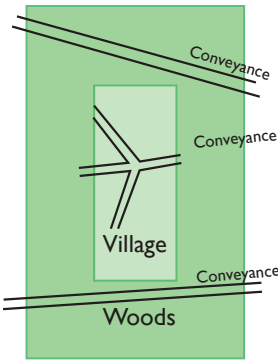
- Water becomes infrastructure
- Relationship to circulation
- Fast or slow water (obstructions/ free-flowing)

Tributary

Strawberry Creek Park

University of California Campus

- Immersion (Inside/ Outside)
- Relationship to adjacent buildings
- Patch Ecology



PROPOSAL

WOODS



“A large and thick collection of growing trees; a grove or forest”

The Woods is an edge condition in the Hill. Ecologically, the Woods are composed of upland river planting and emergent industrial species that have acclimated to the post coal landscape. The Woods exterior edge is defined by topography; hillside and terrace, and its interior defined by public streets. These streets create a boundary for the woods, but trees and understory overlap and enmesh into the public realm as well. Bedford Avenue, Rose and Reed Streets, Adelaide Street and Mario Lemieux Place define this porous interior edge.

The Woods is characterized by dense, vegetated areas on topographically challenged and hilly terrain. Tree planting is distinguished as native upland and urban in concept. Considerable understory planting is developed for bio-diversity and wildlife habitat. Built landscapes and buildings in the Woods district borrow the landscapes around them creating larger patch ecologies and green public spaces. Formally the Woods create a contiguous landscape figure.



Kennard Playground



Bedford Street





PROPOSAL

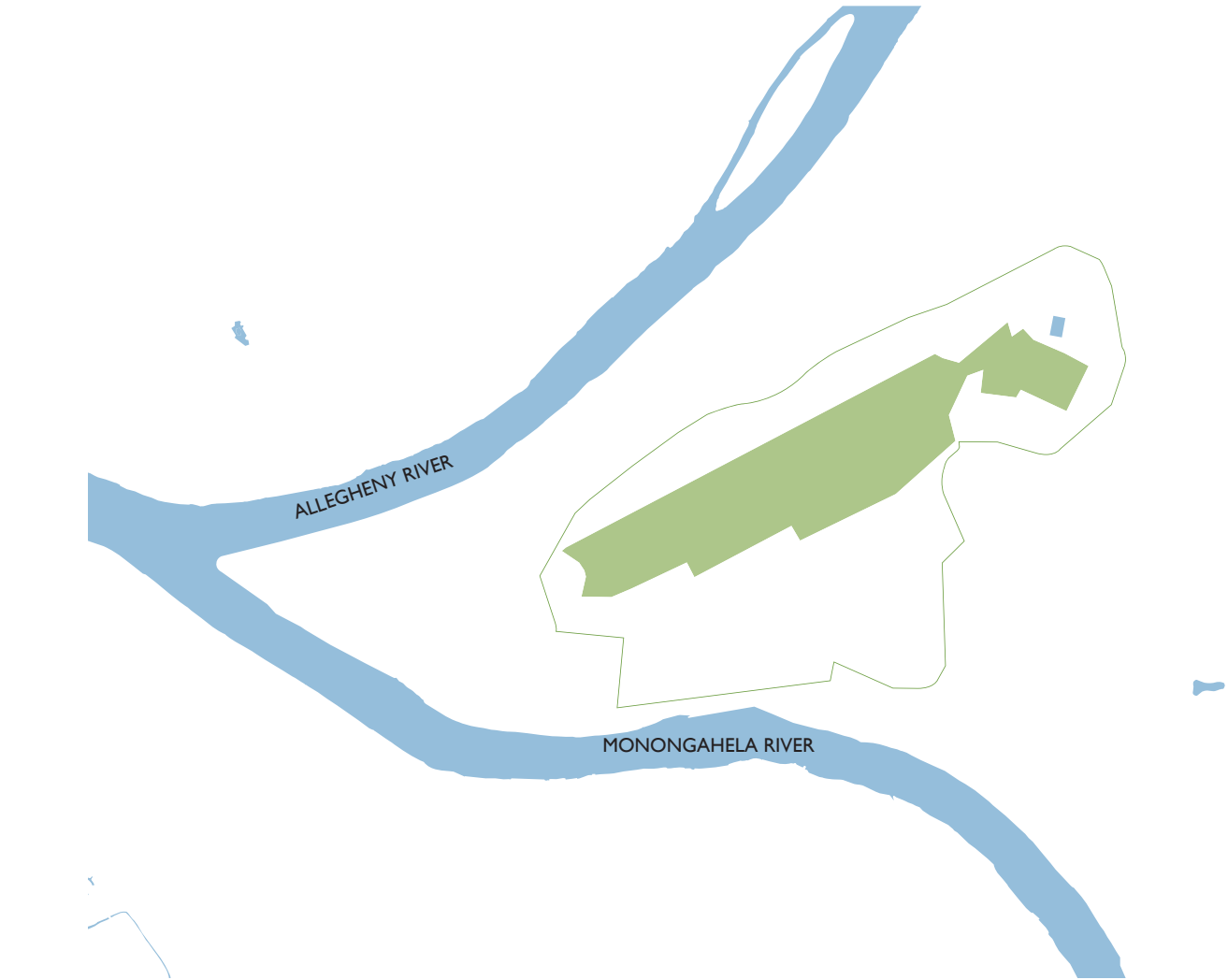
VILLAGE



“A small community or group of houses in a rural area, larger than a hamlet and usually smaller than a town.”

The Hill’s autonomy in Pittsburgh bears testament to its cultural and social history. As a place of segregation and aggressive urban renewal, the collection of buildings on the hilly slopes adjacent to the downtown has remained an ‘imagaeable structure” (part of the community’s collective consciousness). Historic buildings set amongst new developments are a reminder of the Hill’s rich past as well as its future. Developing urban strategies that can preserve this “imageable structure” but that also create a symbiotic context for rebuilding and development is crucial to the Hill’s legacy. The “Village” within the urban context validates the community’s demographic rural emergence while suggesting a clear community structure and autonomy.

Centre Ave is the central spine for the Hill District featuring historic and new development (i.e., library, Grocery Store, YMCA, etc). The Village is developed around this spine that formally connects commercial and institutional density to the downtown. The Village has a civic ecology; interconnected urban and neighborhood spaces that utilize sustainable practices for infrastructure and leisure. Multi use is preferred over single use; suggesting the integration of auto/pedestrian space, streets and park/ plazas, courts and courtyards , public and private realm. A distinct urban edge is desired between the Village and Woods. Residential areas are distinguished by their porches and sidewalks, multi-use auto space, and shared public space. Performance based public spaces, distinct materials and building upon the historic pattern and development is a major characterization for the Village.

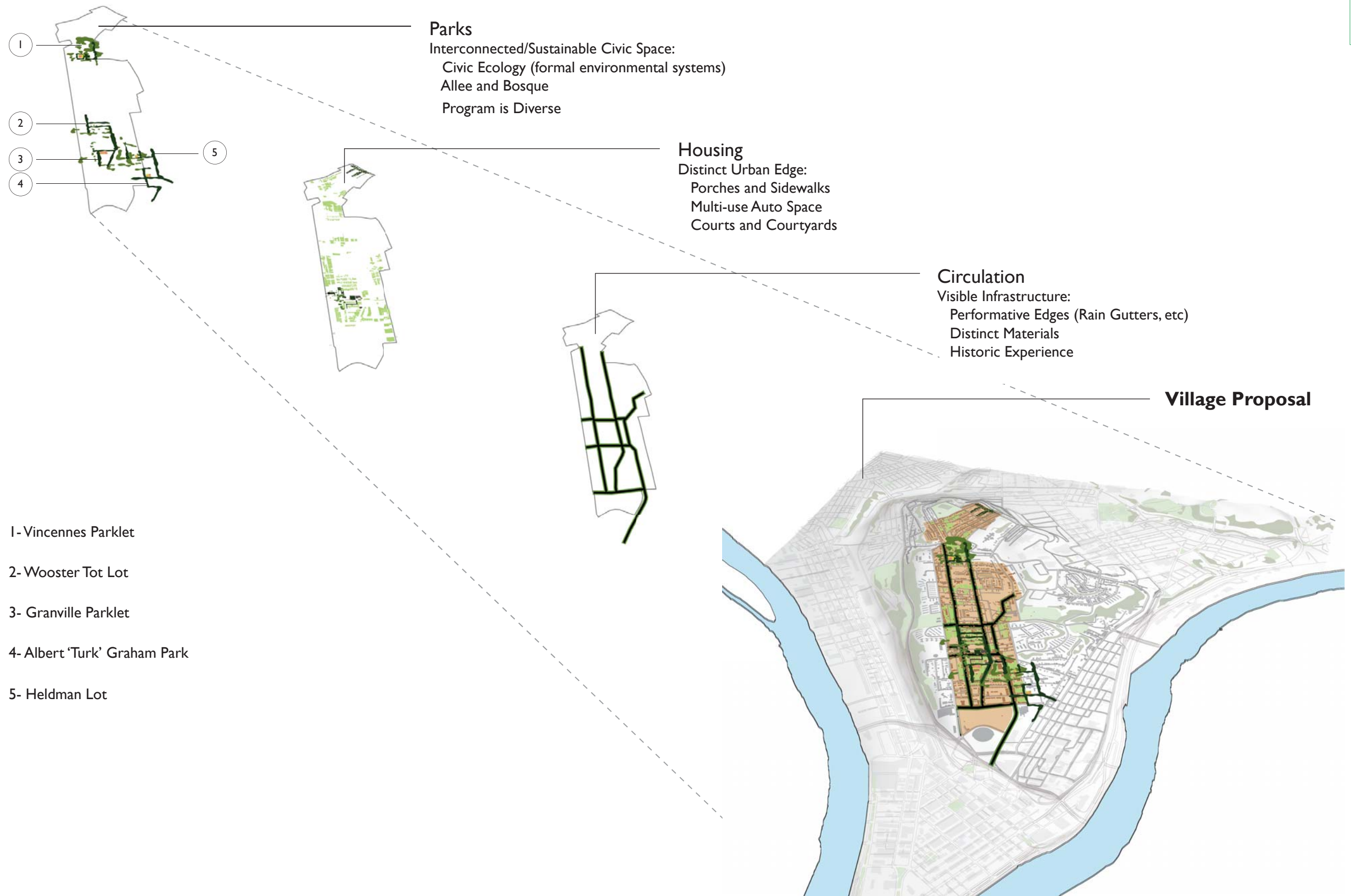
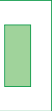


Wylie Avenue at Caramel Way



View from Centre Avenue looking at Soho Street

*Allee is a walkway or land line with trees; bosque is a small, wooded area.



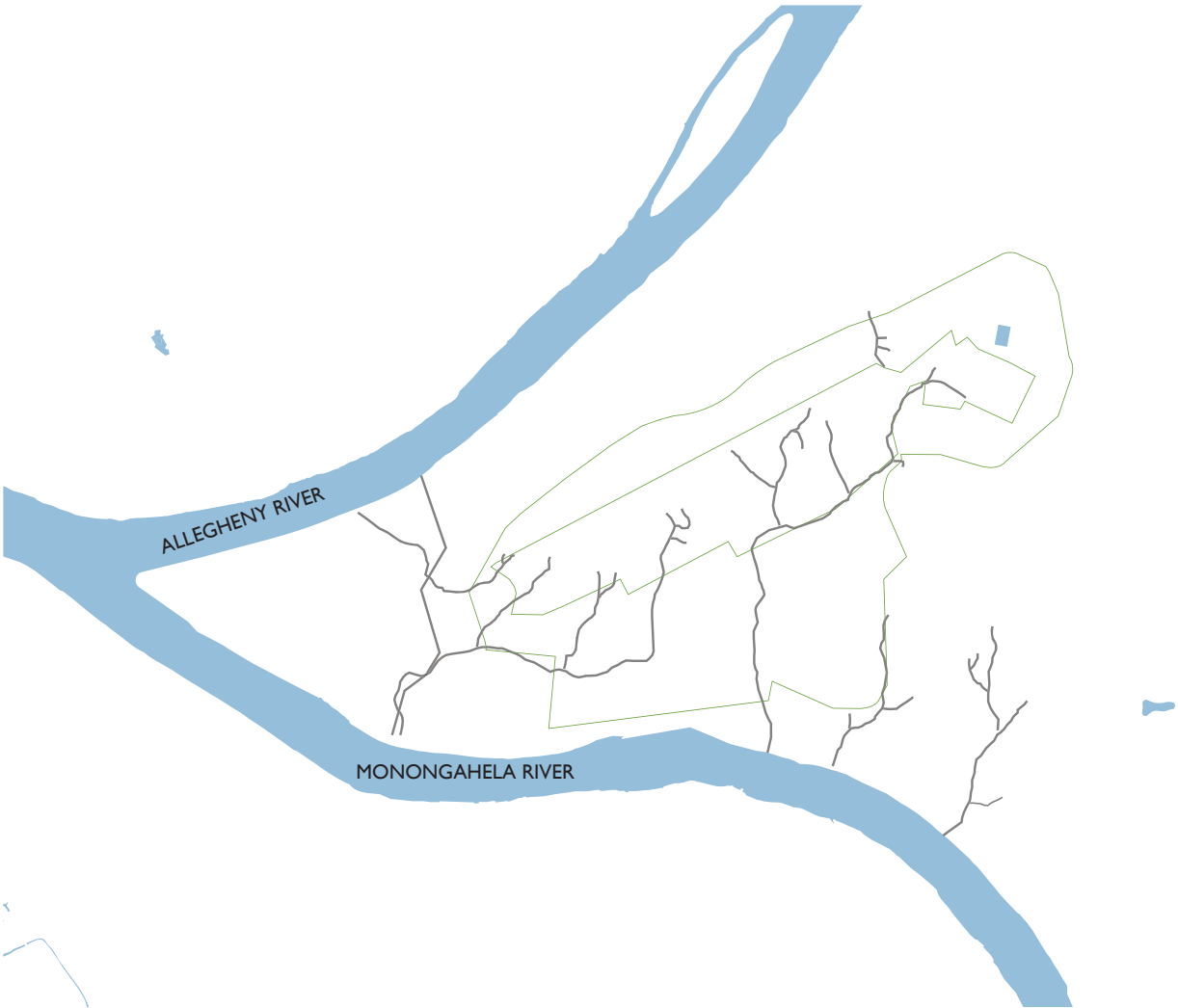
- 1- Vincennes Parklet
- 2- Wooster Tot Lot
- 3- Granville Parklet
- 4- Albert 'Turk' Graham Park
- 5- Heldman Lot



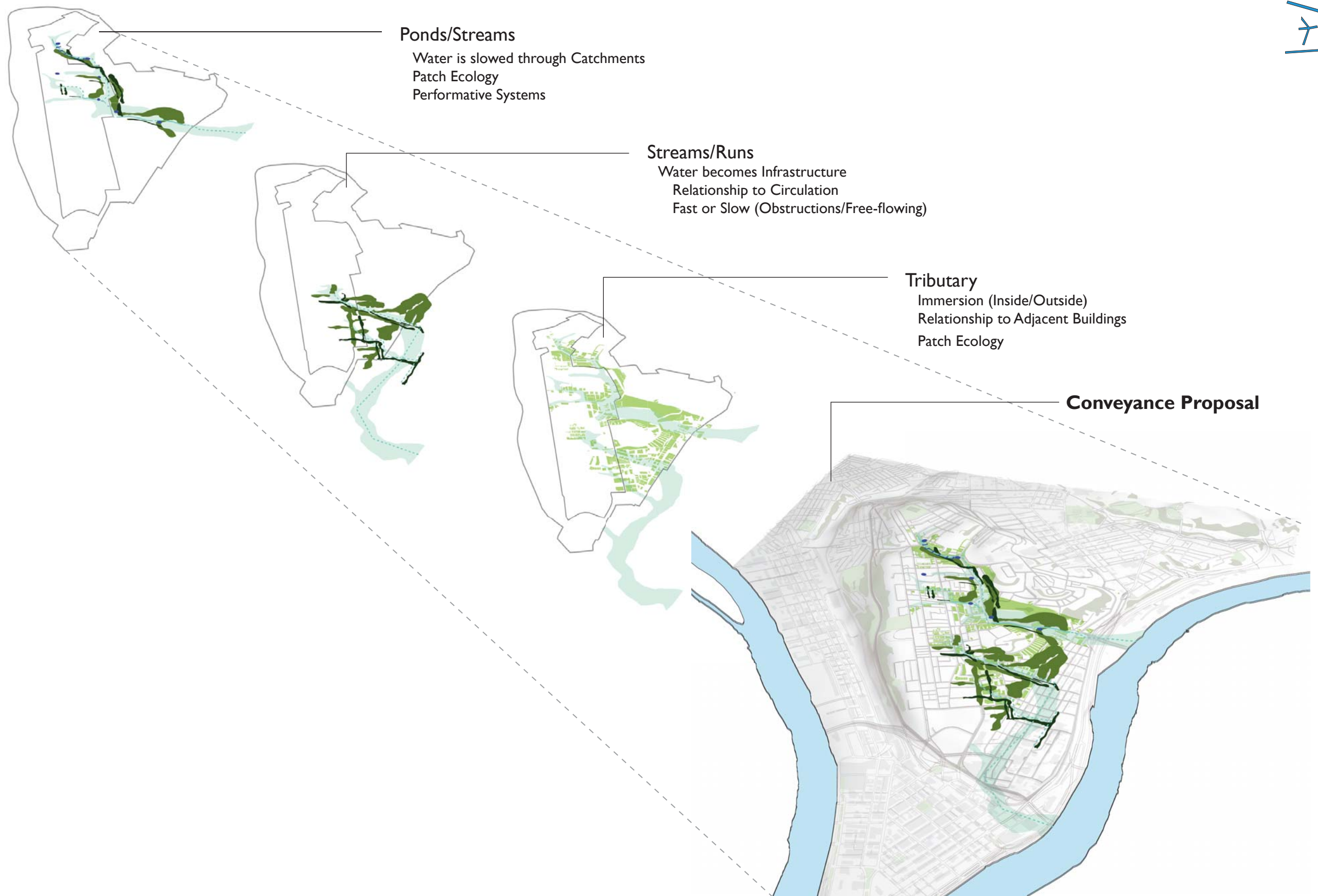
conveying; transmission; a means of transporting communication.

Conveyance recognizes that the Hill features a collection of stream tributaries is have historically and contemporarily transported people, water and wildlife through and across the community- down and out to the rivers. Conveyance is neither “Woods” nor “Village”, but a separate overlay that connects and transmits; watersheds, historic streams, habitats, pathways, etc. weaving them figuratively and literally across the surface through design specific design interventions.

Building and developing a conveyance system begins with connections. Riparian areas can connect Village storm water schemes and tributaries that emanate from the woods. Vegetation cover from Wood and Village can merge with those featured in the conveyance. Trails and paths can be introduced to follow these elements and systems, creating and diverse set of tributaries that are ecological derived but social and culturally profound.



Cherokee - Ossipee Tributary at Herron Hollow



HYBRID AND DIAGRAM ANALYSIS

SUMMARY

GIS data is overlaid on the Greenprint project site to reveal new relationships between landscape, social and cultural frameworks. Historic maps show the evolution of the Hills within the Greenprint study area and development of the city grid. Successive maps show the manipulation of the hill over a century. Contemporary maps show transportation, parks, landuse types, planned developments, stairs, and housing. Hybrid maps overlay contemporary human ecological patterns over historic landscape features. These hybridized maps look at the relationships between the human ecology and the landscape.



Cliffside Park



Addison Terrace



Bedford Street House



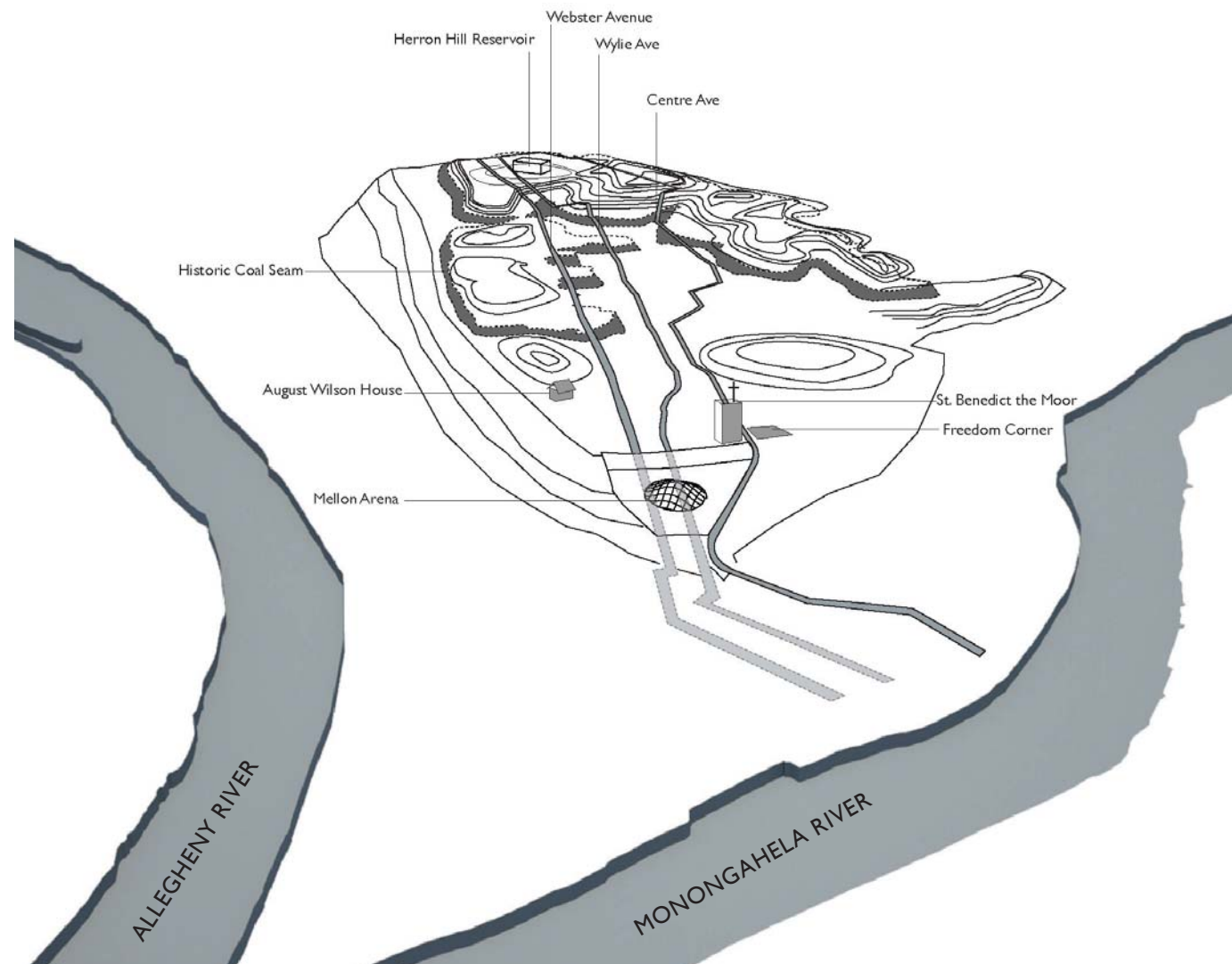
Chauncey Street Staircase



Ammon Playground

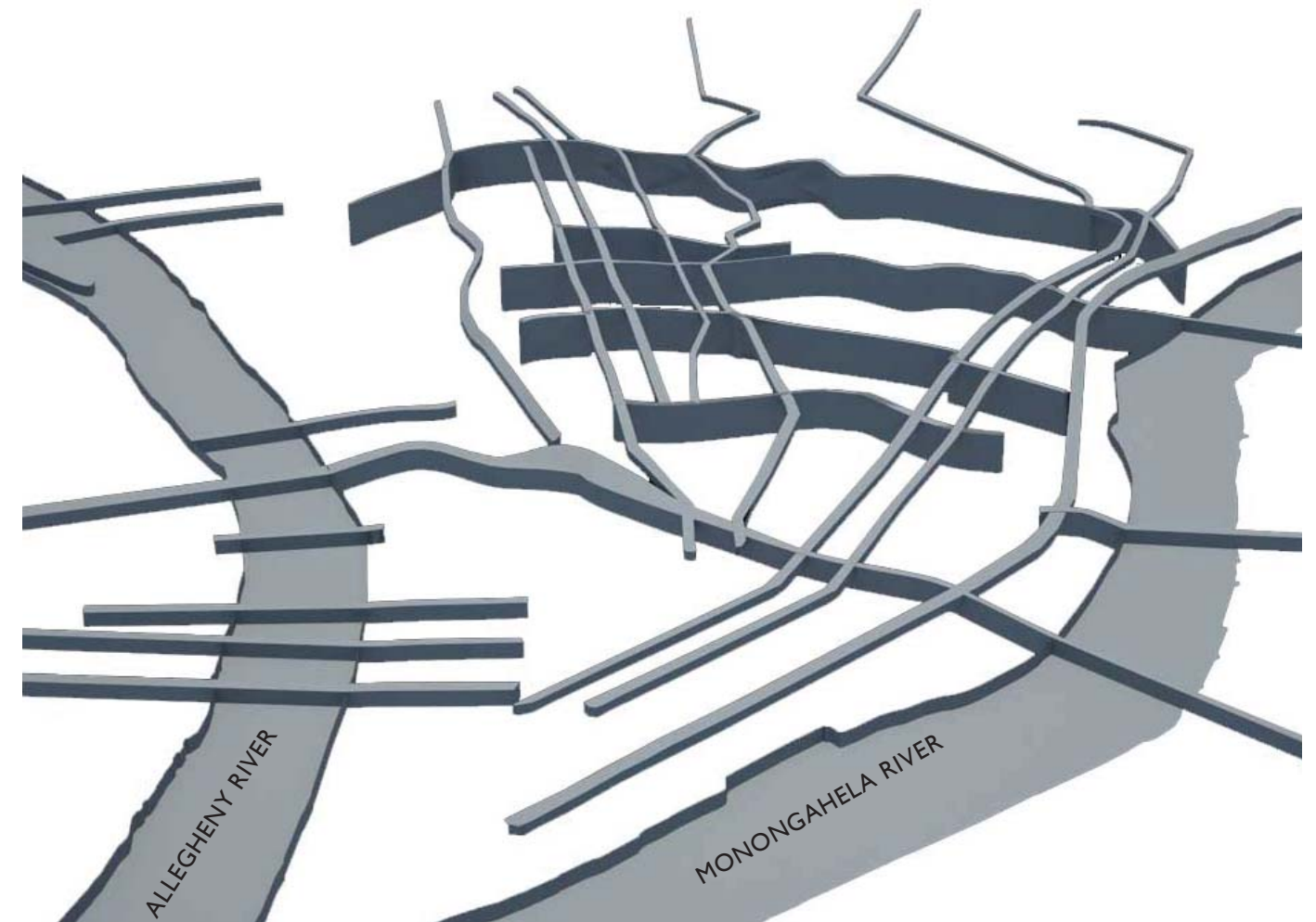


View from Arcena Street; Photo courtesy Larry Rippel



HISTORY

Historically, the Hill has been shaped by both landscape and human ecology. Coal extraction left a void that encircles the Hill. Hilltops were leveled over time to make way for development. From the human perspective, both Webster and Wylie Avenue - streets that historically ran through the district to downtown - were cut off physically and economically by construction of the Mellon Arena.



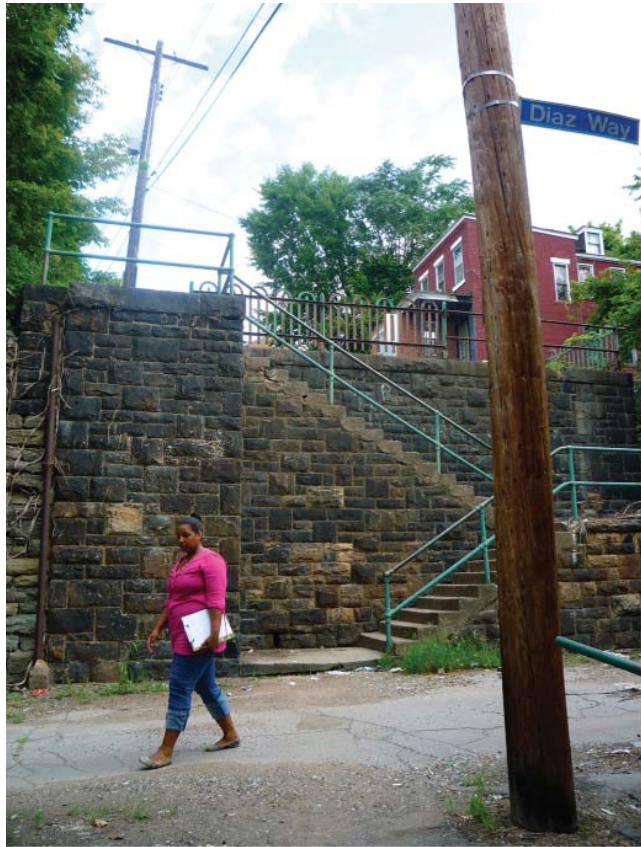
TRANSPORTATION

Roads through the Hill reveal topographical changes in addition to navigating the site. North/south roads cut through the Hill, creating major thresholds and gateway conditions. Interstate 579/Liberty Bridge is the only clear, continuous connection from Allegheny River through to the Monongahela River, linking the Hill to the broader city and region. East/west roads follow the surface of the ground, revealing the topography of the various hills, which makes moving through the Hill in this direction a linear and straightforward experience.

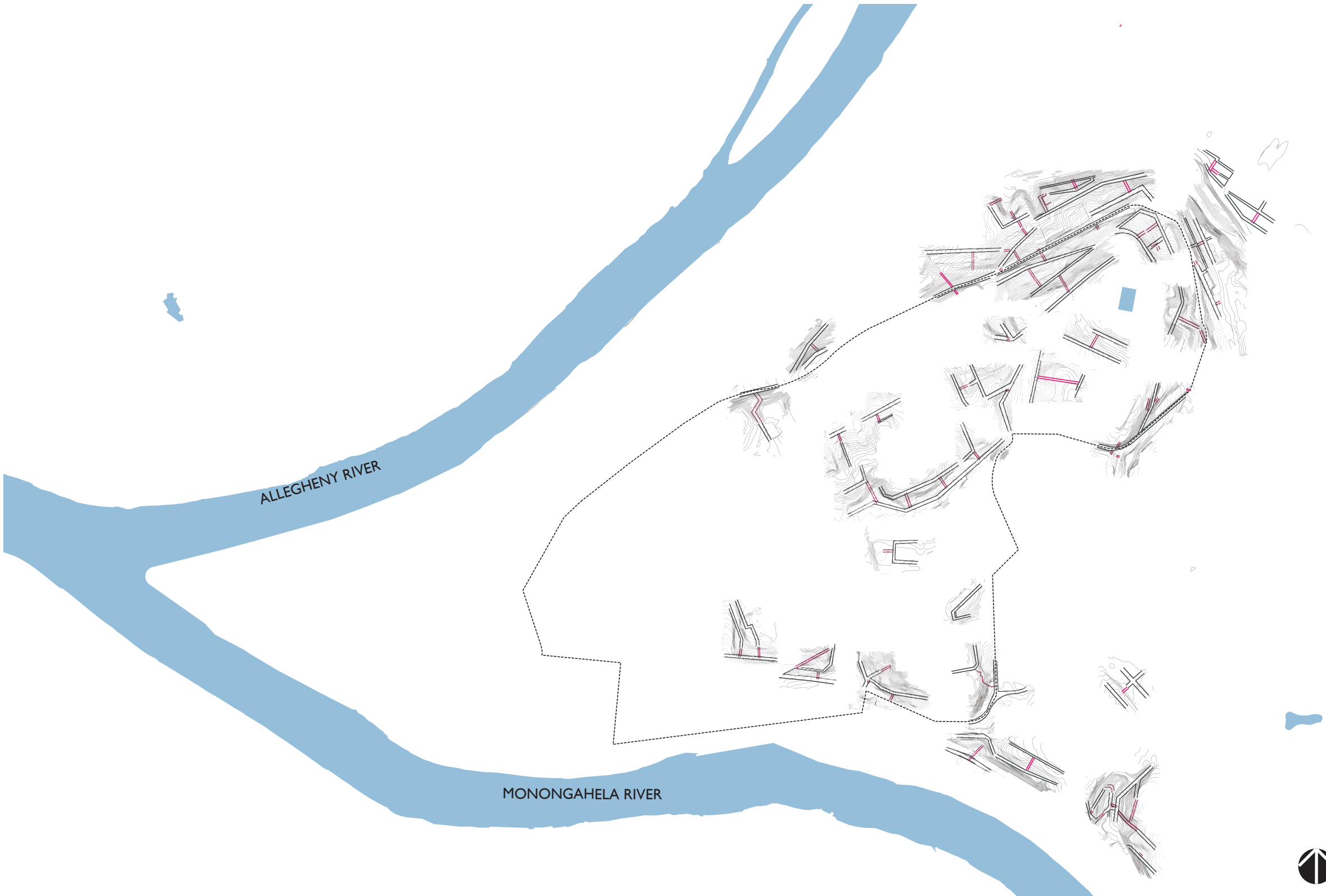
HYBRID AND DIAGRAM ANALYSIS

STAIRS

Staircases traverse steep slopes to allow for direct access to adjacent streets, crossing through neighborhoods. The density of staircases increase around bluff areas.



Diaz Way Staircase



Development within the historic creek zones and tributary areas is primarily single and multi family housing, and institutional buildings.



Mellon Arena



Centre Avenue and Ewatts Way Housing

HYBRID AND DIAGRAM ANALYSIS

HISTORIC CREEKS AND CONTEMPORARY ROADS

Contemporary roads generally follow historic creek paths and tributary areas.



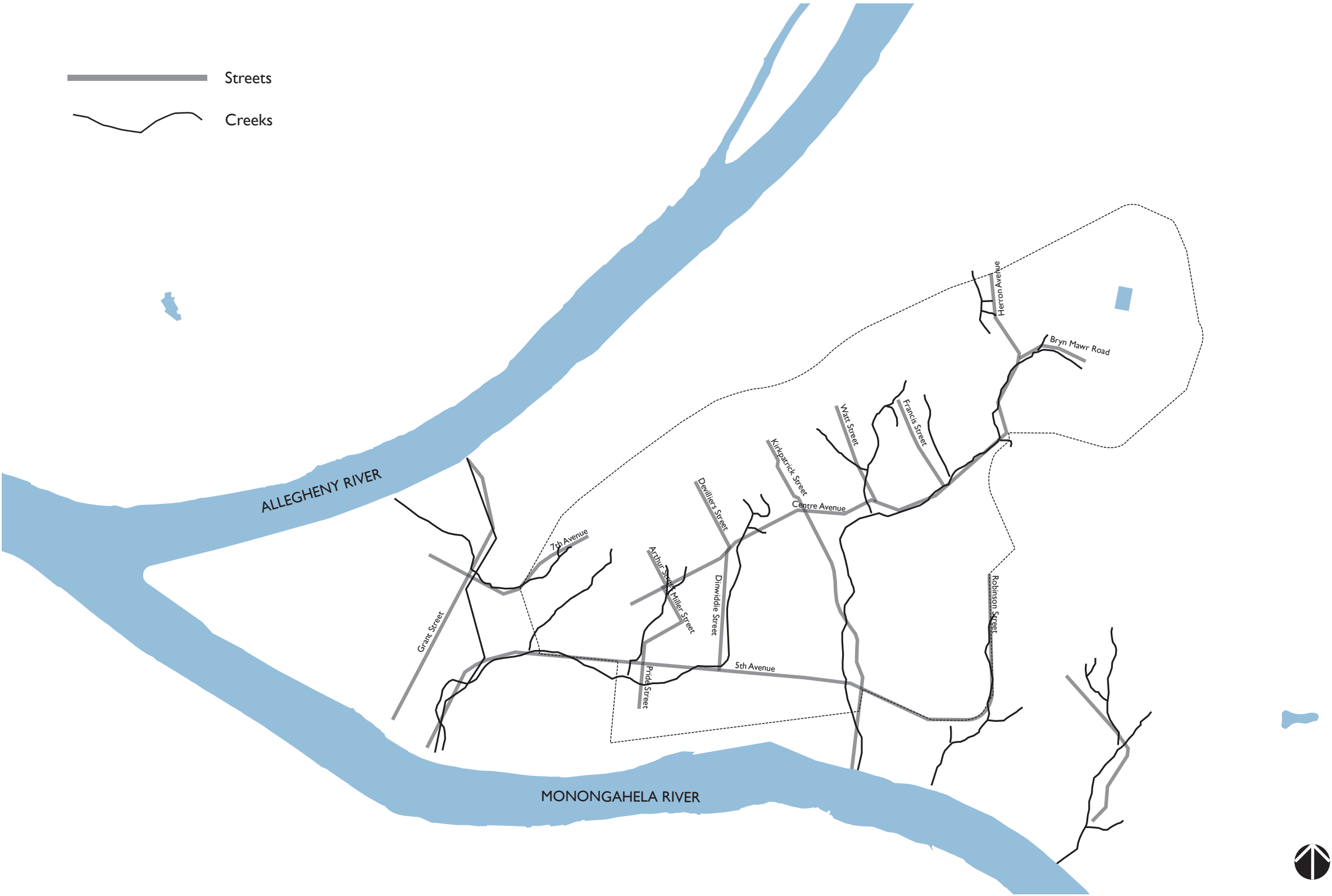
Herron Avenue



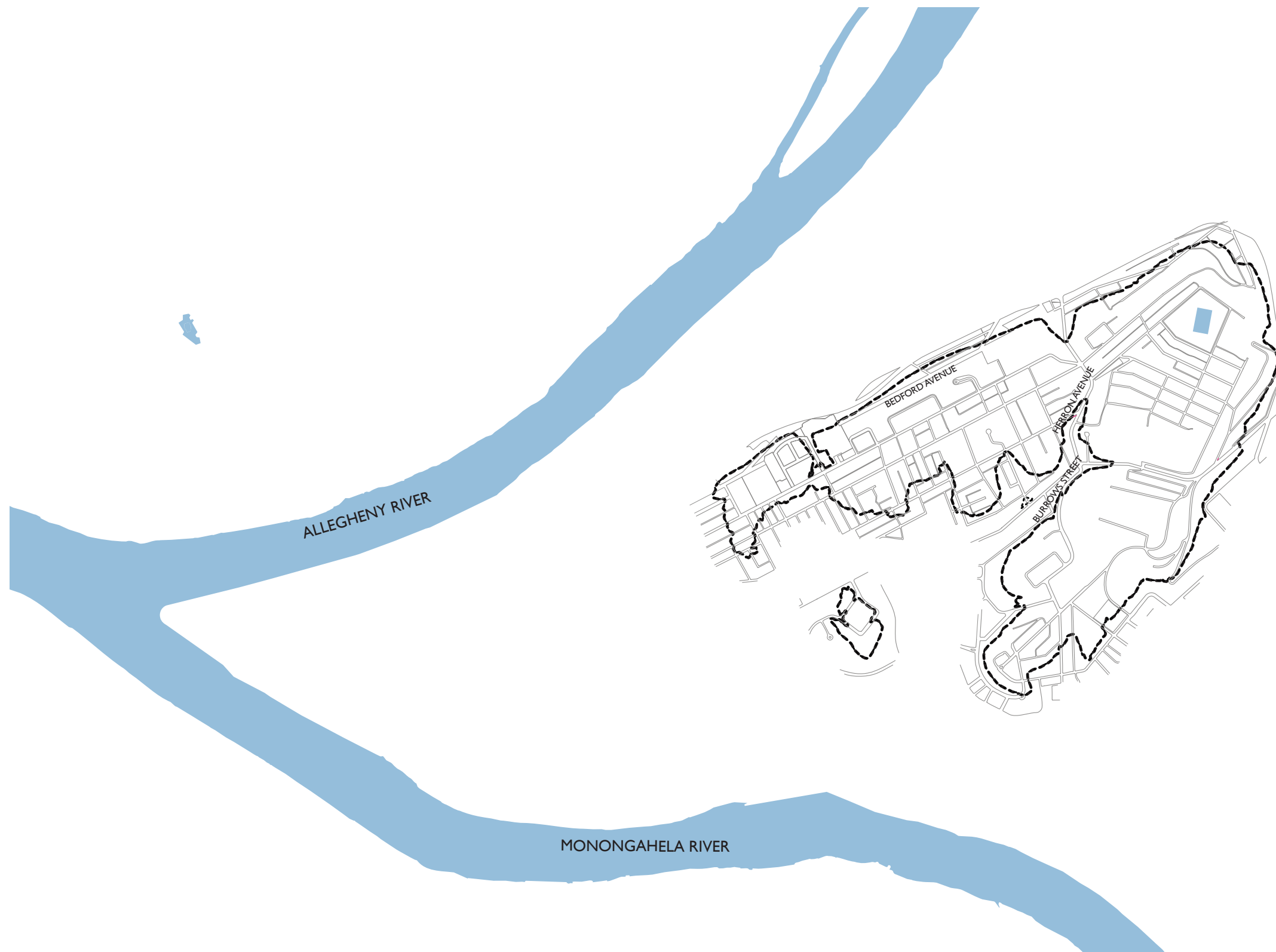
Dinwiddie Street



Bryn Mawr Road



Roads run independent of the coal seam in the Hill. The coal seam can be found at the 1055'-1065' contours.



Burrows Street



Herron Avenue

HYBRID AND DIAGRAM ANALYSIS

NORTH SOUTH CONNECTORS

North - South roads that run through the Greenprint study area cut through the site and topography, creating thresholds and gateway conditions. Dense vegetation and steep elevation change prevent direct access to the Allegheny and Monongahela Rivers.



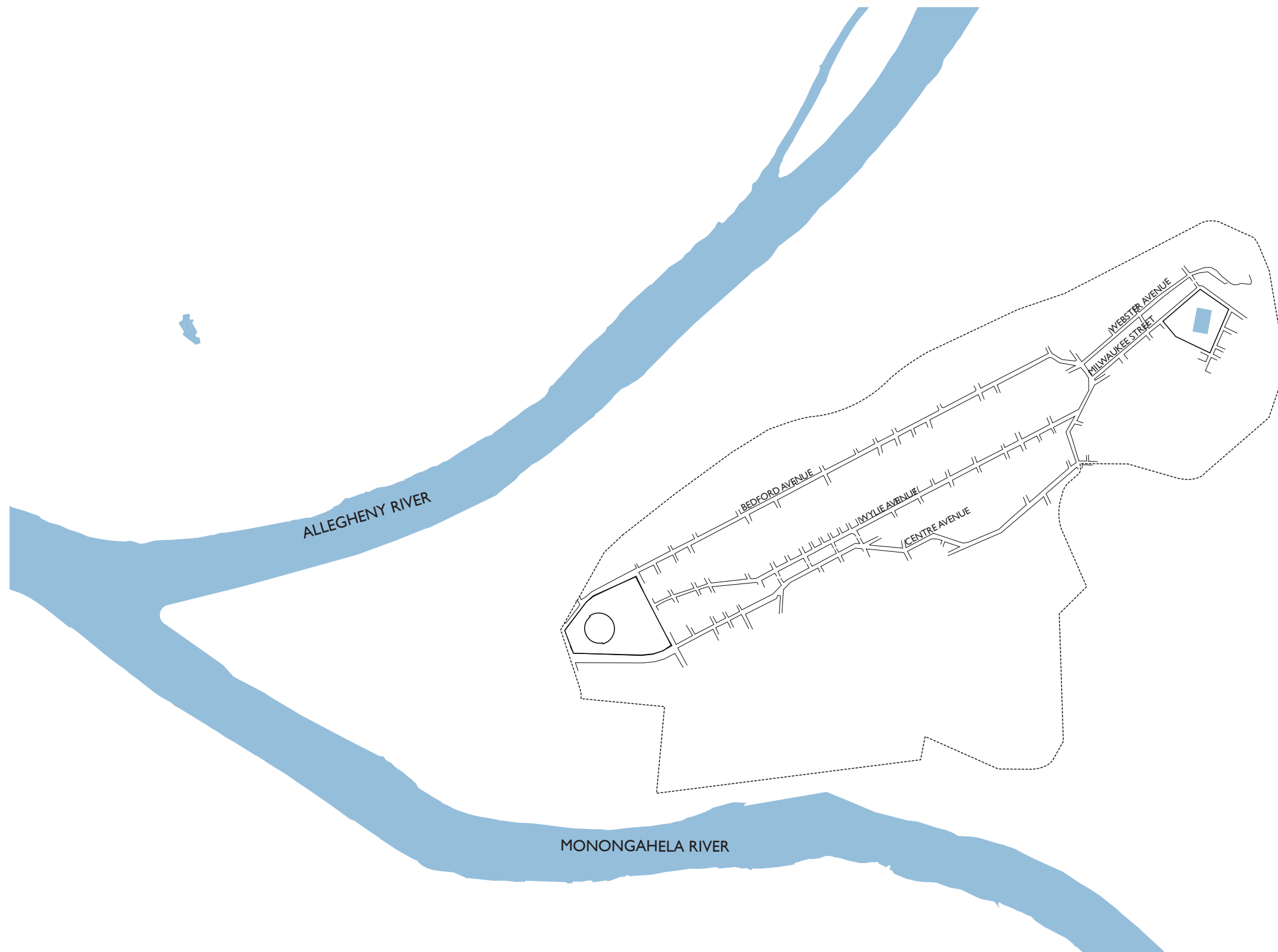
Kirkpatrick Street



Chauncey Street



East-West Roads connect from Herron Hill Park to the Mellon Arena Site. Roads follow the contours.



Bedford Avenue



Centre Avenue

HYBRID AND DIAGRAM ANALYSIS
PARKS AND WOODLANDS

Parks and Woodland areas are concentrated along the edges of the Greenprint study area, with the most dense woodland vegetation occurring on the steep bluffs. Smaller parks are towards the Hill's center, whereas larger parks are around the edges in open space.



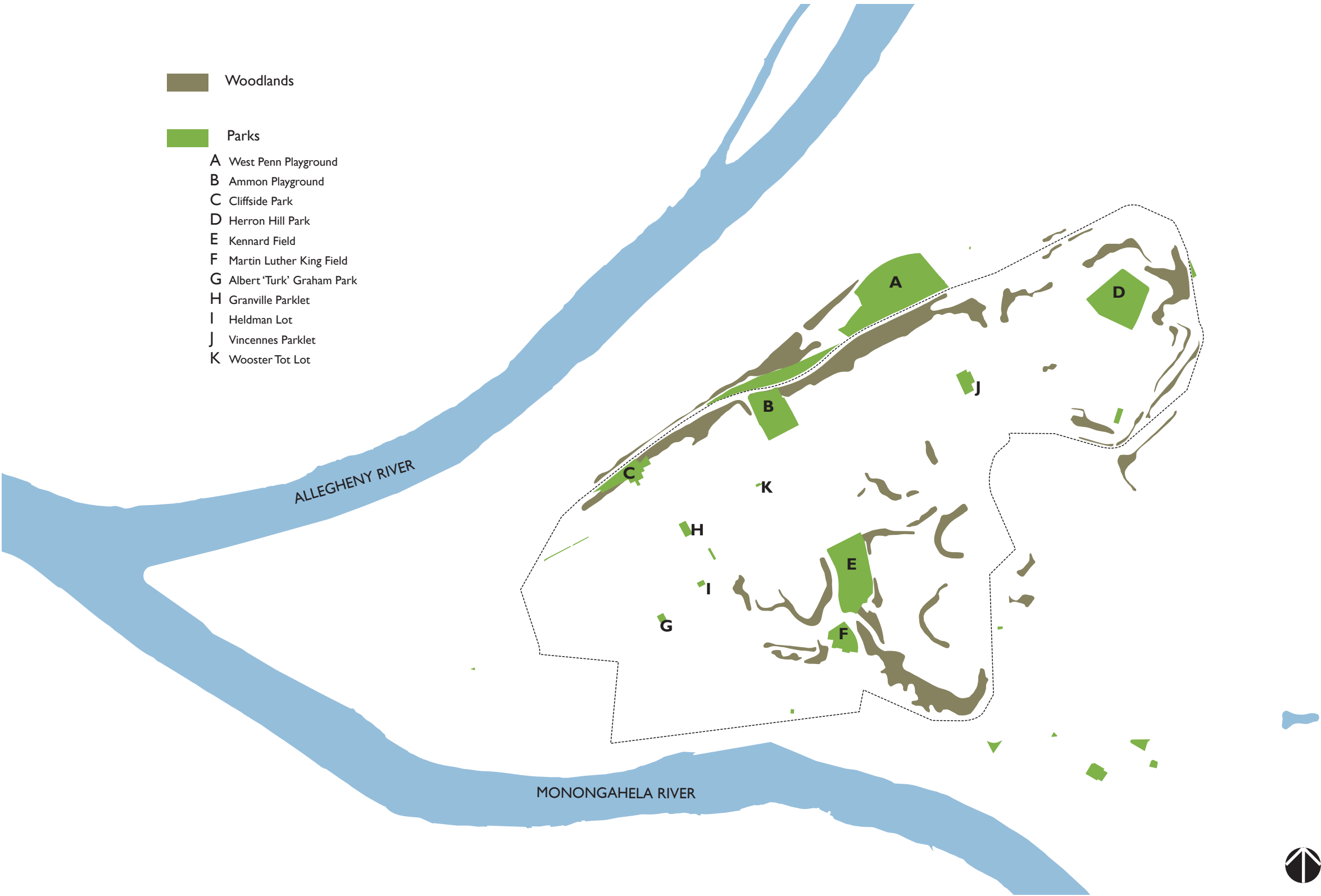
Cliffside Park



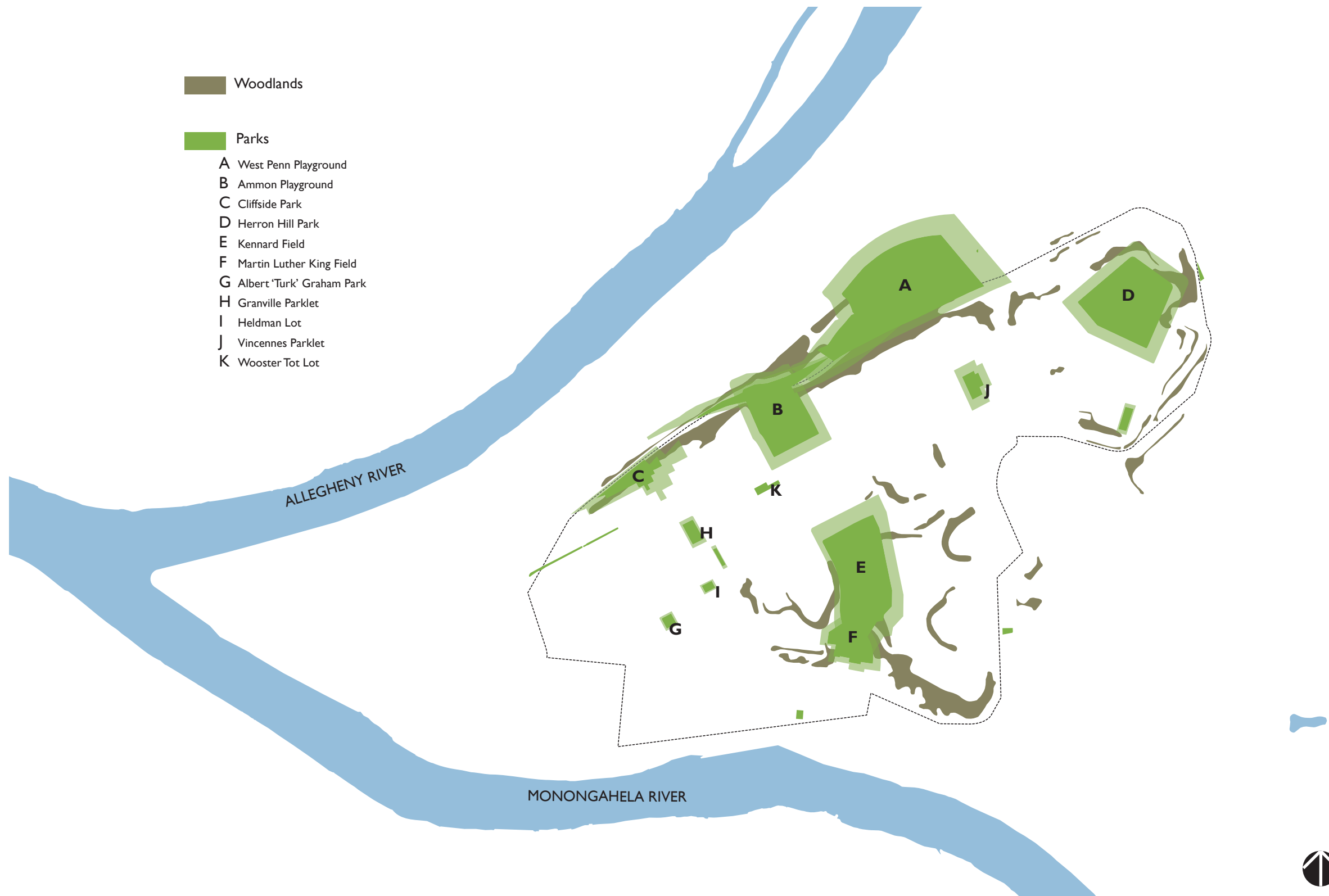
Ammon Playground



Herron Hill Park



Enlarging existing parks and woodlands in the Hill creates overlapping conditions that make larger greenspaces. The concept moves “green” into streets, neighborhoods and backyards through bioswales, tree-lined roads, gardens, subordinating the vehicle, adding trails and corridors, creating outlooks, expanding porches and sidewalks, and enmeshing with existing woodland and vegetated areas.



The following pages are detailed proposals for the Woods, Village and Conveyance in the Greenprint. Each proposal contains a case study example that exemplifies the suggest landscape concept. Strategies are derived by sampling specific attributes from each case study.

The final proposals illustrates how these strategies are introduced to specific projects in the Hill.



Entrance to Cliffside Park



Granville Parklet



Watering the plants at Lombard Street



Frick Park Case Study



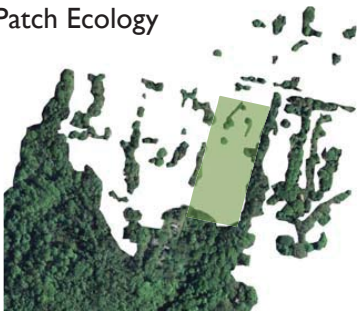
Frick Park Sampled



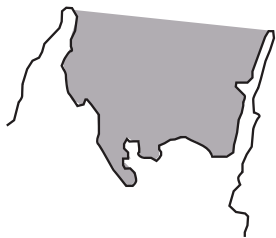
Olympia Park, Pittsburgh, Pennsylvania



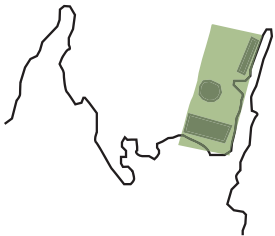
Patch Ecology



Immersion



Large-Scale Program



Vegetation on three sides of the park makes access exclusive to the northern edge. Amenities in Olympia Park include a baseball field, soccer fields, tennis and basketball courts and an open, un-programmed green space. A pavilion holds restrooms and indoor meeting space.



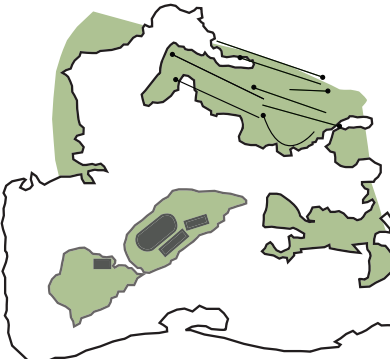
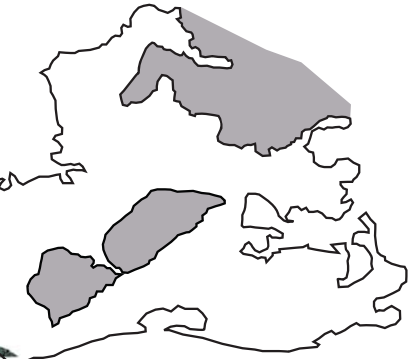
Grandview Park, Pittsburgh, Pennsylvania



Vegetation at Grandview Park runs primarily along the hill slope, just above the Fort Pitt Tunnel and in narrow strips on smaller terraces. Program includes a dog run and park, multi-use performance stage, hiking and walking trails.



Schenley Park, Pittsburgh, Pennsylvania



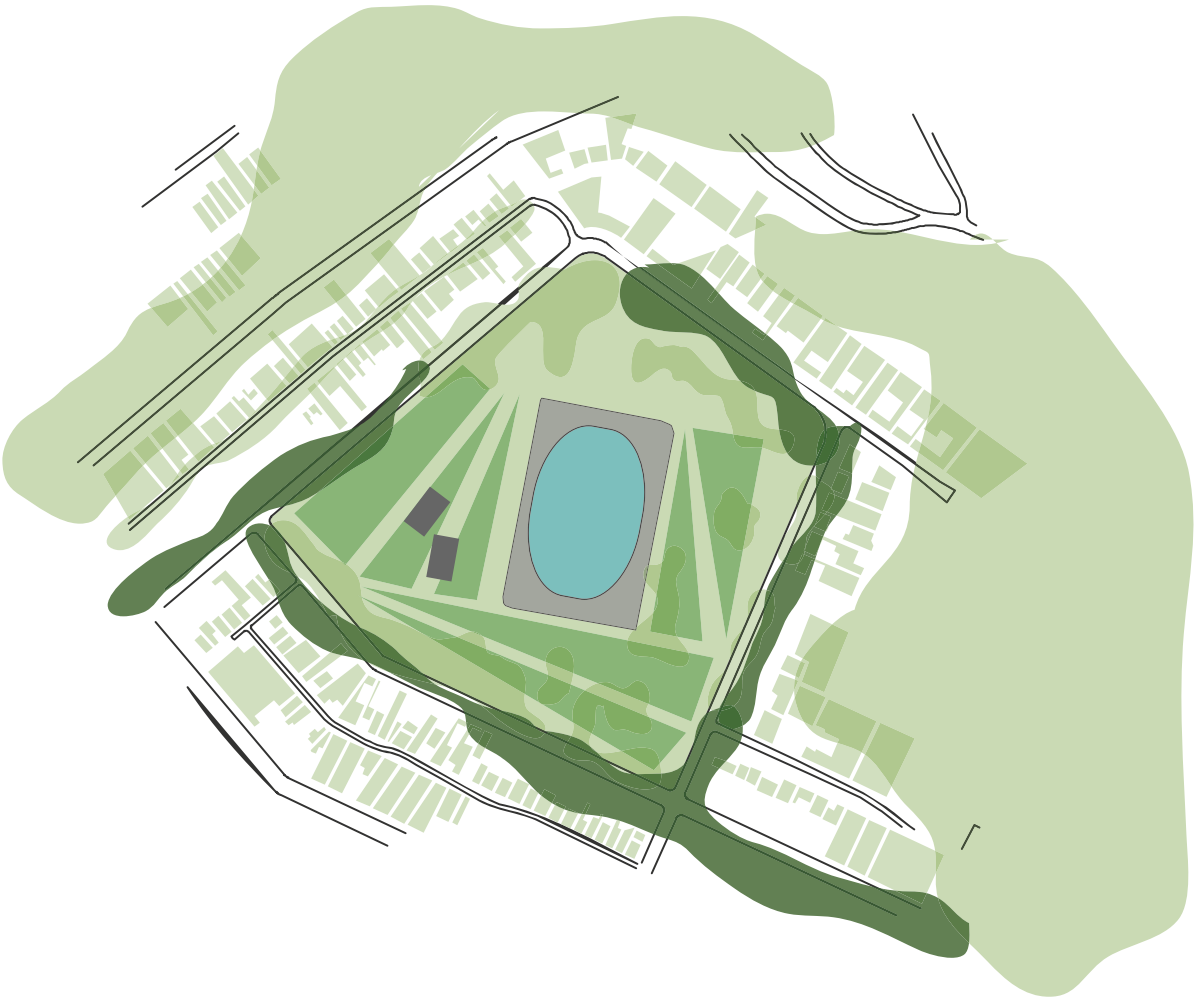
Vegetation at Schenley Park creates multiple points of immersion, from partial to full enclosure. Amenities include a golf course, running track tennis and basketball courts, hockey rink and botanical garden.



Existing Aerial



Vegetation Context

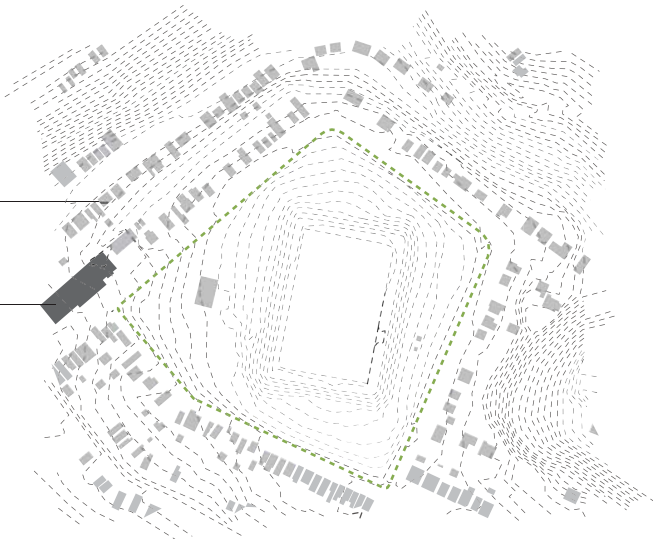


Park Enmeshed

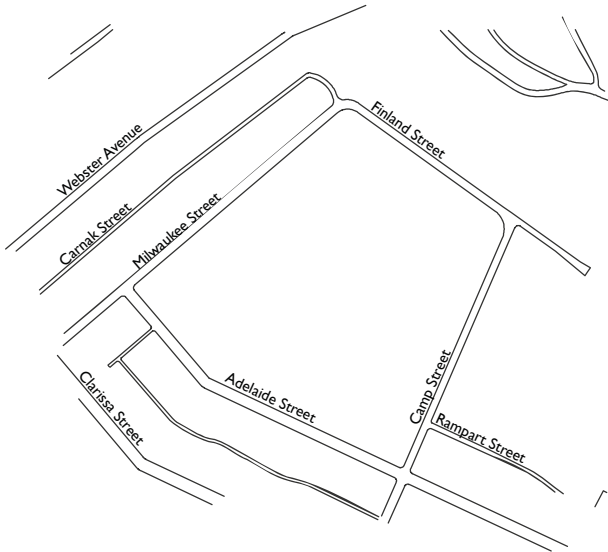
Vegetation is added along Milwaukee Street, Finland Street, Camp Street and Adelaide Street to reinforce edges and extend the woods into the neighborhood. A large-scale water feature and formal gardens are added to the program in the park.

Single Family Housing

Madison Elementary School



Park in Building Context



Circulation Context



Existing Aerial

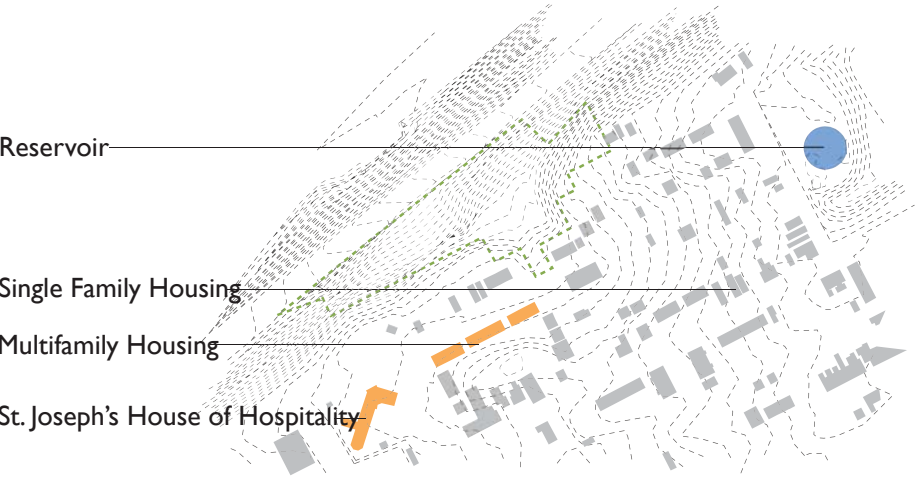


Vegetation Context



Park Enmeshed

Vegetation is added along Cliff Street, Monaca Place, Bedford Avenue, Manilla Street and Roberts Street to reinforce edges and extend the woods into the neighborhood. An amphitheater and terrace is proposed for the Cliffside Park, along with renovation of existing basketball courts and programmed space.



Park in Building Context



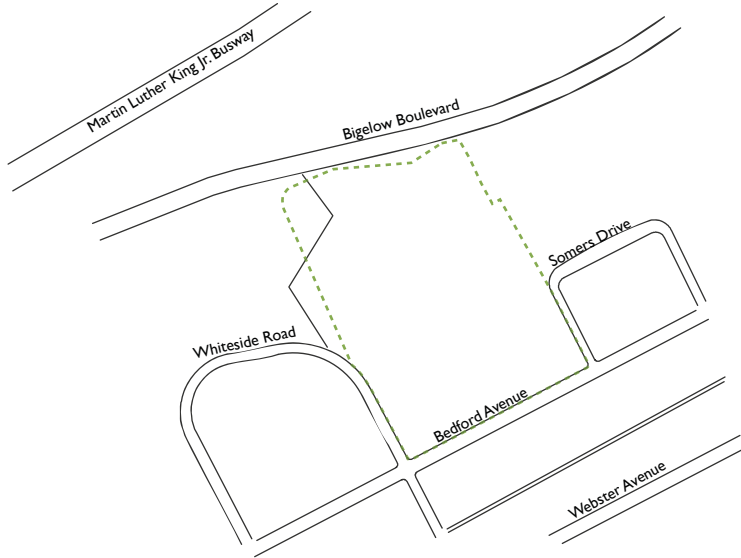
Circulation Context



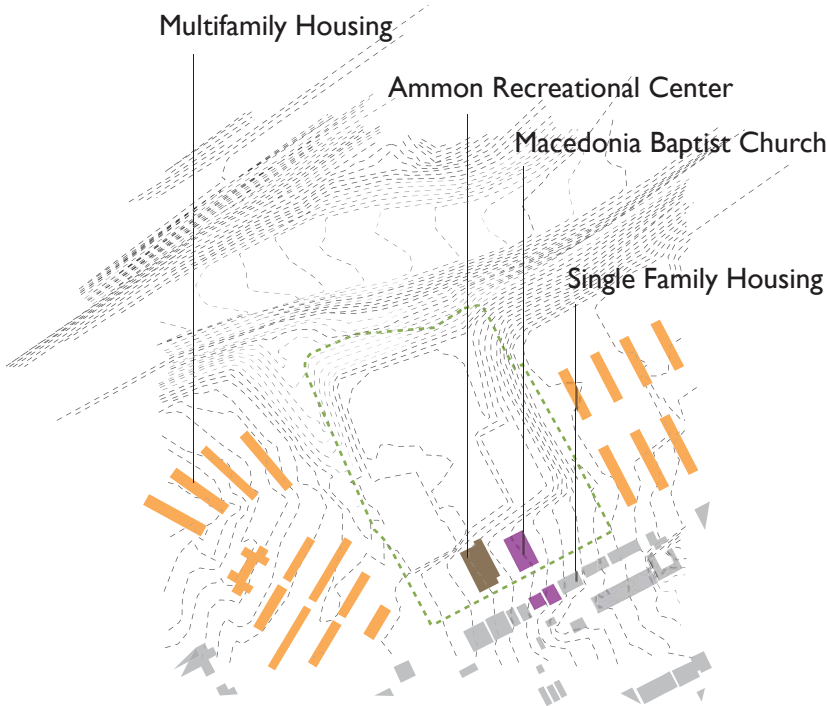
Existing Aerial



Park in Vegetation Context



Circulation Context



Park in Building Context



Park Enmeshed

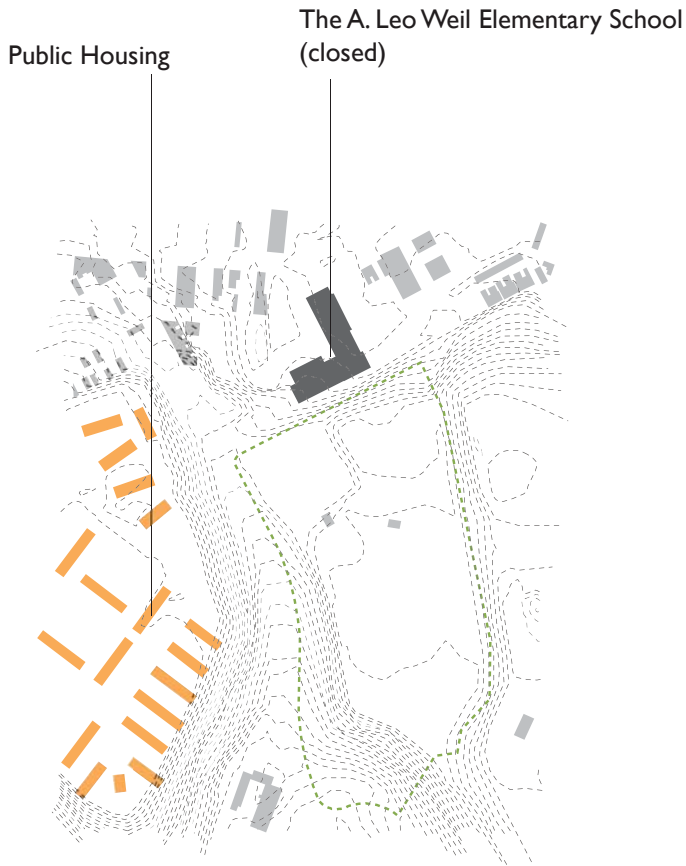
Vegetation is added to create a park setting and reinforce edges above Bigelow Boulevard and along Bedford, and is brought down Kirkpatrick Street. Tree canopy extends from the wooded slopes into the multi-family housing in the form of garden plots and green courtyards. A running track as the large-scale program circles the existing baseball fields.



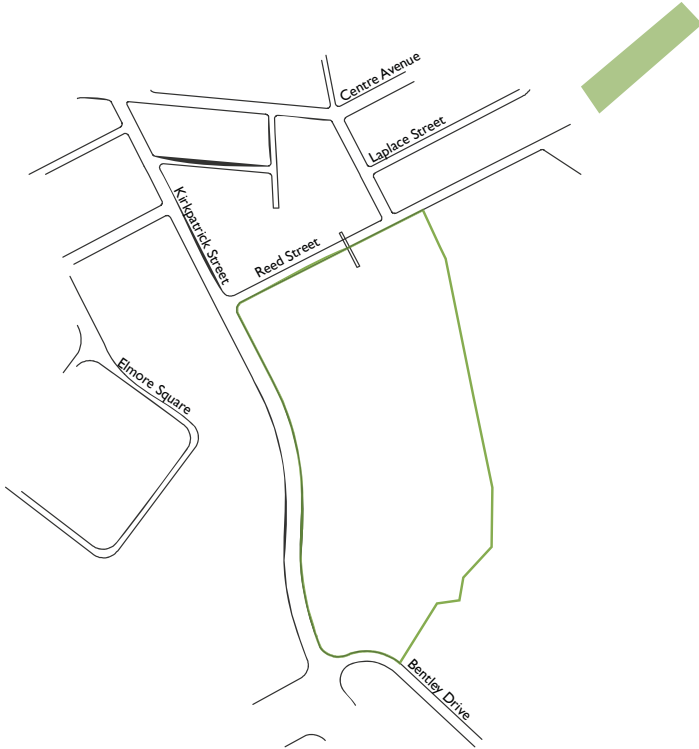
Existing Aerial



Park in Vegetation Context



Park in Building Context



Circulation Context



Park Enmeshed

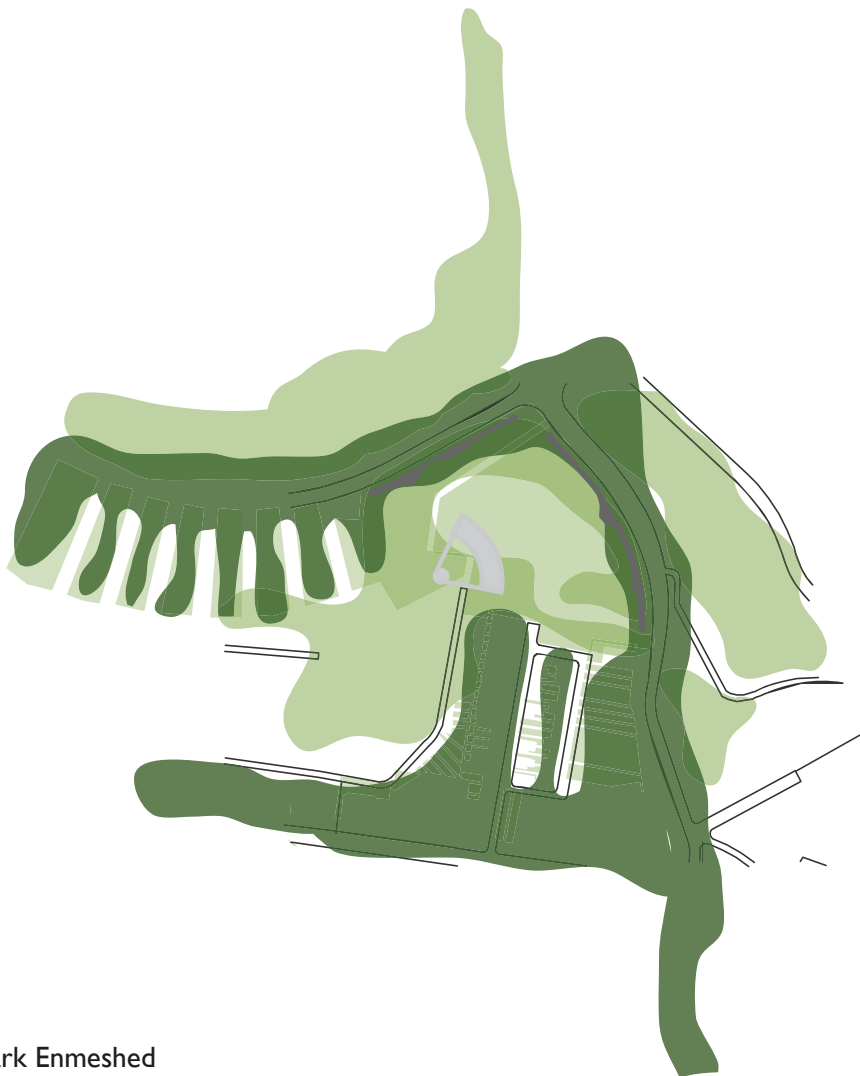
Vegetation is added Kirkpatrick Street and along the edges of the multi-family housing in the form of garden plots and courtyards. Tree canopy is also added on Center Avenue to expand the park into the single-family housing. Soccer fields are added to the south of the park space as large-scale program.



Existing Aerial

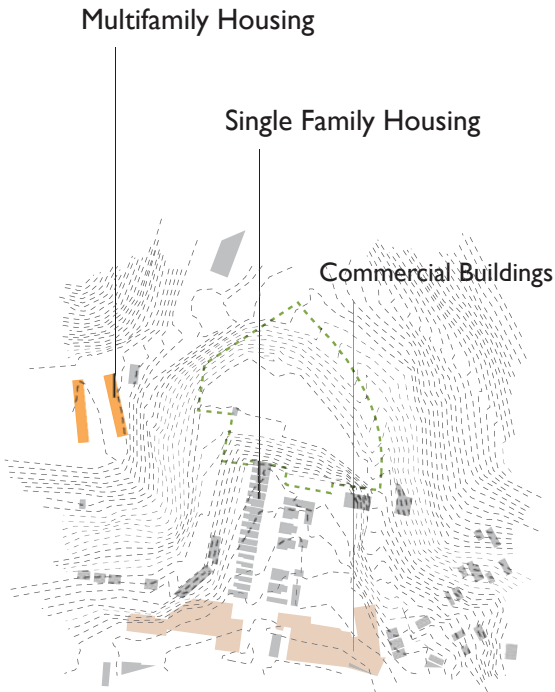


Park in Vegetation Context

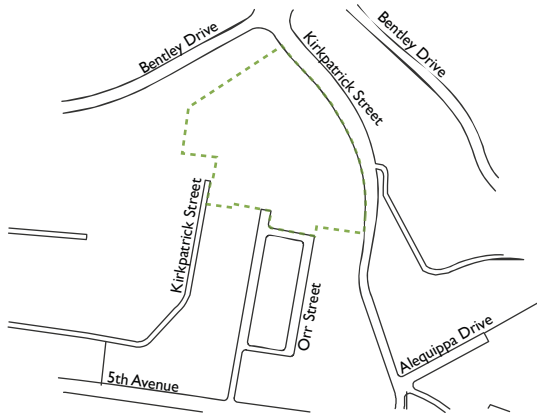


Park Enmeshed

Vegetation is added along Bentley Drive and Kirkpatrick Street, also along Orr Street and 5th Avenue. Terraced edges are added along the park edges slopes, to be used for rock climbing, planting plots.



Park in Building Context



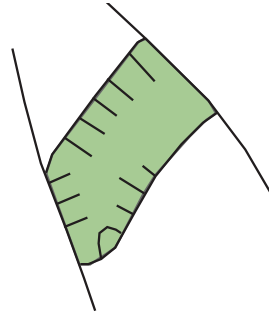
Park in Street Context



Radburn, New Jersey



Radburn



Historic Radburn, NJ demonstrates a multi-family housing design characterized by homes that face a common interior green. Car access is pushed to the back of buildings by employing short alley-ways that minimally disturb the interior green. Tree-lined streets merge with interior green.



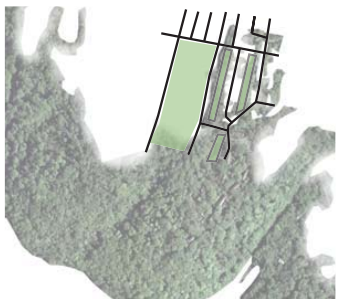
Chatham Village, Pittsburgh, Pennsylvania



Chatham Village



Chatham Village



Chatham Village is an example of multi-family housing where, similarly to Radburn, homes face an interior green and car access is kept at the street. The block width is wider than typical surrounding blocks to accommodate this interior green space. The surrounding woods perceptibly mesh with tree canopy in the interior green.

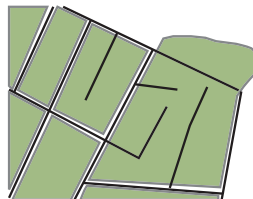
Single-Family



Highland Park, Pittsburgh, Pennsylvania



Highland Park



The tree canopy in Highland Park enmeshes with surrounding wood. Lots are larger than typical to allow for wider backyards. Narrow, dead-end roads subordinate the car to the green and mitigate street traffic.



Frick Park, Pittsburgh, Pennsylvania



Frick Park



Frick Park enmeshes with adjacent woods with tree canopy cover and utilizes widened blocks for enlarged interior green space.



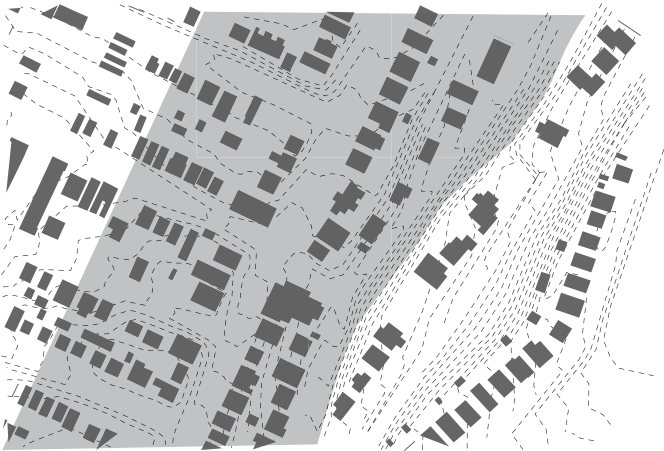
Existing Aerial



Existing Housing Context



Housing Enmeshed



Site Area and Existing Housing in Topographic Context



Site Area and Street Context

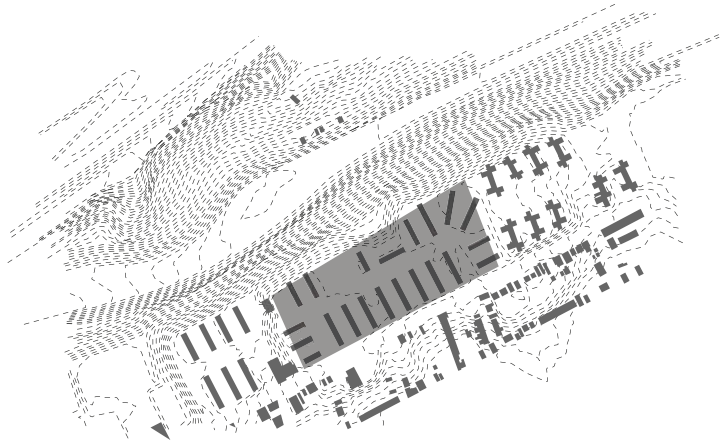
- Section of Iowa Street is narrowed and becomes pedestrian-only corridor.
- Streets become green corridors that enmesh the woods with the neighborhood.
- Streets are lined with green trees and plantings.



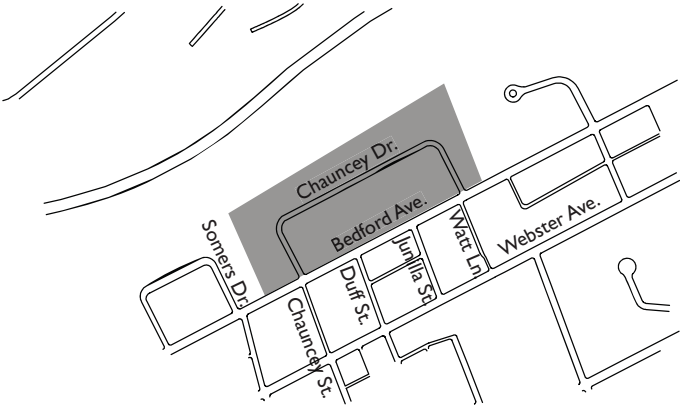
Existing Aerial



Existing Housing Context



Site Area and Existing Housing in Topographic Context



Site Area and Street Context

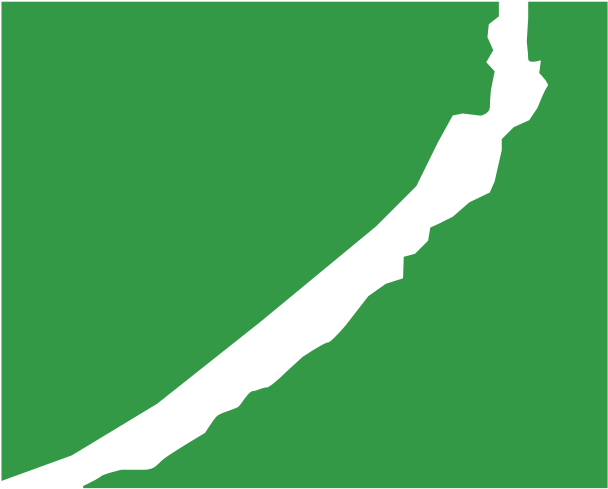


Housing Enmeshed

- Chauncey Drive is removed to create larger green space.
- Tree corridors are added between multi-family housing units to link the development to neighboring woods.



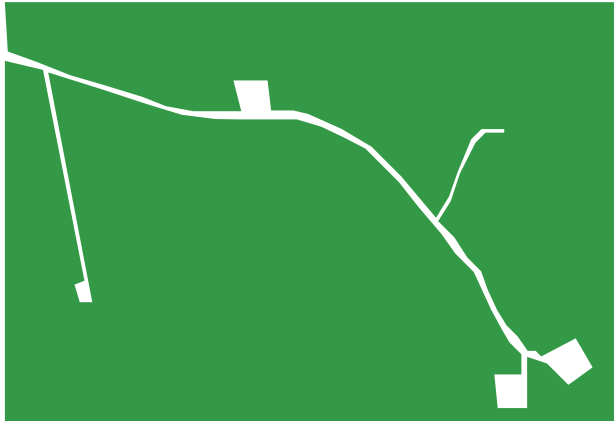
Rock Creek Parkway, District of Columbia



The parkway in Rock Creek Park is an example of a green corridor with dense vegetation on both sides and a green vegetated strip in the median. Buildings and structures are hidden from view while on the parkway.



Typical Road in Pennsylvania



This Pennsylvania road is a narrow two-lane roadway with dense vegetation on both sides, and typically without curbs (i.e.- soft edges). Buildings and structures are hidden from view with small open spaces along the road edges, creating an immersed condition.



Wissahickon Trail, Philadelphia, Pennsylvania



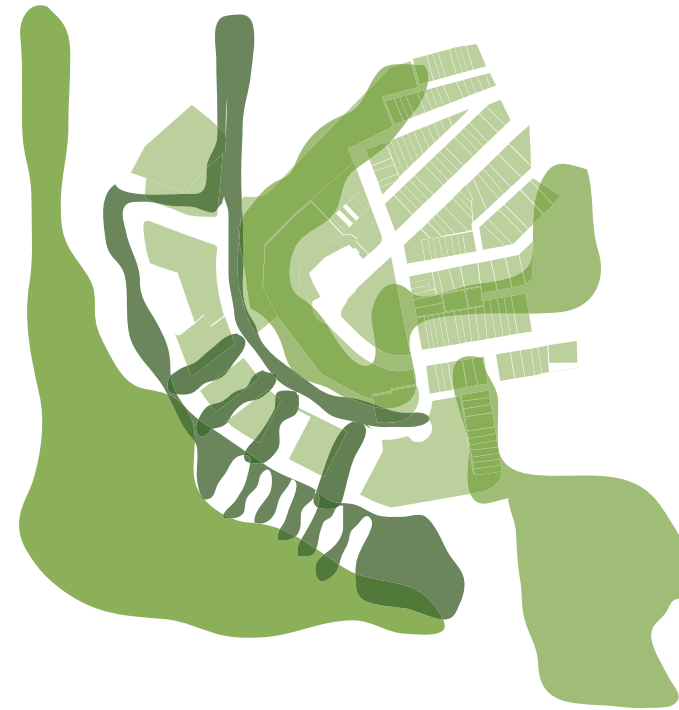
The Wissahickon Trail in Philadelphia is an example of a narrow bike and pedestrian pathway surrounded by dense vegetation. The trail is completely immersed within the landscape. Adjacent to the Wissahickon Creek, the trail closely follows the meandering twists and turns.



Existing Aerial

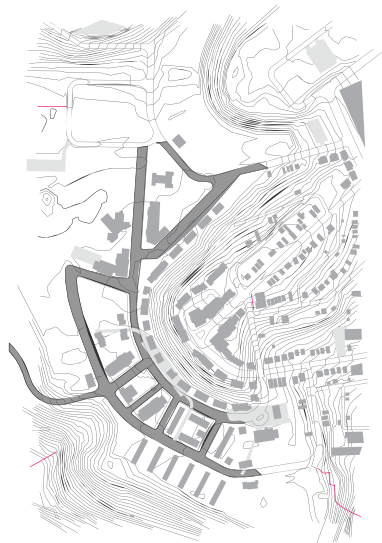


Road in vegetation context



Road Enmeshed

- Green is added along the edges of Burrows Street and Oakhill Drive, in the form of bioswales and rain gardens.
- Extension of the streets goes into the multifamily housing spaces, through garden plots.



Road in building context



Existing Aerial



Parkway in Vegetation Context



Road in Building Context



Parkway Enmeshed

- Green is added along the edges of Burrows Herron Avenue, in the form of bioswales and rain gardens.



Existing Aerial



Coal Seam in Vegetation Context

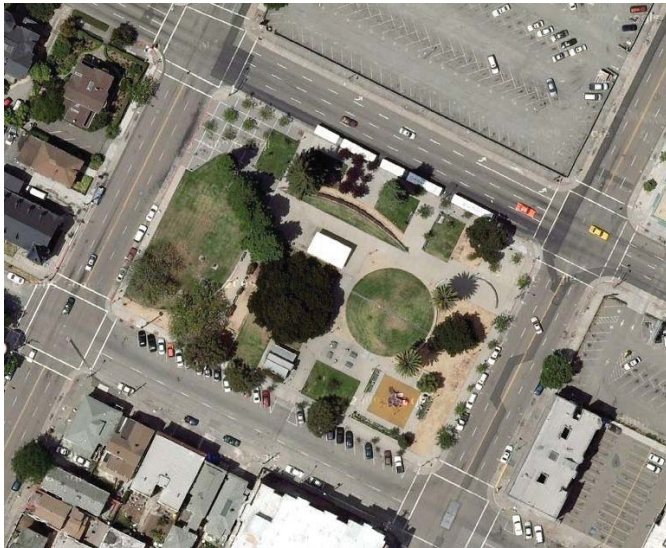


Coal Seam in Building Context

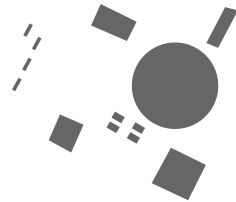


Trail Enmeshed

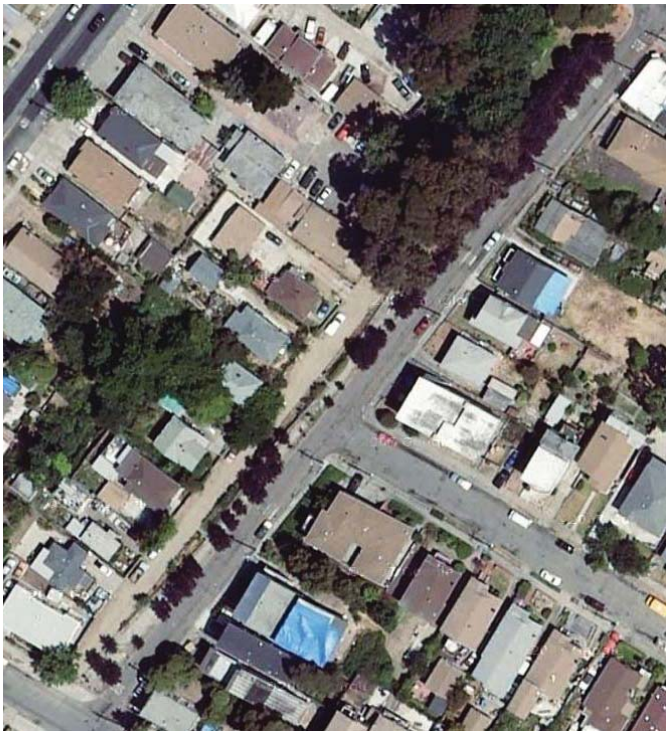
- An interpretative trail is added along the edge of the Coal Seam. At clearing points in the vegetation, this could provide space for terraces and lookout points.
- Additional vegetation is added to reinforce the coal seam edge and provides a natural trail



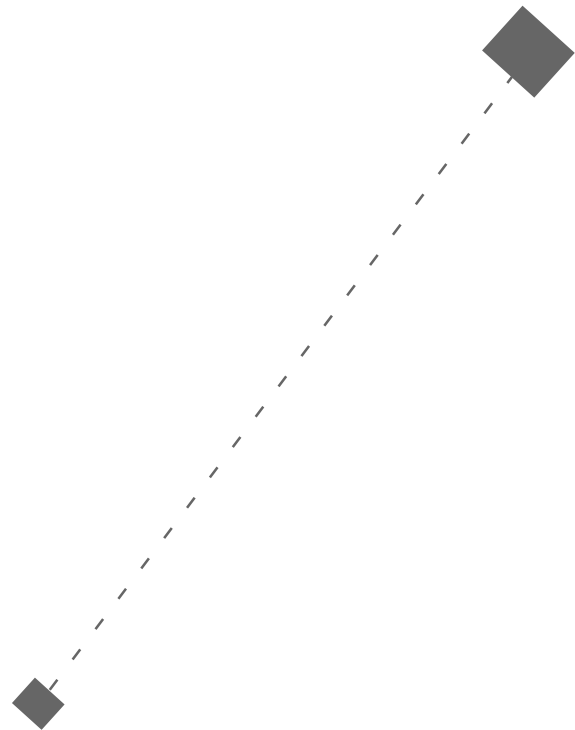
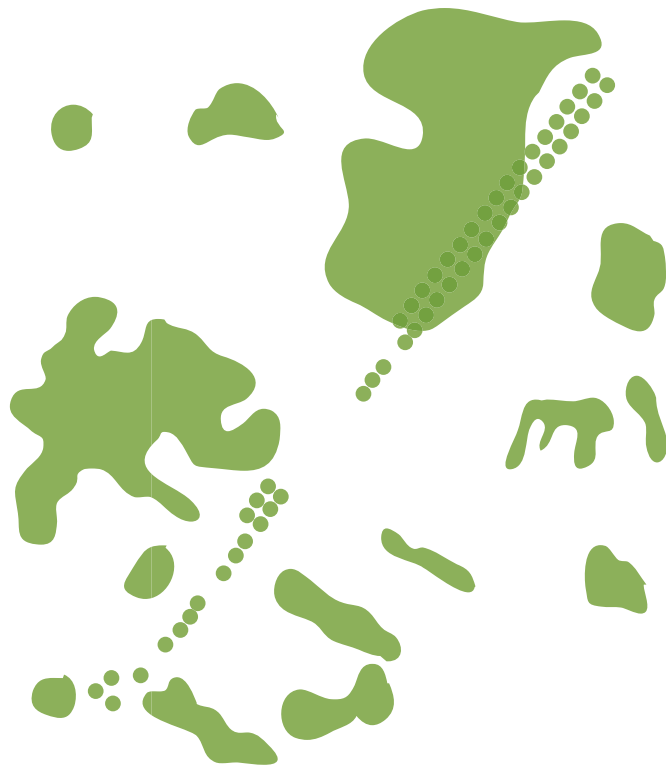
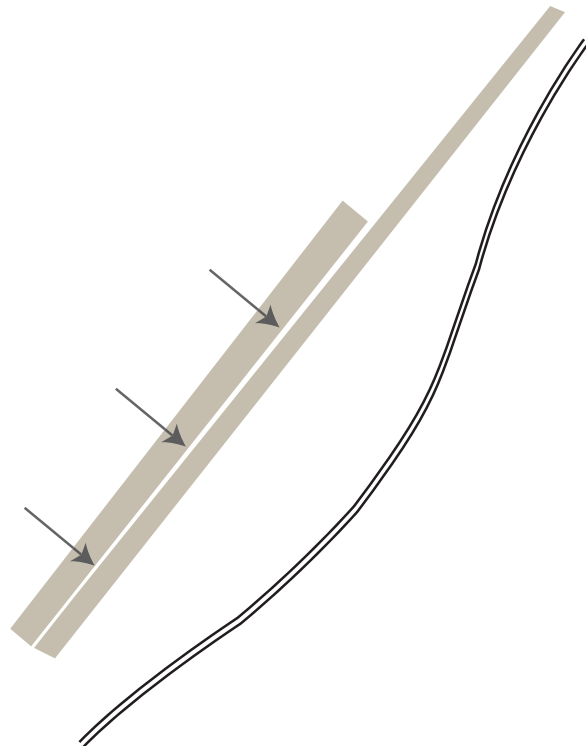
Lafayette Park, Oakland, California



Park edges are permeable, allowing users free, unrestricted access to the site. Streets encircle the park space with housing and commercial structures. Allee, bosque and clumping dot the park landscape and create a multitude of threshold and immersible conditions. Small- and large-scale programs including chess tables, storage sheds, and restrooms give the park its diversity and ability to adapt to different uses over time.



Courtland Creek, Oakland, California



A gathering space is placed next to the local creek. Access to the park is one-sided, giving residents full view. An allee of trees reinforce the street edge but also become a part of the contextual vegetated areas. Un-programmed gathering spaces at either end of the site give the park the ability to adapt to different uses over times.



Existing Aerial

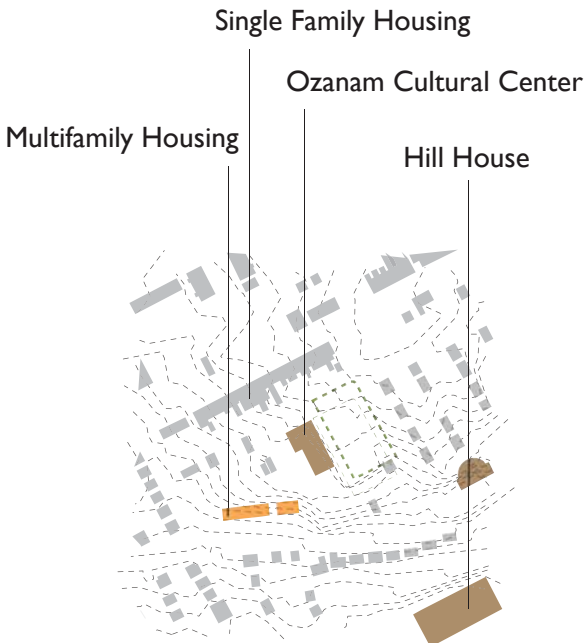


Park in Vegetation Context

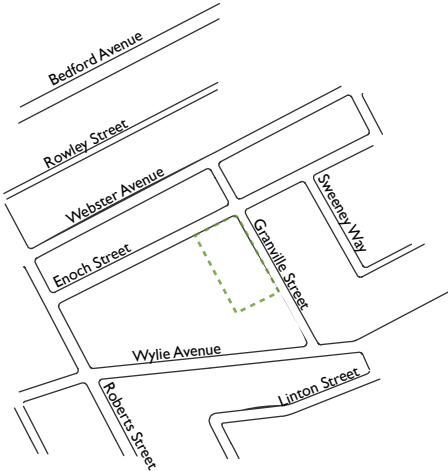


Park Interconnected

- Vegetation is added along street edges to connect to surrounding vegetation.
- Access to space opens on all four sides to take advantage of Ozanam Cultural Center proximity.
- A series of rain catchers and small green plots diversify the parklet's existing program.



Park in Building Context



Park in Street Context



Existing Aerial

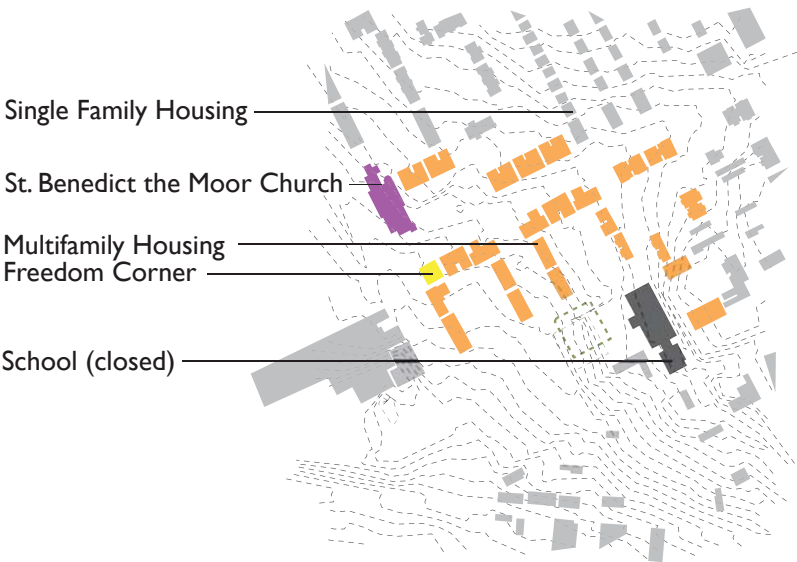


Park in Vegetation Context



Park Interconnected

- Vegetation is added along street edges to connect with and extend existing vegetation.
- Access to the park from Foreside Place and Vine Street becomes permeable.
- Addition of diverse programming.



Park in Building Context



Park in Street Context



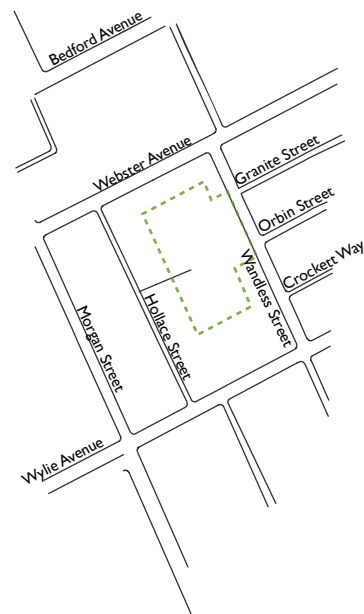
Existing Aerial



Park in Vegetation Context



Single Family Housing



Park Interconnected

- Vegetation is added along streets edges to connect with existing surrounding vegetat
- Access to park on Wandless Street becomes less permeable with tree allee.



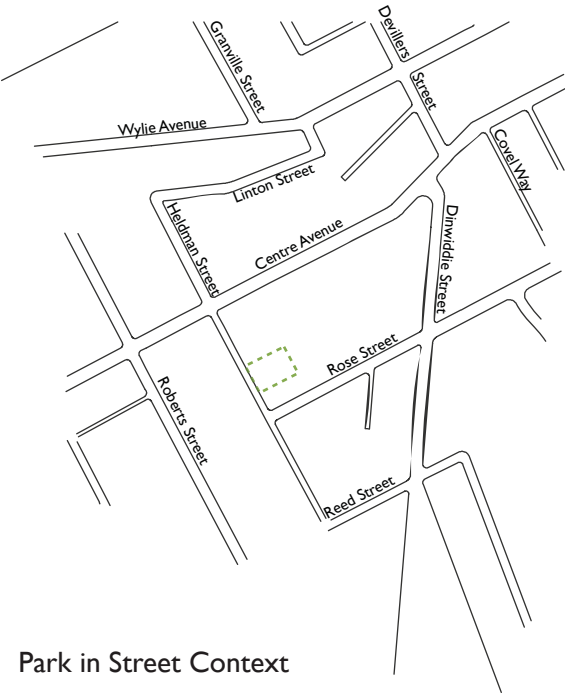
Existing Aerial



Park in vegetation context



Park in Building Context



Park in Street Context



Park Interconnected

- Vegetation is added along street edges to connect to existing surrounding vegetation.
- Access to park on Heldman Street is permeable.
- Chess tables, picnic tables and small green plots diversify existing program.



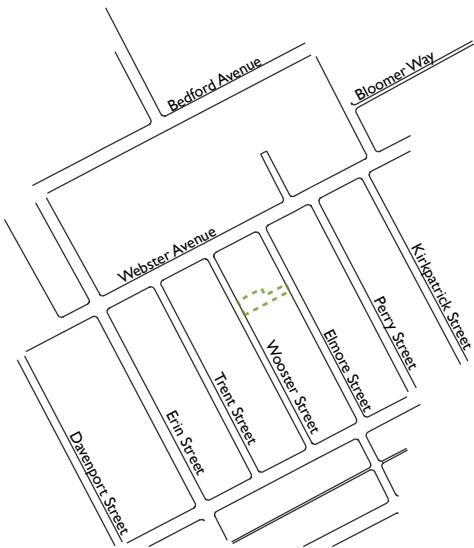
Existing Aerial



Park in Vegetation Context



Park in Building Context



Park in Street Context

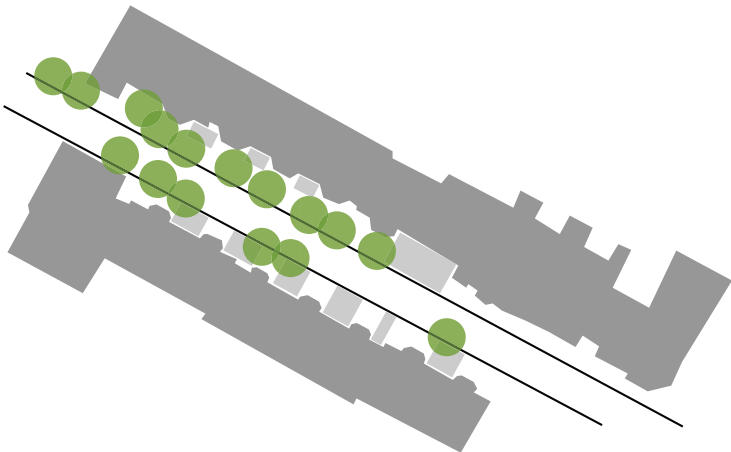


Park Interconnected

- Vegetation is added along street edges and through tot lot to connect to larger green.
- Park access opens to two sides, on Wooster Street and Elmore Street through surface changes.
- Picnic tables and benches are added to the program.



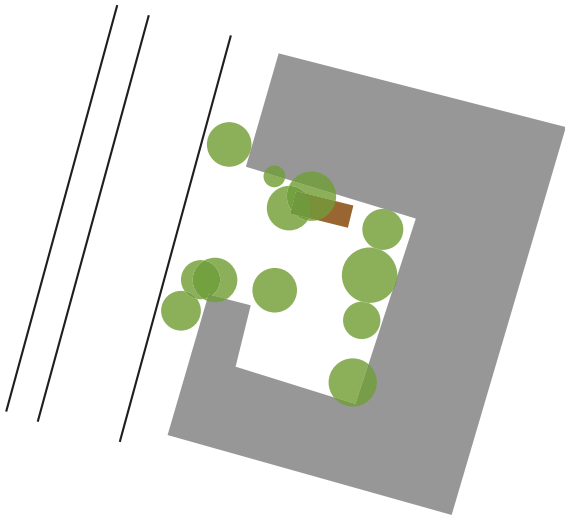
117th Street, Harlem, New York



Porches and sidewalks extend housing to street edge, creating a public, highly visible social space.



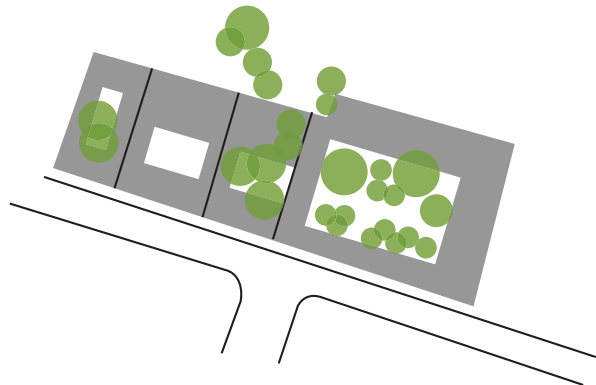
Filbert St., Oakland, California



Paved programmed space for the automobile creates large unprogrammed space that could be used for various activities. One-way access from the street to the courtyard creates a threshold condition.



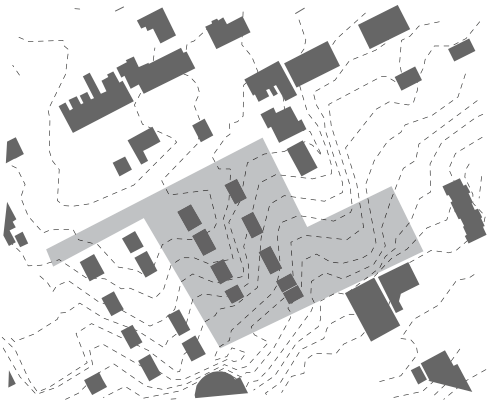
East Palace Avenue, Santa Fe, New Mexico



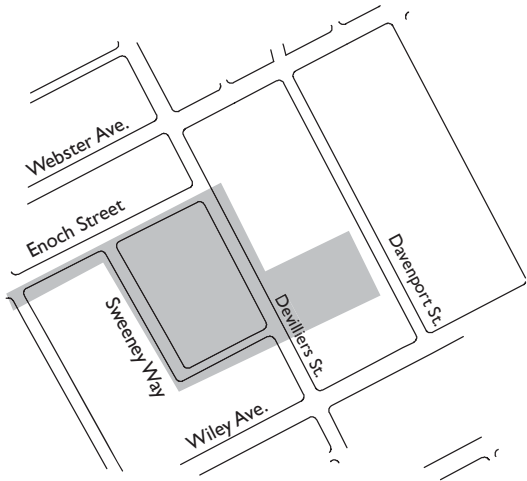
Interior courtyard spaces are completely separated from the street, with exclusive access from the surrounding buildings. This creates an enclosed condition.



Existing housing context



Site area and existing housing in topographic context



Site area and street context



Housing Enmeshed

- Street becomes greenway.
- Sidewalk widens for green.
- Vacant lots utilized for open green space.

PROPOSAL

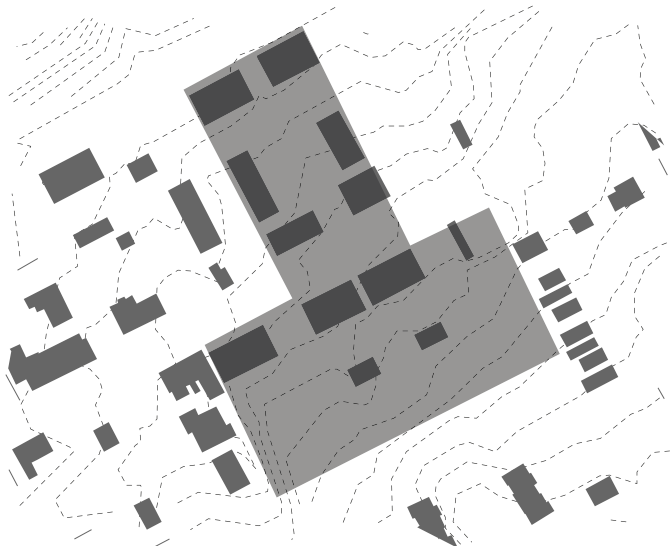
VILLAGE-HOUSING-DAVENPORT AND WEBSTER STEET



Existing Aerial



Existing Housing Context



Site Area and Existing Housing in Topographic Context



Site Area and Street Context

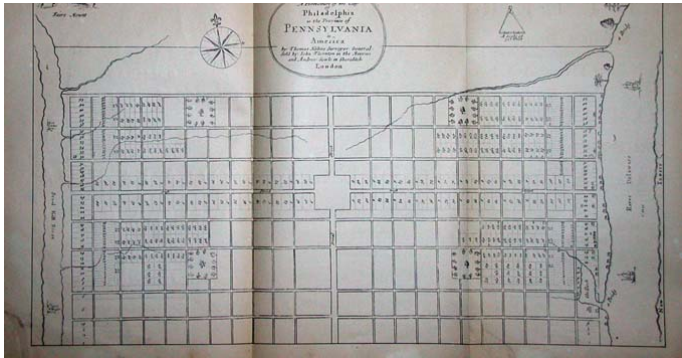


Housing Enmeshed

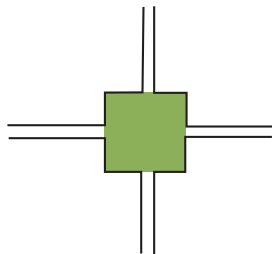
- Courts are added in between multi-family units.
- Mixed-use parking is added.
- Civic ties are enhanced through connected courts

PROPOSAL

VILLAGE - CIRCULATION - SAMPLING



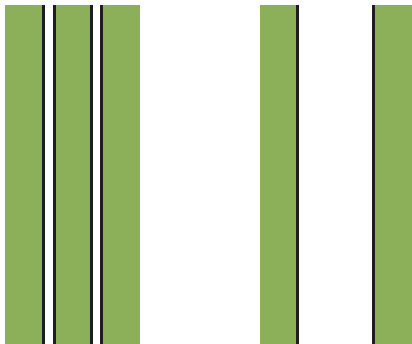
William Penn's Squares, Philadelphia, Pennsylvania



- Squares overlaid onto grid
- Streets run into civic space
- Five squares give a sense of dispersed civic connectedness



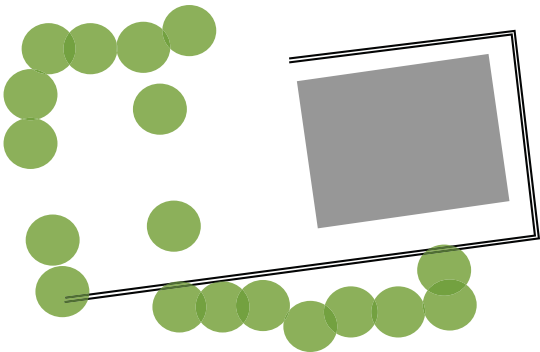
Alleyways and Green Driveways



- Minimal paved surfaces - addition of green breaks up surfaces
- Permeable Paving
- Green provides sense of spatial enclosure



Freedom Trail, Boston, Massachusetts



- Paving details and informative plaques traverse and spatialize historical sites within the city of Boston
- Historical heritage contained within the geography of the city



Village Circulation



Existing Aerial





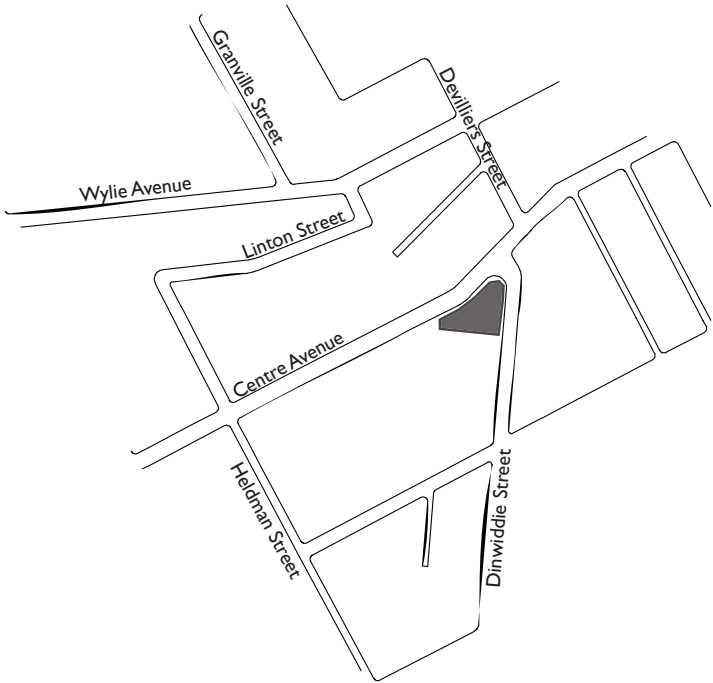
Existing Aerial



Plaza in Vegetation Context



Plaza in Building and Parking Lot Context



Plaza in Street Context



Plaza Enmeshed

- Plaza extends across Dinwiddie Street towards the police station.
- Vegetation is added to connect to existing street trees and green.



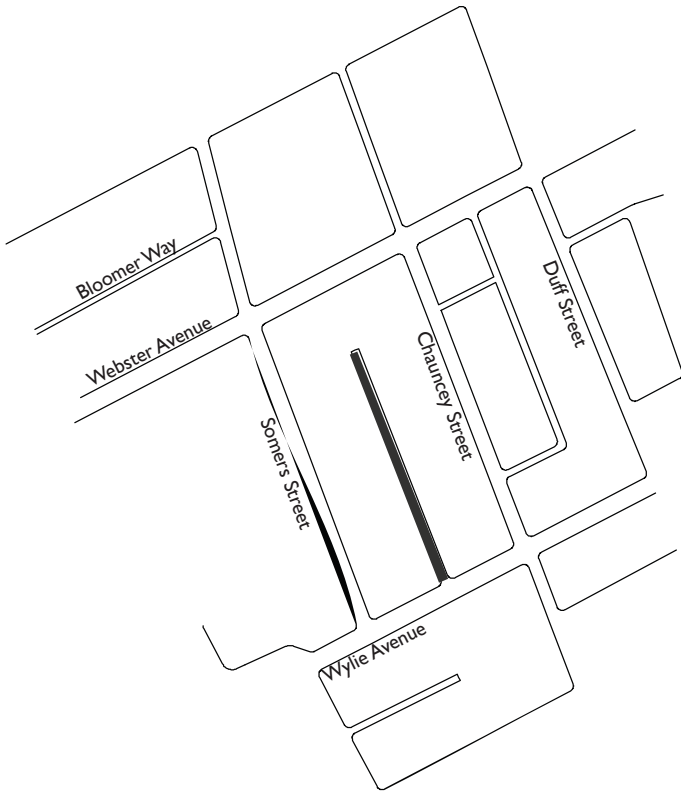
Existing Aerial



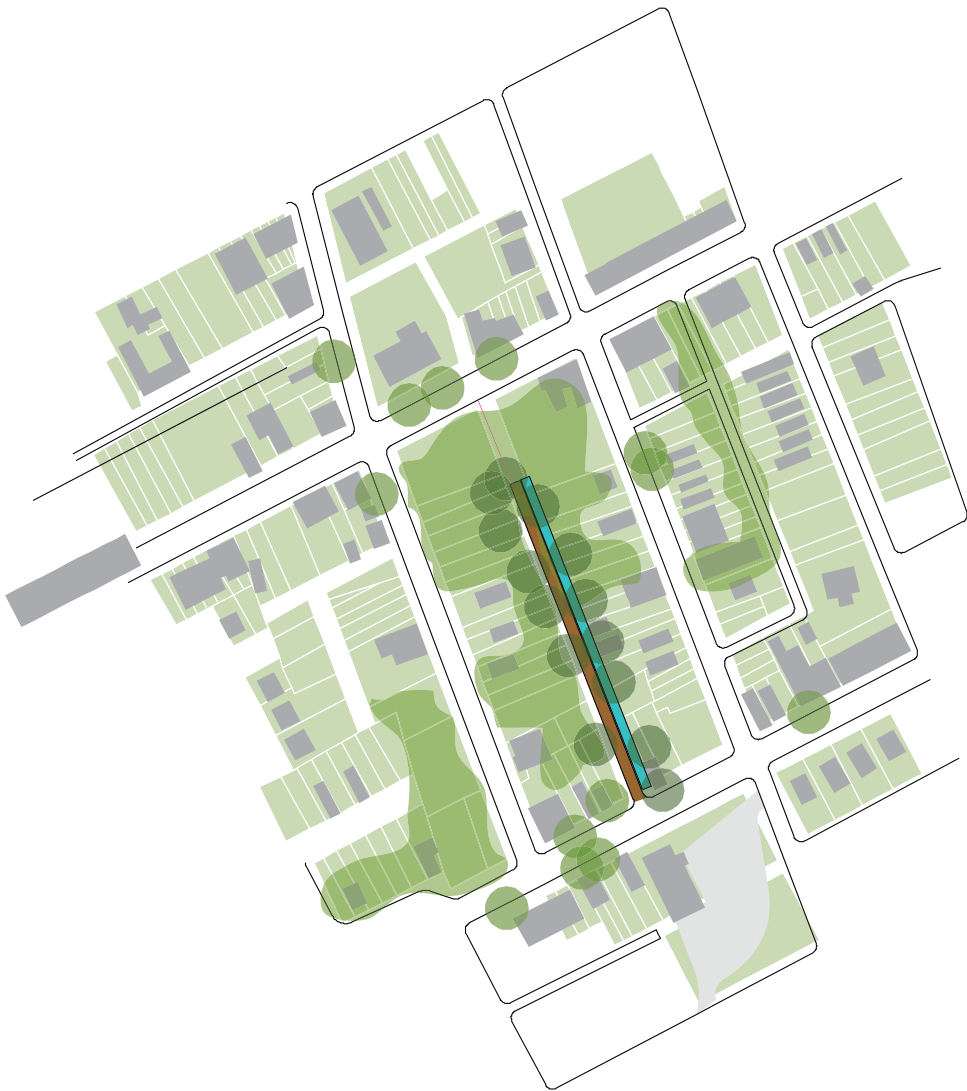
Alley in Vegetation Context



Alley in Building Context



Alley in Street Context



Alley Enmeshed

- Vegetation is added along alley edges to connext with existing vegetation.
- New surface material is introduced to distinguish from existing streets.
- A water channel is added to the alley edge.



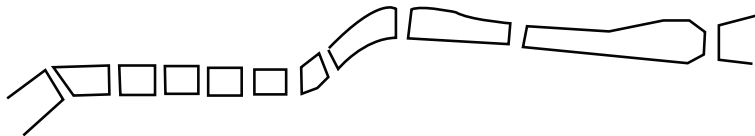
Chicago River



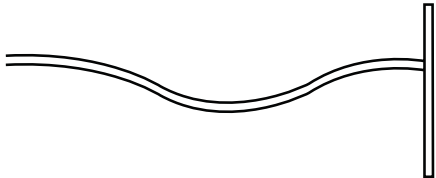
Rochester, New York



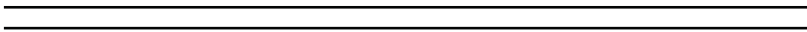
Erie Canal



Water is broken down into smaller pieces by bridges as it moves through the city toward Lake Michigan. Traffic circulation is both parallel and perpendicular to flow and crosses the river at several points.



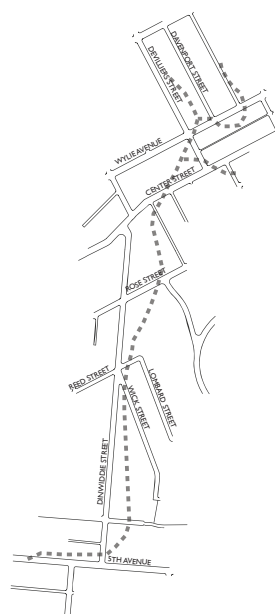
Water is dammed at the road edge then released down the river towards Lake Ontario. This threshold condition regulates stream flow and creates turbulence at its point. Traffic circulation is perpendicular to flow, crossing the river and creating an edge condition at the point of the waterfall.



Water flows unobstructed through a built canal. Traffic circulation is parallel to the water edge.



Existing Aerial



Conveyance in Streets Context



Conveyance in Vegetation Context



Conveyance in Building Context

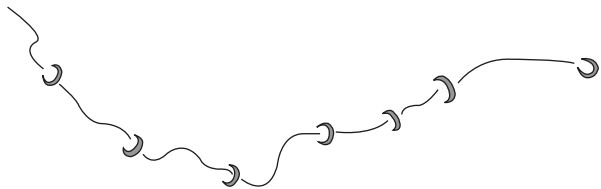


Conveyance Re-emerged

- Small retention ponds are added catch storm water and excess drainage.
- Vegetation is added along corridor.



Shop Creek Park, Denver Colorado



Water is captured and held at several points as it travels along the creek path. The creek becomes a transition zone of built versus unbuilt space between the vegetated landscape and housing developments.



Mill Creek Canyon Earthworks, Kent, Washington



Water is held in the pool and released into a stream channel that runs the length of the park. Vegetation becomes an edge condition that buffers the creek from adjacent infrastructure and development.



Existing Aerial



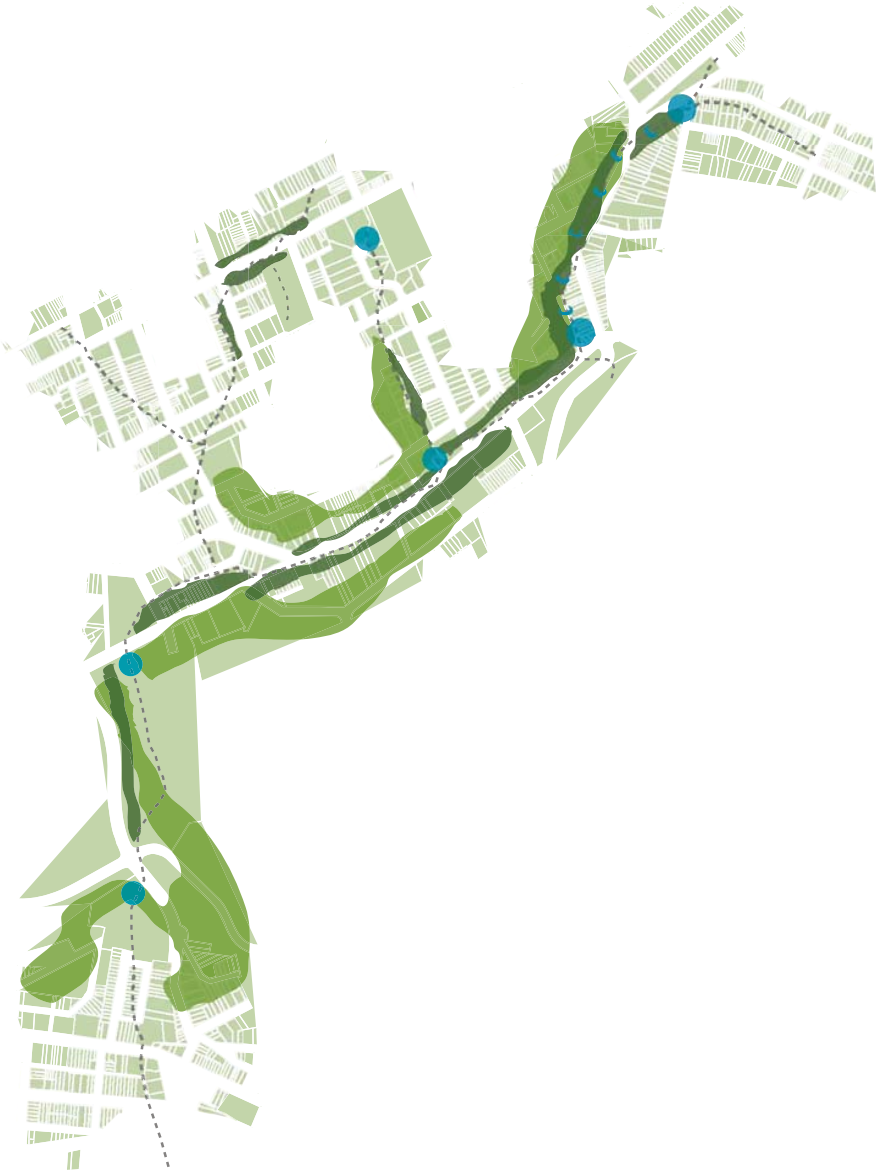
Conveyance in Streets Context



Conveyance in Vegetation Context



Conveyance in Building Context

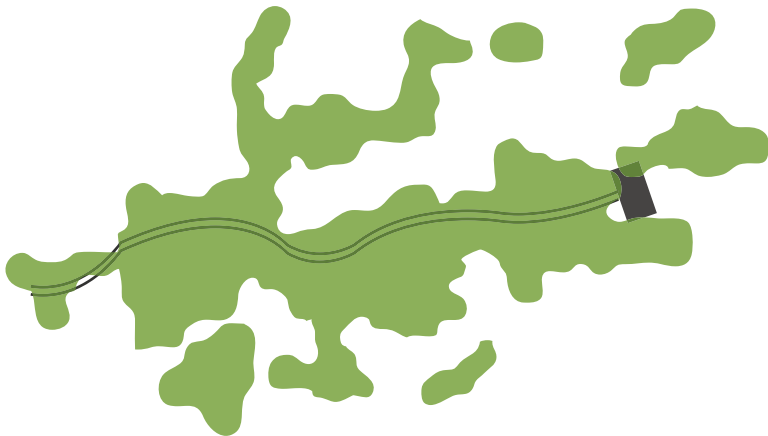


Conveyance Re-emerged

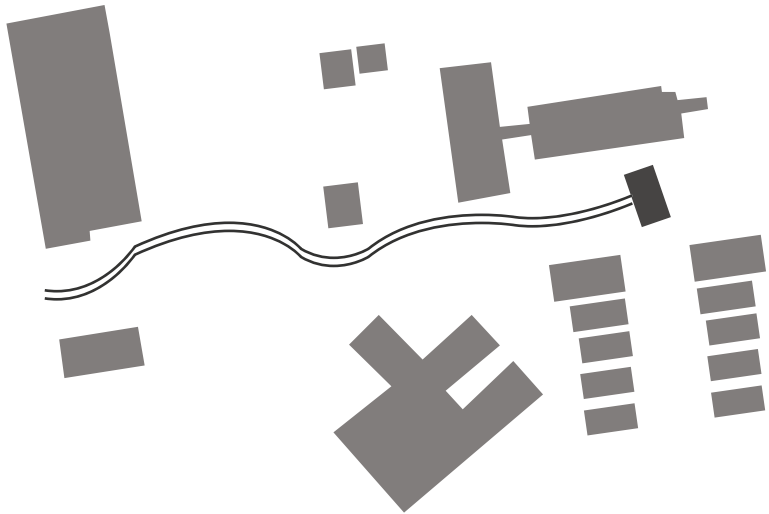
- Multiple ponds are proposed along the Cherokee - Ossipee Tributary, with one large retention pond at the low point of the Herron Avenue Corridor.
- Smaller catchments are proposed along Herron Avenue.
- Vegetation is added along corridor.



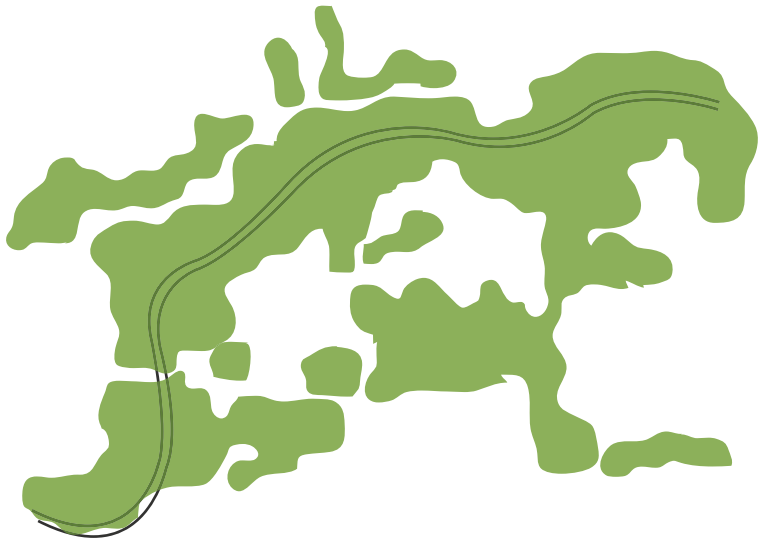
Strawberry Creek Park, Berkeley, California



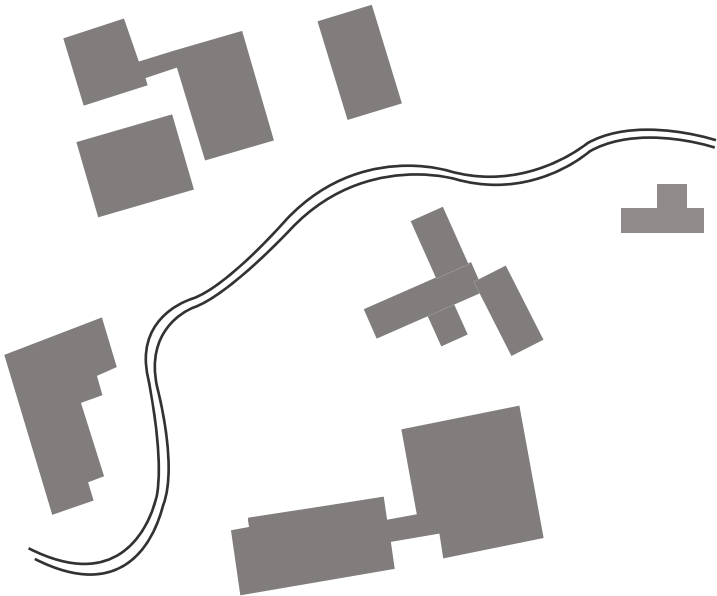
Water collects at a central point from upstream and flows downstream towards the San Francisco Bay. Vegetation is dense and irregular along the creek edges, introducing a patch ecology organized into clumps. Buildings face away from creek.

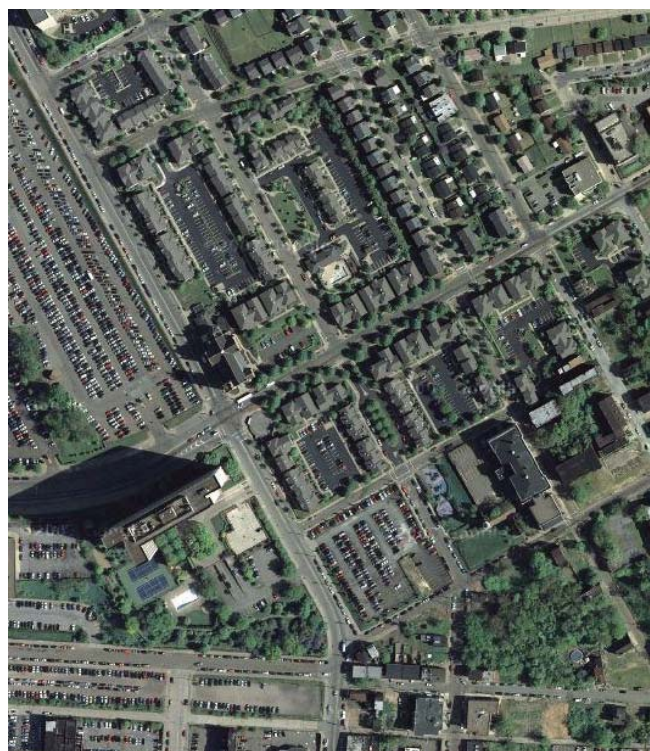


University of California Faculty Glade, Berkeley, California



Water travels from Strawberry canyon through the University of California campus, towards the San Francisco Bay. Vegetation is dense and irregular along the creek edges, introducing a clumping patch ecology organized into clumps. Buildings face toward the creek.





Existing Aerial



Conveyance in Vegetation Context



Conveyance Re-emerged

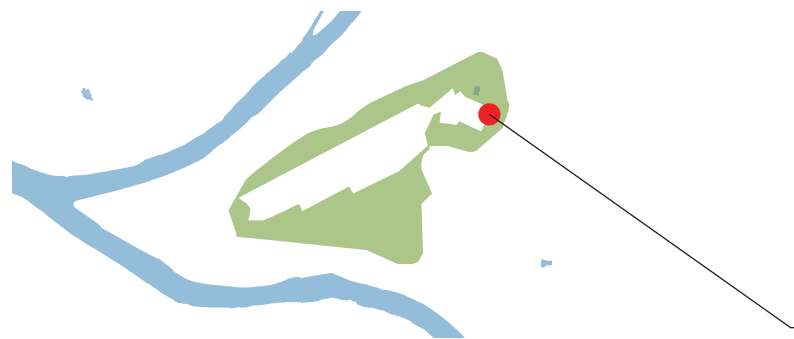
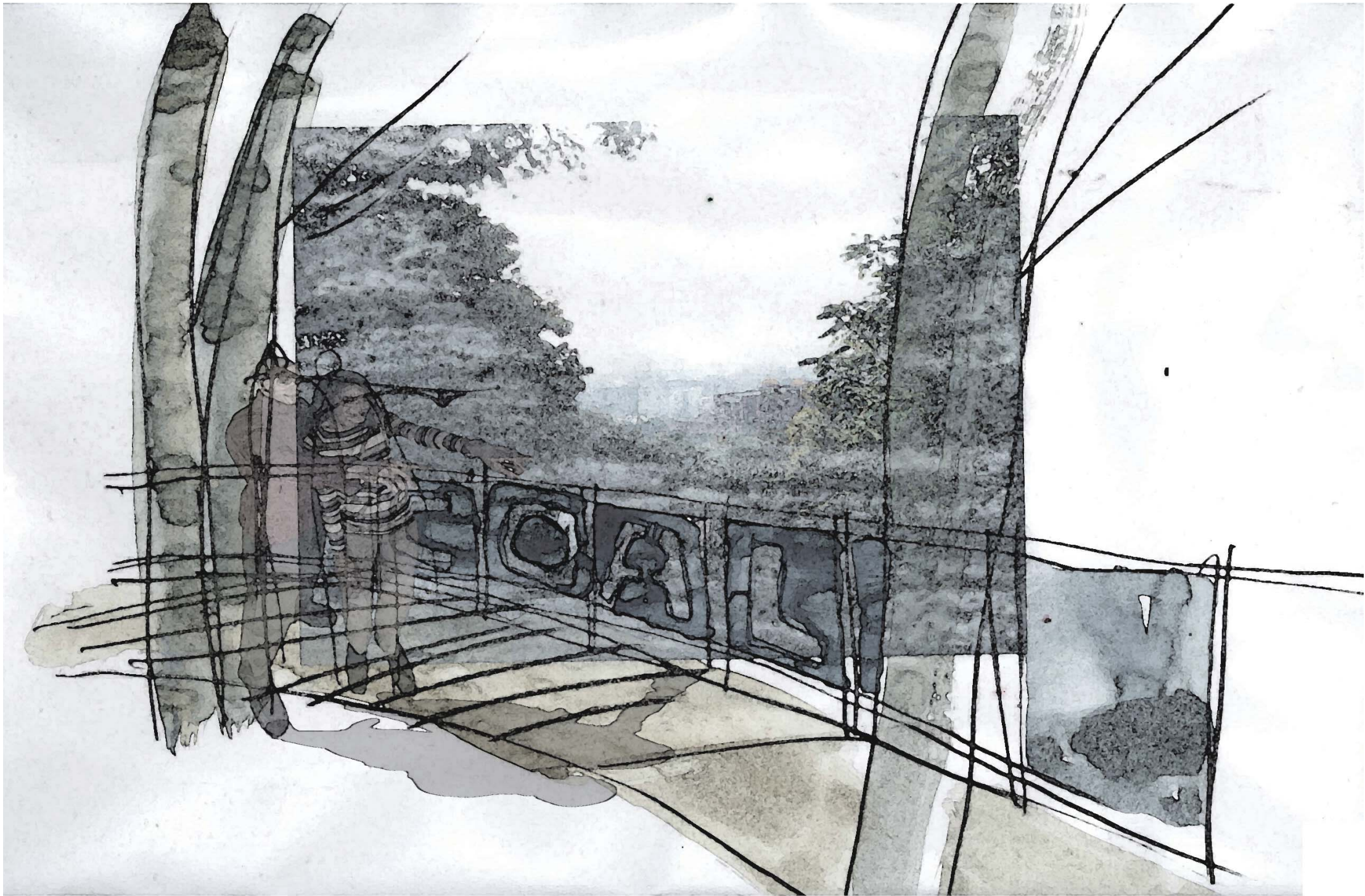
- A pond is proposed at the low point of the Herron Avenue Corridor at the Cherokee - Ossipee Tributary.
- Smaller catchments are proposed at low points.
- Vegetation is added along corridor.



Conveyance in Streets Context



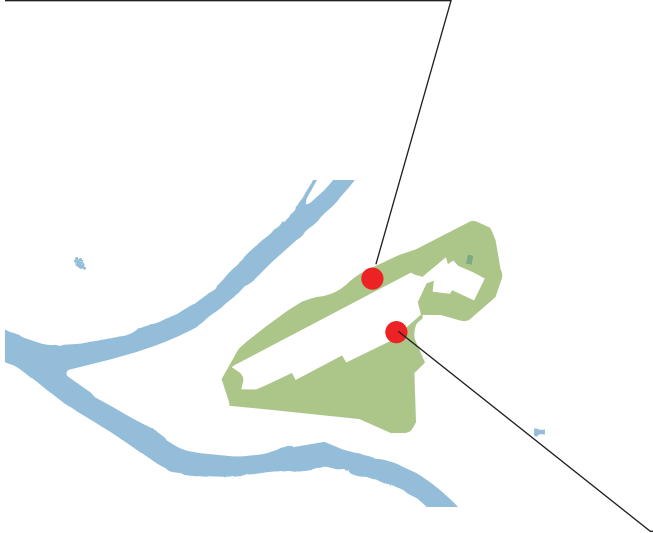
Conveyance in Building Context



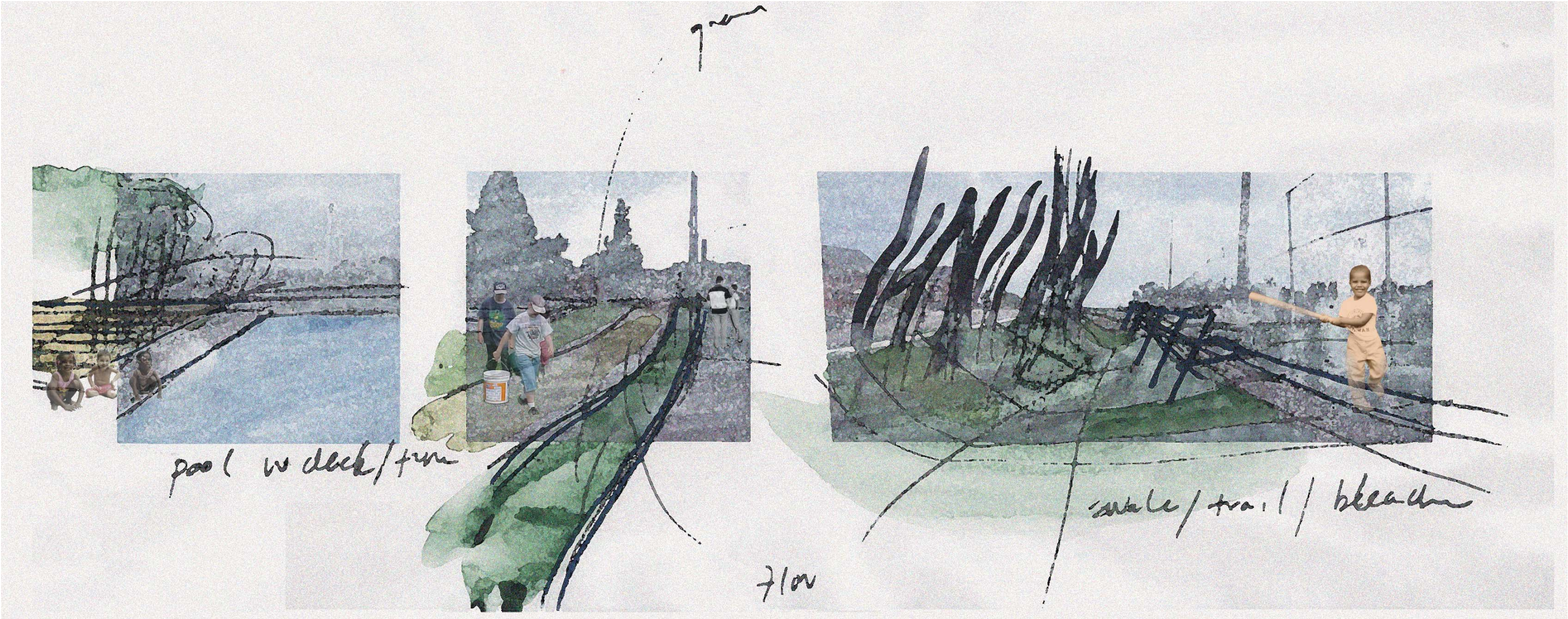
Dakota Street View



Bedford Dwelling Site

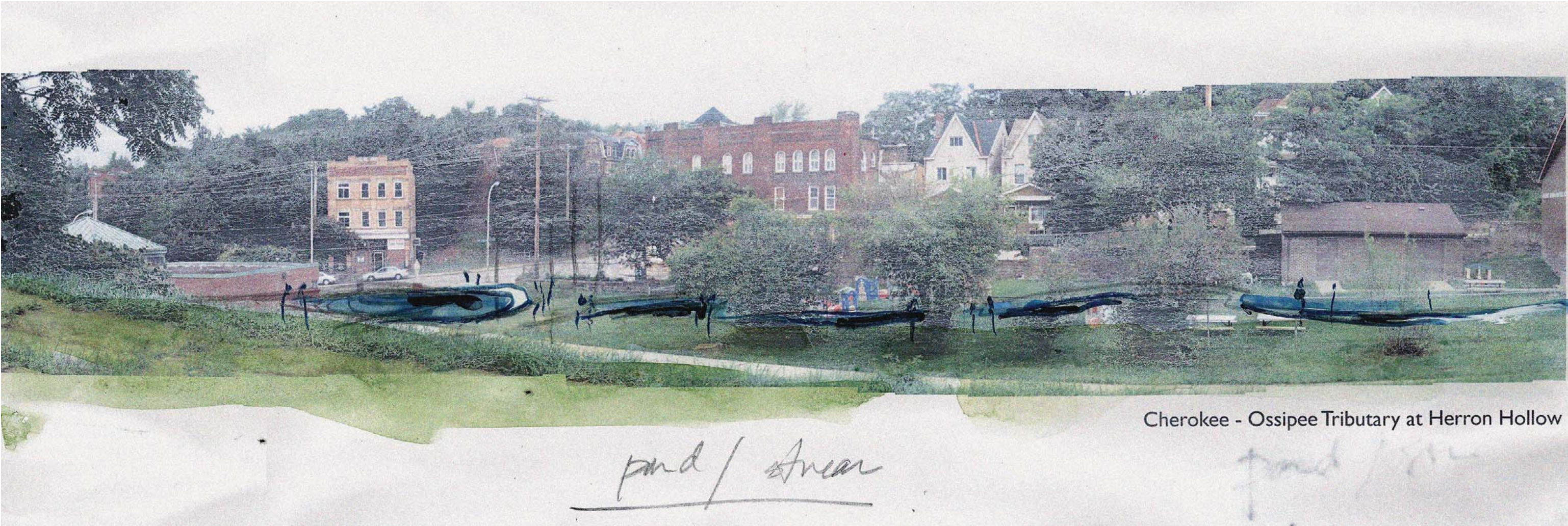


Chauncey Street Staircase



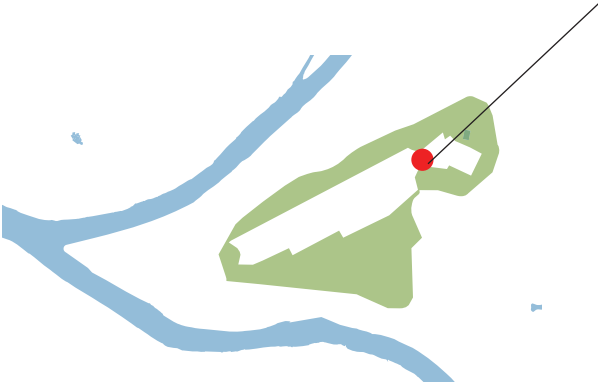
Bedford Hill Housing Development





Cherokee - Ossipee Tributary at Herron Hollow

Cherokee - Ossipee Tributary at Herron Hollow

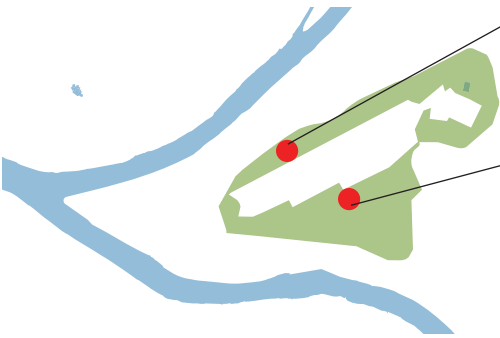


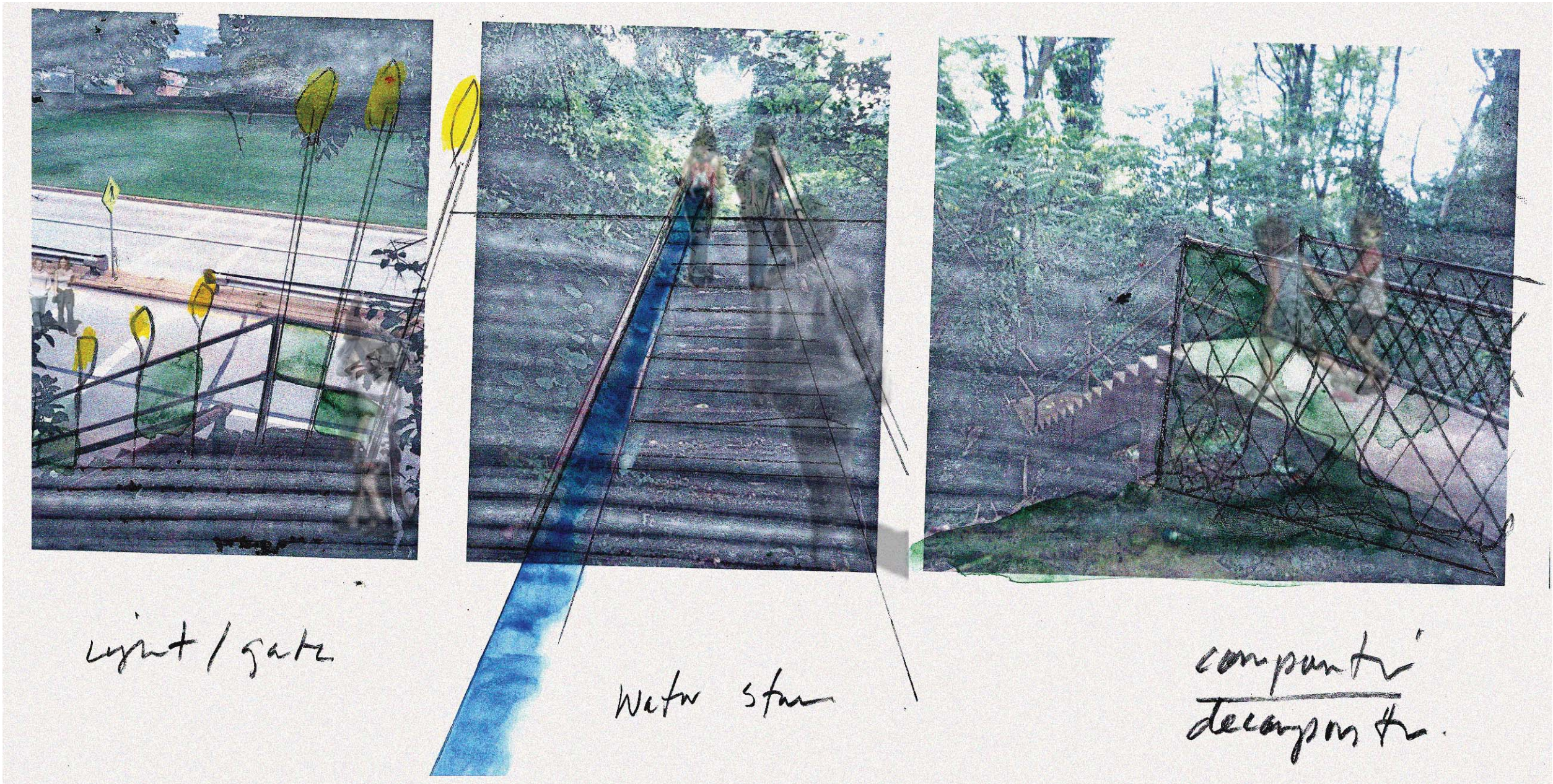


Frank Curto Park

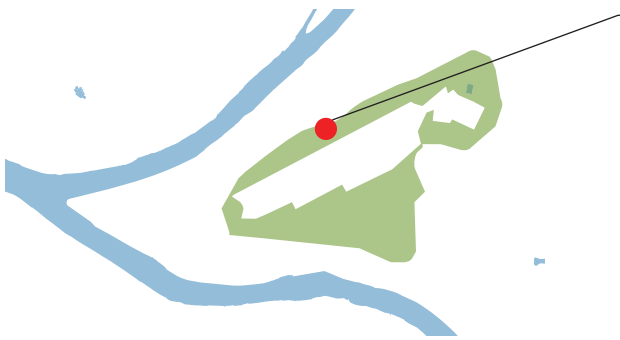


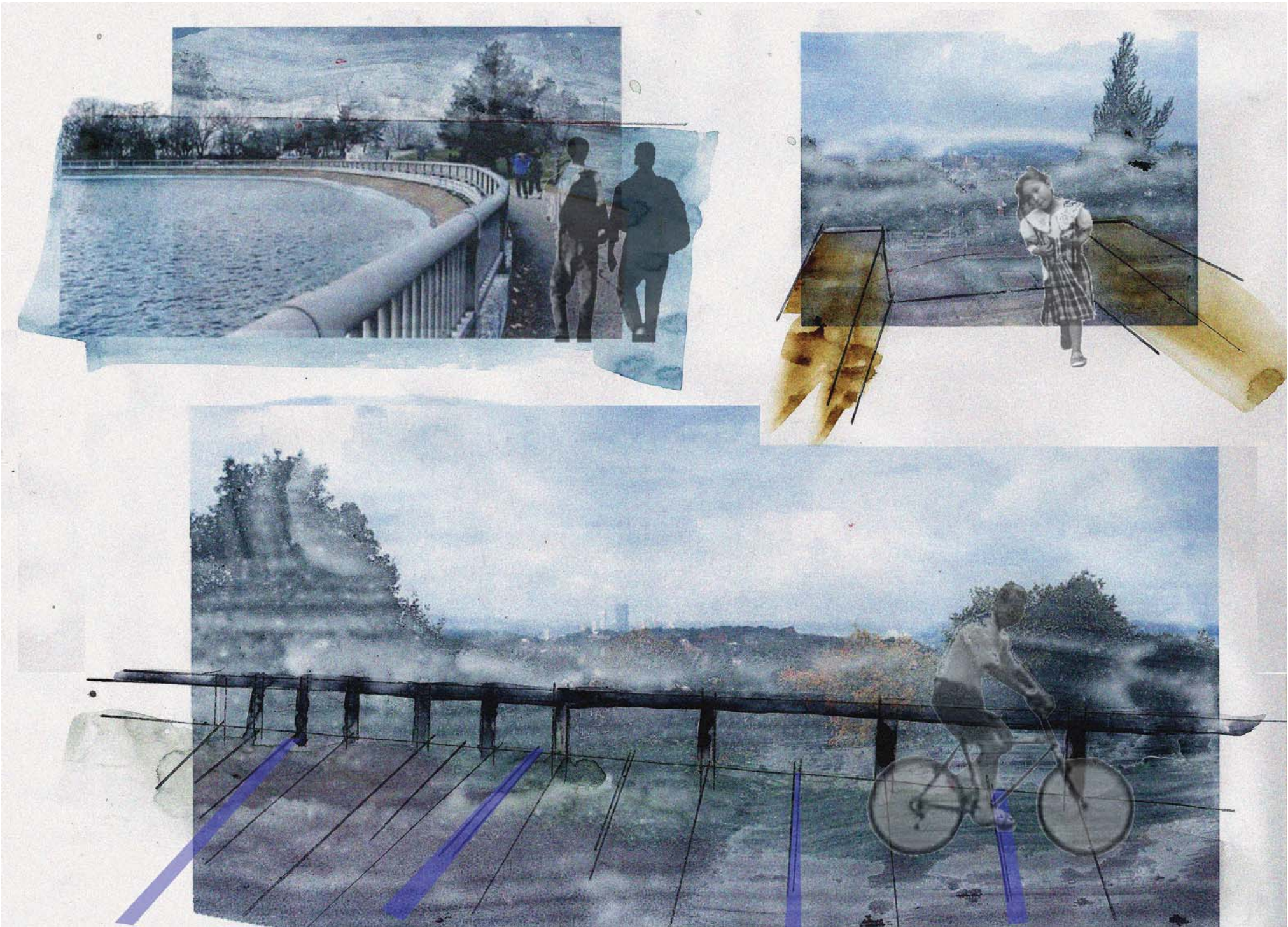
Kennard Field



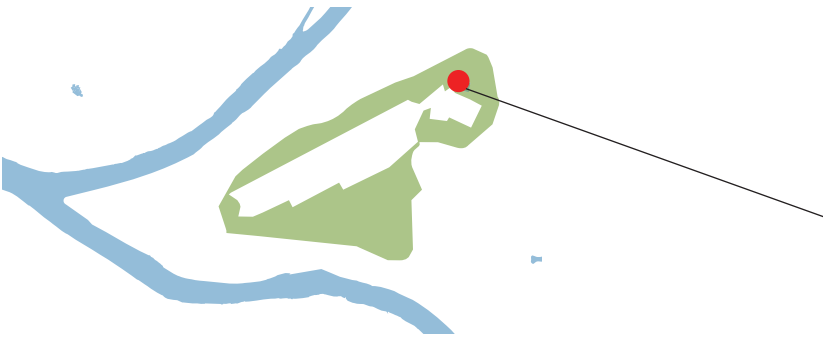


Kirkpatrick Street Stairs and Termination Point below Memory Lane



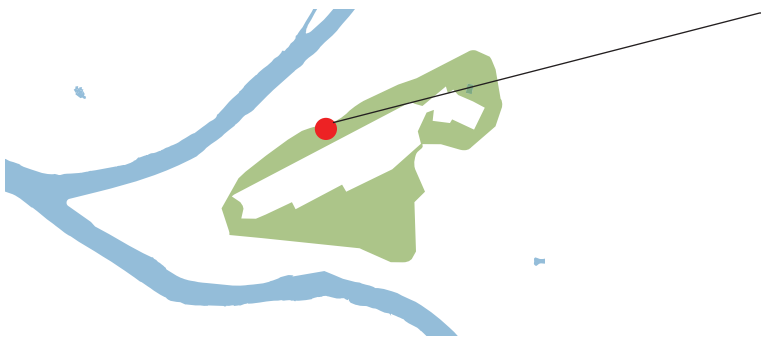


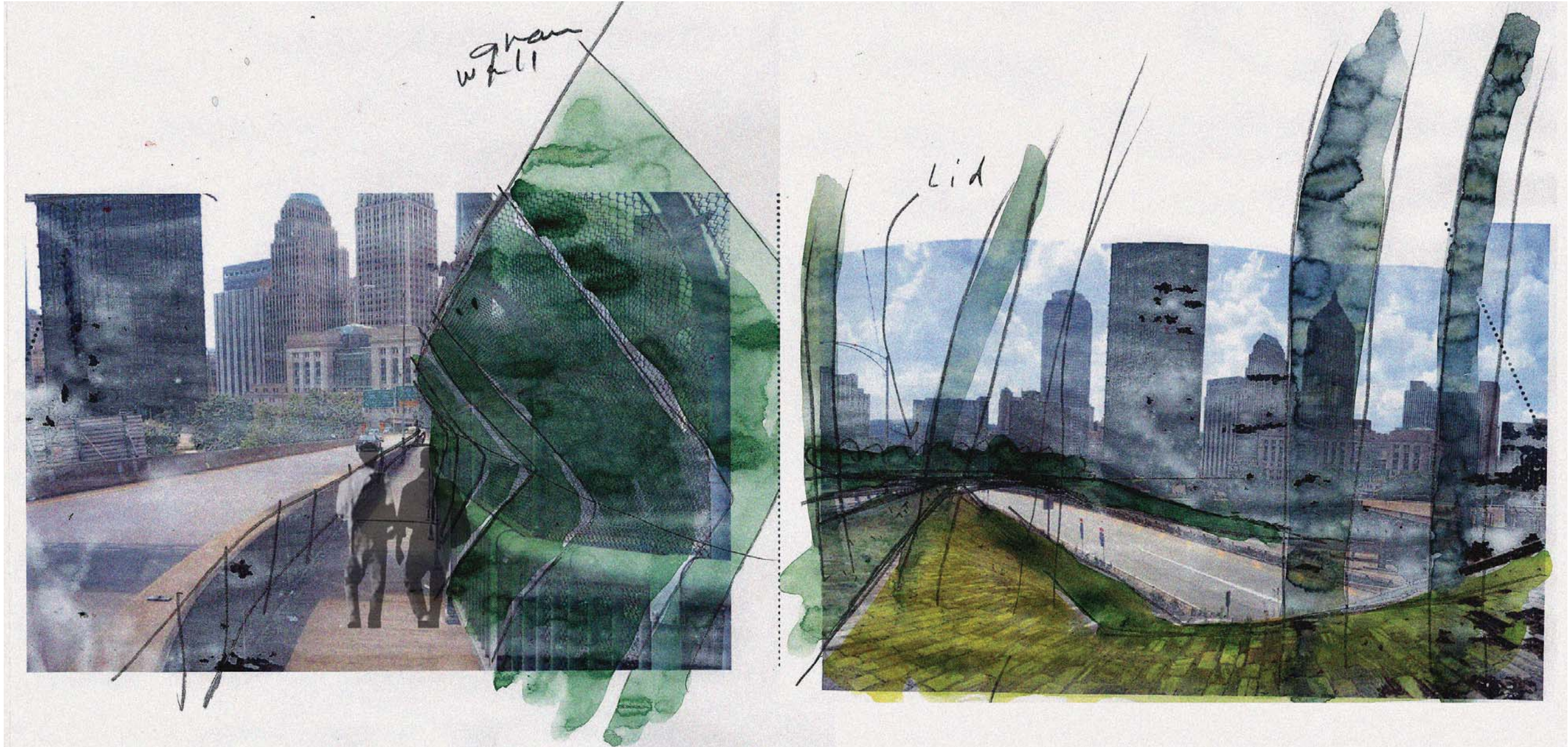
Herron Hill Reservoir



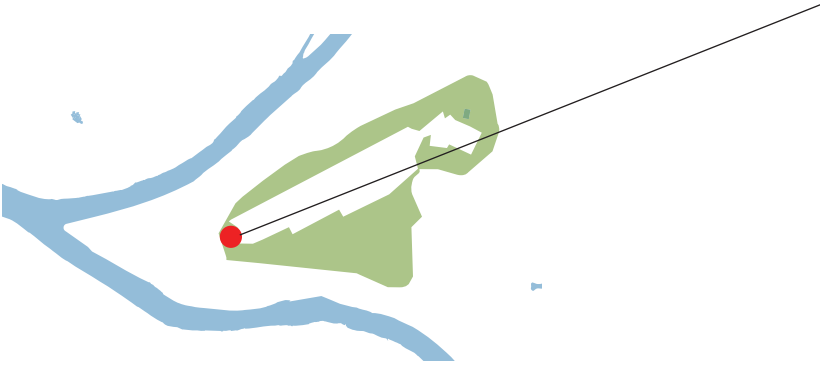


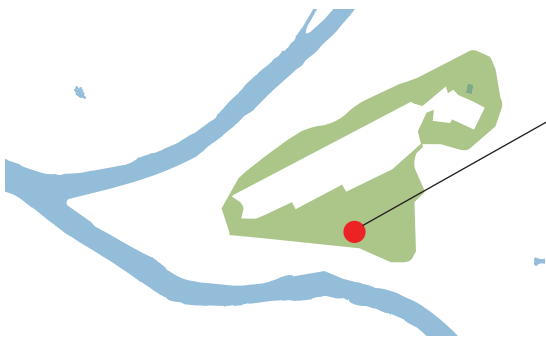
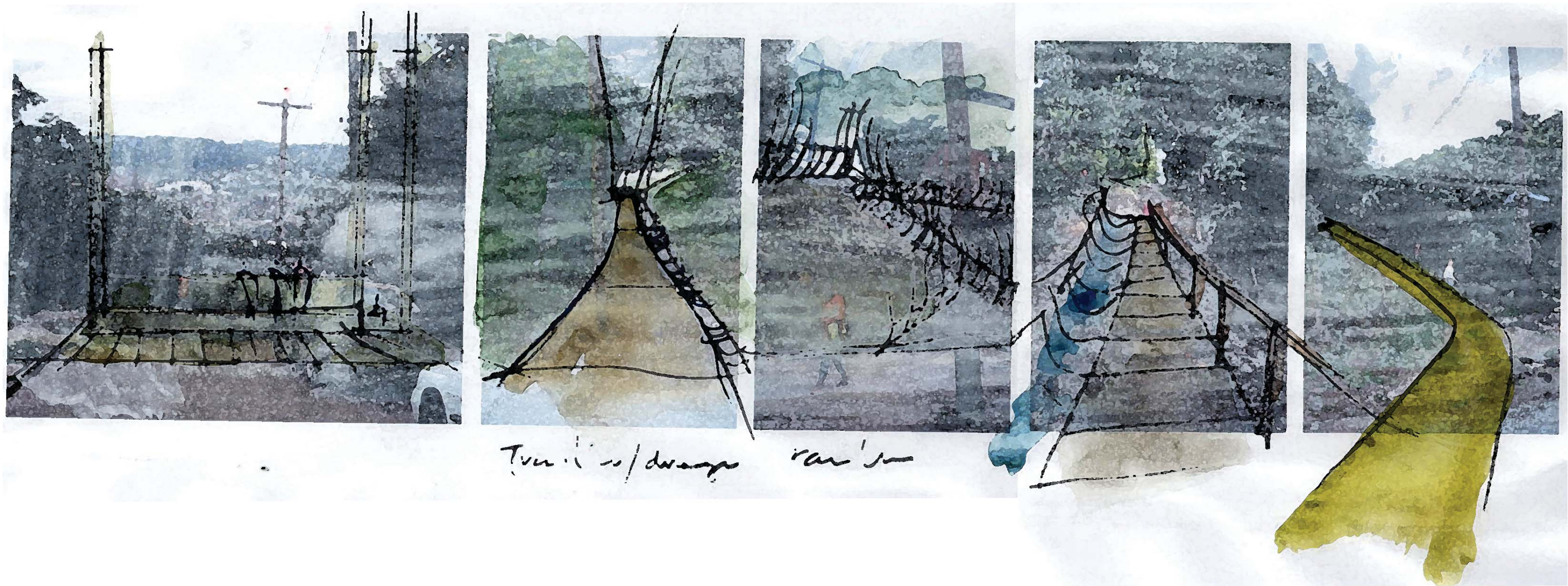
Bigelow Boulevard at Frank Curto Park. Center: Coal Seam Trail. Right: Rain Wall





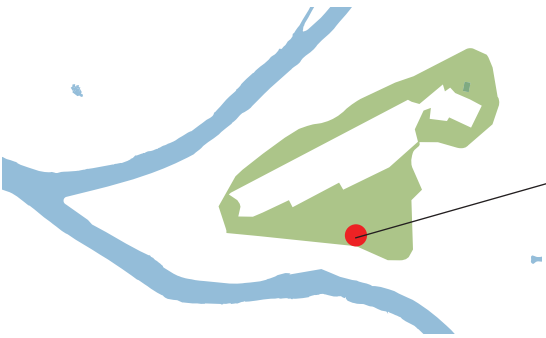
Connection to Downtown







Lombard Street Overgrown Stairs and Path to Terrace

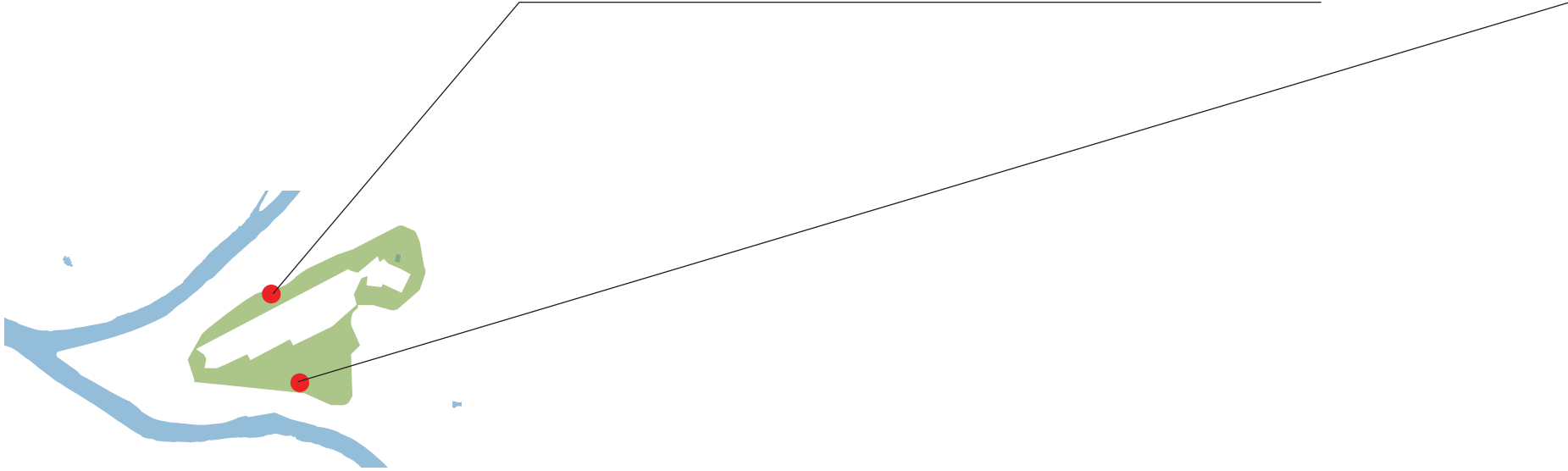


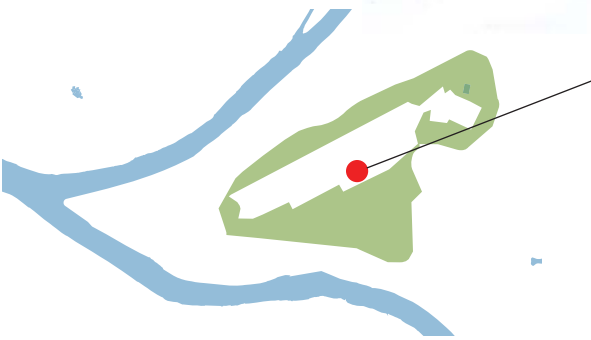


Overlook towards Memory Lane



Lombard Street Overlook





Consultant’s Progress Report on *Find the Rivers!* Greenprint

Submitted by Denys Candy

June 12th, 2009

Background

Find the Rivers! (FTR!) is a community-driven partnership to model environmentally sustainable smart growth principles at the neighborhood level, thereby demonstrating the potential to positively transform urban landscapes for the benefit of local residents and the city as a whole. Its target area is Pittsburgh’s Hill District. Current core partners are Hill House Association, Community Partners Institute, Pittsburgh Parks Conservancy and the Hill District Consensus Group.

FTR! started as an exploratory project using strategies of community organizing to raise local awareness of the natural urban landscape and built environment. In particular, *FTR!* actively seeks strategies for simultaneously having a positive impact on various elements of community health in an urban area – its economic, physiological (and mental) and cultural health. *FTR!* produced a design vision for re-making visual and physical connections to surrounding areas and Pittsburgh’s rivers, targeted and produced conceptual design plans for three strategic sectors (Corridors on Herron Avenue and Kirkpatrick Street and Bedford/Arcena area) and began planning a network of physical improvements in the Bedford/Arcena area. Over time, community leaders and organizations have embraced the importance of having a plan for the Hill’s landscape, one that forms the framework for a comprehensive area master plan. Community leader Carl Redwood, for example, has cited *FTR!* as instrumental in expanding the thinking of community leaders so that they now view proper use of land and the environment as essential to the Hill’s future.

FTR! Greenprint

The City of Pittsburgh, Urban Redevelopment Authority and community leaders will work with a team of consultants on a master plan for the Hill (targeted to begin in the Fall, 2009).To lay the groundwork for the master plan, *FTR!* developed a Greenprint process to produce a plan for the Hill’s natural landscape. We believe the Greenprint can form an important foundation for the master plan. Following *FTR!* methodology, the Greenprint will reflect significant community input. The engagement strategy for the Greenprint will unfold in each of its two phases.

Phase One of the *Find the Rivers!* Greenprint involves assessing existing data on the natural landscape compiled from *FTR!* material and other sources followed by initial conceptualization of a network of connected green, public places – significant sites, parks, river overlooks etc. – that can act as resources for residents and stakeholders while identifying the Hill as a “paragon of urban beauty” (to quote the Greenprint RFP).

Community Partners Institute (CPI) scope of services.

CPI work in Phase One has involved working with *FTR!* team members on the following:

- Research into potential Greenprint strategies (including interviews in the local design/community development community),
- Definition of Greenprint goals and outcomes,
- Drafting language for the Greenprint RFP,
- Communication with the Hill Consensus Group and other Hill stakeholders,
- Ensuring linkage between the Greenprint and the Master Plan by acting as liaison with the Department of City Planning,
- Participating in consultant proposal reviews leading to the hiring of a Greenprint Design Team,
- Implementing input sessions for community stakeholders and compiling summaries of feedback for the *FTR!* team and the Greenprint design consultant,
- Commencing a review of stakeholder surveys conducted by Hill House.

This report is the first of three progress reports on the engagement process.

Research; Greenprint Goals and Outcomes; Drafting RFP language: East Liberty, through East Liberty Development Incorporated (ELDI), developed a green plan outlining goals and strategies for energy efficiency, expanded uses of green spaces, reduction of impermeable surfaces and the like. The *FTR!* team interviewed Nathan Wildfire of ELDI and Stephanie Danes of Perkins Eastman architects for input on the Hill Greenprint. In addition, CPI conducted research on greening strategies in low-income communities nationally. Sustainable South Bronx, for example, has become a national model for linking green strategies with issues of environmental justice. There are efforts also underway in Newark, Camden and Orange (NJ) that have elements in common with *FTR!* goals.

CPI’s recommendation was that although these models and the East Liberty Plan offer important insights into the shaping of the Greenprint, the Hill process will need to be nimble and organic in nature with the ability to respond to emerging opportunities that are identified in the planning process. Whereas the East Liberty plan lists a range of objectives over twenty years, by contrast the Greenprint will need to identify priority opportunities and sites and move as expeditiously as possible in getting short and medium term projects rolling. CPI drafted language for the Greenprint RFP to reflect this approach.

Communication with stakeholders; liaison with City Planning: Community Partners Institute (CPI) provided regular Greenprint progress reports to the Hill District Consensus Group and other community stakeholders such as Ebony Development LLC.

A crucial element of Greenprint strategy was ensuring that the Greenprint would be seamlessly linked to and ultimately integrated into the Hill Master Plan. CPI coordinated communication with the Department of City Planning to ensure consistent messages were

being sent by the City to planning firms regarding the importance of the Greenprint to the Hill master plan. Denys Candy drafted language for the master plan RFP linking the *FTR!* Greenprint to the master plan. The City included this language in the Hill District master plan RFP.

Greenprint Design Team Selection: CPI, Hill House and PPC reviewed proposals, made a short list and conducted interviews. Interviewers also included the Department of City Planning (Assistant Director Joy Abbott), Urban Redevelopment Authority (Real Estate Director Kyra Strausmann), Hill District Consensus Group (Carl Redwood), One Hill Community Benefits Coalition (Brenda Tate) and an artist (Christine Bethea).

Hood Associates of Berkeley, CA, will head the Greenprint design team, supported by the Pittsburgh based Studio for Spatial Practice.

Input Sessions Initial Issue Summary: Using a modified version of CPI’s Urban Beauty Index, meetings with three sets of key stakeholders were held on May 8th and May 14th 2009.

On May 8th, Denys Candy facilitated meetings with the Hill District Planning Forum (an offshoot of the Hill Consensus Group that will act as a key point of community input for the Hill Master Plan) and the Greenprint Advisory Group – a broadly representative group of Citywide and community stakeholders.

Hill Planning Forum: Thirty five people attended this meeting, the purpose of which was threefold, 1) to brief community stakeholders on the Greenprint process, 2) engage people in a visionary exercise to identify core qualities of beautiful public spaces and 3) identify sites in the Hill with the potential to embrace these core qualities and be transformed into beautiful public spaces that act as community assets on multiple levels.

Important qualities that participants want to see incorporated into future green public spaces include:

- Expansive views,
- Easy access from residences, including walk-ability and accessibility,
- Serenity and quiet,
- Water elements,
- Color and visually pleasing elements, including art,
- A diversity of trees, plants, flowers giving a sense of really being in nature while in the city,
- Pathways within sites and pleasing links between sites,
- Family and child friendly amenities, surprises and fun.

Sites or elements of particular importance were identified as follows:

- All strategic *FTR!* sites – Herron Avenue corridor (Williams Park, Minersville Cemetery, Bedford, Centre, Wylie, Webster from Herron to Kirkpatrick), Kirkpatrick Corridor, Bedford/Cliff/Arcena area,
- City steps throughout the Hill (E.g. Bentley Drive to Alequippa Street extension, connecting Centre/Wylie, multiple locations connecting Bedford to Bigelow Boulevard),
- Pedestrian links in the Middle Hill – linking Wylie, Webster and Bedford,
- Oak Hill,
- Uptown - Hillside North of Fifth Avenue,
- Kennard, Martin Luther King field and play/sports sites throughout the Hill,
- Housing Authority sites: Bedford; Addison Terrace; Reed Roberts.

The Greenprint was identified as important in identifying the following strategic opportunities:

- Additional opportunities for urban agriculture (involving Landslide Community Farm and other partners) and gardens – on existing publicly owned land, including Housing Authority sites (E.g. Bedford Avenue.)
- Storm water management that adds water elements to small public spaces,
- Expanding the number of trees in the Hill,
- Involving schools in growing produce,
- Linking the proposed Hill grocery store to neighborhood growing efforts,
- Local job creation and skill building.

Greenprint Advisory Group (see attached list): A broad group of twenty-five stakeholders attended this meeting the purpose of which was to 1) brief a Citywide constituency on the progress of *FTR!* overall, 2) introduce the Greenprint and outline the design team selection process and, 3) get input and data that will enhance the Greenprint process.

The Advisory Group will meet several times as the Greenprint progresses.

Issues raised by the Advisory Group were similar to those of the Planning Forum, with additional issues also raised. Highlights include:

- Potential for urban agriculture, community gardens and trees (a: proper planting and maintenance of street trees and, b: assessing potential for a tree farm),
- Opportunity to catalyze a marketplace on Centre for green products and locally produced crafts,
- Significance of hillsides – having a strategy to maintain, reduce invasive species and run trails where feasible,
- Energy – opportunities for reducing carbon footprints and geo-thermal and other forms of local energy production,

- Need for special attention on connections between the Hill, Oakland, Polish Hill and Downtown,
- Importance of communicating the existing successes of *FTR!* to a broader audience of planners, designers, community developers and public officials.

Hill District Surveys: To add multiple points of input for community members, surveys based on the key questions used in facilitated meetings have been administered through Hill House Association. The surveys are being collected at various sites throughout the Hill and also being administered at block club and other meetings. This will be ongoing into July 2009. Survey data and additional community input sought in collaboration with the Greenprint Design Team will be incorporated into the mid-July report.

To date 106 surveys have been collected as follows:

Date:	Number:	Location:
May 21, 2009	27	Hill House
May 22, 2009	5	Hill House
May 22, 2009	6	Freedom Unlimited
May 26, 2009	5	Hill House
May 30, 2009	32	Event: POP UP Uptown
June 10, 2009	31	Hill House/ Youth Services

Consultant’s Second Progress Report on *Find the Rivers!* Greenprint

Submitted by Denys Candy

July 13th, 2009

This is the second of three reports covering community engagement activities to gather feedback from stakeholders for the *FTR!* Greenprint. This report covers surveys with a series open ended-questions requesting visual depictions of respondents’ perceptions of beautiful spaces in general and beloved places within the Hill District. One hundred and six surveys were administered to children and adults on May 21st, 22nd, 26th and June 6th, 2009. Survey sites included Hill House, Freedom Unlimited, Cliffside Park and an event called Pop-Up Pittsburgh, co-sponsored by Uptown Partners and a local leadership group.

During the latter part of July, an additional survey will be administered, targeted to Hill District leaders and opinion makers as well as the *FTR!* Greenprint advisory committee. The design team of Walter Hood and Associates will also meet directly with stakeholders on July 21st and 22nd. The survey of community leaders and opinion makers will be summarized in the third and final report.

Hill District Resources

In the surveys under review, while familiar places of significance to children and adults alike cropped up, more intimate street scale spaces – such as community gardens – were also identified by a number of people as important to them.

The following places were identified as significant existing resources in the community:

- All strategic *FTR!* sites,
- Herron Avenue corridor – in addition to sites identified in the Herron Avenue corridor report, Sugartop as a whole and the Herron/Bigelow intersection,
- Bedford Avenue – from Connolly School all the way to Herron Avenue, including St. Joseph’s property, Cliff/Arcena/ Ledlie, Josh Gibson field and Ammon Recreation Center – emphasis on views,
- Kirkpatrick Corridor: Kennard field, MLK field and Landslide Farm,
- Small spaces – E.g. Francis Court; Chauncey Drive, Dinwiddie Street Playground,
- Centre Avenue: New Grenada, Hill House campus and Freedom Corner,
- Uptown/Bluff: North of Fifth Avenue between Kirkpatrick and Dinwiddie – plenty of Hillside greenery with good views to the Monongahela (this land also features in the recent Uptown design plan) NB: this area is below a significant Housing Authority site (Addison Terrace),
- Fifth / Forbes corridor: Fifth Avenue High School, Gist street area (adjacent to artist’s residence and poetry venue),
- Schenley Heights,
- All over: potential for flowers and gardens.

Qualities that people want to see and experience.

- Playgrounds – “all fun things” – soccer, football, basketball, baseball,
- Park – fountain, benches, children’s play areas, slides; Kennywood- like (amusement park) qualities; “Kids running through a fountain,”
- Water elements consistently mentioned,
- Quality of a beach,
- A Park beside the Credit Union (Centre Ave.),
- Community gardens; beautiful neighbor’s yards,
- Creative gardens,
- Big garden at the heart of the Hill,
- Farm, greenhouse – more places to get food,
- Reduce cars; increase bikes,
- Quality of a lake – nature, trees, walking, water,
- Quality of botanic gardens,
- Arts- music/bleachers; murals; art walks and art tours,
- “Little spots all over:” mini parks (E.g. Centre/Reynolds)
- Gathering places,
- Peaceful places,
- A new Incline,
- Nature is available now – E.g. hawks hover over Arcena/Ledlie/Cliff streets.

Discussion

The latest round of surveys expanded on earlier feedback gleaned through the ongoing work of *Find the Rivers!* and group meetings of the Hill Planning Forum and the Greenprint Advisory Committee. In this round, additional emphasis was placed on gathering feedback from Uptown and the Fifth/ Forbes corridor. As a result, spaces in that part of the Hill show up more prominently than in the earlier surveys.

The Greenprint should be bold:

A set of tangible images, emotions and experiences are coming through that are suggestive of possible design and action strategies for the Greenprint. While many places and qualities of experience are named, I would suggest that what is implied is a want, perhaps even a craving for, a bold plan that includes a large dramatic and beautiful place (or places) - “ a big garden in the heart of the Hill,” along with “little spots all over,” for people to gather, touch art and nature, play, and grow food and flowers. It may not literally be “a big garden” but I believe there is a dramatic design statement being invited, one that is very much grounded in the Hill’s history and landscape.

Both in the surveys and in recent meetings, I have been struck by the fact that many residents are suggesting community gardens and gathering places at the street or block level. The pioneers among them are asking for the skills, tools and supports to make this

happen and they see these spaces as having multiple functions – gardens, art spaces, gathering spots and so on. This is a shift in thinking from a few short years ago. As *Find the Rivers!* matured, a national focus on the “green collar” economy emerged and, because of perceptions and awareness expanded through *FTR!*, there is a potent curiosity about what it might mean for the Hill to become manifestly “green.” Hence, we see the many references to nature, water, gardens, food and the like. There are many neighborhoods around the country pursuing greening strategies. However, I think it is imperative that what emerges from the Greenprint is not just a greening strategy for the Hill but an actionable vision for local people, homeowners and renters alike, to re-occupy their own land as their awareness of its value grows and as the real estate market increases speculation. During a visit to Pittsburgh, Walter Hood referred to a community that was asking for murals. What they wanted, he said, was a bigger project expressed as a desire for murals. I believe we have similar conditions in the Hill – the Greenprint can satisfy an emerging need for a grand project – green, but beyond conventional community greening strategies that are starting to sound a little ho-hum, even before many of them get fully off the ground.

For example we might consider the Greenprint to be a be a guiding force for people and community institutions to “*Take back the Hill!*” In this scenario, the Greenprint would map out a bold proposal and options for stewardship whereby people, rather than “sitting in” or “squatting” as in the past would have practical day-to day control over a lot of land that is now in public hands and the landscape would host activities reflecting a re-energizing marketplace and social and cultural economy.

Additional points of attention:

In addition to *FTR!* target sites, the surveys suggest additional attention to Sugar top and Schenley Heights (the Upper Hill) as a whole, with the reservoir as a kind of beacon for the Hill at its Eastern Edge. This area also suggests attention to connections with Oakland. Williams Park also offers opportunities for internal views. One example is the perspective from the reservoir down one hill and up another (along Webster and Wylie).

The survey calls our attention to Fifth/Forbes corridor (or portions of its Eastern edge near Kirkpatrick) – along Fifth and Forbes (each of which generates a huge amount of “pass-through” traffic, for which the Uptown report is short on strategies).

Numerous landmarks along Centre Avenue are mentioned – offering the opportunity to propose a Centre Avenue strategy as part of the wider Greenprint. For example, significant land and building owners include numerous churches, the Williams building, Hill House, the Dollar store, the CDC, Credit Union, Weil School, Legacy Building (McCormack Baron/ Housing Authority), the Carnegie Library and new YMCA along with small business owners – all of whom might be connected onto a stewardship plan for the corridor that moves on recommendations emerging in the Greenprint.

Large Landowners:

The City, Urban Redevelopment Authority (URA) and Housing Authority of the City of Pittsburgh (HACP) own many of the sites that people want to see transformed.

I pose these questions for the core *FTR!* team and the Greenprint design team:

- What is the opportunity to have the Greenprint define a new role for publicly owned land – lots, parcels of land, public housing and so on? Getting on to unused HACP land (on Bedford Avenue) has been a bureaucratic hassle and apparently there are plans on the drawing board for Addison Terrace (overlooking the Monongahela).
- How can we best include this land in the Greenprint and challenge these entities to work with emerging Greenprint projects?

Third and Final Progress Report on
Find the Rivers! Greenprint Community Engagement

Submitted by Denys Candy
August 14th, 2009

Background

Find the Rivers! (*FTR!*) – www.findtherivers.net -- is a community-driven partnership to model environmentally sustainable smart growth principles at the neighborhood level, thereby demonstrating the potential to positively transform urban landscapes for the benefit of local residents and the city as a whole. Its target area is Pittsburgh’s Hill District.

I would define our core question as, “How do we work with the landscapes of a place in order to re-invigorate a community?” My view is that it is important as much for our planet as for localities to revive relationships between people, place and ecology. Paying attention to physical landscape gives us an additional opportunity to purposefully draw out social and cultural landscapes- histories and stories that continue to evolve a place and its people. For *FTR!* we do this strategically as a community organizing strategy to simultaneously renew all aspects of a community’s health -- economic, social, physiological, mental and cultural.

FTR! plans and projects emerged from multiple engagements and relationships nurtured over time and so they carry the fingerprints of many. Such methods are more likely to capture the essence of a place – what I call a community’s DNA -- so that developments have an authentic flavor and identity that people love. Therefore, they are more likely to succeed on the community’s terms.

Innovative initiatives like *FTR!* must,

- a) Build on, certainly, but crucially **add new or significant elements** to existing or previous work in a community,
- b) Ground themselves in a credible local organization (s),
- c) Model tenacity in a multi-year commitment and,
- d) Make multiple loops through Vision, Strategy, and Action in each phase of the work.

Conceptualized in 2002, *FTR!* began direct work in the Hill in 2003. Since then *FTR!* has involved hundreds of people in Community Conversations, Visioning and Conceptual Development, Design Planning, and Re-making Places.

FTR! produced a design vision for re-making visual and physical connections to surrounding areas and Pittsburgh’s rivers, targeted and produced conceptual design plans for three strategic sectors (Corridors on Herron Avenue and Kirkpatrick Street, and the Bedford/Arcena area) and has begun physical improvements in the Bedford/Arcena area.

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Greenprint

FTR! partners and the Hood Associates design team have been working on the *FTR* Greenprint, Phase One. We envision the Greenprint as a container into which the Hill Master Plan will fit – an affirmative vision, opportunities for regeneration and, in Phase Two, a series of specific initiatives that will draw on the assets of the Hill’s natural landscape. The goal of the Greenprint is to build on the existing body of *FTR!* work to create immediate possibilities for making the Hill a paragon of urban beauty.

Engagement

Following the established *FTR!* model, a broad group of stakeholders has been involved in expressing their aspirations for the Hill’s natural landscape and identifying places of importance for a network of actively connected green public spaces throughout the length and breadth of the neighborhood. Views and stories were collected in the following way:

Hill District Consensus Group: On May 8th, a briefing on the Greenprint was delivered to the Consensus Group, a coalition of residents and organizations. At the same meeting, a facilitated discussion was used to solicit initial input, using the questionnaire (see below) as a guide. Forty people attended. On August 14th, the Hood Design team presented an update to the Consensus Group and gathered additional input.

Visual Surveys: One hundred and twenty visual surveys were collected at different locations throughout the Hill, mainly involving children and families. Respondents drew pictures and wrote of their ideas and aspirations for different parts of the Hill. A summary of key issues was given to the Hood Design Team.

Community Cookout: On July 21st, *FTR!* hosted an outdoor “Community Cookout and Conversation” at St. Joseph’s House of Hospitality on Bedford Avenue, featuring a talk by our lead designer Walter Hood. Seventy-five people attended, of whom we estimate 50-60 were residents. They were joined by representatives of citywide bodies. Attendees mixed informally with *FTR!* and design team members.

Greenprint Advisory Group: On July 22nd and August 13th, the Greenprint Advisory Group engaged in working sessions with the *FTR!* and Hood Design team. Twenty-five attended in July and 20 in August. The Advisory Group is comprised of neighborhood leaders and citywide agencies and organizations, including City Planning, Urban Redevelopment Authority, Community Design Center, Tree-Vitalize, Friends of the Urban Forest, Green Innovators, Venture Outdoors, and Grow Pittsburgh.

Questionnaire: Supplemental surveys were sent to Advisory Group members who were unable to attend the July 22nd and August 13th sessions. The questionnaire was also used in interviews with community leaders. Further questionnaires may be administered as part of Greenprint, Phase Two. (A copy of the questionnaire can be found in Appendix Two).

Issues

This report incorporates ideas and concepts emerging from activities during the period July 14th – August 14th, and incorporates key themes from the May – July 14th period. A review of companion Greenprint Progress Reports One (June 12th) and Two (July 13th) is recommended.

A Bold Initiative

“We might consider the Greenprint to be a guiding force for people and community institutions to “Take back the Hill!” In this scenario, the Greenprint would map out a bold proposal and options for stewardship whereby people, rather than “sitting in” or “squatting” as in the past, would have practical day-to-day control over a lot of land that is now in public hands, and the landscape would host activities reflecting a re-energized marketplace and social and cultural economies. (Second Progress Report, July 13th, 2009.)

It is clear from many conversations that stakeholders are ready for a bold proposal – one that renders the Hill’s landscape visible again and that captures imaginations to the degree that people begin to energize new activities that revive their relationship to their home place in new ways. (Articulated by one stakeholder as *“a big garden in the heart of the Hill.”*) The overarching concept/ idea/proposal will need to be clear and compelling.

Clues emerged during the Advisory Group working sessions. On July 22nd, formal typologies – Edges, Hills and Tributaries -- were used to draw out data and ideas. For example, the idea of a green corridor surrounding the entire Hill, perhaps with entrance gardens, connections to places inside and outside the neighborhood and visually stunning elements (*“a huge vine overflowing down to Bigelow Boulevard”*) drew energetic participation. Other compelling ideas included dramatic water elements, such as rendering streams newly visible (an idea with its origins in the *FTR!* Kirkpatrick Park plan), and altering roads to make way for gardens or farms. (For example, vehicle traffic appears very light on Webster and Wylie from Kirkpatrick to Herron. How people use these and other key public rights of way could be a point of study for Greenprint Phase Two).

Render the Landscape of the Hill Newly Visible

The Greenprint should identify a series of projects that can start us quickly on the path of doing. For example, at the Consensus Group meeting on August 14th (as reported by a team member), people were intrigued by the value placed in identifying how people have made their own way around the Hill over the years (and by extension how they might be invited to do so in the future). At the Community Cookout, Arcena Street resident Mrs. Ketchum represented many voices we have heard when she talked energetically about the sets of city steps she used at one time to get from A to B within the Hill. These internal pathways still exist and some continue to be used (such as the steps from Bentley Drive to Alequippa Street extension, near Landslide Farm). The idea of *“little spots all over,”* is compelling in the context of the emerging bigger picture. Phase One should set the stage for identifying target projects in Phase Two.

The “**Hills** District”: The Hill is comprised of multiple hills and valleys. New perspectives on these various landscapes would be useful. For example, from the Upper Hill (bounded by Herron, Centre, and Bigelow), there are multiple perspectives over hills and valleys, several natural opportunities (identified in the *FTR!* Herron Avenue report), and potential connections to Oakland (Pennsylvania’s third most economically active district). The identity of different hills and valleys can be re-invigorated in the Greenprint.

Template for the Master Plan

The Consensus Group sessions underlined the importance of the Greenprint’s potential to frame the Hill District Master Plan. Many master plans have a green “chapter,” a general commitment to sustainable action. As an alternative, we want to use the Greenprint to frame **relationship with the Hill’s landscape as the guiding element that shapes the Hill Master Plan.**

Because the Master Plan will be a work in progress six months from now in February 2010 when the Pittsburgh Penguins’ development rights on the 28-acre Mellon Arena site kick in, we also want the Greenprint to offer the community options and perspectives on the Lower Hill. This includes both the Arena site itself and ways to re-knit the physical fabric of the Hill back to Downtown, while retaining the lower Hill’s distinctive character and identity.

Identify Specific Projects for Phase Two

As noted above, multiple opportunities exist for specific signature projects. One outcome of Phase One should be identification of these opportunities (key sites and connections, trails, walking, gardening, farming, water, views, trees/forest etc.)

As a community organizer, I hold that all places must be laboratories for how we can live in sustainable ways on the planet. (This view is consistent with a comment Walter Hood made to people at the Community Cookout). Therefore, I suggest that our project headings include the following two – Energy Security and Food Security.

Bio-fuel crops are being grown in Pittsburgh today. *FTR!* partners have an interest in looking at the feasibility of a bio-fuels or other “growing” project that might have significant scale. One site that suggests itself is on Housing Authority land on Bedford Avenue. Identifying others would be useful. With a supermarket coming to the Hill and the presence of the pioneering Landslide Farm, there may be opportunities to take steps toward having gardening and farming reach significant scale over time, thereby energizing new relationships between local people and land. The Greenprint should contain insights on where this might happen and how related activities might be connected? (E.g. growing, education, market places). Lots of people talked of gardens being important to them and there are many precedents in the Hill’s history.

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Continue to Draw on History

Following the model in previous *FTR!* reports, the design team is compiling maps (since 1815) that give insights into how the land has been used in the past. An emerging picture of landscape, ecology, and hydrology is emerging that will influence the proposals emerging from the Greenprint. For example, large changes have occurred in the Kirkpatrick Valley, where the landscape was modified “probably to flatten the hill to build public housing,” according to Jonathan Kline and Christine Brill, Studio for Spatial Practice.

Similarly, the lower Hill was connected to, but very different from, Downtown socially and culturally. It was a real-time melting pot of migrants and immigrants, among public places with strong cultural significance (many of which were documented in the photography of Charles “Teenie” Harris.)

There are many abandoned mines below the surface of the Hill. It seems apt to say that we want to make sure to drill below surface views of the landscape. The Greenprint will draw on clues that allow us to authentically reflect the rich stories and experiences that are part and parcel of the Hill’s identity – old maps, images, memories and the like.

Public Land

The public sector (City, Urban Redevelopment Authority, and Housing Authority) has had a large impact on the landscape in the Hill. These public bodies continue to own significant amounts of land. The Greenprint can offer proposals for the future use of public land that accelerates improvements in the community’s health.

Key Areas

See Appendix One for a list of key sites identified or re-emphasized.

Communicate Clearly and Embed New Relationships

As Phase One comes to a close, the *FTR!* and Hood Design team will collaborate to ensure that key ideas, concepts, and projects in the Greenprint are not only clear but also presented to inspire and energize people so they will initiate actions that transform relationships to their neighbors and their landscape. With that goal in mind, we will consider re-naming the project and its documents in a more inspiring way than simply Greenprint.

Community Partners Institute

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APPENDIX ONE

Key Greenprint Sites

- **All strategic *FTR!* sites** – Herron Avenue corridor (Williams Park, Minersville Cemetery, Bedford, Centre, Wylie, Webster from Herron to Kirkpatrick), Kirkpatrick Corridor, Bedford/Cliff/Arcena area
- **Herron Avenue corridor** – in addition to sites identified in the Herron Avenue corridor report, Sugartop as a whole and the Herron/Bigelow intersection
- **Bedford Avenue** – from Connolly School all the way to Herron Avenue, including St. Joseph’s property, Cliff/Arcena/ Ledlie, Josh Gibson field and Ammon Recreation Center – emphasis on views
- **Kirkpatrick Corridor --** Kennard field, MLK field and Landslide Farm
- **Lower Hill and Mellon Arena**
- **Small spaces** – E.g. Francis Court, Chauncey Drive, Dinwiddie Street Playground, Finland street, Schenley Field, Wadsworth Hall, Whiteside Road, Francis Street, former Whiteside road (Memory Lane)
- **Centre Avenue --** New Grenada, Hill House campus and Freedom Corner
- **Uptown/Bluff --** North of Fifth Avenue between Kirkpatrick and Dinwiddie – plenty of Hillside greenery with good views to the Monongahela (this land also features in the recent Uptown design plan and is below Addison Terrace, a significant Housing Authority site)
- **Fifth / Forbes corridor --** Fifth Avenue High School, Gist street area (adjacent to artist’s residence and poetry venue)
- **Schenley Heights**
- **City steps** throughout the Hill (E.g. Bentley Drive to Alequippa Street extension, connecting Centre/Wylie, multiple locations connecting Bedford to Bigelow Boulevard)
- **Pedestrian links** in the Middle Hill – linking Wylie, Webster and Bedford
- **Oak Hill**
- **Play/sports sites throughout the Hill --** Kennard, Martin Luther King field
- **Housing Authority sites --** Bedford, Addison Terrace, Reed Roberts
- **Washington Plaza and Connolly School parking lot**

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APPENDIX ONE

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Find the Rivers! Greenprint

Find the Rivers! Greenprint Survey

Find the Rivers! (FTR!) has engaged Walter Hood and Associates of Berkeley, California, as lead designer for the FTR! Greenprint, a visionary project action plan for key places in the Hill District landscape. Community Partners Institute is coordinating community input for the design team. Please take a few minutes to respond to this brief survey and return it to us by XXXX-- or sooner! Your responses will help shape Phase One of the Greenprint, which will roll out in September. MANY THANKS!!!

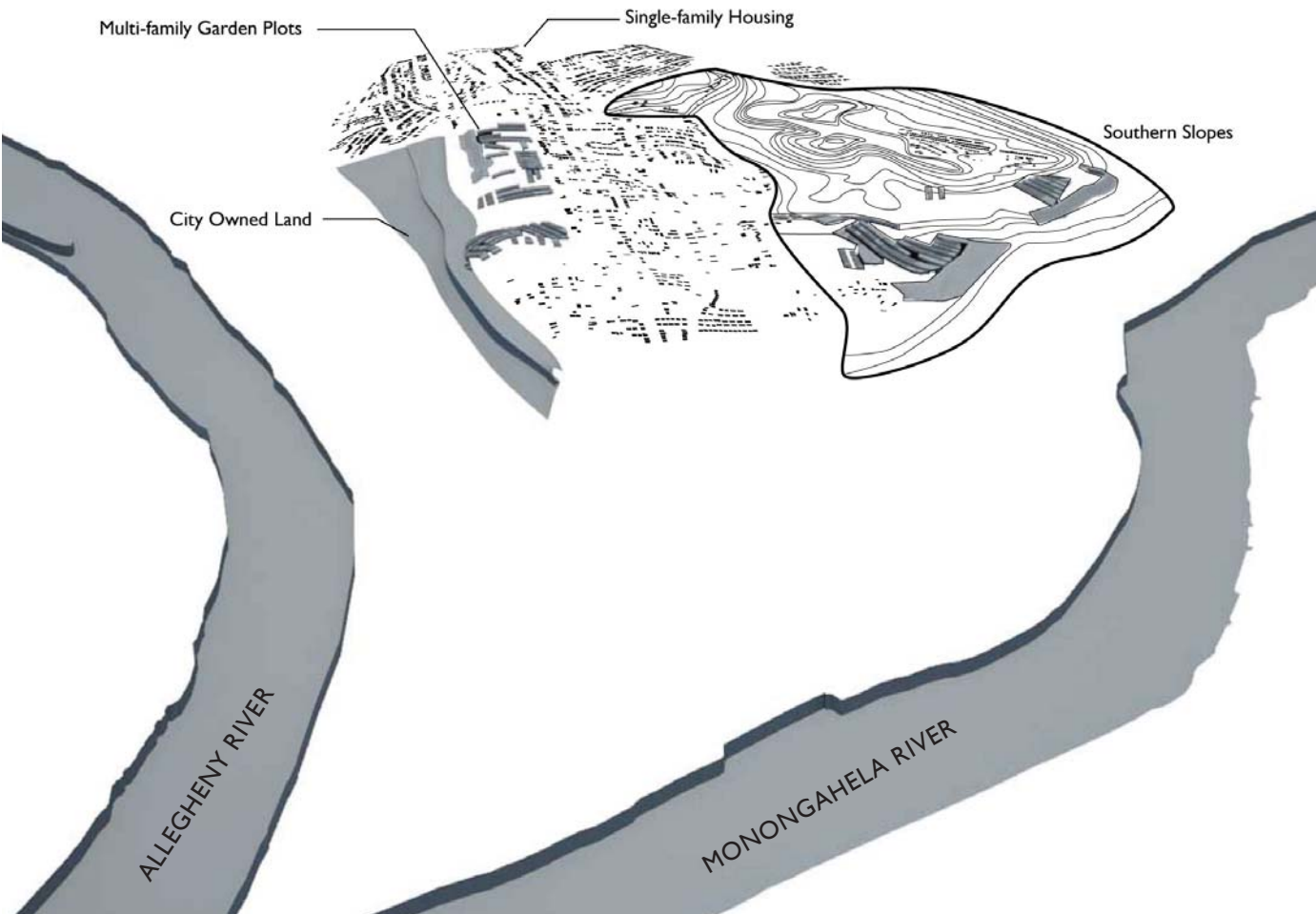
- 1) When you think of beautiful urban places – what places come to mind?
- 2) What qualities of those places you named in number (1) make them beautiful, in your eyes?
- 3) What are your favorite places in the Hill District, including “hidden gems” – buildings and small spaces ?

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Find the Rivers! Greenprint

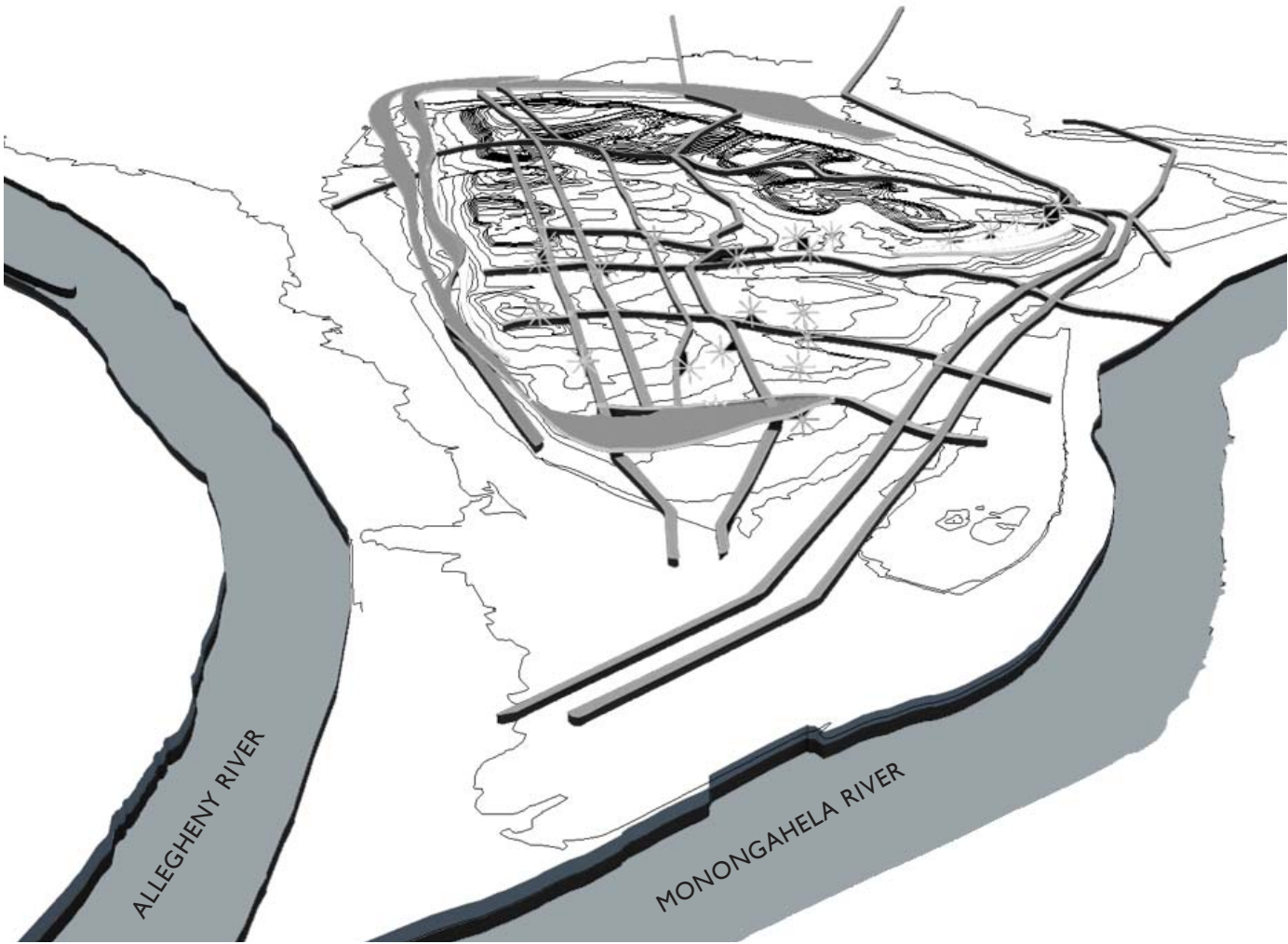
- 4) What existing green or open spaces should be connected to create a network of beautiful and useful sites around the Hill?
- 5) What land and places should the Greenprint focus on first?
- 6) Imagine ten years from today: what important transformation in the Hill’s landscape do you want to see?
- 7) Any other comments or advice?

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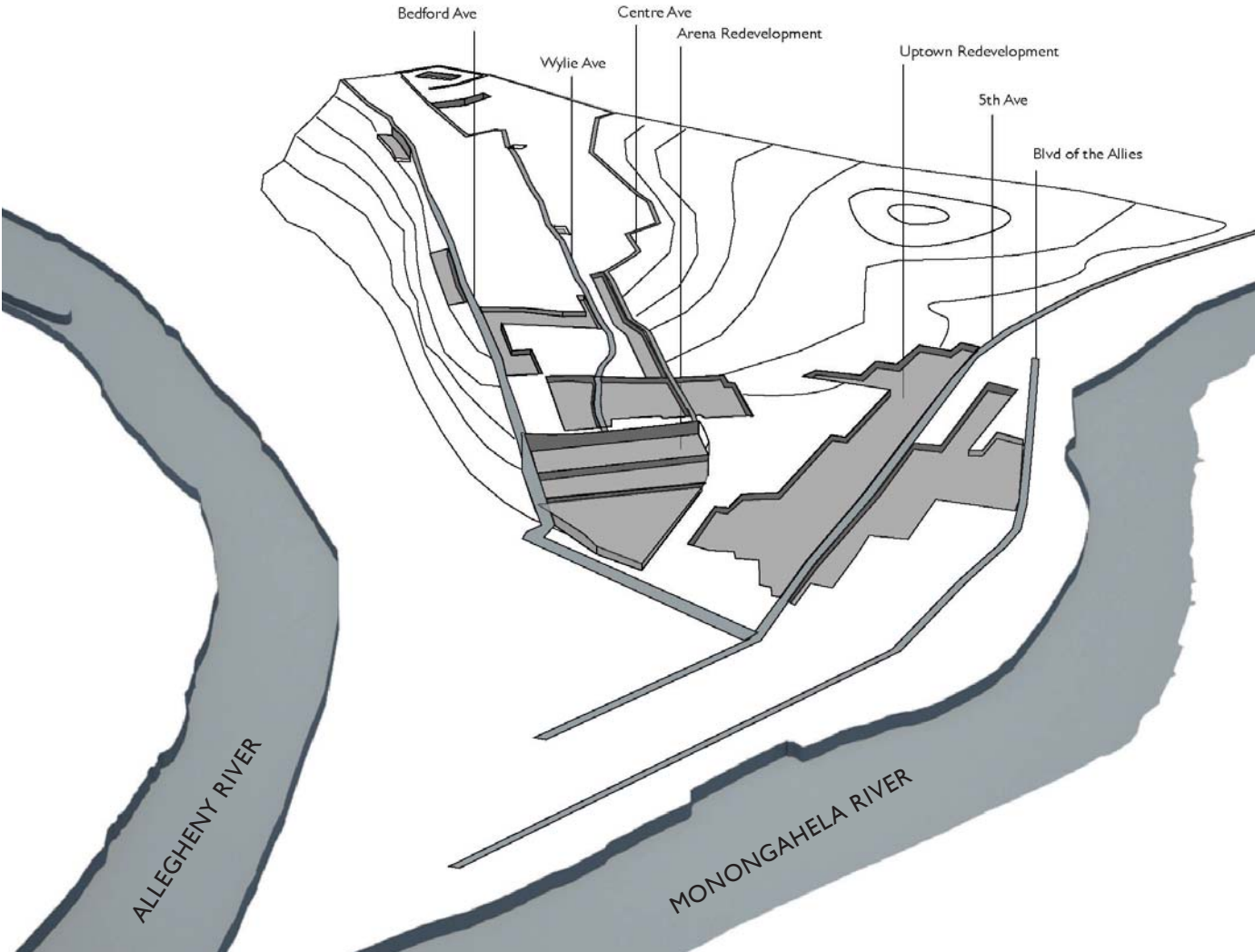
AGRICULTURE

Existing conditions of the Landslide Farm include vacant land, bluff zones, and southern slopes and provide a prototype for determining potential agricultural sites. Locations for agricultural development include the bluff zones and southern slopes where terraces would receive the most daylight, on city-owned land, and in the courtyard spaces of Multi-Family and Planned Unit Developments. Single-family housing agriculture could take the form of backyard garden plots.



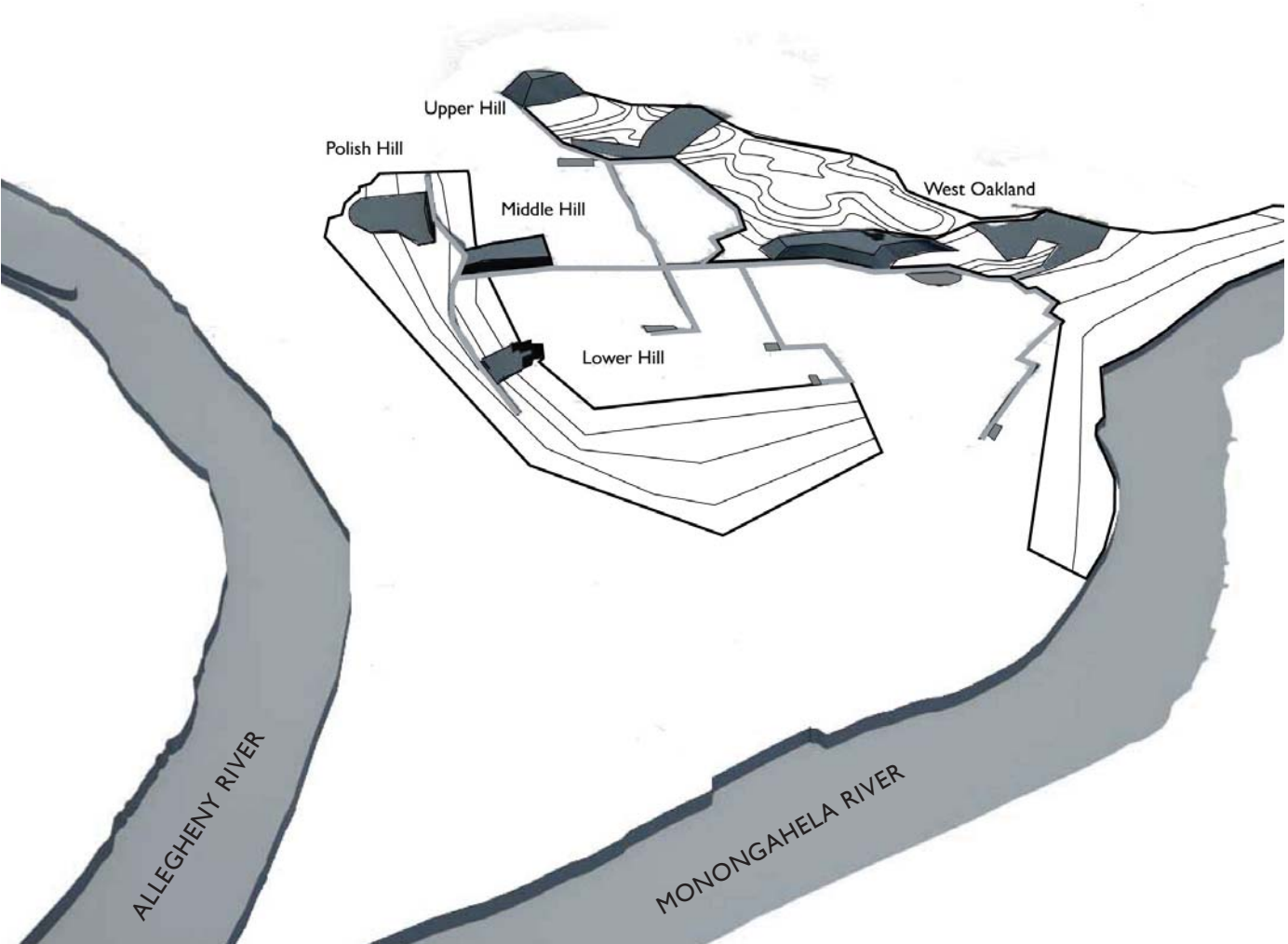
ART

The inclusion of art in the Hill could help to revitalize street and corridor edges, in addition to highlighting specific art-worthy locations. This could be realized through surface material changes and connections to identified historic markers, such as August Wilson’s childhood home. Bluffs and slope edges could be additional places for large-scale art interventions.



STRUCTURES

Development in the Hill modifies the topography in relation to its location in the landscape. The slope of the landscape around the new arena and bluffs forces terraced development and raises issues of soil/foundation stability. Development in the Uptown neighborhood and along Centre and Wylie Avenues suggests a more conventional construction method.

























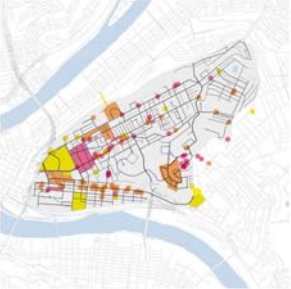



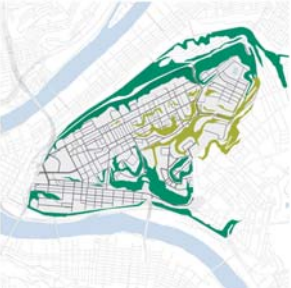









GREENSPACES

Greenspaces in the Hill are sized in proportion to their geographic location. Larger parks and recreation areas are primarily on the edges, hill tops and bluffs, while smaller spaces are towards the center of the Hill. Their respective locations offer the potential of green corridors that link the parks, creating a larger “green” landscape, while making it easier to navigate to them.

APPENDIX

ANALYSIS OF PREVIOUS REPORTS

REPORTS	GREENSPACE PARKLETS, ROW, PLAY SITES	AGRICULTURE URBAN GARDENING, FARMING	STRUCTURES BUILDINGS FOR RESIDENTIAL, COMMERCIAL, INSTITUTIONAL USES	TRANSPORT ROADS, STREETS, PUBLIC TRAN- SIT, AUTOS, WALKING, BIKING	INFRASTRUCTURE WATER, SEWER, UTILITIES, IM- PERMEABLE SURFACES	HISTORY PRESERVATION OF ORAL, PHYSI- CAL LINKS TO THE PAST	ARTS JAZZ, VISUAL ARTS, LITERARY CUL- TURES	CULTURE ART MARKETS, CHURCH LIFE, SOCIAL PROGRAMS, ETC.	EVOLUTION PREVIOUS URBAN RENEWAL EFFORTS, COMMUNITY-BASED REDEVELOPMENT, CURRENT MELLON ARENA PROPOSALS
<h2>1. Arcena Connections Planning Concepts</h2> <p>Client: Find the Rivers! (2008) By Klavon Design Associates</p> 	 <p>Cliff and Arcena Street Green Space</p> <ul style="list-style-type: none">Several City-owned lots, with added landscaping elements, can act both as a quiet green space for residents and connect to Arcena St. and Allegheny River views <p>Upgrading the Cliff Street Playground</p> <ul style="list-style-type: none">Above Bigelow Boulevard and overlooking the Cliff Street BridgeUpgrade the surrounding area and add a direct connection to Arcena Street via steps <p>Proposed Arcena Overlook</p> <ul style="list-style-type: none">Downriver and upriver viewsPublicly-owned land - opportunityPotential to be a significant and regular stop for walkers and neighborhood gatheringsFormer Incine (funicular) foundations are an opportunity to celebrate the City's industrial history			 <p>Ridgeway Trail (Arcena St. Connection)</p> <ul style="list-style-type: none">(Former) Ridgeway Street gateway over the Allegheny River could be opened up to extend a pedestrian route between Arcena Street and new rental housingConnect sites, institutions, public art and historic artifacts through marked and mapped walking trailsRenovate city steps - create a connection to Bigelow Boulevard; reestablishing a public bus transit stop option (to / from Downtown) for Hill District residents		 <p>City of Pittsburgh Historic Hill District Sites</p> <ul style="list-style-type: none">Civic ArenaFreedom CornerSt. Benedict the Moor R.C. ChurchHill HousePenn Incine SiteNew Grenada TheaterCrawford Grill 2NAACP Building"Crossroads of the World"John Wesley A.M.E. Zion ChurchMartin Luther King Jr. Reading RoomMilverville CemeteryWilliams Park <p>Note: See map provided in the report</p>	 <p>Significant Hill District Jazz Sites</p> <ul style="list-style-type: none">Site of the original Crawford GrillSite of the Elks HotelSite of the Pythian Temple (New Grenada Theater)Crawford Grill 2 <p>The Wylie / Fullerton intersection was known as "The Crossroads of the World"</p> <p>Art</p> <ul style="list-style-type: none">"The Spiritual Form" (Carlos F. Peterson)"The Family" (Dr. Selma Burke)"Phoenix" (Thaddeus Mosley)Mural at Centre and Coal Way (Unknown Artist)"The Mountaintop" (Thaddeus Mosley)World War I Memorial <p>Note: See maps provided in the report</p>		
<h2>2. Herron Corridor Coalition Planning Concepts</h2> <p>Client: Find the Rivers! (2008) By Klavon Design Associates</p> 	 <p>Williams Park / Herron Hill Reservoir</p> <ul style="list-style-type: none">Re-design and beautify the parkUse public art to mitigate the dull reservoir coverCreate a short 360° walking tour of PittsburghRestore / renovate the park for passive and active recreation for people of all agesScheme 1: Create viewing platforms to direct pedestrians toward prominent city sites. Create a walking pool to bring water down to the lower level of the parkScheme 2: Enhance the landscape with an arboretum. Create new overlooks around the rim of the reservoir along an undulating path <p>New Landscaped Common Area</p> <ul style="list-style-type: none">Link the John Wesley A.M.E. Zion Church and the Martin Luther King Jr. Reading Center			 <p>New Bedford Avenue Hillside Trail</p> <ul style="list-style-type: none">Connect the Hill District to Polish Hill and the Strip District via a hillside greenspace along both sides of Bigelow BoulevardCreate a trail along the hillside behind Bedford Avenue and link it to the five points intersection at Herron/MilvervilleLink to the Kirkpatrick Street and Arcena Street areas adjacent to Bedford AvenueLink to community institutions such as the Macedonia Church, the Annon Recreation Center, the Christopher Smith Center and the St. Joseph's House of Hospitality	 <p>New Planted Island on Herron Avenue between Bedford and Bigelow Boulevard</p> <ul style="list-style-type: none">Narrow the vehicular corridors approaching Herron / Bedford intersection to help slow traffic and give pedestrians a place to rest when crossing on the wide streetPlant street trees along Herron Avenue <p>Connections to Polish Hill and the Strip District</p> <ul style="list-style-type: none">Improve connections to adjacent neighborhoodsImprove existing City stairs			 <p>John Wesley A.M.E. Zion Church and Martin Luther King Reading Center</p> <ul style="list-style-type: none">Provides community leadership in the effort to expand economic and social life in the Herron Avenue CorridorThe church is in the vanguard of new approaches to sustainable energy housing a geothermal heating and cooling unit powered by under-ground flowing mine water	
<h2>3. Kirkpatrick Park Project</h2> <p>Client: Find the Rivers! (2005) By Klavon Design Associates</p> 	 <p>New Allequippa Street Overlook</p> <ul style="list-style-type: none">Visual connections to the Monongahela River and to the South SideAmphitheater seatingADA accessible trail connection to the Oakland neighborhood <p>Kirkpatrick Street Improvements</p> <ul style="list-style-type: none">Flowering trees along Kirkpatrick Street corridor <p>Kennard Field Improvements</p> <ul style="list-style-type: none">Redesign/relocate playgroundAdd parkingRelocate Reed St. entry away from the Kirkpatrick St. intersection <p>New Passive/Water Park on Kirkpatrick Street between Reed and Rosa Streets</p> <p>New History Park on Perry St. between Webster and Bedford Avenues</p>	 <p>New Community Gardens at the Fifth Avenue Gateway</p>		 <p>New Incine or "Moving Walkway"</p> <ul style="list-style-type: none">Connecting the Hill District or near Kirkpatrick Street to the Strip District belowWould utilize cutting edge technologyAn artificial, visual "regeneration icon" for the Hill DistrictWould be a tourist draw (like the Duquesne Incine in Mount Washington) along with the proposed Arcena / Cliff Street Overlook <p>Develop an ADA accessible Trail Connection to Oakland</p> <ul style="list-style-type: none">Connect to the proposed Allequippa Street Overlook <p>New Lighting and Street Trees along Kirkpatrick Street</p>	 <p>New Lighting and Street Trees along Kirkpatrick Street</p> <ul style="list-style-type: none">Relate to Birmingham Bridge lighting <p>Expose Stormwater at Location of Historic Stream</p> <ul style="list-style-type: none">Where possible in less-developed areasSee historic 1872 map included in the report for stream location <p>New Water and Art Channel</p> <ul style="list-style-type: none">Along southern part of Kirkpatrick Street	 <p>Historic and Present-Day Images</p> <ul style="list-style-type: none">Included in the report regarding Kirkpatrick Street and the Lower Hill District redevelopment (urban renewal) <p>New History Park on Perry St. between Webster and Bedford Avenues</p>	 <p>Marking the Historic Stream Location</p> <ul style="list-style-type: none">Using dense bulb plantingsNear Kennard FieldA community event to plant the bulbs <p>Proposed New Incine as an Art Object</p>	 <p>New Hill District Library / Museum Complex</p> <ul style="list-style-type: none">On Kirkpatrick Street between Bedford and Webster AvenuesNote: the Hill District Carnegie Library on Center Ave. was recently completed - there is also the MLK Jr. Reading Room on Herron Ave.	
<h2>4. River Opportunity Report</h2> <p>Client: Find the Rivers! (2005) By Denys Candy</p> 	 <p>The Kirkpatrick Park</p> <ul style="list-style-type: none">A green area stretching between the Hill's southern and northern boundariesStarting at Fifth Avenue across from the Monongahela River and the Birmingham Bridge, the park would follow a green "link" along Kirkpatrick Street up to Centre Avenue in the heart of the Hill community then continue on the other side of Centre Avenue along Kirkpatrick Street up to Bedford Avenue at a viewpoint overlooking the AlleghenyAt the southern end, near Fifth Avenue, it would be linked to a hillside park and Monongahela River Overlook			 <p>Hill Allegheny River Trail</p> <ul style="list-style-type: none">Possibly in the form of a boardwalk that would be lit at nightOverlooking the river and running parallel to a present trail that follows the south bank of the Allegheny <p>Re-Establish a Physical Connection from the Hill District to the Strip District Below Bedford Avenue</p> <ul style="list-style-type: none">Use dramatic modern design and funicular technology that would also benefit the city by drawing attention to a work of contemporary art					 <p>This document gives a thorough summary of the Find the Rivers! process, goals, outcomes, partners and vision for a physically, socially, culturally and economically healthy and connected Hill District.</p>
LEGEND	<ul style="list-style-type: none">New ParksNew Trails + StairsExisting ParksExisting Trails + StairsVistas	<ul style="list-style-type: none">Recent DevelopmentCurrent DevelopmentProposed DevelopmentRiver Valley HillsideNeighborhood Hillside							

REPORTS	GREENSPACE PARKLETS, ROW, PLAY SITES	AGRICULTURE URBAN GARDENING, FARMING	STRUCTURES BUILDINGS FOR RESIDENTIAL, COMMERCIAL, INSTITUTIONAL USES	TRANSPORT ROADS, STREETS, PUBLIC TRAN- SIT,AUTOS,WALKING, BIKING	INFRASTRUCTURE WATER, SEWER, UTILITIES, IM- PERMEABLE SURFACES	HISTORY PRESERVATION OF ORAL, PHYSI- CAL LINKS TO THE PAST	ARTS JAZZ,VISUAL ARTS, LITERARY CUL- TURES	CULTURE ART MARKETS, CHURCH LIFE, SOCIAL PROGRAMS, ETC.	EVOLUTION PREVIOUS URBAN RENEWAL EFFORTS, COMMUNITY-BASED REDEVELOPMENT, CURRENT MELLON ARENA PROPOSALS
5. Development and the Hill District <i>Client: The Looking Glass Institute (2008)</i> <i>By: Dewey & Kaye and Three Rivers Connect</i> 	 <i>Arena Street Overlook</i> <ul style="list-style-type: none">Design for this project is at an advanced stage and Phase 1 of the land-raising led by the Pittsburgh Parks Conservancy is complete <i>Josh Gibson Field</i> <ul style="list-style-type: none">Located off of Bedford Avenue between Whit-tide and Sowers StreetsThe two existing fields will be resurfaced with grass infills and four dugouts, two scoreboards, a sprinkler system, portable PA system and large concession stand and ADA-compliant restroom.		 <i>Middle Hill Housing Revitalization Plan</i> <ul style="list-style-type: none">The first stage of Macedonia Development Corporation's "Middle Hill Housing Revitaliza-tion Plan" includes a 32-unit, five-phase housing development. The master plan is to build infill housing from Wylie at Chaucery toward Herron Avenue, including the construction of 650 new units of for-sale, mixed income and affordable housing across 10 phases of development. <i>Mellon Arena and 28 Acre Site</i> <ul style="list-style-type: none">Once the new Penguins arena is constructed, development activity will move to the vacated Mellon Arena and the 28 acres of land below the Crawford-Adams neighborhood. The Penguins were granted development rights to the entire 28-acres to be used toward that development.						 <i>This document is a community snapshot of Hill Dis-trict development activities, summarizing:</i> <ol style="list-style-type: none">What investments are currently being made in the Hill District?Which organizations are driving these invest-ment?What is the nature and purpose of these invest-ment? <i>Provides basic demographic information as well as general housing and property conditions</i> <i>There are more development proposals than can ad-equately be summarized here - please see the report</i>
6. The Hillside Study <i>Client: Pittsburgh Hillside Committee</i> <i>By: 3 River 2nd Nature, Steven Farber, Perkins Eastman, Cyril Fox and The Allegheny Land Trust</i> 	 <i>City of Pittsburgh Hillside</i> <ul style="list-style-type: none">This report evaluates Pittsburgh's landscape in terms of hillsides and their development poten-tialThe steep green hillsides are described as being important to the identity and ecology of the City and the various costs of developing in such areas is explored at length <i>Hill District Recommendations</i> <ul style="list-style-type: none">The report illustrates the steepness conditions of the Lower, Middle and Upper Hill District and recommends that no development occur 1) on highly-visible, steep northern slopes facing onto the Strip District, 2) in much of the Herron Ave. cor-ridor area, and 3) along the steep southern slopes facing Uptown, North and West OaklandThese areas could be used for recreation or greenways							 <i>Utilizing Green Hillside</i> <ul style="list-style-type: none">Green hillsides can best be used for ecologi-cal purposes (quality of air, storm water man-agement, healthy living communities, etc) and recreational functions (hiking, jogging, riding trails, bouldering, passive nature enjoyment) and education (related to ecology and geology, etc) and as aesthetic amenities	
7. Uptown Community Vision Planning <i>Client: The URA of Pittsburgh, PPND and SAL Williams Real Estate (2004)</i> <i>By: Rothschild Deyna Collaborative, GSP & Metropolis Development</i> 	 <i>Wynndona and Kirkpatrick Streets near Fifth Avenue</i> <ul style="list-style-type: none">Bring together residents for parks and trails development, public art, neighborhood gateway improvements, and other creative and building re-use efforts - restore or demolish blighted buildings and support future housing development <i>Enhance Key Nodes with Public Art, Signage and Interim Green Space where Vacancy Exists</i> <i>Stabilize, Improve and Sustain Parks and Open Space</i>		 <i>Locust Street Development</i> <ul style="list-style-type: none">Pursue collaborative development in concert with Hospital expansion. Include new and restored homes, professional offices, neighbor-hood retail and services, pocket parks, adequate parking, new street trees and lighting and trans-formed and improved industrial properties <i>Future Transit-Oriented Development</i> <ul style="list-style-type: none">At the Birmingham Bridge node <i>Create Development Guidelines</i> <ul style="list-style-type: none">To improve predictability for private develop-ment and investment <i>Develop a Long-Term Housing Strategy</i> <ul style="list-style-type: none">Promote long-term community investment and residential growth	 <i>Trails</i> <ul style="list-style-type: none">Establish bike lanes on Fifth Avenue and trails through hillside rights-of-way. Connect Uptown with the Oakland portal, Second Avenue, the Hill District and the Southside					 <i>Market Potential</i> <ul style="list-style-type: none">The report studies the market potential of Uptown <i>Four Zones of Uptown</i> <ul style="list-style-type: none">The Bullitt is the priority area for first revital-ization efforts, including the Penguins Arena, Duquesne University and Power Center, and the UPMC Mercy HospitalCentral Uptown development will build upon key assets: historic homes and landmarks and industrial neighborsSolo will be revitalized through redeveloping industrial properties, engaging youth in commu-nity gardens and enhancing vacant parks as key urban nodes, such as at the Birmingham BridgeFifth Forbes development will take advantage of transit, historic structures and enhance quality of life for residents, pedestrians and bicycles
8. City of Pittsburgh Athletic Fields Analysis <i>Client: Department of City Planning</i> <i>By: Pashek Associates with John J. Clark and Associates</i> 	 <i>An evaluation of athletic field condition, access, use and permitting for the city of Pittsburgh.</i> <i>The Hill District has 4 multisite fields, 1 football/soc-cer field and 4 baseball/softball fields.</i> <i>There is also a baseball and a multisite field in Polish Hill just below the study area on the North slope.</i> <i>No new field opportunities in the Hill were identified.</i>								
LEGEND ■ New Parks ■ Recent Development ■ New Trails + Stairs ■ Current Development ■ Existing Parks ■ Proposed Development ■ Existing Trails + Stairs ■ River Valley Hillside ■ Vistas ■ Neighborhood Hillside									

HOOD DESIGN

URBAN LANDSCAPE AND SITE ARCHITECTURE

Phase I Review of Greenprint
In-Progress Report
July 14, 2009

Hood Design, Arup, Studio for Spatial Practice

I. Review of Arcena Connections Planning Concepts

Hood Design Review:

Find the Rivers! design vision includes using History, Landscape, Art, Water, and other design elements to:

Re-make visual and physical connections along the Hill’s northern edge overlooking the Allegheny River, including view-sheds down river (downtown and the Ohio River) and upriver

Re-make visual and physical connections overlooking the Monongahela River along sections of the Hill’s southern boundary;

Identify, re-imagine and connect strategic Green sites viewed as key to the Hill’s future health (economic, physical, mental and socio-cultural).

Goals of the Arcena Connections Project:

To illustrate the rich historic, cultural and physical fabric of the Hill District.

To identify sites of opportunity for green public spaces and new destinations.

To propose connections between existing community institutions and future green public spaces.

To outline potential uses for and connections between new green destinations (e.g., walking routes to/from businesses, social and community services, churches, etc.)

As a result, the following sites of opportunity for green public spaces and new destinations were identified:

August Wilson’s birthplace: 1727 Bedford Ave. (near Cassatt);

Cliff Street Playground, overlooking the 16th Street Bridge;

Vacant lots connecting Cliff and Arcena Streets;

Arcena Street Overlook – several plots of publicly owned land with magnificent views;

A potential trail on an overgrown City Street

(Ridgeway Street) from Arcena to the new rental housing site of the Housing Authority and McCormack Baron developers;

Walking routes connecting these places with other destinations in the area bounded by the Bedford

Avenue/ Kirkpatrick Street/ Centre Avenue/ Crawford Streets.

Recommendations:

The *Find the Rivers!* team recommends further development in the target area in two phases:

Phase One: Renovate the Cliff Street playground; produce a site design, including landscaping and beautification, for the Arcena Overlook and upgrade connecting lots between Cliff and Arcena Streets. Design an overlook on the HACP site.

Phase Two: Restore access to and build an overlook trail with view points between Arcena Street and the Housing Authority (HACP)/ McCormack Baron site at Bedford/ Kirkpatrick; restore steps to Bigelow Boulevard. In both phases, we recommend assessing opportunities for public art and historic artifacts along newly marked walking routes.

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HOOD DESIGN

URBAN LANDSCAPE AND SITE ARCHITECTURE

ARUP Review:

Greenspace - Site overlaps site of Herron Corridor Concept Plan. Both include linear park with overlooks.

Agriculture - None mentioned, but seems there may be an appropriate site (like Herron) since it is peripheral.

Transport - Mentions bus stop.

Infrastructure - Storm water management and erosion prevention to be considered carefully.

History - August Wilson house is included, but maybe could be better integrated.

2. Review of Herron Corridor Coalition Design Group

Hood Design Review:

Three strategic areas

Bedford Avenue Connection - A link to a proposed green trail running along the northern side of the Hill District.

Williams Park Reservoir -Built in 1886 as the Herron Hill Reservoir (a sister project to the Highland Park Reservoir) on the site of Fort Herron, which was key in the defense of Pittsburgh during the Civil War.

Geothermal Corridor - Running from Center Avenue to Bedford along Herron Avenue, numerous projects have been, or are in the process of being implemented to reclaim trapped mine water for our use.

Site 1 – Bedford Avenue Hillside Trail

Create a trail along the hillside behind Bedford Avenue and link it to the five points intersection at Herron/Milwaukee

Scheme 1

Using more modern materials, the Broom Factory site is transformed into a café with outdoor seating for residents and those beginning or ending their hillside journeys

Scheme 2

New development along the western side of Herron Avenue brings both businesses and residences back to the corridor. The former Broom Factory site is reconstructed to allow for a coffee/ice cream shop at the entrance to the Bedford Avenue trail, and a restaurant with private courtyard below for outdoor dining.

Site 2 – Williams Park/ Herron Hill Reservoir

The goal of this project was to re-design and beautify this park, and once again make it a place that is highly valued by the community and the city of Pittsburgh as a whole.

Scheme 1

Modern materials and landforms transform the hill around the reservoir into viewing platforms that direct pedestrians toward prominent sites in the city. A wadding pool brings water down the lower level of the park and makes it accessible

Scheme 2

Treats the existing landscape as the basis for an arboretum of sorts – small flowering trees and medium sized shade trees are added to the existing grand trees to create a more intimate and pedestrian scale landscape. New overlooks are created around the rim of the reservoir along an undulating path

Site 3 – Geothermal Corridor

Create a framework for expanded green economic development options for the Herron Corridor area

Scheme 1

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92 THE HILL A VILLAGE IN THE WOODS

- New gathering spaces allow John Wesley AME Zion Church and the Martin Luther King Reading Center to have independent gatherings, yet a central “stage” joins their two spaces together to create a unified community space. Non-traditional angles and materials create a more modern feel.
- Scheme 2
 - A more traditional “business park” model its implemented to connect the Church and the Reading Room. A central axis defines the front façade of new building footprints, allowing for these two major community resources to remain dominant to the site

Conclusion

- The strategic site identified can be linked to each other and additional sites throughout the Hill by creating an identity through the use of consistent signage, route maps and PR materials.
- Additional work is suggested on connections between the Hill District and Polish Hill, at the Northern boundary at Herron Avenue and the Hill District
- Research is needed on traffic calming, foot-bridges and other strategies for re-using existing frayed infrastructure so that pedestrians and bikers can be re-introduced to an area that would re-make boundaries in Pittsburgh by re-connecting the Hill District to Polish Hill and the Strip District
- Connect upper campus of University of Pittsburgh to southern end of Herron Avenue
- Slow the 9,200 cars that drive through daily

ARUP Review: Herron Corridor Coalition Planning Concepts

- Greenspace – Bedford Ave. Trail – Strong large linear park, maybe not accessible, Geothermal Corridor – can be the experience/quality be more linked to the geothermal and mines? Consider use of mine water for surface water “feature”, Williams Park – Good to enhance existing greenspace. Removal of fence and use of space on top of cap seems key. Could water be introduced on top? If not, green roof? Skate park? What is load capacity?
- Agriculture – Not currently included. Larger fields could be appropriate along Bedford Avenue Trail, community plots/raised beds could occupy a portion of geothermal and/or Williams Park
- Transport – Bedford Avenue – Great biking/walking trail, but probably too peripheral to displace much traffic. Perhaps additional entry points would help. Median for easier crossing in opt 2 is good (how about extending sidewalks), Geothermal Corridor – Scheme 2 enhances the street/pedestrian experience more. Williams Park – street trees, All – transit routes/maps Parking? Secure bike storage?
- Infrastructure –Bedford Avenue – storm water management erosion prevention, lighting. Mine water? Consider large PV/wind installation, Geothermal Corridor – heat/cooling available from mine water. Consider also electricity generation from flow (micro hydro) and use as a nonpotable water source. Williams Park – Energy generation on top of reservoir
- History – Bedford Avenue – Both schemes are strong in restoring Broom factory
- Arts – Bedford Avenue – art along trail? In café? Geothermal Corridor – Good potential site for crafts fair, etc. and public sculpture. Option 1 has performance stage. Williams Park – public art proposed on reservoir cap
- Culture – Bedford Avenue – Entrance point provides good special node. Geothermal – Space linking two major cultural hubs. Williams Park – accessibility is probably key to having this work as a social site
- Evolution – Williams Park – Could make use of shared ownership/maintenance?

3. Review of Kirkpatrick Park Project

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Hood Design Review:

Guiding Design Principles

- Connect to the rivers
- Connect to history and cultural riches
- Connect to existing and new development
- Connect to existing roadways
- Preserve the hillsides
- Preserve existing ecology
- Preserve existing buildings
- Preserve recreation
- Engage the entire community
- Create a gateway to the Hill District

Scheme A – Light

- Bring Light to Kirkpatrick Street – Scheme A proposes the use of light to knit the different sections of Kirkpatrick Street together
- Use the “light rooms” available along the length of Kirkpatrick as an opportunity to commission and exhibit new works of art

Scheme B – History

- Honor the History of the Hill District – Show the history of the Hill along the length of Kirkpatrick Street by embedding words, markings, maps and artwork into the ground
- Use Historic Streets and Buildings to Organize the Design – use subtle markings in the neighborhood around Kirkpatrick Street to acknowledge the significant streets and buildings lost to urban renewal projects

Final Design – combination of schemes A and B

- Art, Light, History, Water, Landscape
 - Fifth Avenue Gateway
 - The Overlook (Fifth Avenue and Oakland)
 - Kennard Field
 - Passive Water Park
 - Urban Corridor
 - Hill District Library/ Museum complex
 - Incline (replace)

Arup Review:

- Greenspace – Diversity of public greenspace types and physical conditions.
- Agriculture – Community gardens at 5th ave gateway.
- Structures – Urban corridor proposes to uplift existing buildings to transform image of street.
- Transport – Kennard renovation adds parking, reworks dangerous corner.
- Infrastructure – Light proposed as a unifying element. ADA Accessibility for all trails. Could any of streams be daylight? Does it still exist? Grasscrete parking at Kennard reduces storm-water runoff. New incline connects Hill to Strip.
- History – Timeline of area included, with links to occurrences in larger City. Penn Incline 1884 - 1953. Stairs to river until? Historic stream marked with light or bulb flowers.
- Arts – Art nodes proposed, integrated with light rooms (urban corridor, other sections). Light and water play key roles.
- Culture – “Bowl” gathering space Kennard field renovation improves rec opportunities. Community bulb planting day at Lily Baptist. Museum complex.
- Evolution – Treetop walk

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4. Review of River Opportunity Report

Hood Design Review:

Immediate focus is on Hill District and the economic and social prospects of its geographic location – several hills and overlooks the Monongahela and Allegheny Rivers.

Impact:

- Support and expand existing economic development efforts
- Build a dynamic two-way traffic of people by enhancing the Hill's images and attracting visitors
- Renewal of community social and cultural life

Objectives:

- Pursue a more detailed feasibility analysis: Kirkpatrick Park
- Engage residents in researching potential network and view of trails related to rivers

Three core elements for an initial Find the Rivers! Design vision:

- The Kirkpatrick Park
- A Hill Allegheny River Trail
- Re-establishment of a physical connection from the Hill to the Strip District

Four Core Principles of Find the Rivers!

- Resident-driven planning and action
- Dreaming big
- Peripheral vision
- Organic partnering

Design ideas:

- Emphasize light and water
- Make Kirkpatrick Park and Hill Allegheny Trail – brighter and safer
- Future park space possibilities – Monongahela river bounded by Fifth Avenue, Kirkpatrick, Bentley and Burroughs streets, Oak Hill, Bedford Street
- Funicular connection

Arup Review:

- Greenspace - The Kirkpatrick Park greenlink * turning as many places as possible into scenic overlooks
- Agriculture - *this paper does not really touch on this subject matter. However, it would be interesting to consider a community garden in one of the green spaces (such as Kirkland Park).
- Structures - *this paper does not really touch on this subject matter
- Transport - Find the Rivers would like to improve and enhance the two-way traffic to attract visitors (how are the current roads? Will it be difficult to create a path?) Bike paths as part of the connections?
 - * a Hill Allegheny Trail
 - * a reestablishment of a connection to the Strip district (are there pedestrian bridges across the rivers?)
- Infrastructure - * emphasis on lighting, particularly for Kirkpatrick park, and Hill Allegheny River Trail
- History - *touches on the “energy of community life” in the Hill district from 1950s * this sounds like something that can be replicated
- Arts - *one of the green spaces leading along the Kirkpatrick (leading to the Monongahela) has a natural amphitheater and an existing set of pedestrian steps
- Culture - *this is a resident driven plan

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5. Review of Development and the Hill District: Research Findings and Analysis

Hood Design Review:

Executive Summary

Hill District:

- Loss of population
- High unemployment
- Lower educational attainment and considerably more vacant homes than the City of Pittsburgh as a whole.

Opportunities

- First grocer
- Most notably, the addition of a new multi-purpose arena and eventual redevelopment of the Mell on Arena site in the Lower Hill
- Over two dozen significant projects in the areas of community centers, economic development, education, housing, recreation and religious & cultural institutions - Centre Avenue and Fifth and Forbes Avenue corridors
- Development more balanced in areas of recreation, community centers, transportation and religious and cultural centers

Community Centers

- Thelma Lovette Center – YMCA

Economic Development

- Parking Garage – Pittsburgh Penguins
- First Source Employment Center – Hill House Association
- Grocery Store
- Landslide Community Farm
- Parking Lots- Sal Williams Real Estate Investments
- Storefront Renovation - Ebony Development
- Geothermal Energy – Wesley A.M.E. Charities

Education

- Campus Expansion – University of Pittsburgh
- University Prep School
- Hill District Branch Carnegie Library of Pittsburgh

Housing

- Bedford Hill – McCormack Baron Salazar
- Oak Hill – Beacon / Corcoran Jennison
- Various Housing Developments - Pittsburgh Housing Development Corporation
- Wylie Homes - Macedonia Development Corporation
- Various Housing Developments - Oakland Planning and Development Corporation
- Historic YMCA Rehabilitation – YMCA

Recreation

- Josh Gibson Field – Josh Gibson Foundation
- Arcena Street Overlook

Religious and Cultural

- Church Rectory - Epiphany Catholic Church

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- Synagogue Renovation - Beth Hamedrash Hagadol-Beth Jacob
- Kaufmann Auditorium – Hill House Association

Potential Development Activities

Economic Development

- Mellon Arena and 28 Acre Site – Pittsburgh Penguins
- Penguins Hotel
- Oakland Portal – FWG Realty Inc.

Education

- Forbes Expansion - Duquesne University

Health

- UPMC Mercy – UPMC

Housing

- Wylie Homes - Macedonia Development Corporation & Jaxon Development

Recreation

- Find the Rivers! Projects

Religious and Cultural

- August Wilson House – Paul Ellis
- New Granada Theatre – Hill Community Development Corporation

Transportation

- Light Rail

Analysis

- First, housing was the primary focus of recent development and continues to be one of the primary development areas today. However, the proportion of development devoted to housing has steadily declined over time.
- Secondly, the focus on economic development has stayed relatively constant over time.
- Finally, economic development looks to occupy the highest percentage of development
- Workforce Development Overlap – 2 workforce development initiative works with the same population
- Development Corridors - Development generally has taken place along 'corridors' in the past, rather than taking place in a scattered fashion.
- Generally, URA ownership of large parcels of land may indicate a higher likelihood for future development.
- Private Developers - These include Jaxon Development, Ebony Development, Williams Real Estate, McCormack Baron Salazar and Beacon / Corcoran Jennison and TREK Development of Oakland.
- URA Housing Strategy
 - First, the creation of green space adds value to all the surrounding properties, create another asset for the community and provides environmental benefits. This approach is also lower-cost because it requires fewer homes to be built overall.

ARUP Review:

- Greenspace – *Josh Gibson Field (Little leagues as well as Adult rec leagues?)
- Agriculture – * the Landslide Community Farm (this could be a local model/example to locate another community farm at the Hill)

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- Structures - *(knowing about the housing demographics in the area will allow for a better understanding of the types of structures that should be placed in the neighborhood)
*the Thelma Lovette Center - YMCA
*A grocery store proposal on the corner of Centre Avenue and Heldman street
- Transport – (crime is mentioned in this paper. Roads, accessibility, lighting, should all be carried out with safety as a priority)

6. Review of The Hillside Study

Hood Design Review:

This investigation of the ecological and physical environments of Pittsburgh's hillsides, with economic and legal support, is intended to assist the City of Pittsburgh Hillsides Committee with its deliberations and recommendations regarding the future of Pittsburgh's hillsides.

- Based Cyril Fox's study of authority jurisprudence of land-use controls.
- Seeking an analytical methodology that would "identify potential danger from landslide and other development problems"
- Examine the cities current stock of "adequate public services and infrastructure"

Goals/Values:

- One of the goals of this project has been to provide an informed framework for establishing coherent public policy.
- First, the topographic relief provided by Pittsburgh hillsides is a major landscape defining feature that is distinctive and provides a unique identity to the Pittsburgh region.
- A second value of the unique topographic relief is its role in defining neighborhoods and communities. A third value is a more estimable economic value; the economic value of the topographic and associated land cover landscape amenities.
- Finally, a very important and estimable set of economic values of the land cover associated with the typical topographic relief in Pittsburgh is attributable to the natural system services of those ecosystems.
- Tools for Democratic Discourse
- Contextual analysis at the watershed scale.
- Open space needs analysis at the neighborhood scale
- Decisions analysis at the parcel scale.
- Field studies to inform land use guidelines.

7. Uptown Community Vision Planning

Hood Design Review

Executive Summary

Challenge:

- Uptown's population has eroded to just over 700
- Diminished value of buildings, vacancy
- History has resulted in neighborhood spaces that feel unsafe and a deterioration of trust amongst the very people who can make things better

Opportunity

- In ten years, Uptown will be a popular and diverse Pittsburgh neighborhood

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Recommendations

8. The City of Pittsburgh Athletic Fields Analysis

Hood Design Review

- Goal; Enable the City of Pittsburgh to meet the increases demand for athletic fields in the City and thus improve the quality of life for City residents by providing the recreational opportunities they desire

Recommendations

- Permitting
 - Purchase and use a computerized field scheduling program.
 - Include a web-based listing of field usage and availability (actual field permitting would remain with the City.
 - Hire a field monitor to assure compliance with permitting and field use regulations.
 - Hold all groups, regardless of age, influence, or financial contributions to a field; accountable to permitting and field use regulations by adopting sanctions for violations.
- Maintenance
 - Adopt a plan to rehabilitate all City fields according to specified design standards over the next 10-15 years. Utilize the fields inventory to prioritize this process.
 - Provide staff with training in athletic field maintenance and operations.
 - City revise their standard specifications for athletic fields to be more comprehensive and provide for more accountability.
 - Include proper under-drainage, irrigation, appropriate soil mixes and site amenities.
 - •Improve communication between DPW and user groups.
- Demand
 - Address need for 15-20 new rectangular fields through new field construction or retrofitting existing multipurpose fields.
 - Convert 5-10 multi-use (baseball/soccer) fields to soccer only in order to improve field conditions.
 - Track the growth of rugby, field hockey, and sports that use rectangular fields and, as fields are needed, consider converting up to five football fields for use by these sports.
 - Convert two fields per year for five years from baseball to softball.
 - Enlarge up to eight existing baseball fields for use by older teams/leagues.

Arup Review

- Greenspace – Hill has no multi-use or football/soccer fields and has baseball fields only in the upper section. However, access to fields does not appear significantly different from the Coty average. Gibson/Ammon field is not specifically mentioned in the report.
- Structures – addition of concessions and/or seating structures could be considered
- Transport – not mentioned in report. Important to consider pedestrian safety around fields and access by transit
- Infrastructure – Field irrigation and drainage are significant concern. Nonpotable water sources should be sought, perhaps good application if mine water is develop as a source. Solar power for field lighting?
- History - Opportunity to acknowledge famous players from each neighborhood and/or Pittsburgh as a whole. Pittsburgh Crawfords team not mentioned (photo in Kirkpatrick Document)
- Art – Public art adjacent to fields could be appropriate. Performance uses could be possible, though may be considered inappropriate use.
- Culture - More field time for adults is desired citywide.

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- Evolution – Field policy change is proposed to lessen problematic bureaucracy. No potential new field sites on the Hill are identified. Closest is Mazeroski field, for which there is limited potential. (Was anyone from the Hill Interviewed?) Computerized permitting system proposed. Renovation of all existing fields and siting of new ones in next 10-15 years.

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Memory Lane View from Bedford Hill

The Park District - Edges and Views



Herron Hill Reservoir



Bedford Dwelling Site



Bedford Hill Housing Development



Frank Curto Park View



Cliffside Park Interior



Dakota Street - View toward Southeast



Cherokee - Ossipee Tributary at Herron Hollow



Chauncey Street Staircase



Kennard Field



Addison Terrace



Bedford Avenue Path to Downtown



Proposed Park Connection to Downtown



Proposed Lombard Street Overlook



APPENDIX

KEYED PHOTO MONTAGE



Turkey Family at Frank Curto Park



Crossing Bigelow Boulevard to Access Kirkpatrick Street Stairs



Cherokee - Ossipee Tributary at Herron Hollow



Kirkpatrick Street Stairs and Termination Point below Memory Lane



Granville Street Playground



Lombard Street: Overgrown Stairs and Path to Addison Terrace



Lombard Street Mural and Garden



Lombard Street toward Dinwiddie Street



Emma Shelton w/ Cactus Plants



Linton Street towards Centre Avenue



Lombard Stairs to Diaz Way to Colwell Street (to Dinwiddie Street and Fifth Avenue)



Tributaries and Internal Views



Humbert Way Demolition



View towards Herron Hill Reservoir



Cobblestone Streets



Junilla Street Horseshoe Game and Stairs to Centre Avenue



Chauncey Street Staircase



Chauncey Street Staircase



Chauncey Street Staircase



Chauncey Street Staircase



Gazzam Street Rooftop View



View from Allequippa Street Stairs



Landslide Garden

To	Kirsten Weekes	Reference number
		209922/TWB
cc		File reference
From	Tom Berry x 27227 (San Francisco) Frank Greguras	Date
		August 26, 2009
Subject	Pittsburgh - Preliminary Engineering Geological Investigations	

1 Introduction

1.1 Scope of Memorandum

Arup have been asked to describe the physical characteristics of the Hill District in Pittsburgh Pennsylvania to develop a scheme called a 'greenspace planning exercise' to rejuvenation the neighborhood. The description of the physical characteristics of the neighborhood includes issues and opportunities related to aspects of ecology, geomorphology and geology.

This memorandum makes a remote assessment of and discusses high level issues specifically related to the topography, geomorphology and ground conditions of the Hill District. The preliminary findings of the memorandum are presented below and divided into the following sections:

- Topography – Section 2
- Geology – Section 3
- Hydrology – Section 4
- Coal Mining – Section 5
- Geoecology – Section 6
- Contamination – Section 7

It should be noted that this memorandum is for information only and should not be used for design.

1.2 Available Information

This memorandum has been written using the following publically available information from the following sources:

- The Pittsburgh Geological Society.
- The Commonwealth of Pennsylvania Department of Conservation and Natural Resources Bureau of Topographic and Geologic Survey.
- Chatham University

2 Topography

2.1 Regional Topography

The regional topography of the state of Pennsylvania is dominated by the Appalachian Mountains to the east, Pittsburgh itself sits within the Pittsburgh Low Plateau physiographic province. The Department of Conservation and Natural Resources (DCNR, Ref 1) describes the Pittsburgh Low Plateau as a having "low to moderate relief" with elevation between topographic high land forms and lows land forms typically between 101 ft and 600 ft (no datum stated).

The current topography was formed by the fluvial erosion of a broad plain (similar to present Mid-western USA) over the last 5 million years (after Prellwitz and Kyshekevych, Ref 2) leading to smooth undular high ground (around 1400 ft in the Pittsburgh area) incised by relatively shallow fluvial valleys (at an elevation of 700 ft in the Pittsburgh area).

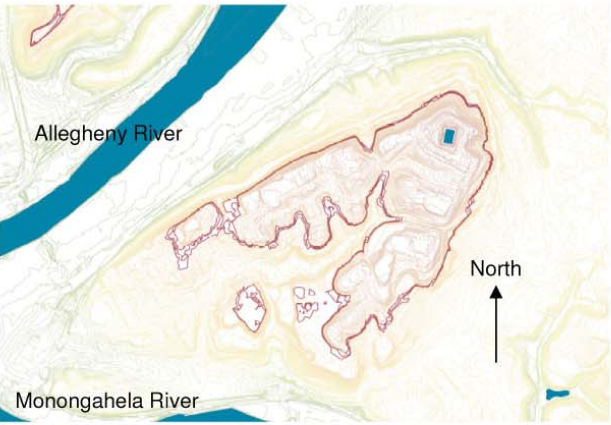
2.2 The Hill District

The topography of the Hill District is thus dominated by these regional topographical features but never the less maintains a unique identity being the prominent local topographic high. The Hill District comprises a wedge shaped topographical high at the confluence of the Allegheny and Monongahela Rivers and the start of the Ohio River.

The Hill District rises from around 900 ft in the river valleys in the north-west and south to over 1,200 ft at its highest and most northerly extent. The morphology of the Hill District follows the course of rivers and is steep sided to the west on the Allegheny valley and steep sided at the northern tip. The topography of the Hill District on the east becomes progressively less steep as one traverses south until on the southern boundary with the Monongahela River the slopes up to the Hill District are relatively shallow.

The Hill District has itself been incised, albeit on a smaller scale, by the tributaries of the Allegheny and Monongahela Rivers and these features can be seen as low relief valleys running off the higher ground toward the main valleys. Figure 1 below shows the main topographical features of the Hill District.

Figure 1: Topography of The Hill District



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3 Geology

3.1 Regional Topography

The geology of Pittsburg and indeed western Pennsylvania is dominated by Carboniferous Period rocks of Pennsylvanian Age, formed between 290 and 323 Million years ago, (after DCNR Ref 1) when Pittsburgh was lay almost at the equator.

These rocks comprise a cyclic sequence of sandstones mudstones and coals called cyclothems. The change in the rock type is associated with a change in the depositional environment and suggests a low-lying afforested coastal plain that was periodically inundated by the sea resulting in a repeated rhythmic cycles of marine, deltaic, fluvial sedimentation.

The following cyclical depositional environments have be identified in the rocks of the Pennsylvanian Period:

- 1) Marine conditions – limestone and mudstone marine deposits.
- 2) Sea level drops / land rises leading to deltaic sedimentation – sandstone and mudstone were deposited at or near sea level.
- 3) Sea level continues to drop / land continues to rise leading to land fluvial sedimentation – sandstone and mudstone deposits.
- 4) Land conditions including luxuriant forest growth and swamps - coal and seat earths

The above sequence is repeated regularly but necessarily Figure 2 Below shows a schematic idealized geological stratigraphic section of Pennsylvanian cyclic sequences.

Figure 2: Idealized Geological Section of Pennsylvanian Rocks, (From PDEP Ref 4).

LITHOLOGY	SEQUENCE	DEPOSITIONAL ENVIRONMENT	PHASE
shale		swamp and marsh	DELTA PLAIN
coal		overbank and levee	
argillaceous limestone		silt and muds	
sandy shale			
sandstone and siltstone		alluvial plain sheet sands	PROXIMAL
		distributary and barrier sands	PROGRADING
		channel sands	DELTA
gray fossiliferous shale		delta slope and prodelta muds and silts	DISTAL MARINE
fossiliferous limestone		marine platform	
black fossiliferous shale		limestones and muds	
gray shale pyritic concretions		destructural phase muds and silts	
coal			SUBSIDENCE COMPACTION TRANSRESSIVE
underclay			

(adapted from Pryor & Sable,1974)

After the deposition of these sedimentary rocks they underwent a period of uplift and folding as North America and Africa collided in an event that is called the Alleghenian orogeny. This coming

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together of two great plates occurred around 290 and 220 million years ago and formed the Appalachian mountains, (after Chatham University, Ref 3).

3.2 The Hill District

The Hill District is underlain by Pittsburgh Formation rocks of the Monongahela Group rocks that are in turn underlain by Casselman Formation rocks of the Conemaugh Group. These rocks comprise predominately sandstone units with subordinate units of mudstones, limestones and coals. The boundary of the upper Monongahela Group and lower Conemaugh Group rocks is the Pittsburgh Coal and this located at an elevation of between 1055 ft and 1063 ft in the Hill District.

Figure 3 below presents an extract of the geology of the Hill District, showing the main geological features of the area.

Figure 3: Geology of the Hill District

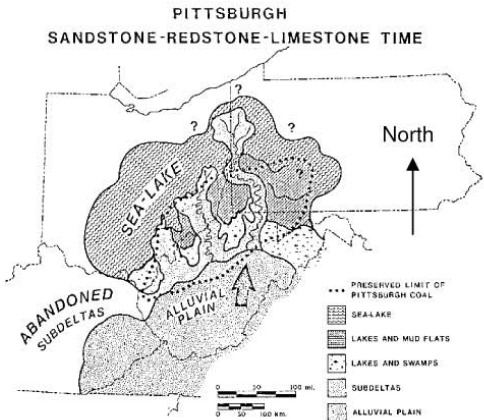
3.2.1 Casselman Formation

The thickness of the Casselman Formation is in the range of 230 feet (70 m) to 485 feet (148 m) and is composed predominately of fresh water sandstone, siltstone and mudstone with subordinate units of "marine shales above the Ames limestone, and the Skelly horizon, which occurs about 30 to 60 ft (9 to 18 m) above the Ames marine zone" PDEP Ref 4.

3.2.2 Pittsburgh Formation

The Pittsburgh Formation is composed predominately of sandstone, limestone and coal. The organic debris that would eventually become the Pittsburgh Coal was deposited and further material was deposited burying the organic materials including sandstones deposited in river channels running through the southwestern corner of Pennsylvania and limestone or shale deposited in the lakes and on the mud flats, (after PDEP, Ref 4). Figure 4 is a reconstruction of paleodepositional environments during the time of deposition after the deposition of the Pittsburgh coal.

Figure 4: Paleodepositional Environments After the Pittsburgh Coal. (From PDEP, Ref 4)



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4 Hydrology & Hydrogeology

4.1 Hydrology Around the Hill District

As discussed in Section 2.1 above the current topography was formed by fluvial erosion of a broad plain that has created a mature dendritic drainage pattern. Dendritic drainage is typically associated with branching drainage patterns coalescing into a single major river, this pattern is often seen on maps as drainage pattern that looks like a tree.

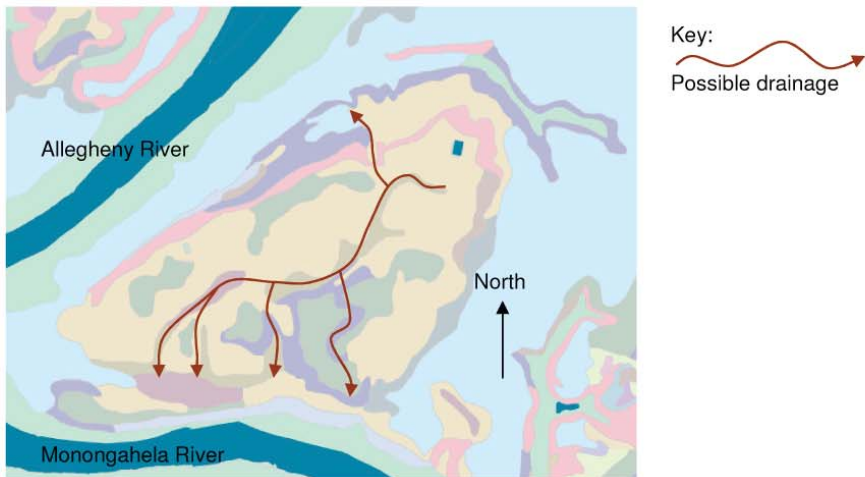
The Allegheny and Monongahela Rivers that exist now have occupied a similar course for many thousands of years, generally flowing steadily but occasionally rapidly eroding the valleys in response to glacial and tectonic uplift forces and frequently changing course. As the rivers cut down the plains to form the topography we see today, the flows slowed and was able to deposit fluvio-glacial sands and gravels. The meandering long profile of the Allegheny and Monongahela Rivers suggest they are 'mature' rivers having developed there course over many generations.

4.2 Hydrology of the Hill District

Although the Hill District is relatively small geographically, it still has the potential to have its own drainage system. The topography will influence any drainage superimposed on to the area and as such any indicators of drainage (particularly pre-settlement) will run perpendicular to the contours down the steepest slopes and into the regional drainage system. As discussed above drainage systems cause erosion that manifests itself as small erosion channels eventually becoming valleys so topographic maps can be used to tentatively identify landforms associated with fluvial systems. In addition, fluvial systems can deposit indicator soils types that can be used to locate current and historic fluvial courses.

Figures 1 above and 5 below can be used to suggest locations of current and historical drainage in the Hill District although due to recent developments the natural drainage could have been culverted in their natural channels.

Figure 5: Soils of the Hill District



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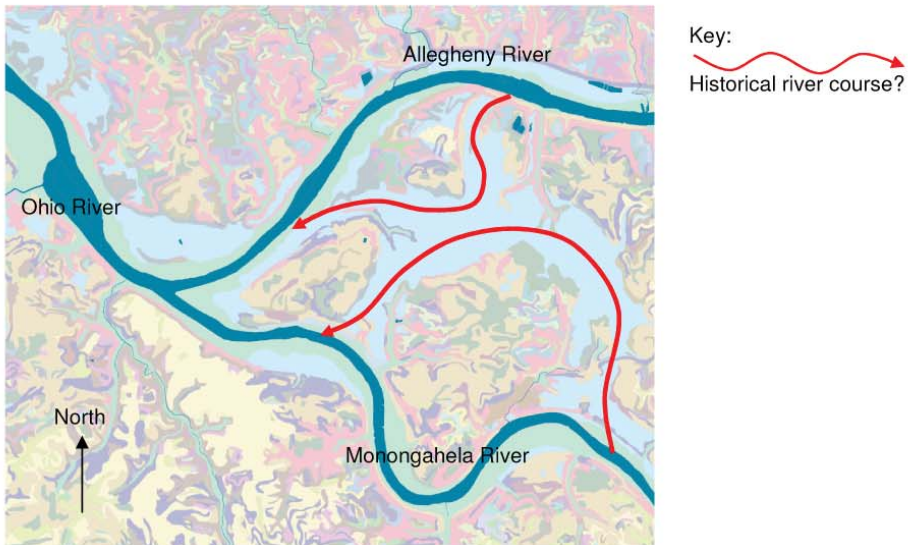
4.3 Historic Course of River Monongahela River

The current course of the Allegheny and Monongahela Rivers was determined by the Illinoian glaciations around 770,000 years ago when ice advanced south and cut off the north flowing Allegheny and Monongahela Rivers causing a large lake called Lake Monongahela to form. Eventually the lake got so deep it over topped local watersheds and flowed south. Eventually the rivers courses settled into their current positions draining south and west towards the Mississippi River.

As the glaciers melted the great quantities of water were released which combined with the isostatic uplift, caused by the weight of the ice being removed, led to erosion and relatively minor changes in the course of the rivers. The rapid erosion and changes in river courses led to remnants of the old river valley floors 200 to 250 feet above the present river level.

An example of the old course of the Allegheny River can be seen as the low lying area to the north of the Hill District and an example of the old course of the Monongahela River can be seen as the low lying areas to the north-east of the Hill District, (after Chatham University, Ref 3). Figure 6 below indicates the possible previous courses of the Allegheny and Monongahela Rivers.

Figure 6: Possible Historic Course of Rivers



4.4 Hydrogeology

Groundwater flow is either through the spaces between rock grains (pore water flow) or the rock fractures (fissure flow), the permeability being determined by the density of the grains and connectivity of the pore spaces or dimensions and connectivity of fractures. Clearly the flow through fractures is the dominant flow mechanism for fluid flow through rock. It can be seen from the above that the importance of connectivity and fractures has a large influence on the hydrogeology.

The interconnectivity of the rocks are on all scales is very important, Poth (1963) suggests hills constitute "hydrologic islands" that are not connected to the wider hydrogeological network. As such a discrete groundwater system may operate in the Hill District separated from adjacent islands but

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connected to the rivers through discharges to local streams, and, to some extent, springs above stream level, (after PDEP, Ref 4)

Underground mine working can act as large open fractures in the rock intercepting and transmitting the groundwater and percolating surface water. When mine openings are constructed below the water table the abandoned voids draw groundwater from the surrounding saturated rock resulting in dewatering.

5 Coal Mining

5.1 A Historical Perspective

Coal mining in the Hill District was first carried out around the early to mid 1800's and is recognized as some of the earliest coal mining in Pennsylvania. The most mined of these beds was the formation called the Pittsburgh Coal, which fueled the future industries of the area and is present below the Hill District. While the location of Pittsburgh was initially determined by the confluence of three rivers, it was coal that drove its subsequent development, (after PDEP, Ref 4).

5.2 The Pittsburgh Seam

There are little if any mineable coals in the Conemaugh Group as such the only mineable coal in the near surface rocks in the Hill District is in the Pittsburgh Formation and is the Pittsburgh Seam. "The largest production of underground coal in Pennsylvania is from the Pittsburgh coal seam" PDEP, Ref 4 .

"The Pittsburgh Coal is unusually continuous, covering thousands of square miles (km²), and is unusually thick (5 to 10 ft or 1.5 to 3 m) for a coal of western Pennsylvania", PDEP Ref 4 . The other major coals in the Pittsburgh Formation that have been deep mined in the past are the Redstone and Sewickley, however, these are not thought to be present beneath the Hill District as they are located higher up in the stratagraphic column and are thought to have been eroded out of the geological sequence in the Hill District, (after PDEP, Ref 4).

It is likely that the full thickness of the seam has been removed.

5.3 Mining Induced Subsidence

Subsidence is the sinking of the ground surface above an underground void and can be caused by the collapse of an underground mine or cave. If the subsidence occurs beneath or directly adjacent to a man-made object, the result can be very costly and dangerous. Western Pennsylvanian is prone to coal mining induced subsidence and foundation subsidence problems due to its long and often uncontrolled mining history, (after PGS, Ref 7).

Mining operations are generally carried out in two ways firstly open cast or strip mining where shallow coal is extracted from the surface and secondly deep mining where shafts or adits are sunk or dug into the coal seem and the coal removed. It is generally the latter that causes subsidence issues.

Historically room and pillar mining has been the preferred method for extracting coal. Room and pillar techniques comprise extracting around 50% of the coal in either a square or irregular pattern and leaving behind pillars of coal to support the roof. It is not uncommon for modern mines to remove pillars left by previous generations of miners. This method was clearly inefficient and modern coal mining practice is to completely remove the seem using what is called long wall extraction , (after PGS, Ref 7).

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A likely cause of future subsidence in the Hills District could come from the collapse of previously mined seams of or the collapse of a (poorly backfilled) mine shaft. Subsidence associated with long wall mining has usually stopped within a few years of the completion of mining unless circumstances change when reactivation of settlement can occur.

5.4 Ground Gas

Naturally occurring ground gas is produced in several ways including a thermogenic origin from organic materials under relatively high temperatures and pressures deep in the earth, microbial breakdown of near surface organic material (e.g. in bogs and landfill sites) and from coal beds. Coal bed gas comprises two principal odorless and tasteless gases; explosive methane and carbon dioxide that is an asphyxiant.

Natural gas when it can be economically collected and distributed is a valuable resource but when uncontrolled can become a major geologic hazard. If the conditions are right naturally occurring ground gas can migrate from the reservoir rock along fractures in the bedrock (and mine shafts / adits), up to the surface where if it comes into contact with structures can collect in basements or other enclosed structures with poor ventilation, potentially causing explosion or asphyxiation.

5.5 Mine water

"Groundwater reflects the chemical character of the rock units through which it flows . For example, groundwater that has come in contact with sandstone and shale containing pyrite remains 'soft'. Water in limestone or calcareous aquifers usually is a calcium magnesium bicarbonate type and is sometimes 'hard'", (DPEP, Ref 4).

It should be noted that groundwater drawn from coal mining areas is likely to be of poor water quality both with concentrations of dissolved elements such as metals above recommended levels and with acidity above 'normal' levels. In addition the ground water drawn from coal mining areas is often discolored and prone to 'frothing'.

"Well yields vary over the area with a reported median yield of about 1 gpm for Washington County (Newport, 1973) and a reported median yield of 8 gpm for the upper section (Uniontown Formation) of the Group (Stoner, 1987) in Greene County", (DPEP, Ref 4).

6 Geocology

6.1 Soils

Figure 7 below shows the soil and the 1055 – 1065 ft Pittsburgh Coal contours indicating the suggested influence of the underlying geology (particularly the coal) on the soil type.

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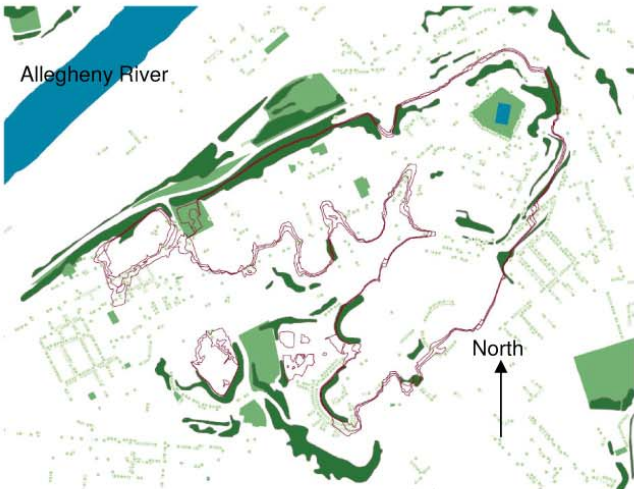
Figure 7: Level of the Pittsburgh Coal on the Soil Map



6.2 Vegetation

Figure 8 below shows the vegetation and the 1055 – 1065 ft Pittsburgh Coal contours indicating the suggested influence of the underlying geology (particularly the coal) on the vegetation type.

Figure 8: Level of the Pittsburgh Coal on the Vegetation Map



7 Contaminants Associated with Historical Land use

Based on the historical land uses at the site the following contaminants are likely to be present:

- Coal Mining – Gases (CH_4 and CO_2) , oils, greases and heavy metals;

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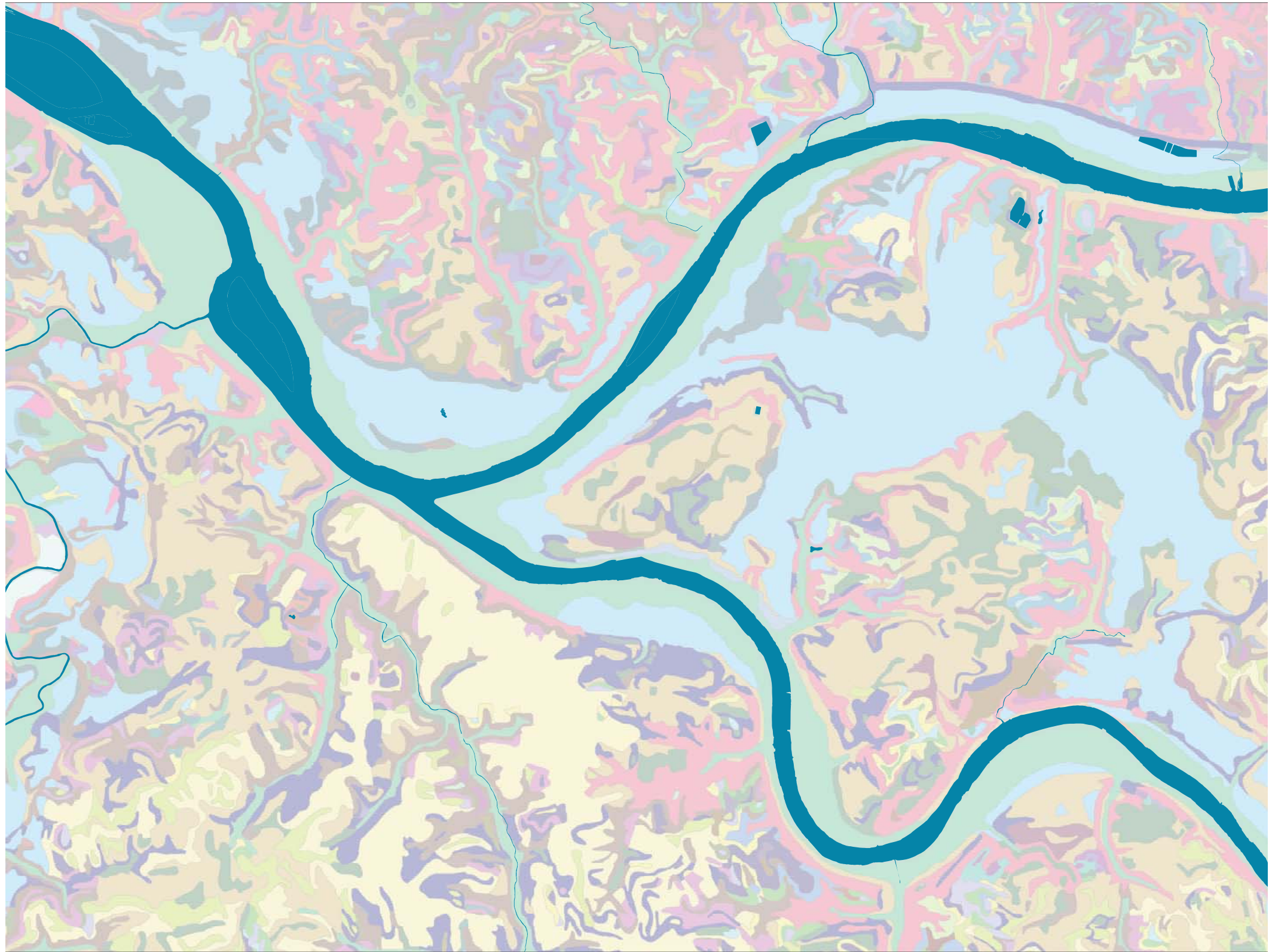
- Mining Spoil – Heavy metals and arsenic; and
- Mine water – Acid groundwater, discolored groundwater, metals.

8 References

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- 2) Prellwitz, H.S., and Kyshekevych, R.G., Ohio River Pools 1, 2 & 3. Riverbank Geology, Conditions and Access Reports,
- 3) Chatham University - http://www.chatham.edu/PTI/Everyday%20Science/Real_02.htm
- 4) Pennsylvania Department of Environmental Protection - <http://www.dep.state.pa.us/dep/deputate/minres/bmr/act54/sec7.htm>
- 5) Sevon, W. D., Fleeger, G. M., and Shepps, V. C., (1999), Pennsylvania and the Ice Age (2nd ed.): Pennsylvania Geological Survey, 4th ser., Educational Series 6, 30 p.
- 6) Pennsylvanian Department of Environmental Protection - <http://www.dep.state.pa.us/MSI/WhatIsMS.html>
- 7) Durant, W., Land Subsidence in Western Pennsylvania, The Pittsburgh Geological Society.
- 8) Department of Environment Industry Profiles
- 9) Durant, W., Natural Gas Migration Problems in Western Pennsylvania, The Pittsburgh Geological Society.
- 10) Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Soil Series Classification Database - <http://soils.usda.gov/soils/technical/classification/scfile/index.html>

This map shows the major surface water features in and around the Hill. These are the Allegheny and Monongahela Rivers, the Ohio River at their confluence, and the reservoir, which is now capped. The coloring around the rivers indicates flood zones of progressively lower flood likelihood. The + symbols dotting the riverbanks show where the combined storm and sewer system overflows when high stormwater runoff overwhelms the system. These CSO events compromise water quality in the rivers because they cause sewage that is not fully treated to run into them. Stormwater retention and infiltration in the Hill can benefit water quality in the three rivers by reducing the instances of CSO.

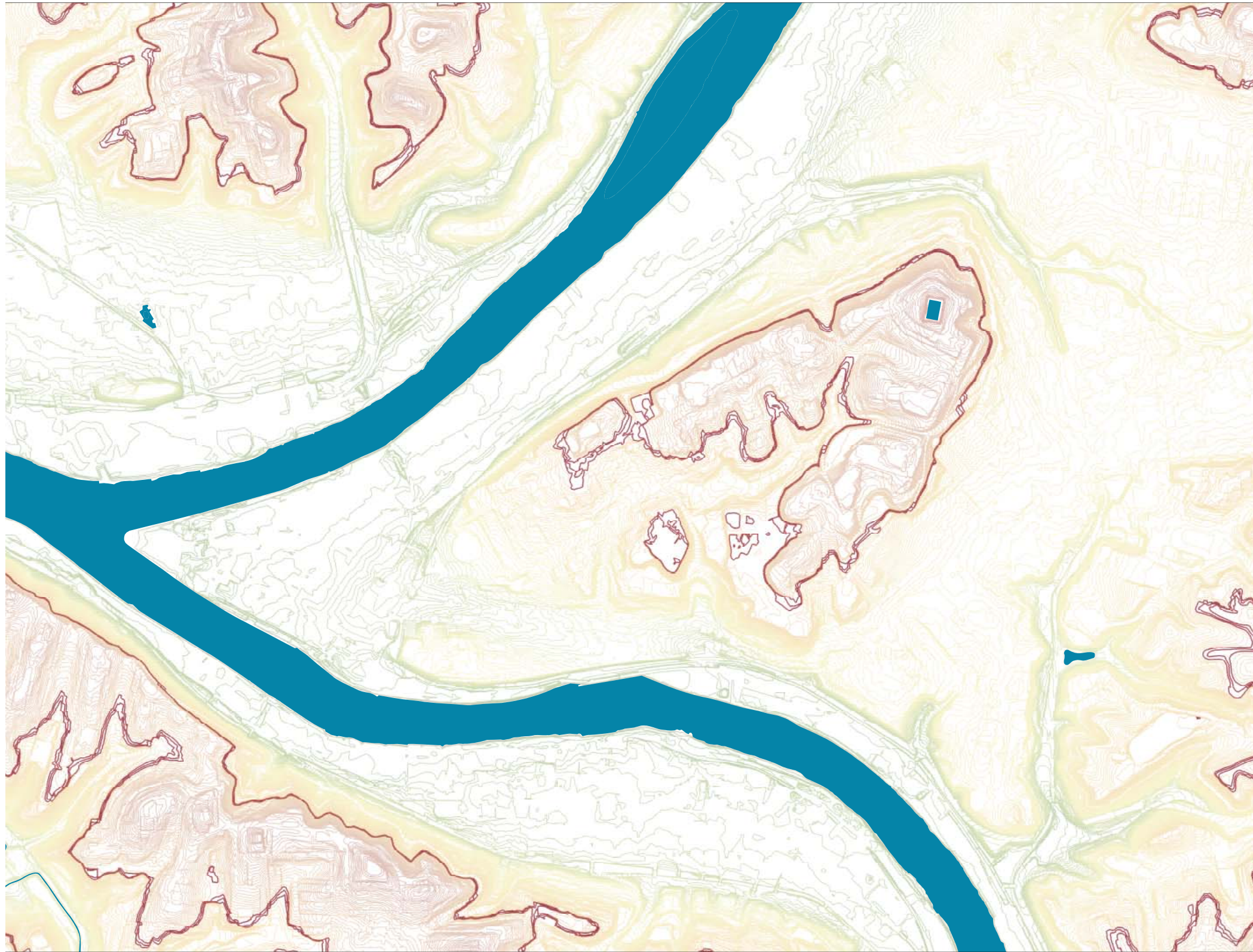




This map shows the soil types in the Hill and surrounding area. The surrounding area is included because the soils map illustrates potential historic paths of the Allegheny and Monongahela Rivers (light blue). This suggests that the steep edge slopes of the Hill were carved out by the two rivers. The varying soil types also indicate paths of creek flows within the Hill and the coal seam edge (see map in this Appendix), among other features.

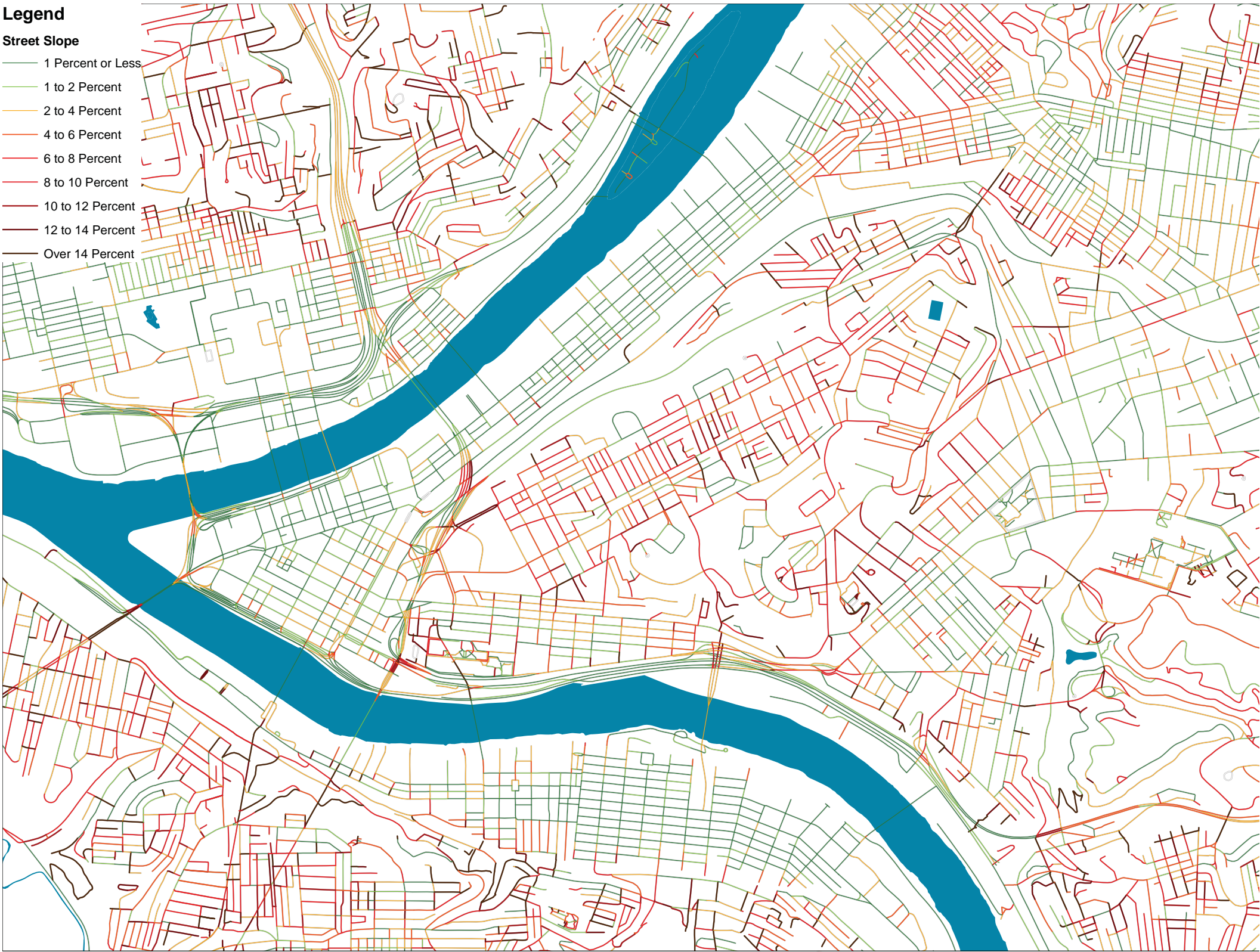
This map shows existing local public vegetation in and around the Hill. Each small green circle represents an urban street tree planted and maintained within the city limits. The lighter green areas show local parks and green spaces, while the darker green areas represent large woodland patches as designated by Allegheny County.

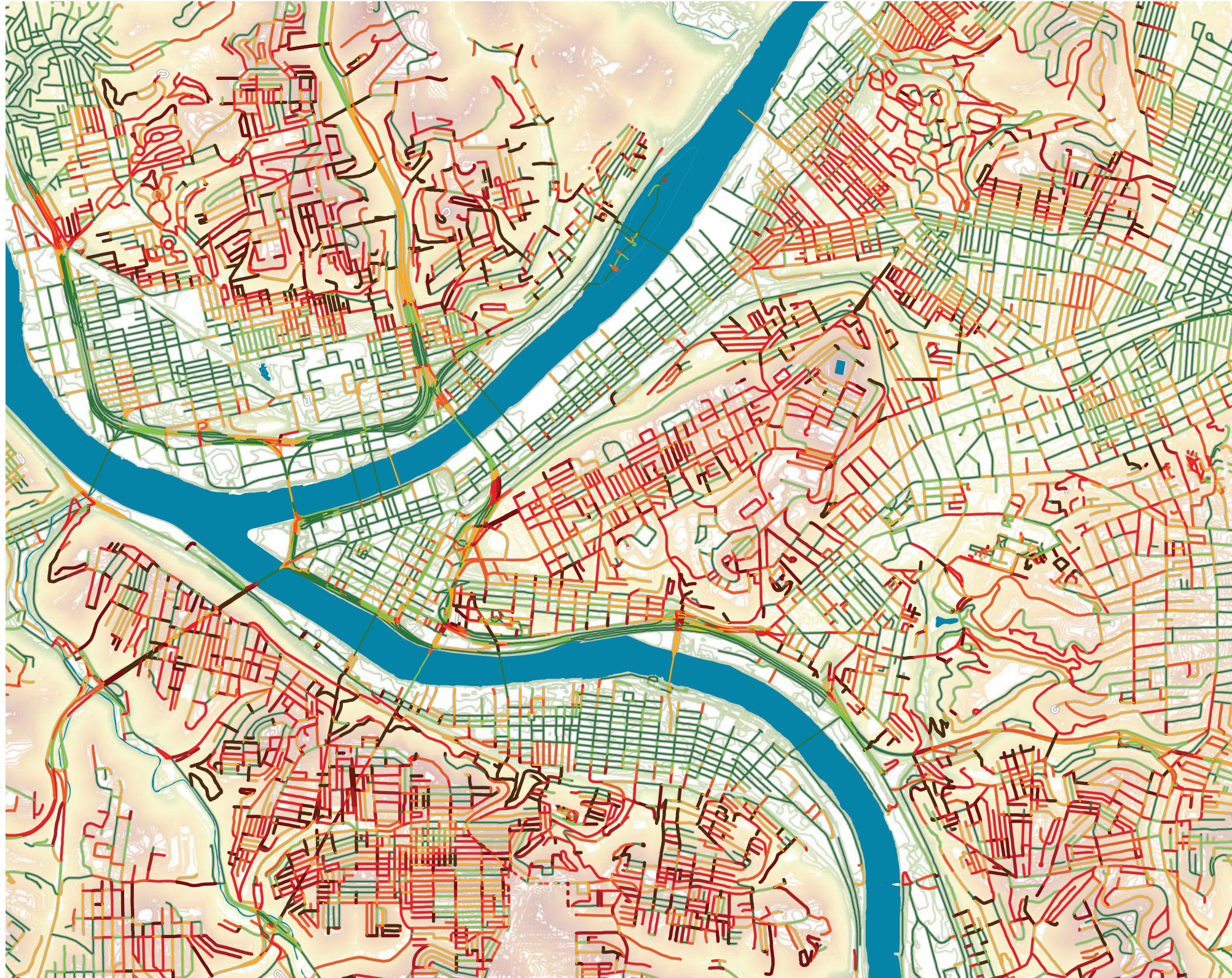




This map shows the topography of the Hill. One can see that it is comprised of several smaller hills and valleys, with somewhat of a central valley down the center on the NE/SW axis. The red lines highlight the 1055 - 1065' elevation, which is the approximate location of the coal seam. All areas that are outlined by the red lines should have the coal seam below at some depth (nearly 1/2 of the Hill). The red lines show places in the neighborhood where the coal seam should emerge from the hillside and be exposed. Sources indicate that most of the coal seam has been removed. Groundwater tends to fill the void left by mining and flow out. The red lines also indicate areas where this water is most likely to emerge at the ground surface. The coal seam edge, particularly its northern portion, seems to have influenced soil and vegetation types (see maps in this appendix).

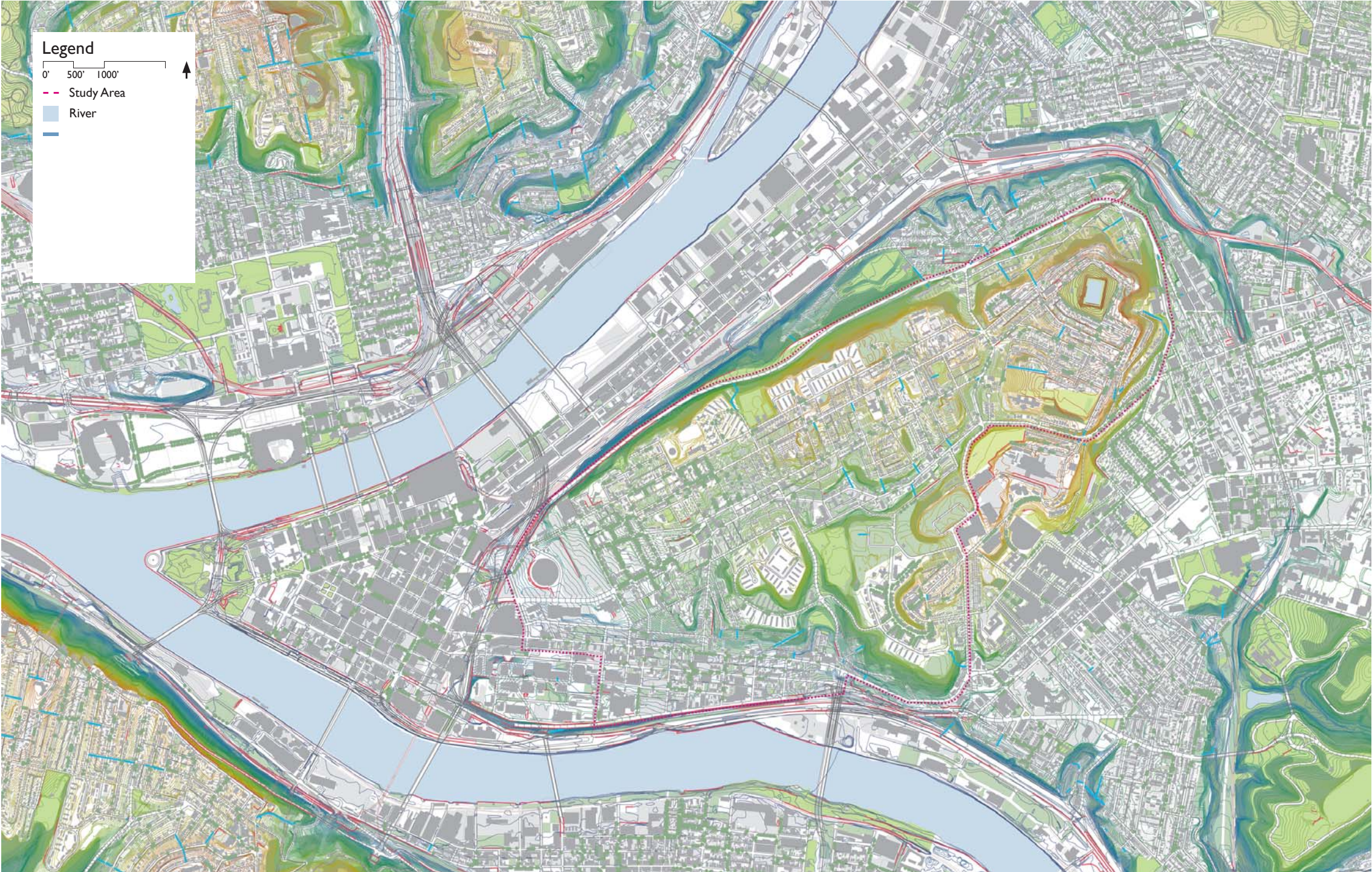
This map shows the slopes of streets in and around the Hill. Street slopes are important in determining the suitability of an area for regular pedestrian and bicycle activity, route planning for emergency vehicles and other public and private vehicles, as well as recreational and other planning. Green lines represent street segments that are the least steep and most accessible, while the darker red lines represent those that are steepest, and could pose difficulties to walking, biking, handicapped residents, and certain types of transit.





This map shows street slopes, with local topography underlaid for reference.

This base map shows a portion of the City of Pittsburgh with the Hill study area highlighted by a dashed pink line. This map illustrates how the hilltop neighborhood relates to adjacent areas and the riverfront and connects to a broader urban context.



HILL DISTRICT - BASE MAP
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - 1815

Map source: 1815 - Plan of Pittsburg and adjacent country, William Darby, University of Pittsburgh Darlington Digital Library Maps Collection

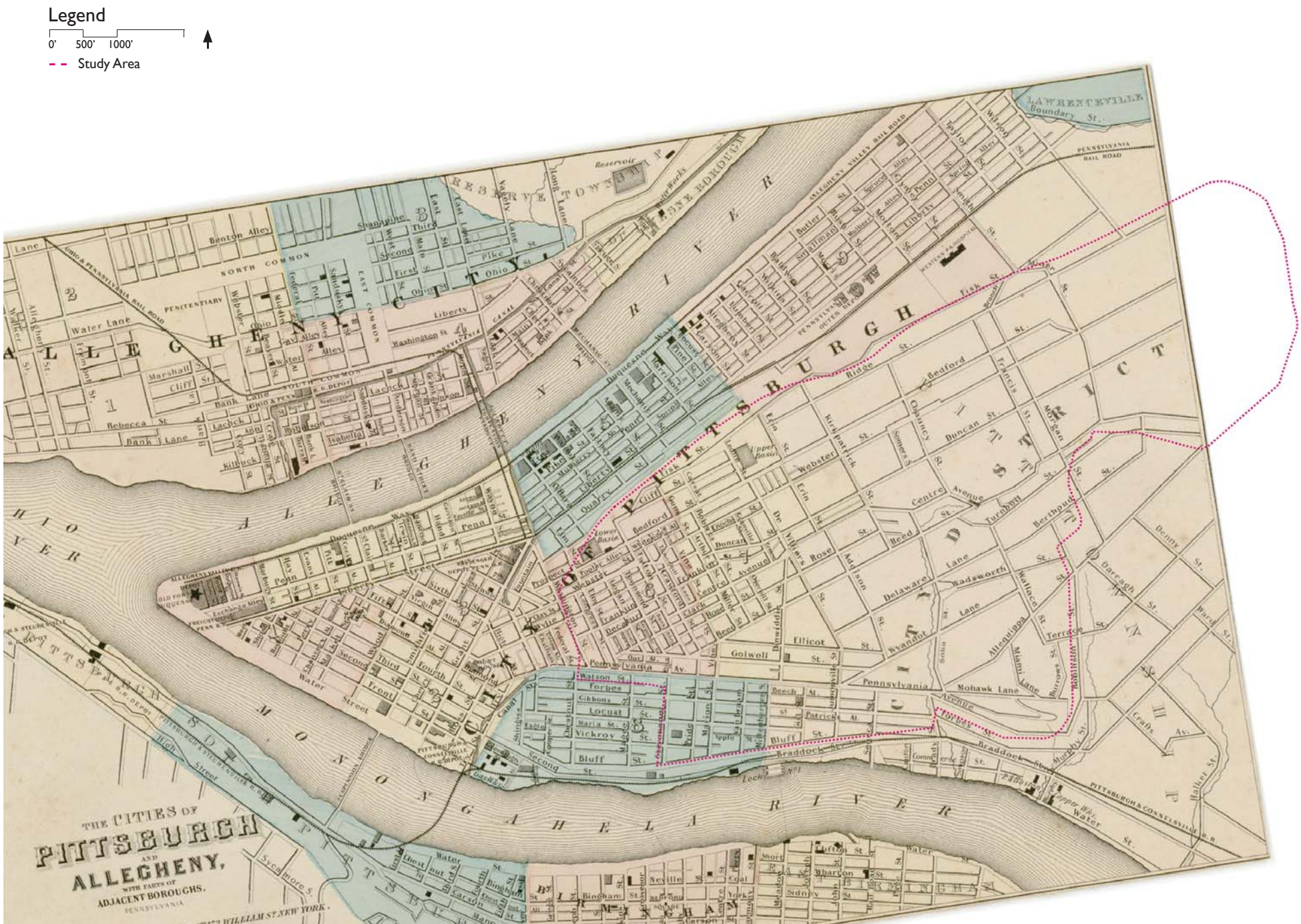
The earliest maps of Pittsburgh show a density of development at the confluence of the Allegheny and Monongahela Rivers. Further east, the landscape between is peppered with hills and valleys. From this map, it is evident that the Hill has always had a rich, diverse landscape, typified by water movement through valleys across, over and down a hilly terrain.

By 1835, development stretched further to the East, but the hilly terrain atop the larger Hill plateau remained largely un-built. There was a great deal of speculation and planning for future development, but construction occurred later.



HILL DISTRICT - 1835
Map source: 1835 - Map of Pittsburgh and its environs, Lewis Keyon, University of Pittsburgh Darlington Digital Library Maps Collection

This 1855 map illustrates road networks, blocks and important built landmarks. A dense development pattern is shown in the Lower Hill area. Unlike earlier maps, the cartographer shows no indication of the complex landscape on which the roads are laid.



HILL DISTRICT - 1855
Map source: 1855 - Cities of Pittsburgh and Allegheny, with parts, J. H. Colton & Co., University of Pittsburgh Darlington Digital Library Maps Collection

The Atlas of Allegheny County shows that as the Hill is developed, the presence of creeks, waterways and tributaries diminishes. The natural flow of water has been severely altered and suppressed by 1872, through the use of culverts and landfill. Water must now find its way around buildings, along curbs or through pipes to reach the river. Three distinct reservoirs can be seen on this map, two along the northern edge of the Hill and one to the east at the Herron Avenue Reservoir location..



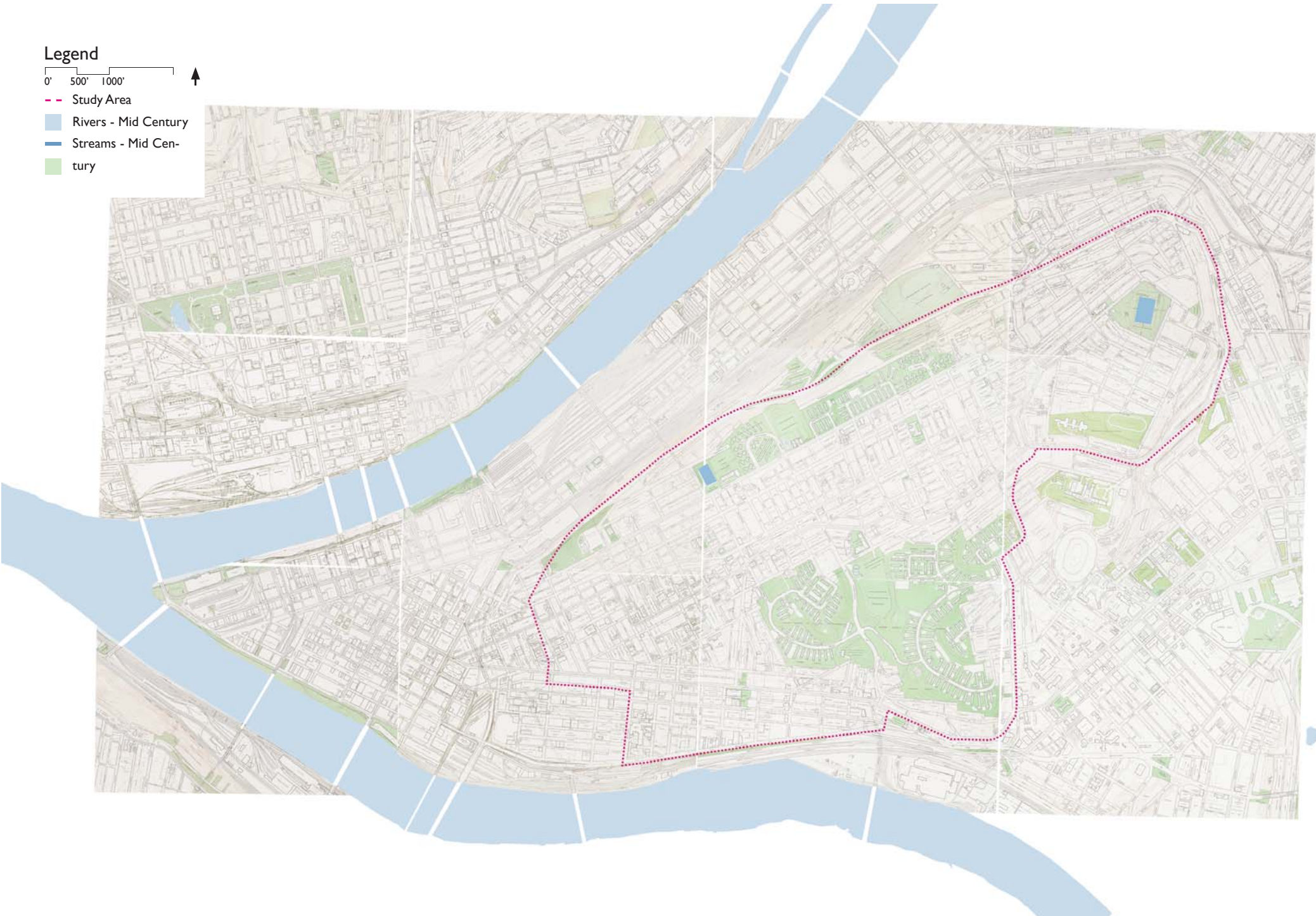
HILL DISTRICT - 1872
Map source: 1872 - Atlas of the Cities of Pittsburgh, Allegheny and Adjoining Boroughs, University of Pittsburgh Hopkins Maps Collection

The core of the Hill, bounded to the north and south by Bedford Avenue and Reed Street respectively, was densely built by 1923. The Hill had strong connections to Downtown Pittsburgh and to the adjacent neighborhoods that are now referred to as Uptown, Oakland and Polish Hill. No evidence of underlying landscape features and waterways is presented in this map.



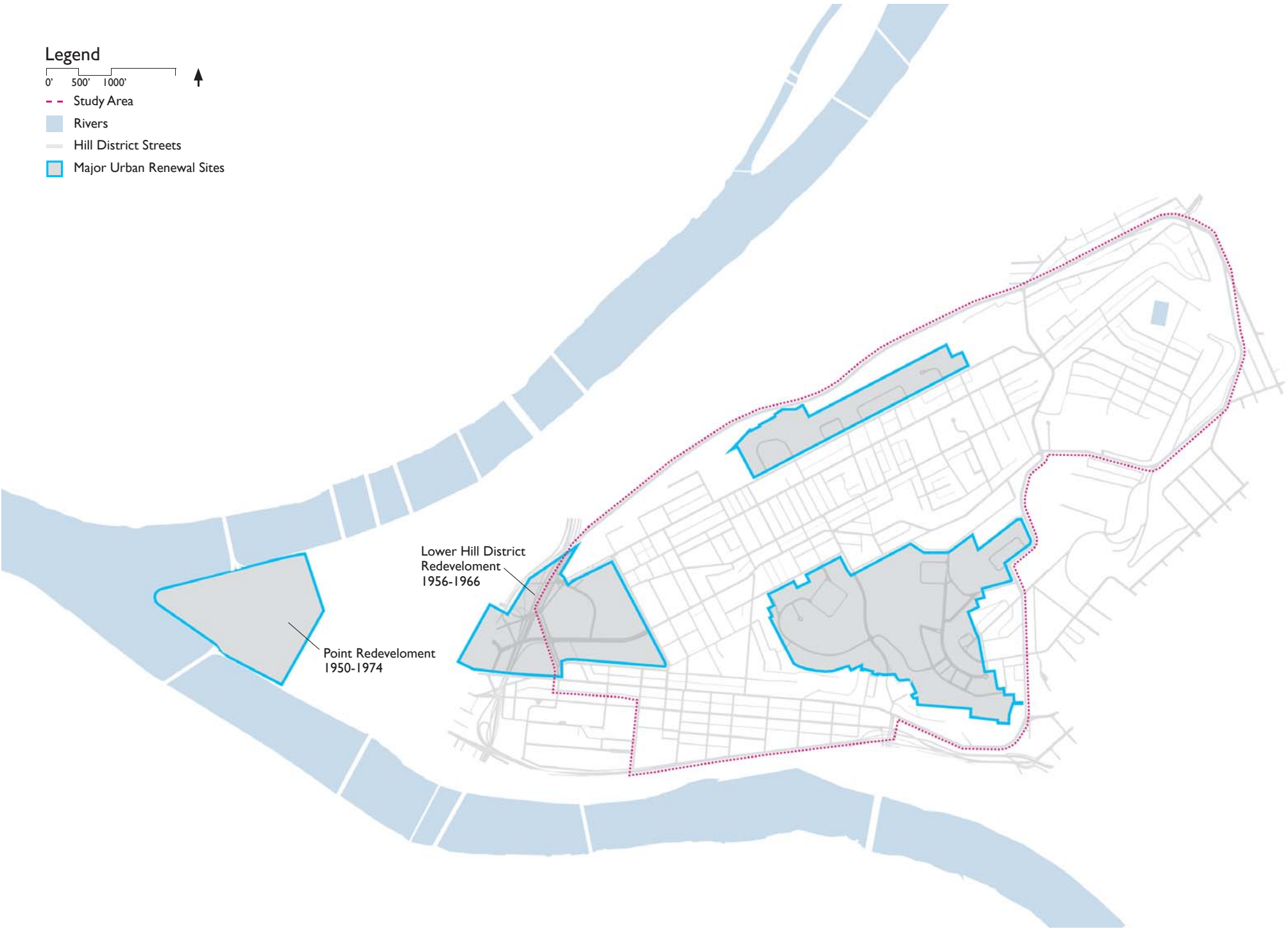
HILL DISTRICT - 1923
Map source: Real Estate Plat-Book of the City of Pittsburgh 1923 Volume I - Central Pittsburgh: Wards 1-6 and 9, University of Pittsburgh Hopkins Maps Collection

By the middle of the twentieth century, public housing projects were developed along the northern and southern edges of the Hill. The housing projects were envisioned as green, hilltop landscapes with views of the City below. On this map, bright blue rectangles represent massive city water storage facilities: the Bedford Basin and Herron Avenue Reservoir.



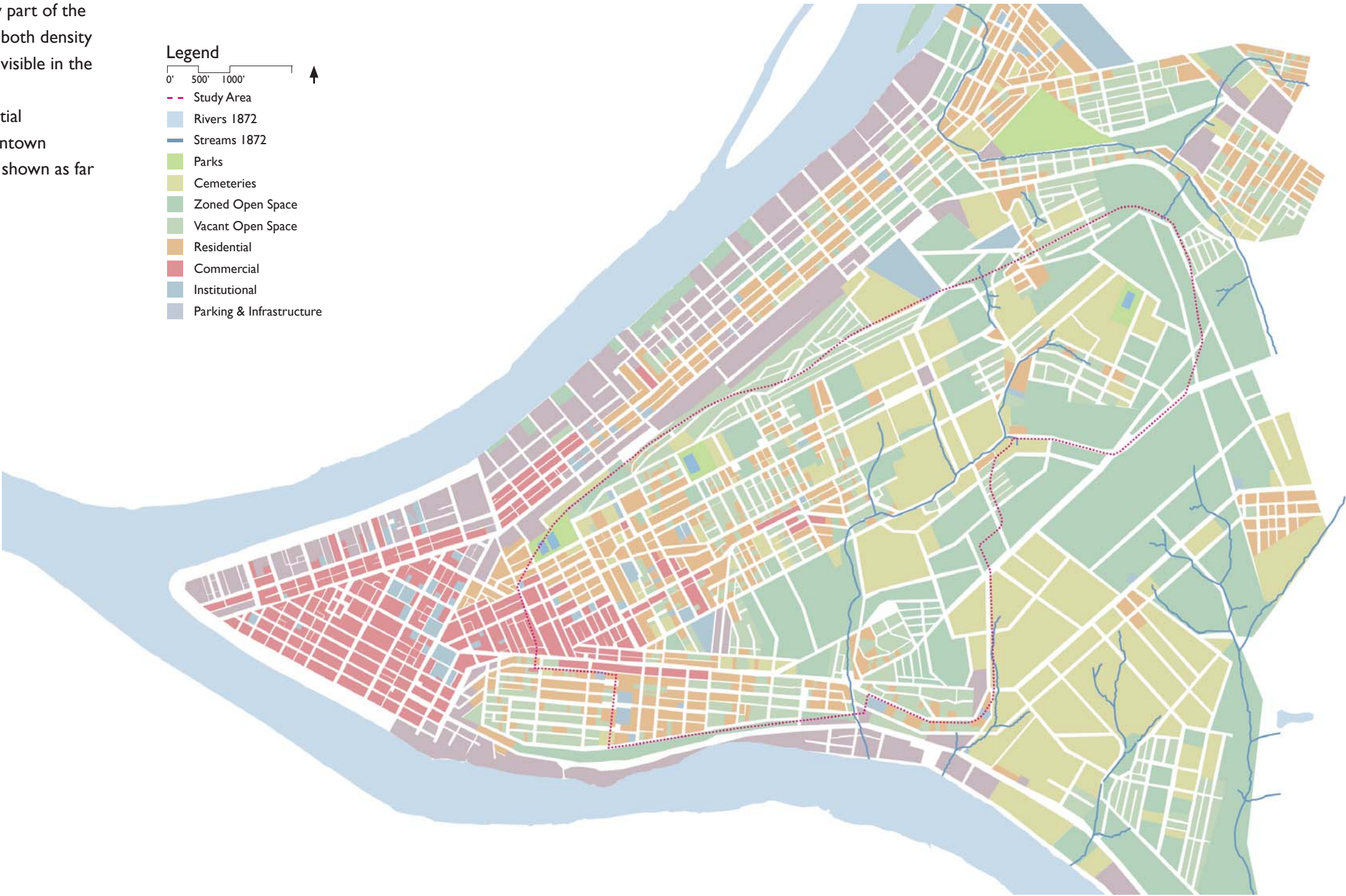
HILL DISTRICT - MID 20TH CENTURY
Map source: City of Pittsburgh Geodetic and Topographic Survey Maps, 1923-1961, University of Pittsburgh Maps Collection - Maps are a mix of dates

This map identifies the location of mid-century urban renewal projects across the city, as indicated by grey patches outlined in blue. The Hill was heavily impacted by urban renewal efforts. Projects included: the construction of public housing projects along the northern and southern edges of the Hill; the redevelopment of the Lower Hill into a home for the Pittsburgh Civic Light Opera; and the conversion of industrial land at the confluence of the Allegheny and Monongahela Rivers, in Downtown Pittsburgh, into Point State Park.



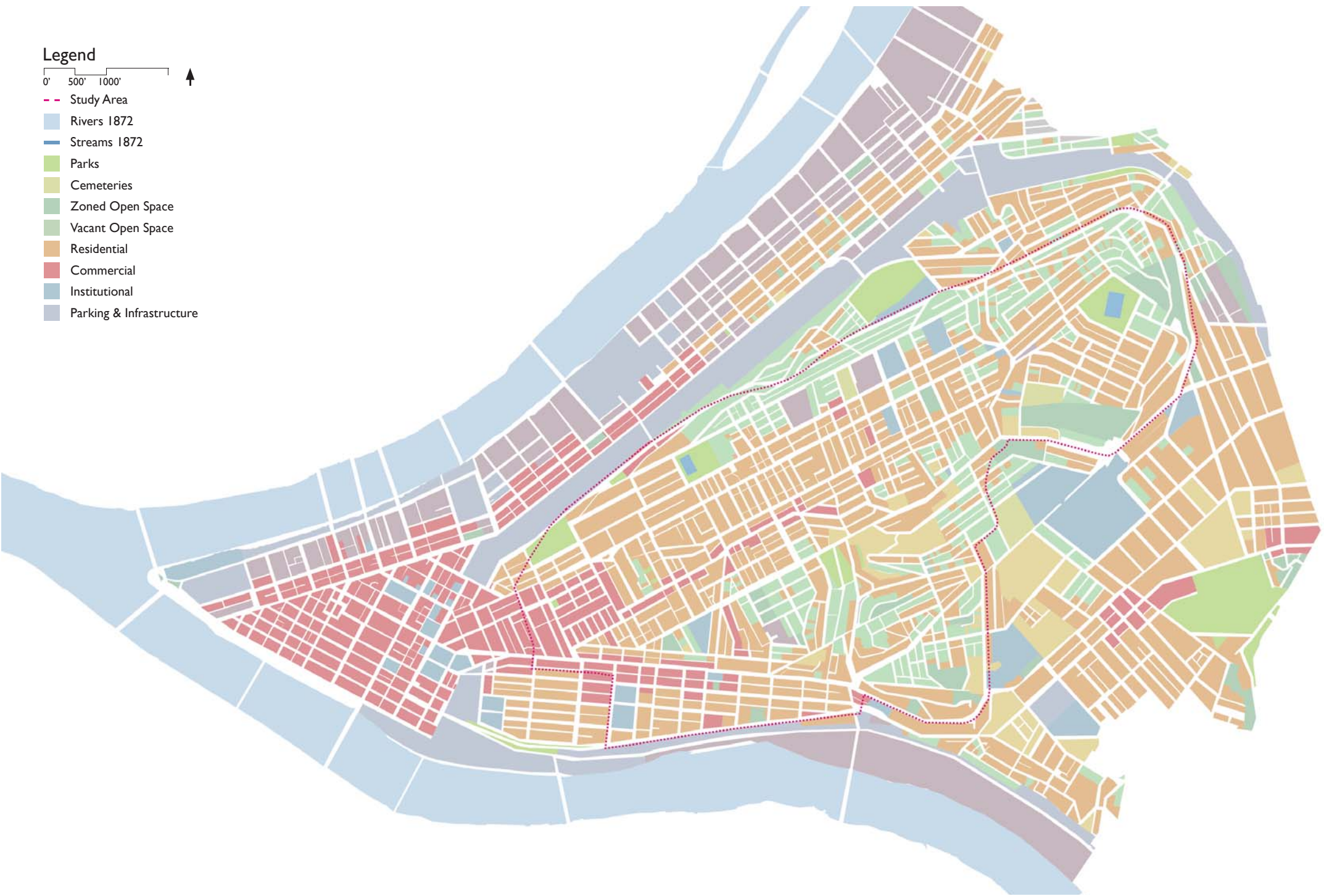
HILL DISTRICT - MID 20THCENTURY URBAN RENEWAL SITES
Map data source: City of Pittsburgh and Allegheny County GIS data & University of Pittsburgh Historic Maps Collection

This series of land use maps, from 1872 to the early part of the twentieth century, demonstrates a dramatic shift in both density and program over time. In 1872, streams were still visible in the Hill and eastern and southern hillsides remain less-developed. Over time, commercial and residential development grew eastward from the edge of Downtown Pittsburgh. In this map, commercial development is shown as far east as present-day Kirkpatrick Street.



HILL DISTRICT - HISTORIC LAND USE 1872
Map data source: 1872 - Atlas of the Cities of Pittsburgh, Allegheny and Adjoining Boroughs, University of Pittsburgh Hopkins Maps Collection

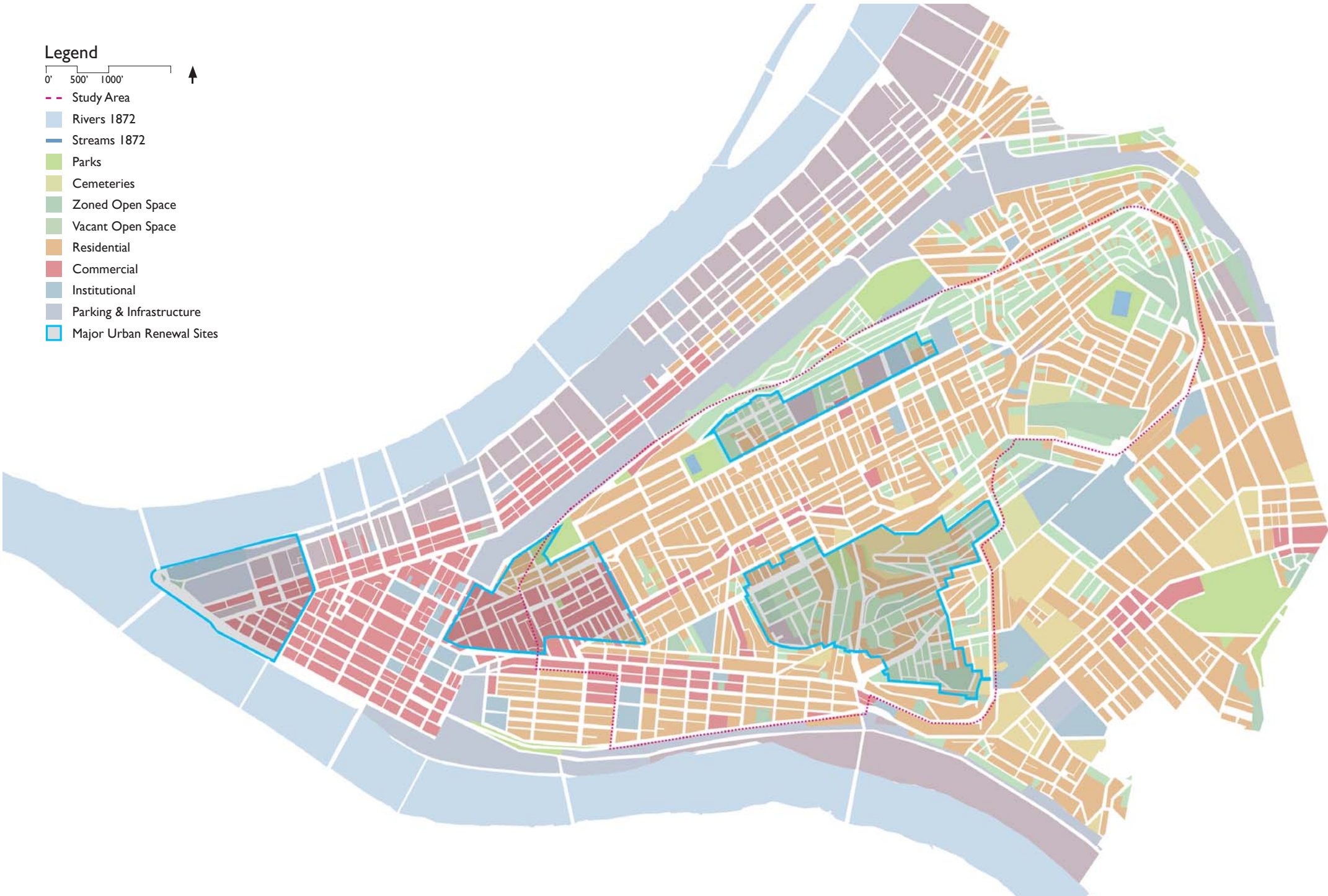
This series of land use maps, from 1872 to the early part of the twentieth century, demonstrates a dramatic shift in both density and program over time. In 1923, streams are no longer visible in the Hill, having been buried or covered by roadways. Eastern hillsides are being developed into residential neighborhoods, and institutional uses are being introduced along the neighborhood's northern and southern edges. By 1923, green space has been eliminated from the central core of the Hill.



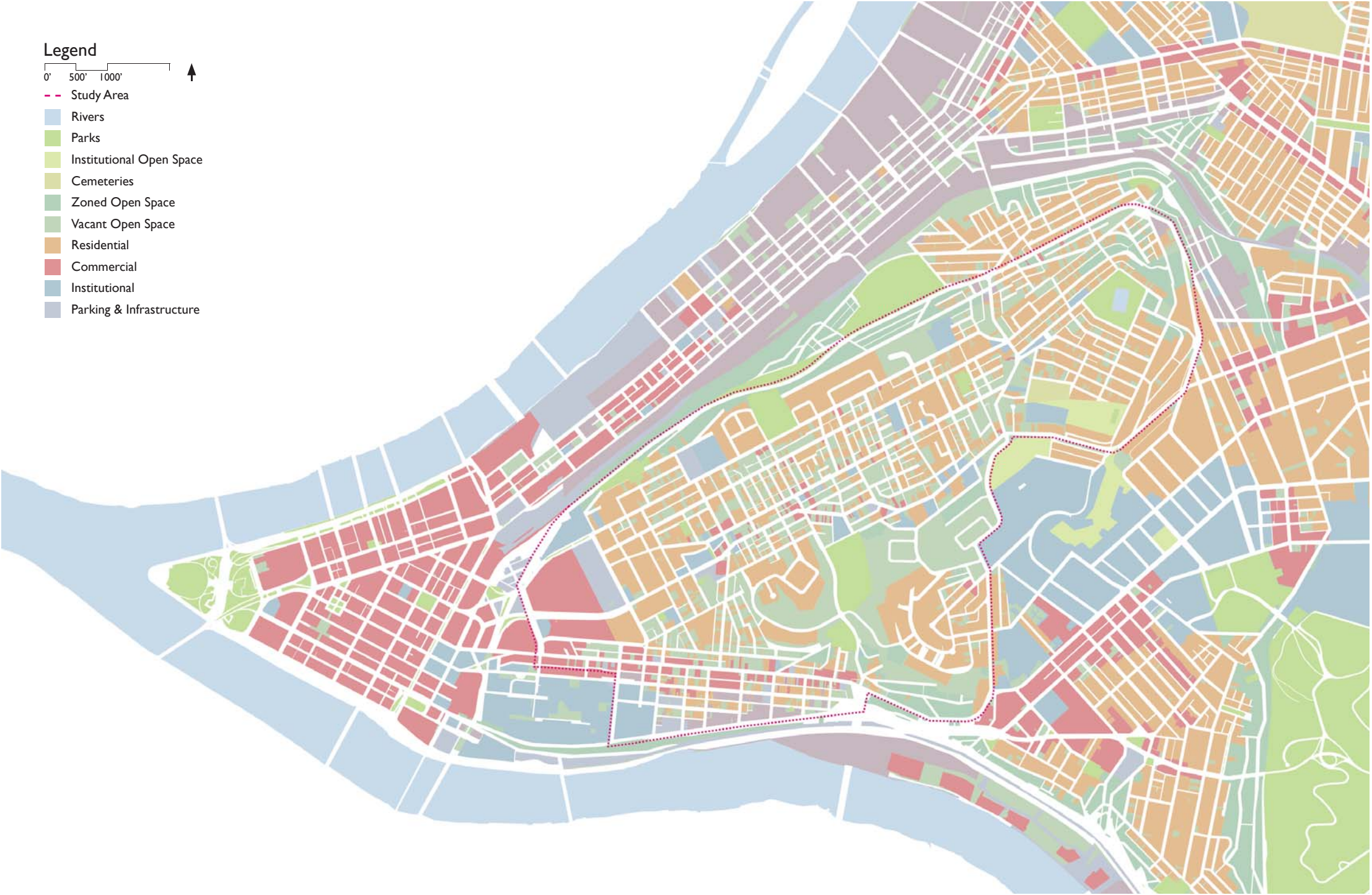
HILL DISTRICT - HISTORIC LAND USE 1923

Map data source: Real Estate Plat-Book of the City of Pittsburgh 1923 Volume I - Central Pittsburgh: Wards 1-6 and 9, University of Pittsburgh Hopkins Maps Collection

This map overlays mid-twentieth-century urban renewal sites with the 1923 land use map. Three urban renewal sites are located within the Hill. The Civic Arena is shown to have replaced a dense commercial area in the Lower Hill. Less-dense areas along the northern and southern edges of the Hill were developed into large-scale public housing projects, some of the first of their kind in the United States.



HILL DISTRICT - HISTORIC LAND USE 1923 + URBAN RENEWAL SITES
Map data source: Real Estate Plat-Book of the City of Pittsburgh 1923 Volume I - Central Pittsburgh: Wards 1-6 and 9, University of Pittsburgh Hopkins Maps Collection



HILL DISTRICT - LAND USE
Map data source: City of Pittsburgh and Allegheny County GIS data

The present-day land use map contrasts strongly with earlier, historic maps. Green space is once again present within the central Hill where buildings were removed over time. Commercial and some institutional uses are mainly clustered along Centre and Wylie Avenues. Public housing projects, sited on southern hilltops, are geographically isolated by green hillsides, and large institutions located in the Oakland neighborhood have a strong presence along the Hill's southeastern edge.

The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railways extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill’s complex hilly landscape. The 1815 map shows little more than a spine road extending eastward from Downtown Pittsburgh towards Herron Avenue.



HILL DISTRICT - HISTORIC CIRCULATION HIERARCHY 1815
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - HISTORIC CIRCULATION HIERARCHY 1855
Map data source: City of Pittsburgh and Allegheny County GIS data

The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railways extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill's complex hilly landscape. The 1855 map shows an expanded circulation network, with parallel roads extending from Downtown Pittsburgh towards Herron Avenue. Several cross streets are also present in the relatively dense Lower Hill area. A canal, connecting the Allegheny and Monongahela Rivers, is shown passing through Grant's Hill in the area between Downtown and the Hill. Railroad lines are also indicated on relatively flat land parallel to the riverfront.

The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railways extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill’s complex hilly landscape. The circulation network in the Hill is denser than it was in 1855, and the grid of roadways in Downtown Pittsburgh is more complete. The canal shown on the 1855 map is no longer present, and train stations are now shown in flat areas along the riverfronts.



HILL DISTRICT - HISTORIC CIRCULATION HIERARCHY 1872
Map data source: City of Pittsburgh and Allegheny County GIS data

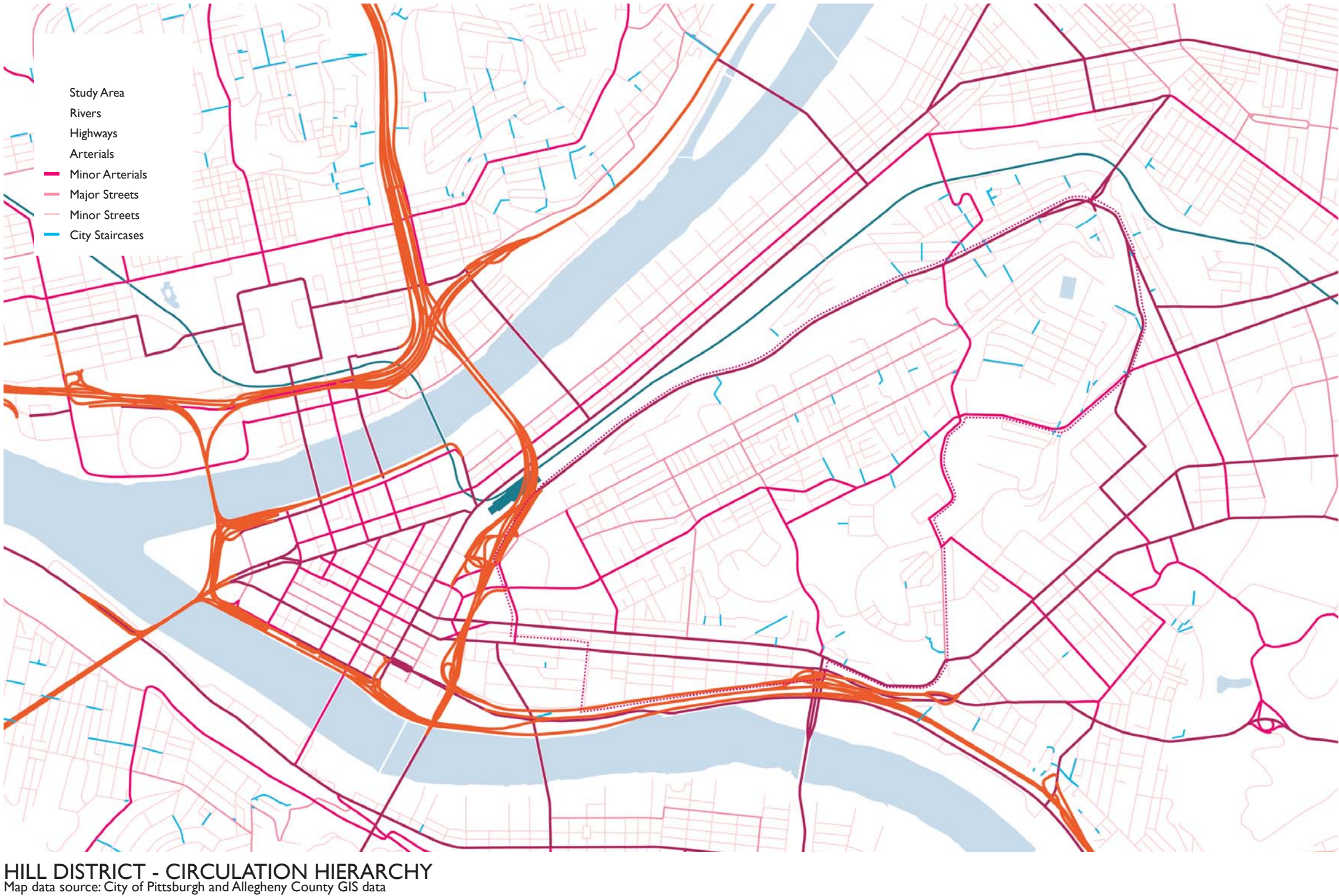


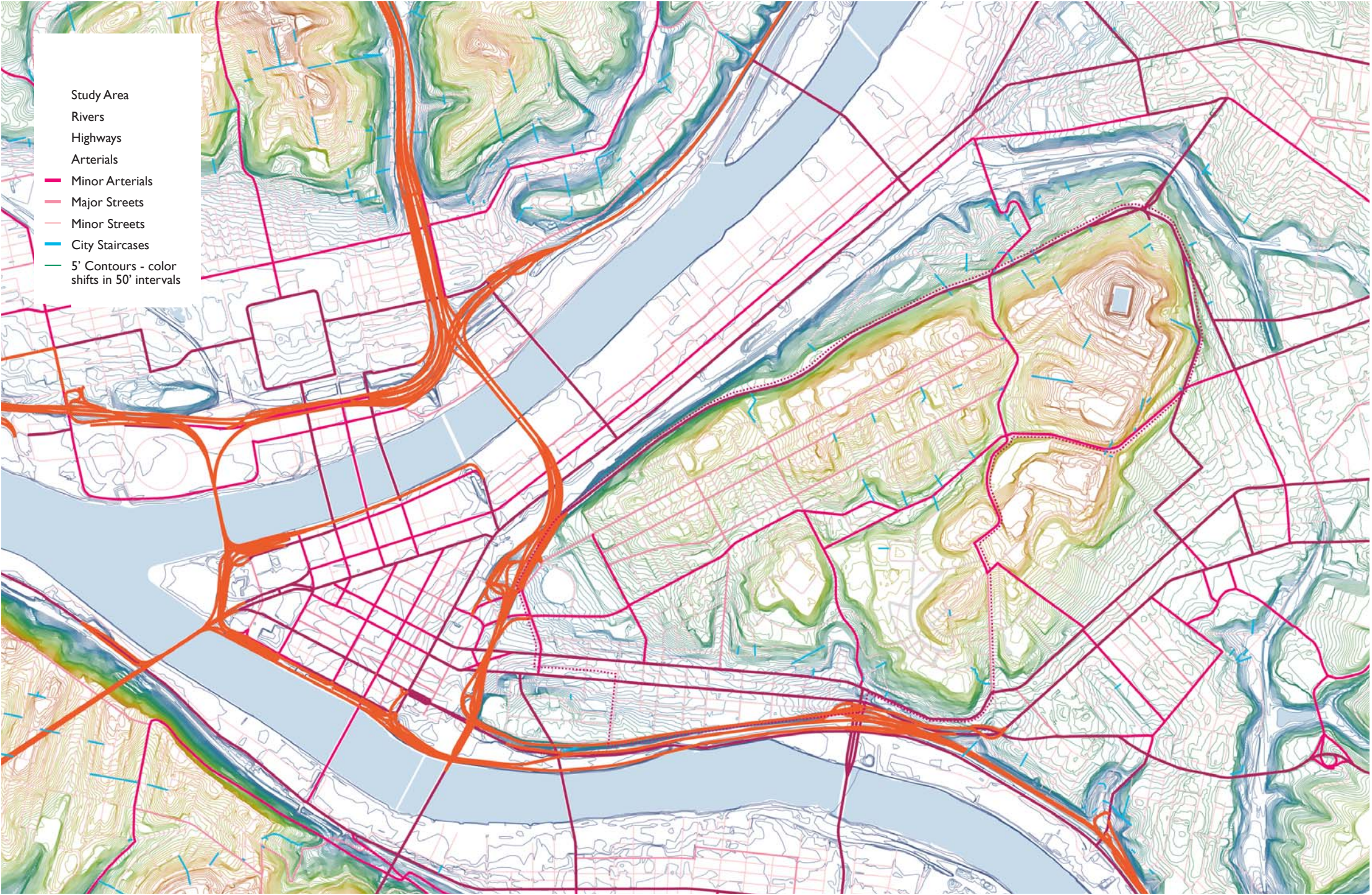
HILL DISTRICT - HISTORIC CIRCULATION HIERARCHY 1923

Map data source: Real Estate Plat-Book of the City of Pittsburgh 1923 Volume I - Central Pittsburgh: Wards 1-6 and 9, University of Pittsburgh Hopkins Maps Collection

The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railways extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill's complex hilly landscape. The circulation network in the Hill is dense within the central core of the Hill, and roadways are expanding into the less developed edges of the neighborhood as well. An incline is shown along the northern edge of the neighborhood, connecting the Hill directly with the Strip District neighborhood below. A connection across Bigelow Boulevard is also shown, connecting the neighborhood to the neighborhood currently referred to as Polish Hill.

The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railways extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill's complex hilly landscape. Railroad transit continues to be an important means for moving large cargo through the region. Connections between the Hill and the Strip District and Polish Hill have been compromised due to the removal of the incline and stairway connections between the neighborhoods. The contemporary circulation map also reveals the impact of the Cross-Town Expressway, the highway that divides Downtown Pittsburgh from the Hill. Vehicular movement is now the dominant means of circulating through the city.





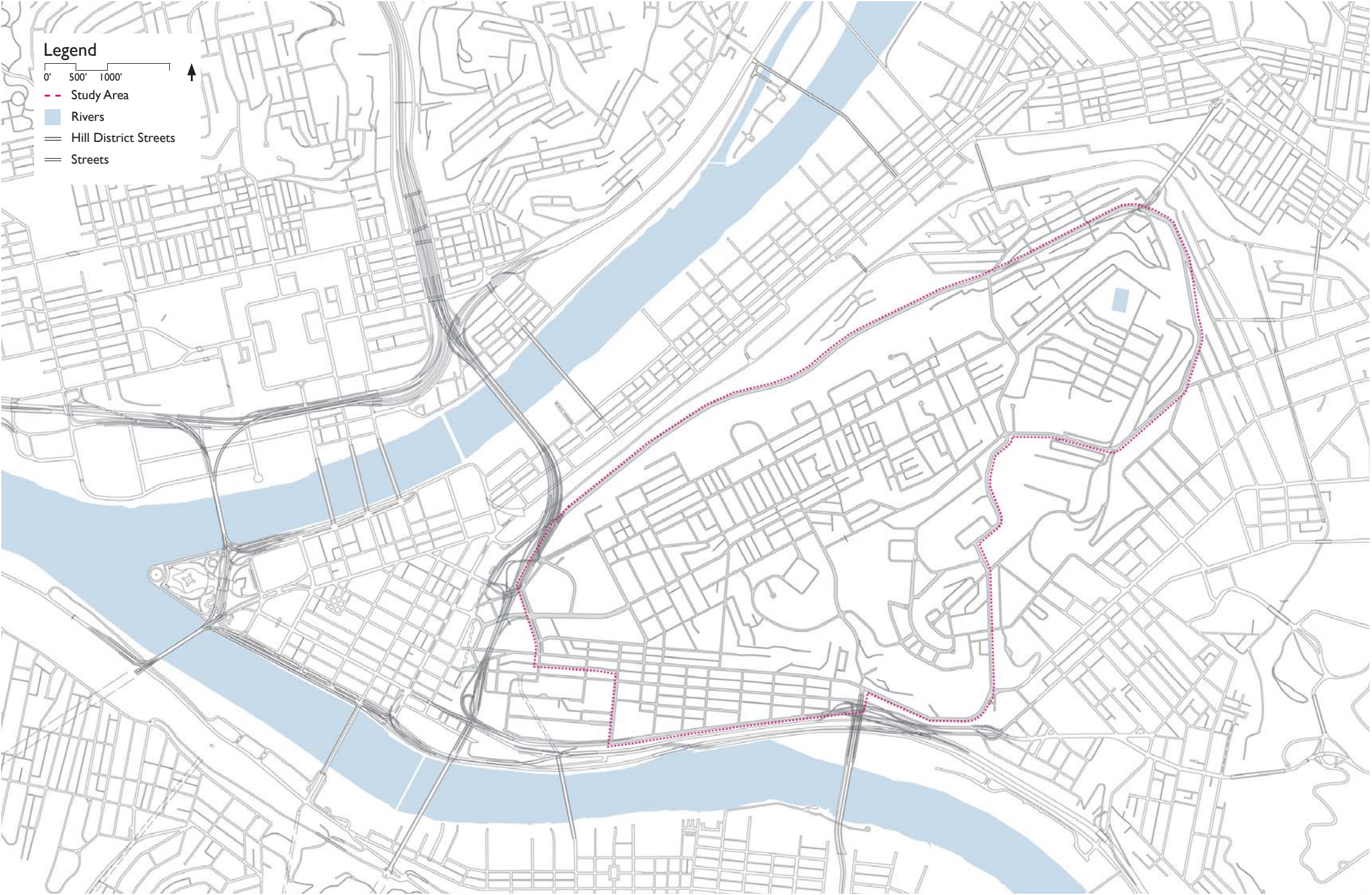
HILL DISTRICT - CIRCULATION HIERARCHY + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data

The combination of the contemporary circulation map and the topography shows that major north-south streets meander up and down the hillsides through former creek beds. Major west-east roadways are more rigid in their path, unwavering as they stretch across the hilly landscape towards Herron Hill.

The topography map reveals the uniqueness of Hill’s landscape. Though it is not always evident in maps, the hills and creek beds that were evident in the 1815 map of Pittsburgh still exist beneath the streets and structures that were built over time.



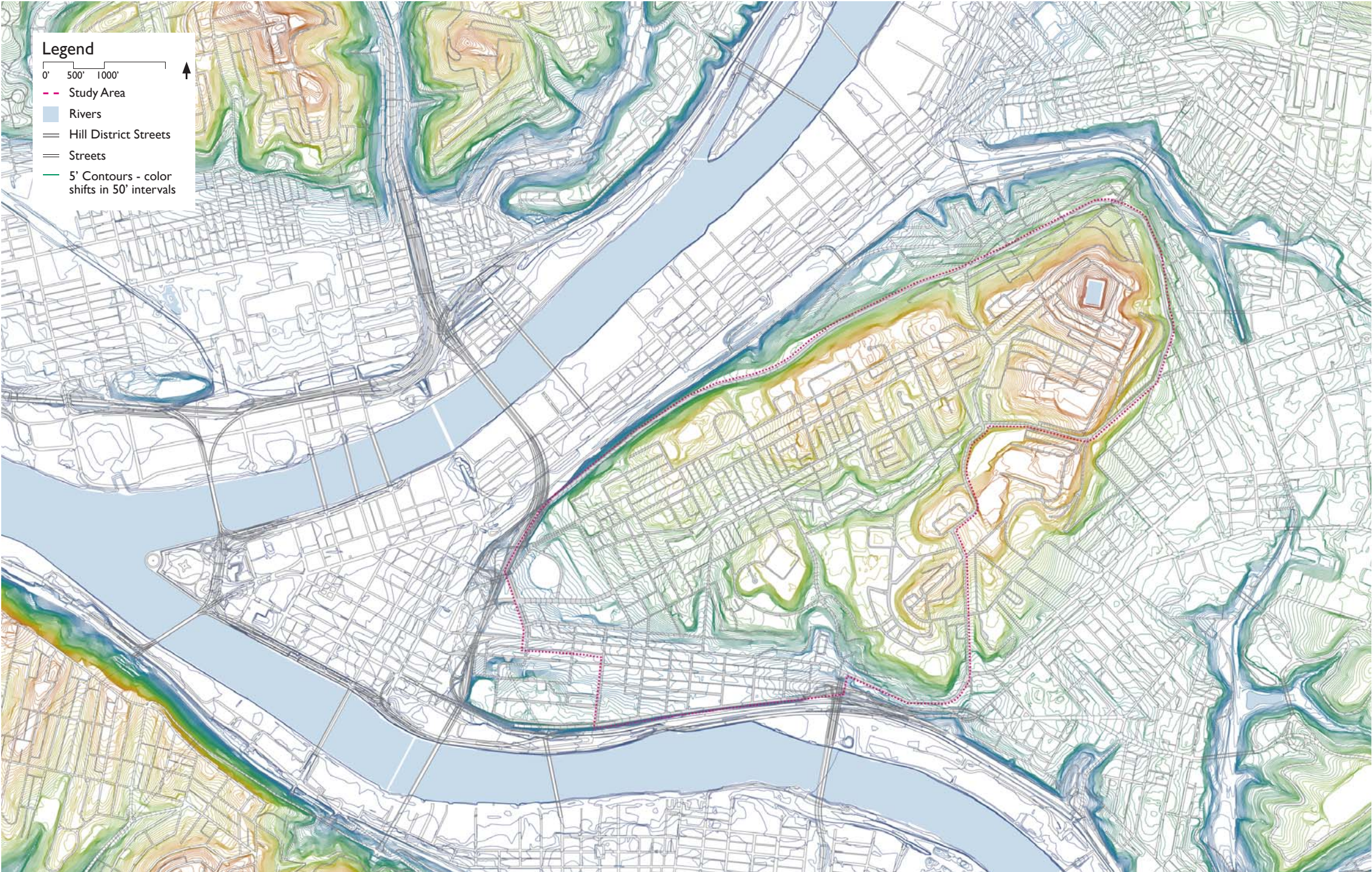
HILL DISTRICT - TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data



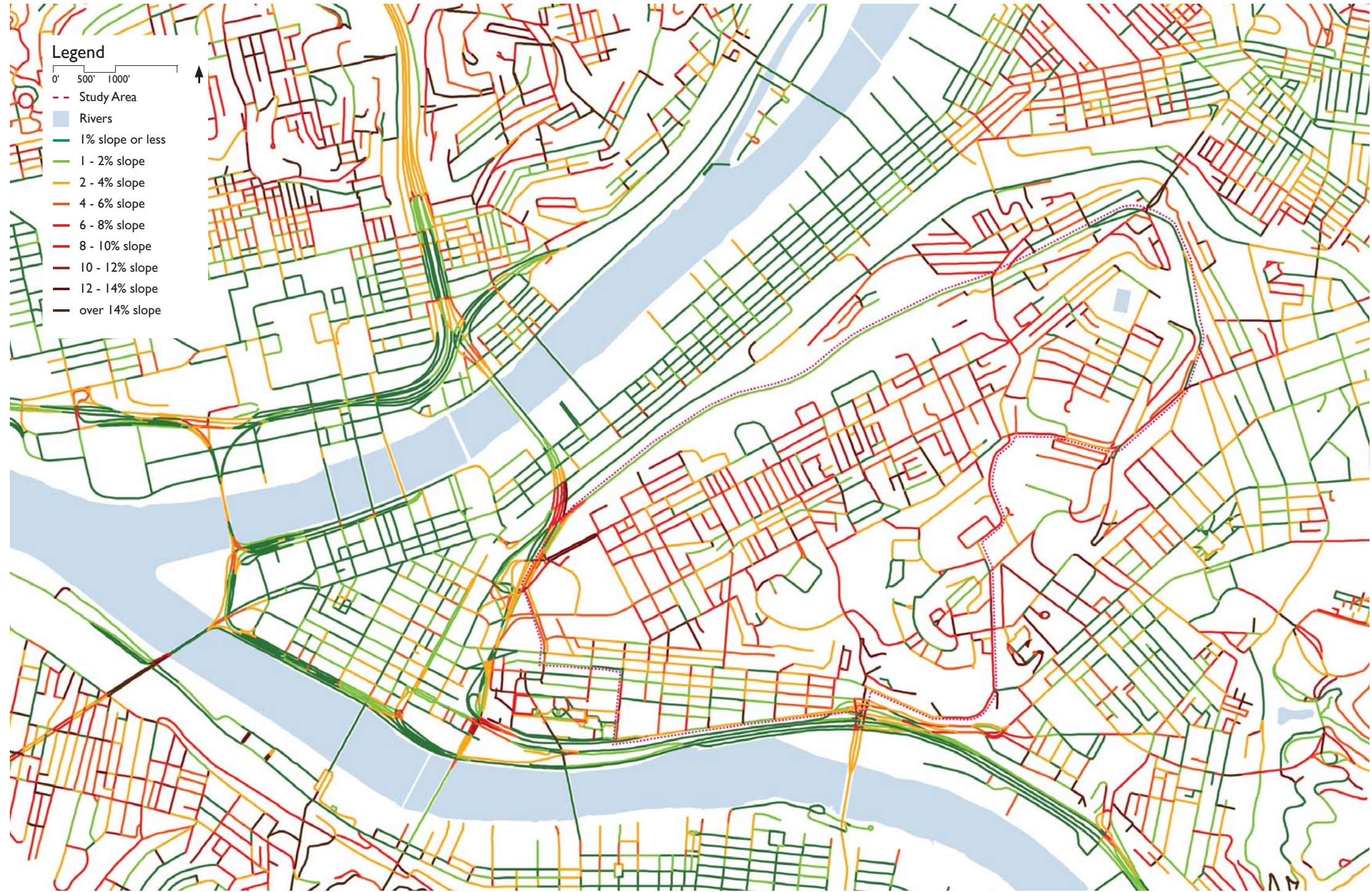
HILL DISTRICT - STREETS
Map data source: City of Pittsburgh and Allegheny County GIS data

The present-day street grid, highway network and bridges are shown here.

Complex topography contributed to irregularities in the development of the Hill’s road network. Steep topography is also the reason that there are limited locations from which the Hill can be accessed from other neighborhoods.



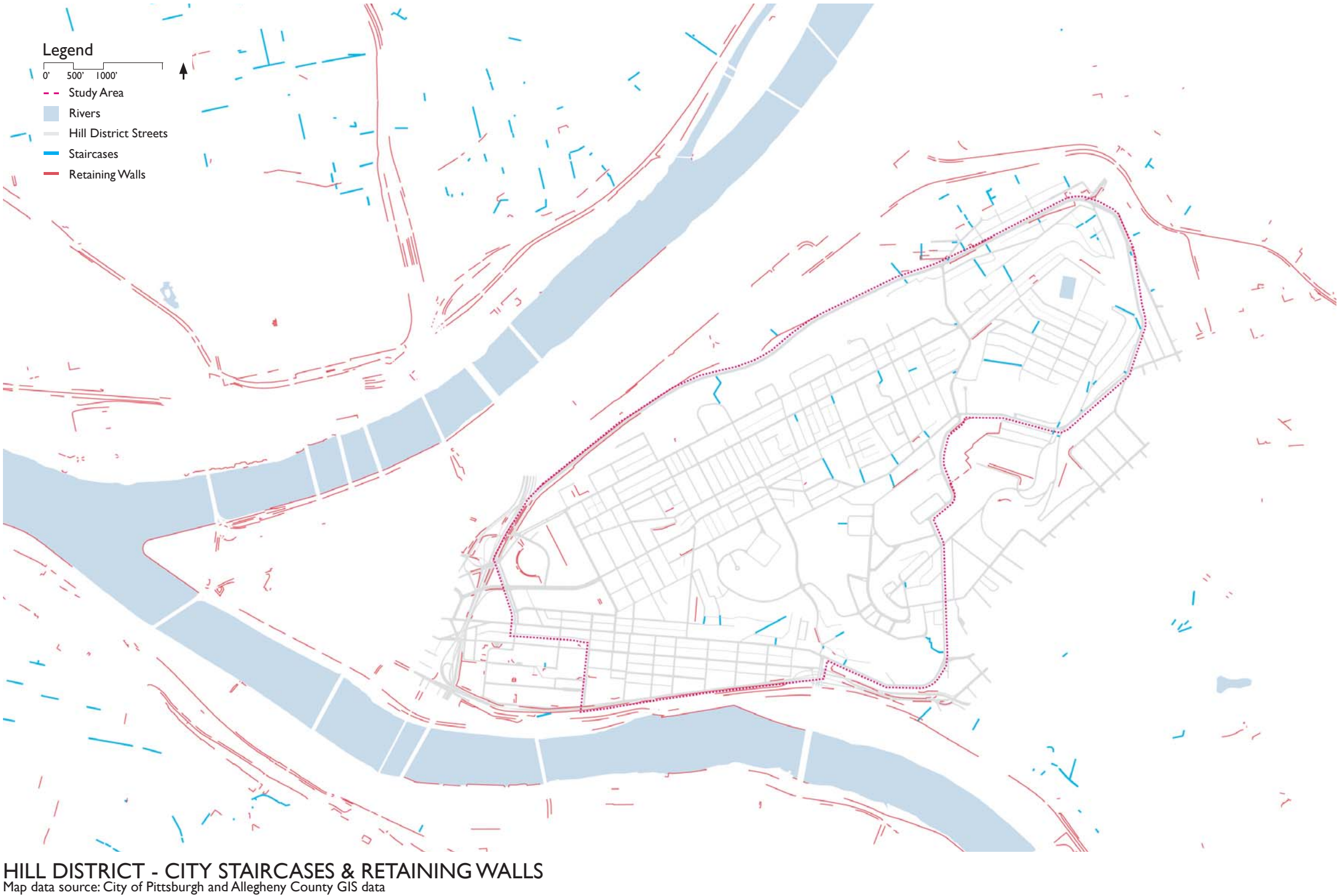
HILL DISTRICT - STREETS + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - STREETS BY PERCENT SLOPE
Map data source: City of Pittsburgh and Allegheny County GIS data

This map shows streets by percentage of slope. Green indicates areas that are relatively flat. Red shows moderate slopes and brown indicates steep conditions. Nearly every street in the Hill has a moderate to steep slope. Connections to adjacent neighborhoods are especially challenging for pedestrians to traverse due to the incline of roadways and sidewalks.

An extensive network of retaining walls and stairs is needed to navigate the Hill’s steep landscape. This map illustrates the rich network of paths, stairways and other structures in the Hill that help pedestrians traverse the hilly landscape. This map also highlights locations where passage is necessary, but a street or road is not possible.

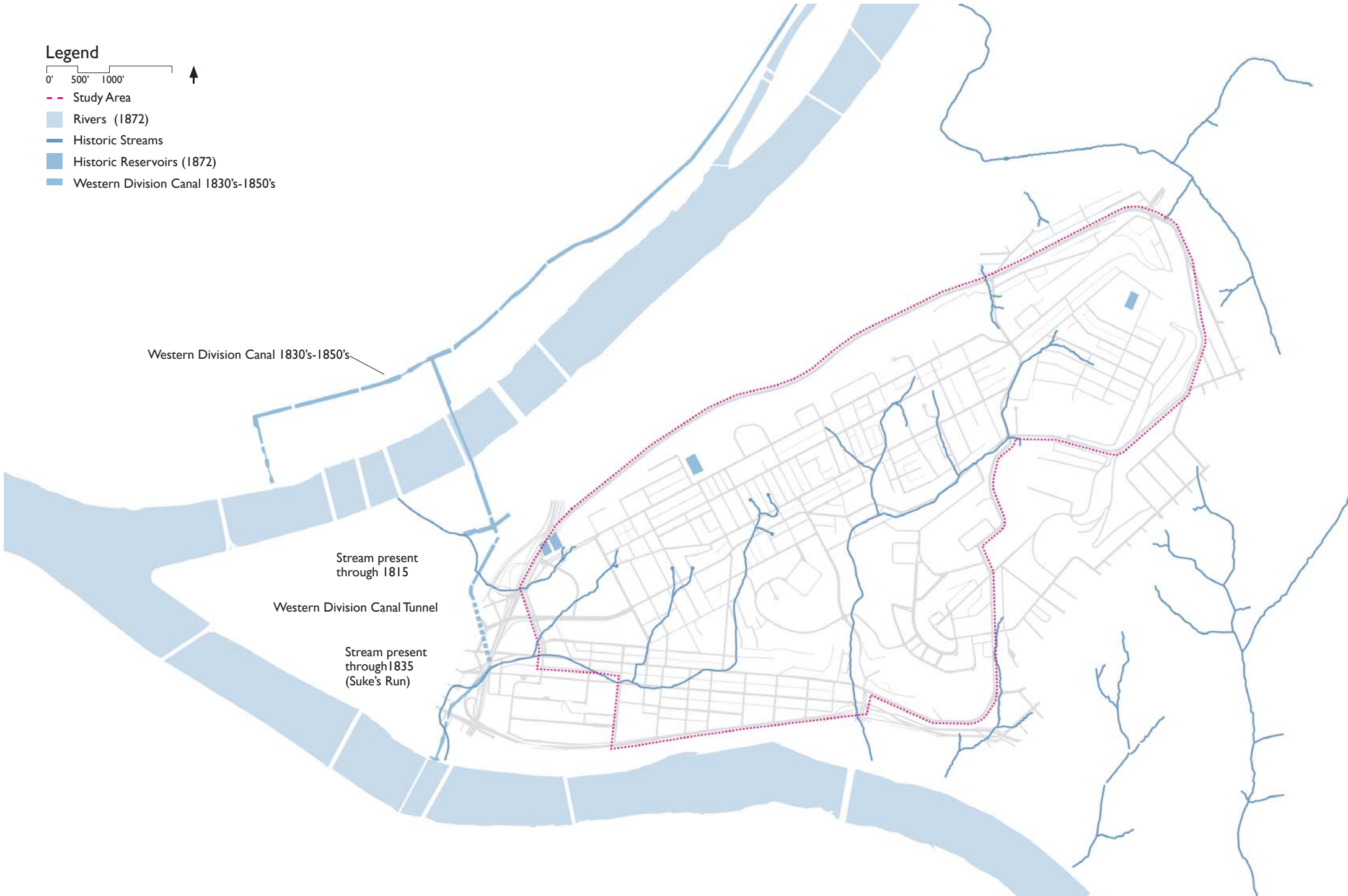




HILL DISTRICT - CITY STAIRCASES + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data

This map shows where the topography makes staircases necessary for pedestrian passage within the Hill, or between neighborhoods, at locations where there is significant elevation changes. Portions of the northern plateau edge are too steep for stairs to be of use. An incline was once located at this location, providing a direct, mechanical connection from the Hill to the Strip District below.

The Historic Creeks, Reservoirs and Canals map illustrates the significant role of water in Pittsburgh’s landscape. A basic life-supporting necessity, water also provides a means of transport that we continue to use today. The historic creeks and streams carved the land into the distinctive city neighborhoods that exist today. The Hill’s historic creeks and streams have since been repurposed as roadbeds, facilitating the movement of cars and people up and down the hillsides.



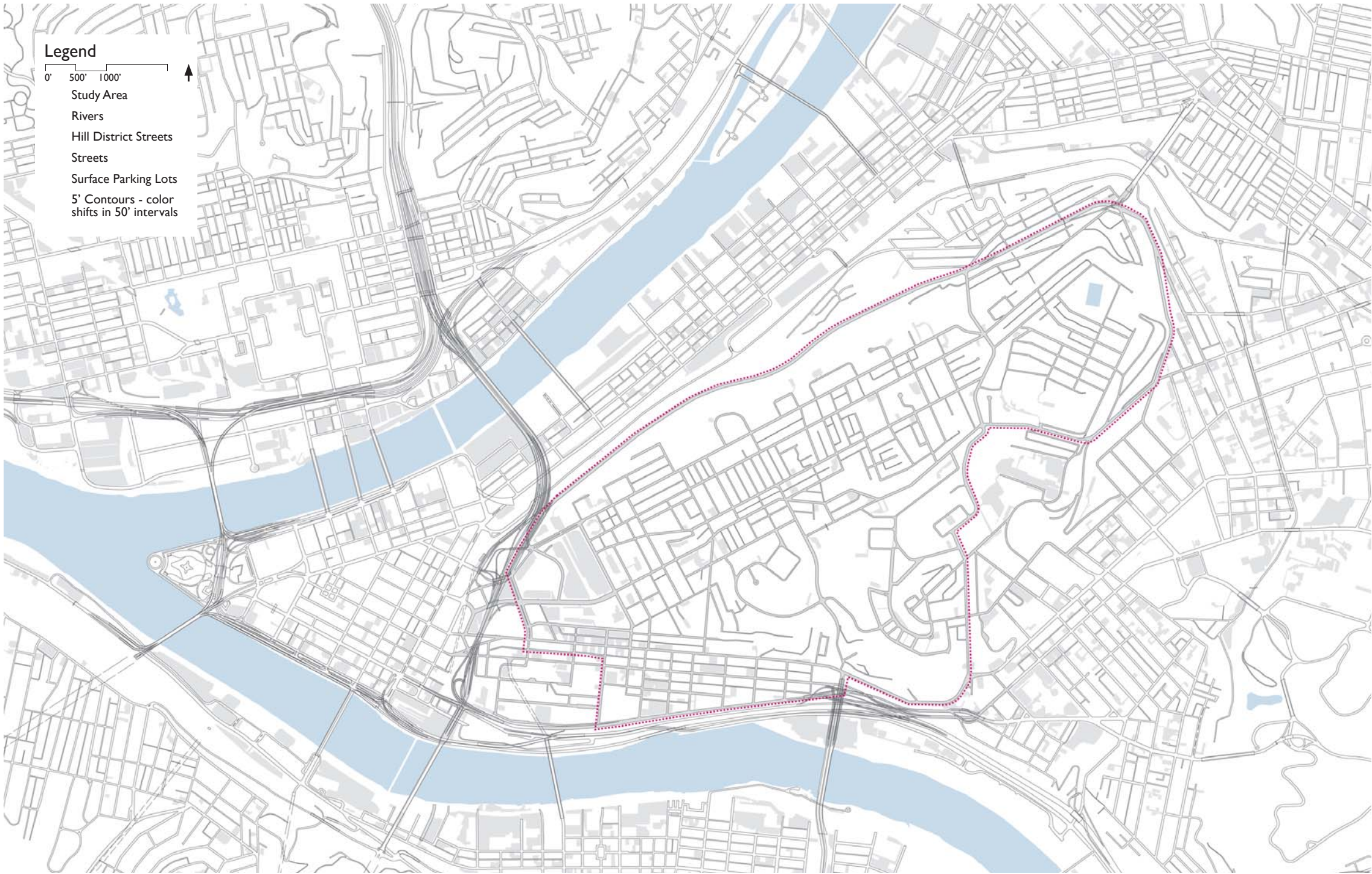
HILL DISTRICT - HISTORIC CREEKS, RESERVOIRS & CANALS
Map data source: City of Pittsburgh and Allegheny County GIS data & University of Pittsburgh Historic Maps Collection



HILL DISTRICT - HISTORIC CREEKS, RESERVOIRS & CANALS + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data

As clearly depicted here in the adjacent map, the valleys act as conduits for water to travel from the highest elevations to the rivers. The historic creeks and streams carved the land into the distinctive city neighborhoods that exist today. The Hill's historic creeks and streams have since been repurposed as roadbeds, facilitating the movement of cars and people up and down the hillsides.

This map shows all impervious, ground level surface areas where rainwater is not able to soak into the earth to recharge the ground water. The resulting storm water runoff must either be directed off-site, or collected in place for eventual slow release or evaporation. Impervious ground surfaces include paved asphalt or concrete roadways, parking areas and sidewalks.



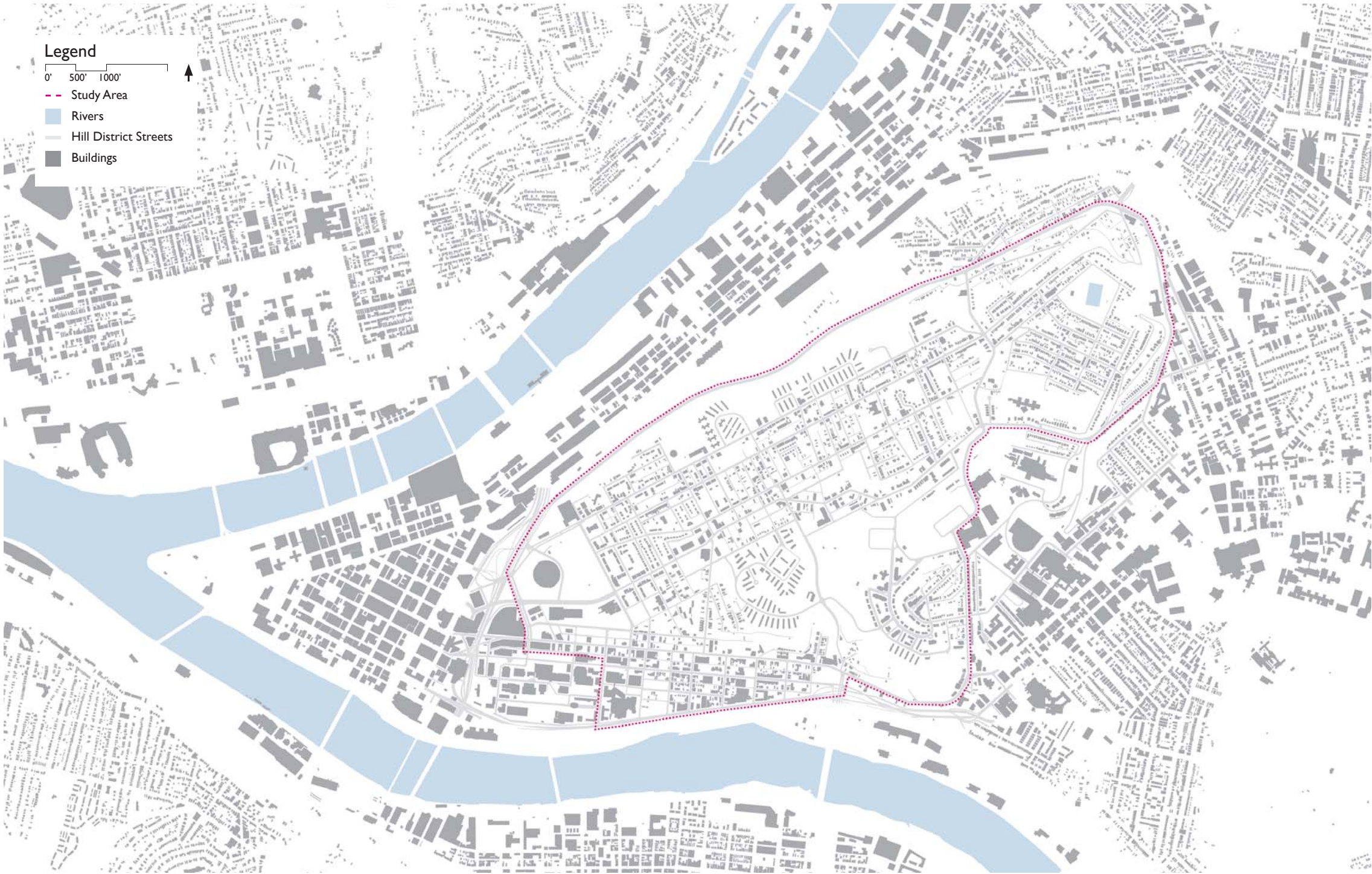
HILL DISTRICT - IMPERVIOUS SURFACES
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - IMPERVIOUS SURFACES + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data

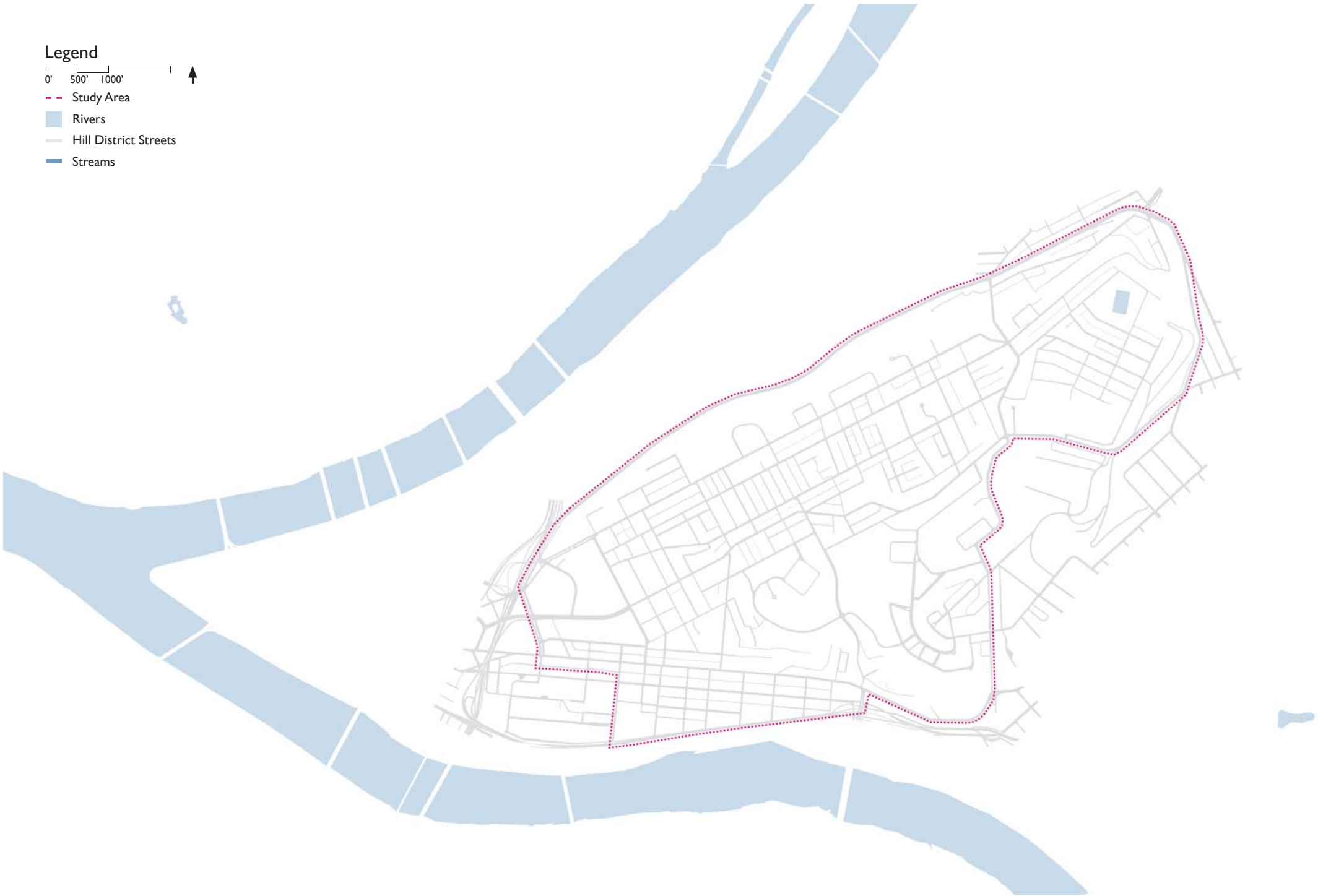
This illustration combines impervious surfaces and topography maps to demonstrate discrepancies between where water would naturally go and where it is forced to go based on the slope and location of the surface it lands upon. Storm water would naturally pass over pervious surfaces on its way to creek and streambeds. This natural process is interrupted in the built environment by streets, gutters, storm inlets, curbs and paved surfaces.

This map of buildings in and around the Hill provides a clear sense of building sizes, density and location in the defined study area.



HILL DISTRICT - BUILDINGS
Map data source: City of Pittsburgh and Allegheny County GIS data

No surface streams currently feed into the Allegheny or Monongahela Rivers from the Hill.

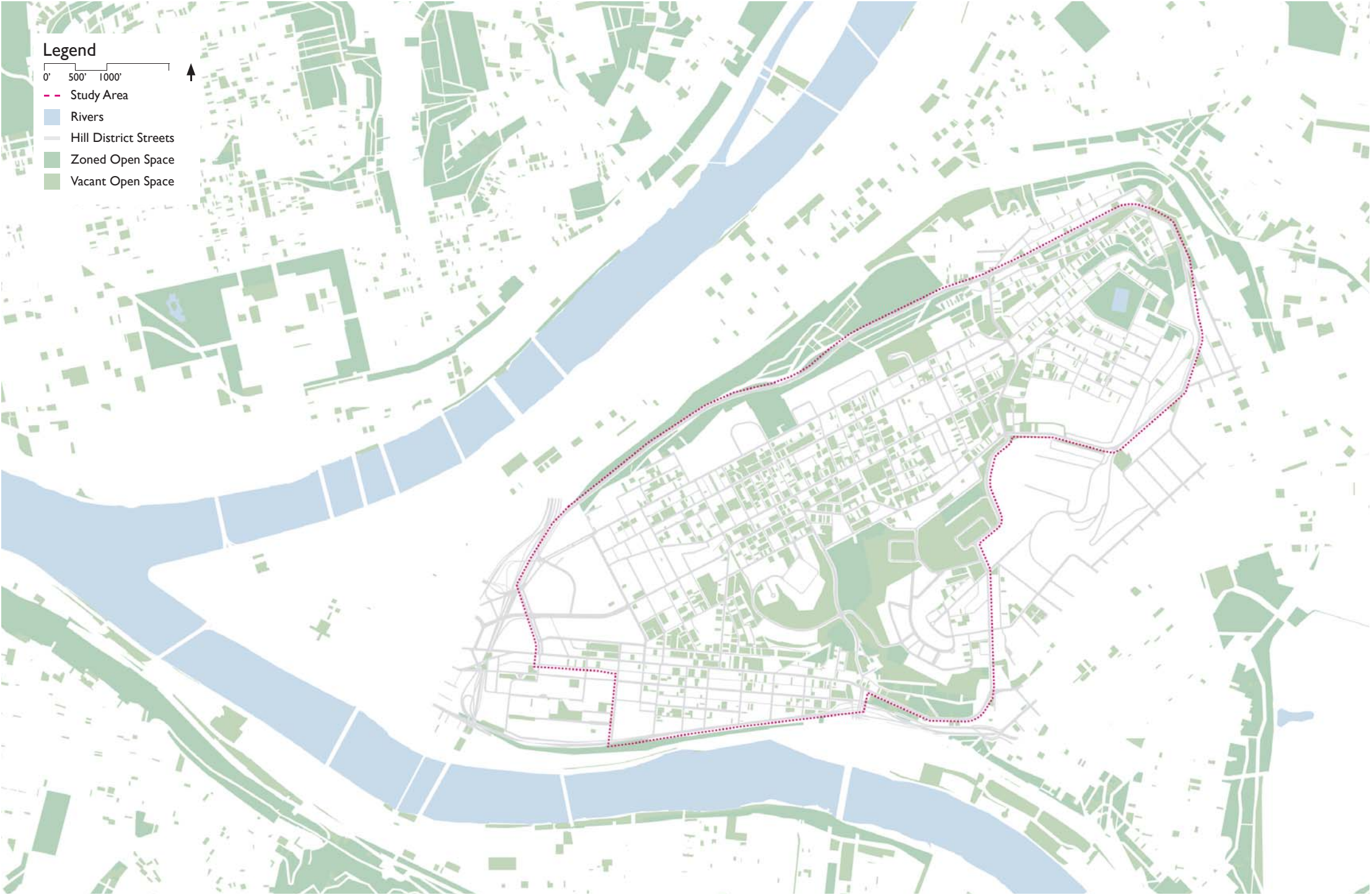


HILL DISTRICT - RIVERS & STREAMS
Map data source: City of Pittsburgh and Allegheny County GIS data

The map shows places in and around the Hill that are zoned as park, are identified as cemeteries, or comprise a part of large expanses of open space in association with an institutional entity.



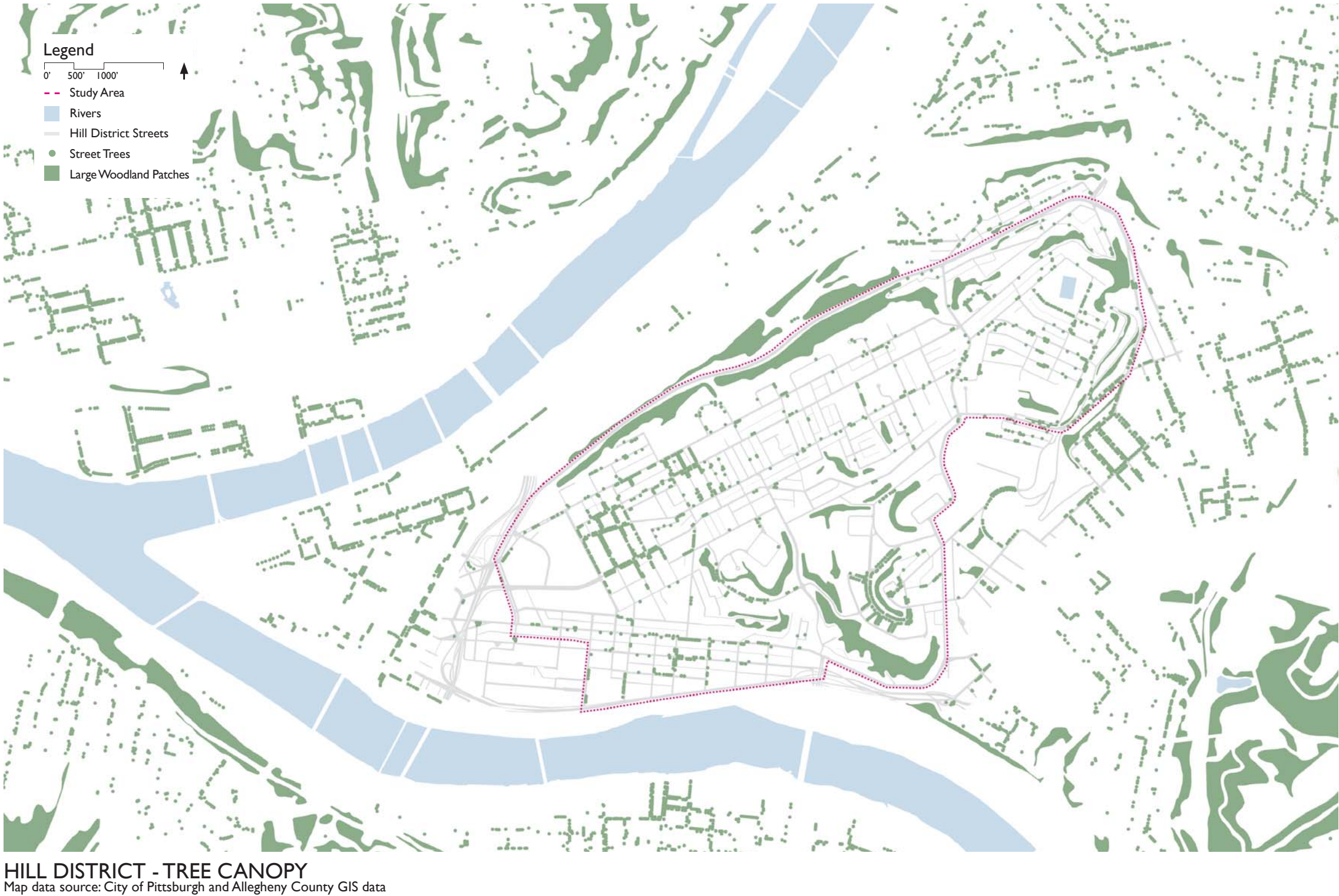
HILL DISTRICT - PARKS & INSTITUTIONAL OPEN SPACE
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - OPEN LAND: ZONED OPEN SPACE & VACANT LAND
Map data source: City of Pittsburgh and Allegheny County GIS data

This map illustrates green space in the Hill resulting from vacancy. These green lots have been designated *open* or *vacant* land by the City of Pittsburgh. This map also includes the significant amount of landscaped areas that exist within public housing projects.

The green shapes in this map represent tree cover, including tree-lined streets along with larger woodland areas.





HILL DISTRICT - GREEN SPACE: PARKS + OPEN LAND + TREE CANOPY
Map data source: City of Pittsburgh and Allegheny County GIS data

This illustration compiles all parks, cemeteries, vacant land, public housing and institutional landscape areas, woodlands and street trees into a comprehensive map of the Hill's green space.

The map of the Hill's green space is enhanced by the addition of topography.



HILL DISTRICT - GREEN SPACE + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - GREEN SPACE + TOPOGRAPHY + HISTORIC STREAMS
Map data source: City of Pittsburgh and Allegheny County GIS data

This map superimposes the location of historic Hill streams onto present-day green space and topography.

This map shows major civic institutions such as universities, hospitals and similar entities along with associated open space, if any exists.



HILL DISTRICT - INSTITUTIONS
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - AERIAL PHOTOGRAPH 2006
Map data source: City of Pittsburgh and Allegheny County GIS data

In this illustration, the Hill study area boundaries are outlined on a 2006 satellite photo.

GIS MAPS AND DATA

Legend

- 0' 500' 1000'
- Study Area
- Rivers
- Hill District Streets
- Residential - R1
- Residential - R2 & R3
- Residential - Multifamily
- Neighborhood Commercial
- Central Business District
- Special Districts
- Educational Medical & Institutional
- Parks & Open Space
- Hillsides
- Mixed Use Industrial
- Heavy Industrial
- Mixed Use Planned District

HILL DISTRICT - ZONING

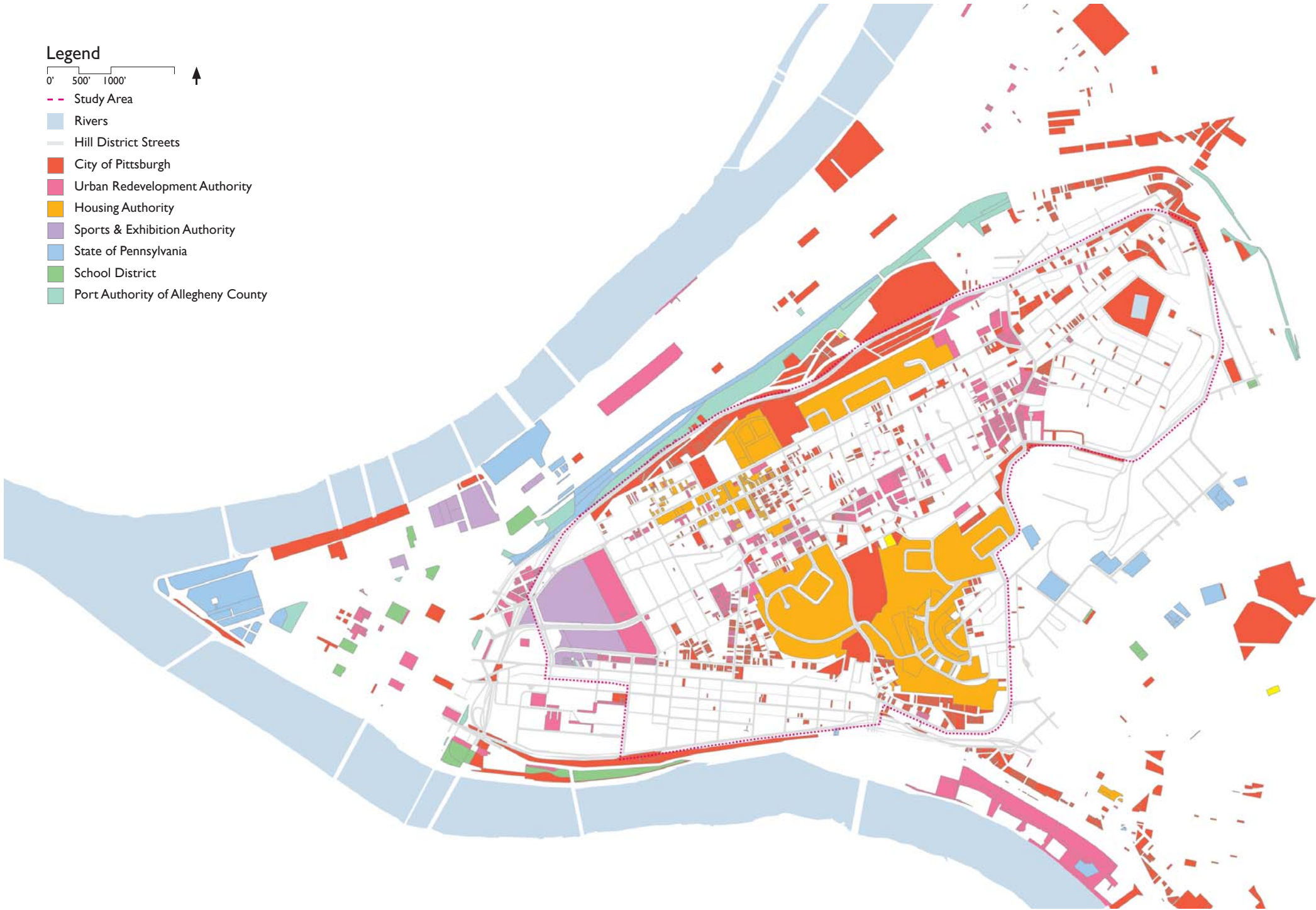
Map data source: City of Pittsburgh and Allegheny County GIS data

In this map, light purple-pink areas represent corridors to which the City of Pittsburgh and general public have access and allow the public access for passage. In some cases, a right-of-way exists where no roadway or access path was ever built. These conditions, often found on steeply sloped land, are commonly called “paper streets.”



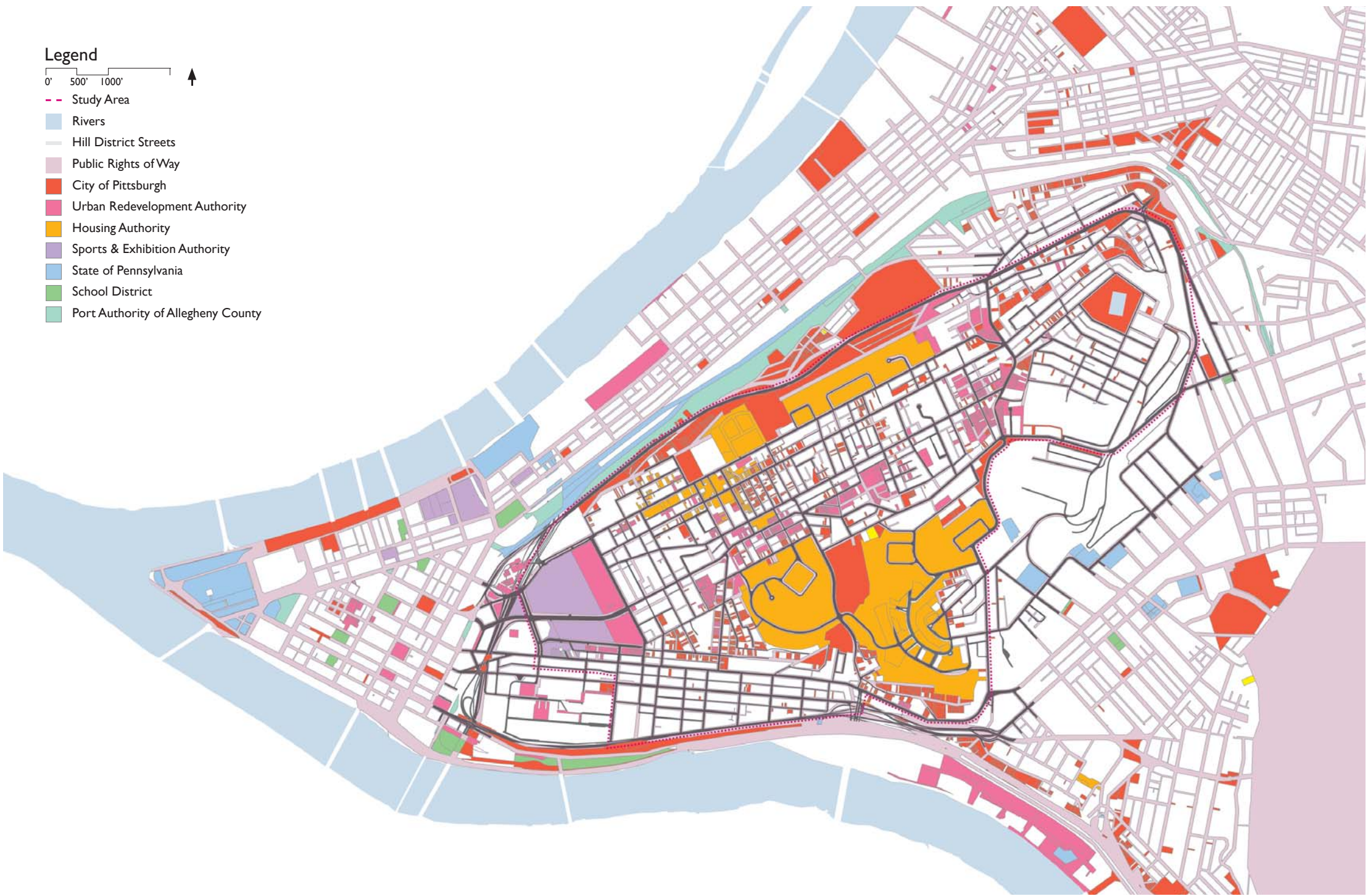
HILL DISTRICT - PUBLIC RIGHTS OF WAY
Map data source: City of Pittsburgh and Allegheny County GIS data

This map shows all publicly owned land. Each color represents a different municipal entity with dominion over land.



HILL DISTRICT - PUBLICLY OWNED LAND
Map data source: City of Pittsburgh and Allegheny County GIS data

This map shows public rights of way in relation to publicly owned land.



HILL DISTRICT - PUBLICLY OWNED LAND + PUBLIC RIGHTS OF WAY
Map data source: City of Pittsburgh and Allegheny County GIS data

By overlaying green space with public ownership, this map illustrates that a significant amount of land area belongs to the city and city agencies.



HILL DISTRICT - GREEN SPACE + PUBLIC OWNERSHIP
Map data source: City of Pittsburgh and Allegheny County GIS data



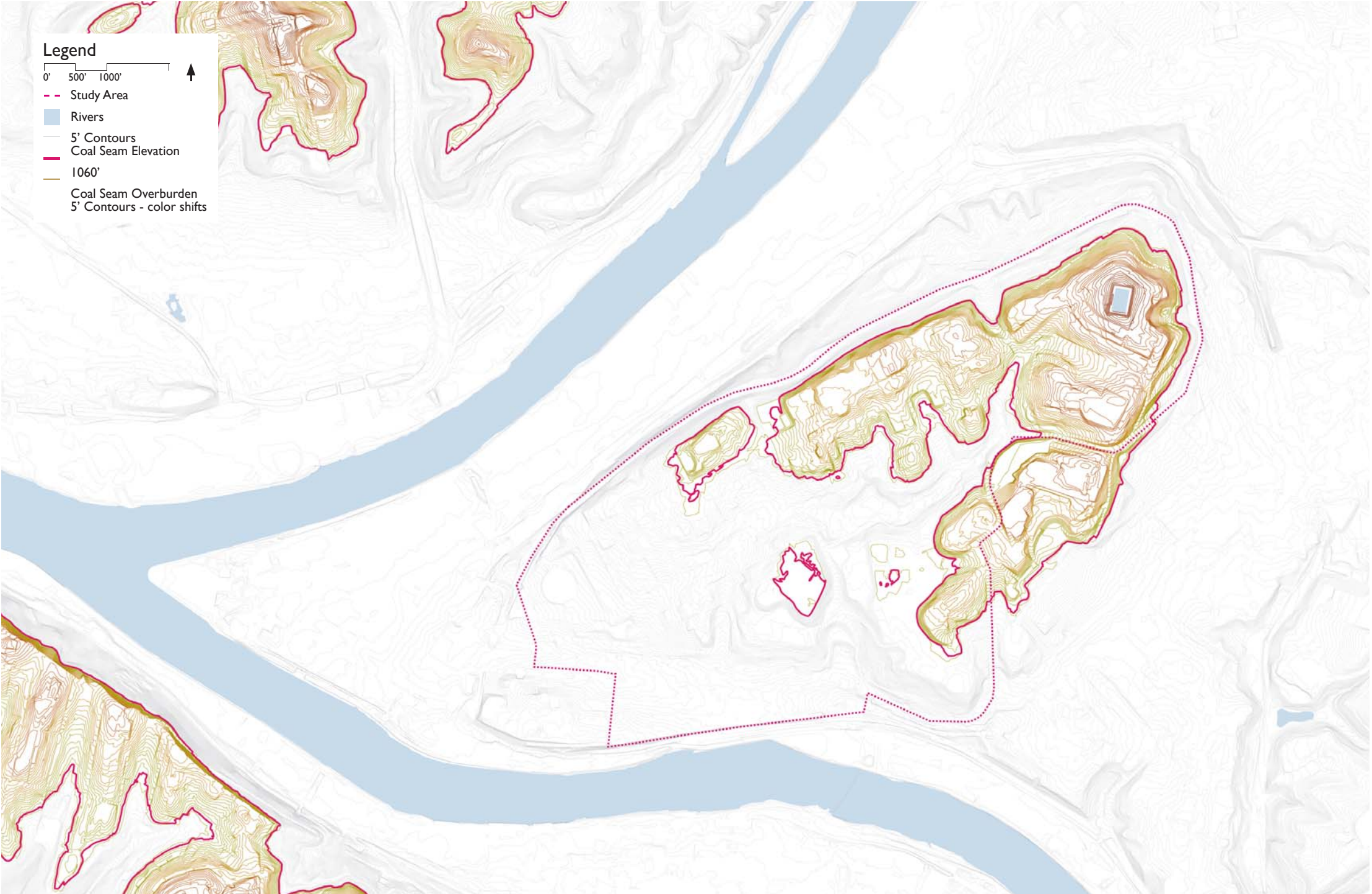
HILL DISTRICT - URBAN RENEWAL SITES + HISTORIC STREAMS + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data & University of Pittsburgh Historic Maps Collection

The combination of urban renewal sites, historic streams and the current topography shows how the landscape may have influenced decisions about where to build large-scale public housing projects and other civic spaces. This map also illustrates the proximity of historic watercourses to urban renewal sites.

This map reveals the elevation at which the coal seam is present throughout the Hill and the City of Pittsburgh. The coal seam was mined primarily in the eastern portion of the Hill where it was accessible at or near ground level. The coal seam’s legacy is still evident in Minersville Cemetery and in the acid mine seepage that occurs along some steep hillsides.



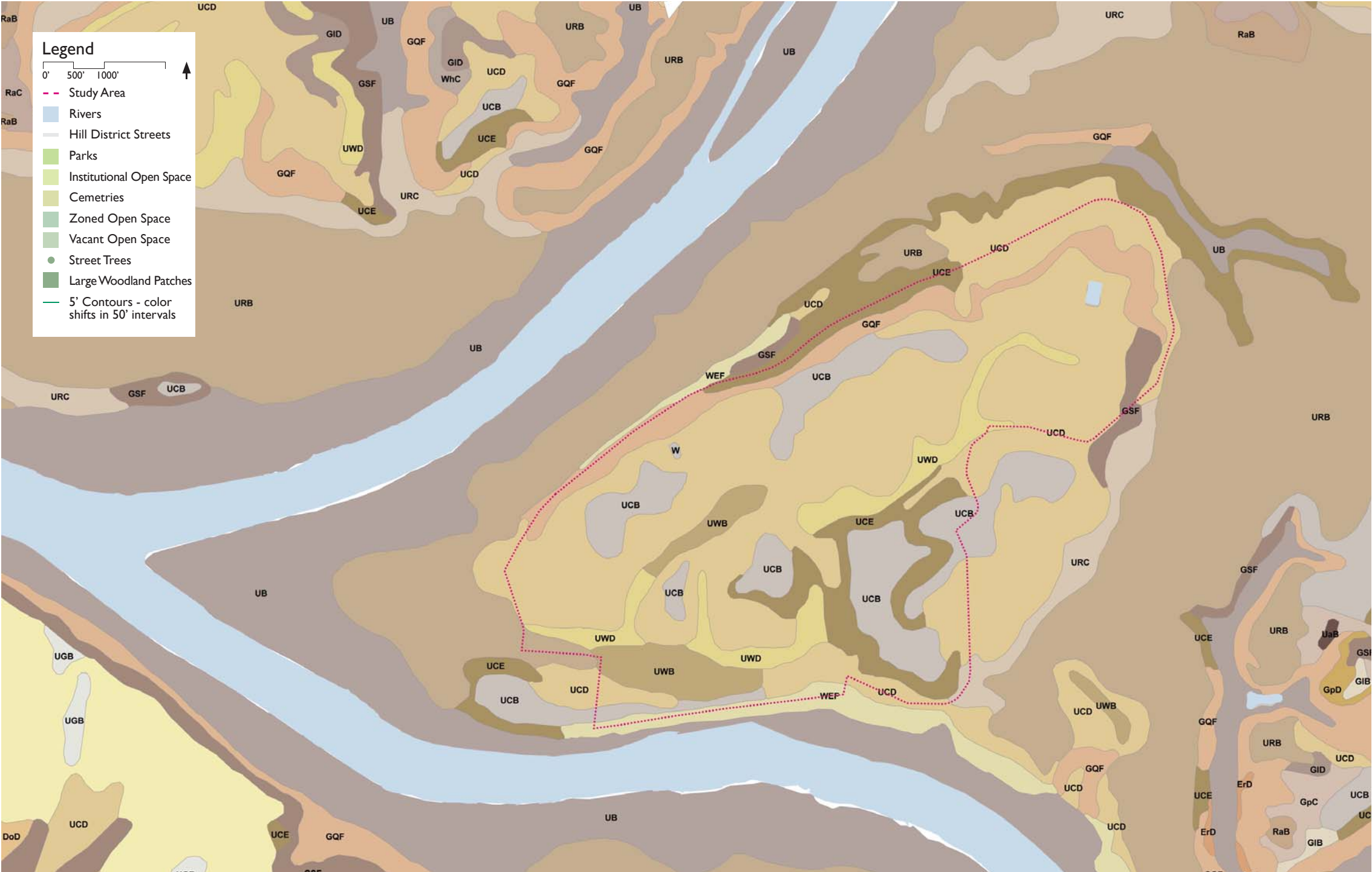
HILL DISTRICT - TOPOGRAPHY + COAL SEAM ELEVATION
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - COAL SEAM OVERBURDEN
Map data source: City of Pittsburgh and Allegheny County GIS data

The overburden map represents land above the 1060-foot coal seam line. Land at or just above the coal seam elevation is particularly sensitive and prone to collapse due to disturbed subterranean conditions. Coal mining significantly impacted the Hill significant land areas are vulnerable to collapse, but the groundwater coursing through underground mines can also be useful, providing a heat source and sink for building heating, ventilation and cooling systems.

Beneath the undulating Hill landscape is a rich mix of soil types, which are diagrammed in this map.



HILL DISTRICT - SUBTERRANEAN SOIL TYPES
Map data source: City of Pittsburgh and Allegheny County GIS data

A photograph of a person wearing a blue headwrap and a patterned shirt, reaching into a field of yellow wildflowers. In the background, a city valley is visible, surrounded by green hills and trees. The sky is overcast.

THE HILL

A VILLAGE IN THE WOODS

Greenprint Concept Design Proposals

June 2010

HOOD DESIGN STUDIO
URBAN LANDSCAPE AND SITE ARCHITECTURE

with
Studio for Spatial Practice
Community Partners Institute

Find the Rivers!
Pittsburgh Parks Conservancy
Hill House Association
Hill District Consensus Group



W O O D S



V I L L A G E

THE HILL

A VILLAGE IN THE WOODS

Greenprint Concept Design Proposals

June 2010

Project A
Village Street Conveyance and Public Space

Project B
Coal Seam Park and Stairs

Project C
Cliffside Park

Project D
Memory Lane Overlook

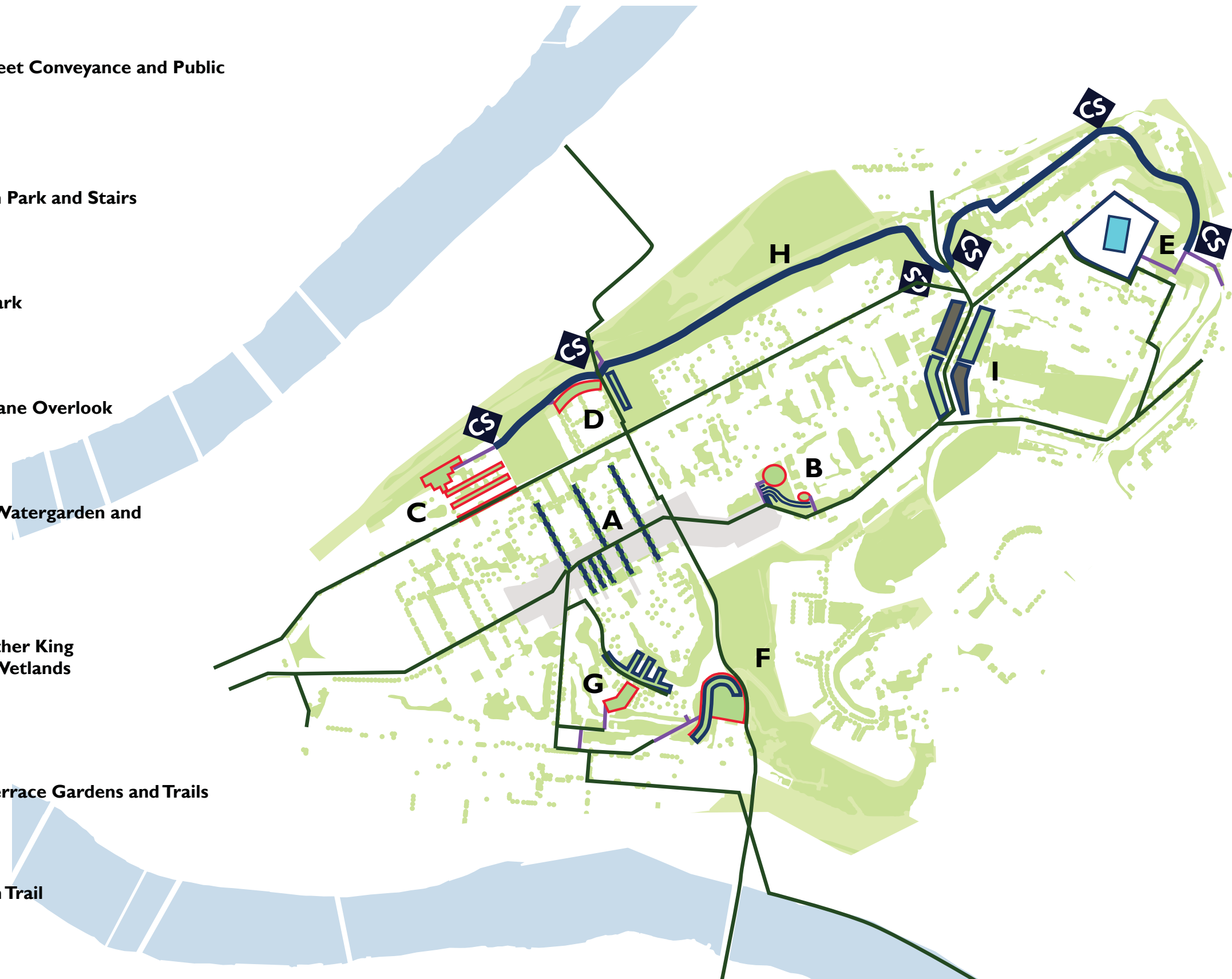
Project E
Sugartop Watergarden and Overlook

Project F
Martin Luther King Field and Wetlands

Project G
Addison Terrace Gardens and Trails

Project H
Coal Seam Trail

Project I
Herron Avenue Run



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THE HILL

A VILLAGE IN THE WOODS

DEDICATION

This document is dedicated to all of the Hill District residents and business owners who took the time to attend meetings and provide invaluable input. We'd especially like to acknowledge the late Mr. Dwayne Cooper who was a committed neighborhood leader, an early supporter of "Find The Rivers!", and a staunch advocate for The Greenprint.



Photos by Hood Design

ACKNOWLEDGEMENTS

Hill District Consensus Group, Carl Redwood, Convener, and all of the Hill District residents and citywide stakeholders who attended Greenprint events and told us of their ideas and favorite places in the Hill.

Find the Rivers! Project Team–

Terri Baltimore, Hill House Association
Susan Rademacher, Pittsburgh Parks Conservancy

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Laurence Glasco, University of Pittsburgh
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PROJECT INTRODUCTION

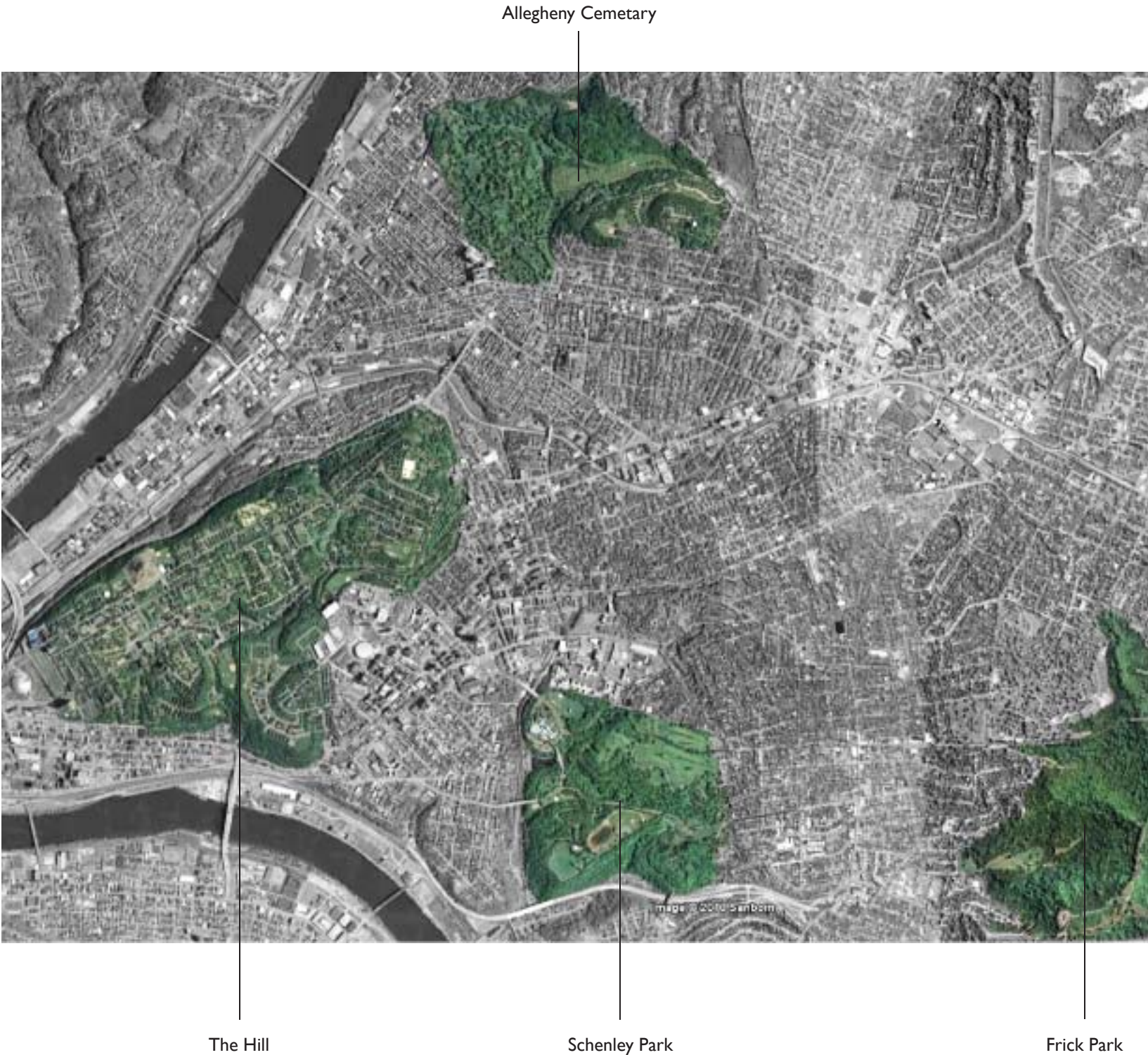
The Greenprint project re-connects both the Hill District to its specific landscape and community members to the greater Pittsburgh area. It also strengthens social ties through link-ages to adjacent neighborhoods. The plan is threefold: it establishes a healthy place with urban development that works in concert with the natural ecology; it identifies projects and opportuni-ties for leadership and innovation in a local economy; and it re-frames the identity of the Hill as “A Village in the Woods” – an example of urban beauty.

The Hill in Context

The Garden City movement, America’s rural lifestyle legacy, and transcendentalist ideologies have all influenced community building and landscape over the past two centuries. These values and ideas inspired early suburban development and new communities outside of the city’s edge. Today many of these developments have been engulfed by the expanding city. Some have preserved their “green” ecology and formal logic while maintaining their economic, social, cultural and politi-cal values. Places like Chestnut Hill and the Wissahickon in Philadelphia, PA., Frick Park, Chatham Village, and Schenley Park in Pittsburgh, and Radburn, NJ exhibit this formal logic. They remain communities set within a verdant, wooded landscape. Woodlands, ravines, and riparian areas are commingled with parks and streets and housing. They are enmeshed with the larger landscape.

“Sampling” particular landscape components from the above mentioned 19th and 20th century planned developments, the Hill’s landscape structure is a thick verdant edge, with an open center. The edges are bound to the Monongahela and Allegheny rivers. The wooded edge condi-tion (elements such as bluffs, hillsides and terraces) reveal a site specific ecology that has emerged from the shifting rise and fall of the rivers that formed the fallow coal seam tributaries. The center contains the valleys, tributaries and conveyances (abandoned stream channels and riparian areas that cross the hilly central area before reconnecting to the rivers). The community’s cultural and artistic legacy is a key component of the center. This duality gives clarity to the topography of the neighborhood.-- a set of hills on a hill.

The Hill is an emergent landscape. Its ecological and industrial context has created a new landscape, one that is again at the scale of the river(s) with the larger landscape. The term “Woods” is common language, not a woodland or a single forest, but rather implies a thick col-lection of trees and shrubs with mythical appeal, brimming with things unknown and unexplained. In contrast, the Village is not like a downtown or main street in its character, but is rather a collection of community buildings and landscape. Thus, the new terminology: woods, village, and conveyance. Historically, the community has been plagued by disinvestment and abandonment. That situation raises the question: “if the value of middle-to upper-class communities is directly related to its landscape context, why can’t urban neighborhoods take advantage of their unique landscapes?” That question is particularly relevant now that densities are reduced and industries have been removed from these natural settings. In short, can the “Hill” become one of Pitts-burgh’s newest suburban developments downtown? Currently there is great interest in the hill because of its proximity to downtown, Oakland, and the University. City government owns large parcels of land. Gentrification is real threat. How can urban communities, like the hill, retain their identity and capitalize on its geography? The Greenprint builds upon the Hill’s existing landscape resources to provide a framework for wrestling with these huge challenges.





The Hill: A Village in the Woods

Greenprint I to Greenprint II

In Phase I of the Greenprint project, the Hill Neighborhood has been reconceptualized as a Village set in the Woods along the Allegheny and Monongahela Rivers in Pittsburgh. The Project seeks to reinforce the Village as a compact development zone with a strong civic identity; the Woods as a managed woodland with vital connections that link stairs, open space, and housing; and a conveyance system that finds opportunities for human circulation and ground/storm water systems in both the village and woodland settings. Phase II has two major objectives:

- to effectively integrate the Greenprint concepts and principles into the forthcoming Master Plan and for the Hill District, and
- to develop a set of specific projects for the realization and implementation of these landscape concepts. Designs developed in Phase II articulate the beginning stages of implementation for the Greenprint.

The development of specific implementation projects in the second phase of Greenprint builds on the methodology and research developed in the first phase. In Greenprint I the following framework and strategies were outlined:

Woods

The Woods is characterized by dense, vegetated areas on topographically challenged and hilly terrain. Tree planting is distinguished as native upland and urban in concept. Considerable understory planting is developed for bio-diversity and wildlife habitat. Built landscapes around them creating larger patch ecologies and green public spaces. Formally, the Woods create a contiguous landscape figure. Strategies for the Woods include,

Enlarge existing parks by enmeshing with adjacent green by:

- promoting “Patch Ecology” (non-contiguous, large patches of land that support diverse species and rich habitats);
- creating immersive green spaces that give a sense of inside and out; and
- developing performative large-scale leisure/recreation program.

Enmesh existing housing with adjacent green by:

- promoting Patch Ecology;
- subordinating the car; and
- developing interior green spaces in housing that are connected through plantings to larger ecological systems.

Enmesh circulation with adjacent green by:

- creating soft shoulders at roadways in the Woods; and
- revealing relationships of circulation to natural features.

Village

The Village is the densest area of commercial and social activity in the Hill. The Village should promote a “Civic Ecology” by which urban and neighborhood spaces utilize sustainable practices



Housing: Enmeshing with Oak Hill Housing



Park: Enmeshing with Cliffside Park



Housing: Enmeshing with Bedford Ave. Housing



Conveyance: Herron Avenue (Cherokee Ossipee Tributary)



Conveyance: Coal Seam Trail

for infrastructure and leisure.
Strategies for the Village include:

Interconnect sustainable civic and neighborhood space:

- promote “Civic Ecology” (physical environmental systems);
- develop formal planting systems that create imageable outdoor spaces, such as Alleés and bosques; and
- promote diverse program for public spaces.

Create distinct urban edges through:

- porches/doorways, street edges;
- multi-use auto space; and
- courts and plazas.

Develop visible infrastructure through:

- performative edges (flow-through planters, etc.); and
- distinct materials.

Conveyance

Conveyance recognizes that the Hill features a collection of stream tributaries that have historically and contemporarily transported people, water, and wildlife through the community- down and out to the rivers. Strategies for Conveyance include:

Supporting the health of ponds and streams through:

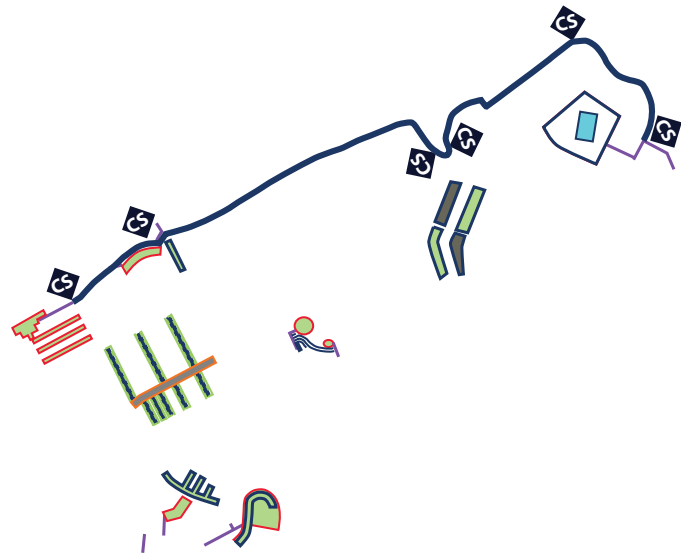
- slowing water with catchments;
- promoting Patch Ecology; and
- performative planting/remediation systems.

Improving streams/runs by:

- revealing buried creeks;
- conceptualizing water as infrastructure;
- developing the relationship of water to circulation; and
- manipulating the rate of flow with obstructions or freeing obstructions.

Developing tributaries by:

- creating immersive spaces that give a sense of inside and out;
- creating a planted relationship to adjacent buildings; and
- promoting Patch Ecology.



Greenprint II Projects



Primary Roads and Trails



Woods Patch Ecology



Greenprint II

Greenprint Phase II has utilized the above strategies to develop specific design guidelines and projects that reinforce and physically describe the goals and strategies set forth in Phase I. A compact development zone (the Village), and a managed Woodland, are the basis for three design initiatives that can be implemented. Landscape strategies for the Village and Woods districts are rooted in the local ecology and long term sustainability of the Hill. New development is promoted through performance standards and guidelines that suggest it happens in a manner that sustains the two new districts, while being respectful of its history. Specific Village and Woods projects include: planting design; rehabilitation/redesign of selected stairways located in seven distinct geographical neighborhoods of the Hill; and a new Civic Landscape located within the Village in relationship to Centre Avenue’s new development.

Out of these initiatives, the following design projects emerged:

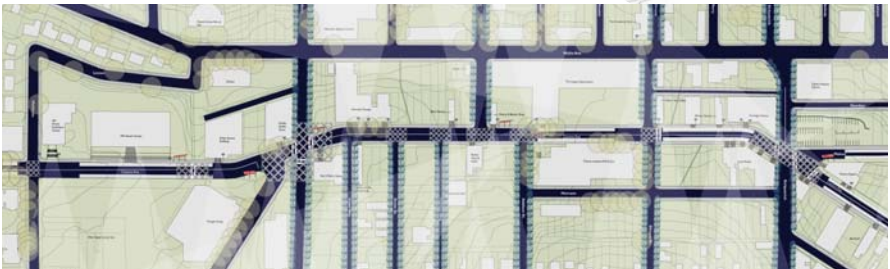
The Village – Detailed Proposals and Development Standards for Centre Avenue
Centre Avenue, A New Public Space – Street furnishings/ Paving – Development Opportunities – Planting

The new Village proposal arises not as something new, but as something built out of the existing cultural landscape. Inspired by August Wilson’s original theater backdrops of street scenes and Serlio’s scenes of the *Bucolic*, *Comedic*, and *Tragic* archetypal streets, the design of corners, stops, and doorways along Centre Avenue is conceived as a backdrop by which to celebrate and validate the vitality and performance of street life in the Hill.

Centre Avenue currently exhibits the highest concentration of business, places of cultural importance, institutional importance, and social life in the Hill District. Currently there are no designed public spaces along the street, only the corner that displays a sculpture at Dinwiddie Street: a lot that has a single sculpture and sloping landscape timber walls. There is an abundance of vacant parcels that give the street its open quality. On most days during the year, people come down to Centre Avenue to shop, walk, meet and socialize. It is within this context that the Centre Avenue proposal is developed. Community leaders and residents helped identify these particular practices along Centre Avenue, confirming that the street is the heart of the Village. The design guidelines are based on four key areas of focus -- Corners, Stops, Doorways, and Development (Infill) Opportunities -- and suggest that site amenities and improvements can reinforce and build upon the current street life. Existing site characteristics and social practices were identified through community participation and sensitive site observation. Site improvements and furnishings designed along Centre Avenue (and in some cases Centre’s cross streets) when amassed and added together, accumulate into a larger, idiosyncratic environment that is emerges from the place.

The Woods – Stair/Woods Planting Projects
Stair Rehabilitation – Open space – Site furnishings – Development Opportunities - Woods Planting

The design and development of the Woods as a public landscape emerged from community input, including local experts, residents, local institutions and non-profits. The Woods occupy a large geography in the Hill landscape. To make manifest a sense of connection/and identity, we have chosen to organize the Woods around the stair circulation system. 8 stairways were selected and from these, projects were developed as larger landscape units, each consisting of a rehabilitated



Village Proposals

stair/pathway system associated with single or multifamily housing, and existing open space. These projects are not distinct spatial objects in and of themselves, but instead explore a new typology of landscape cultural infrastructure that challenges common categorization (namely park/streetscape/etc.). Within the Woods there is also the potential for landscape-based enterprises that promote sustainable economic development through opportunities such as urban farming, agriculture, and livestock management of invasive species.

The stair/woods projects arose from the identification of existing assets to the landscape of the Hill. These proposals are not new spaces, but improvements to existing landscape elements that are currently of value to people living in the Hill; they are vital with use, be it formal or informal, and are imbued with a rich historical and cultural past. These projects are about revealing the value of the existing landscape of the Hill. The goal of our proposals is to formalize, reinforce, and legitimize existing social and cultural practices in the landscape, thereby changing larger perceptions of the Hill District.

Design decisions were framed by the following criteria:

- **Existing connections** that link historic stairways with single and multi-family housing, existing open space, and adjacent neighborhoods (Bigelow Boulevard on the north side, Uptown, Oakland, and Downtown).
- **Topography** – As the community helped identify and characterize the internal neighborhoods of the Hill District, and it became apparent that their boundaries were foremost conceptualized through topography, namely the 7 internal hills of the Hill District. From this information, projects could be identified in geographically diverse areas, with as much equity as possible.
- **Geomorphology** –Local ecologies within the Hill District were examined for the ways in which landscape is characterized by a range of factors: slope, soils, orientation, coal mine seepage and subsidence, and issues with invasive species (largely japanese knotweed) and infestation (mostly pear trees).

Conveyance – Conveyance/Circulation Projects

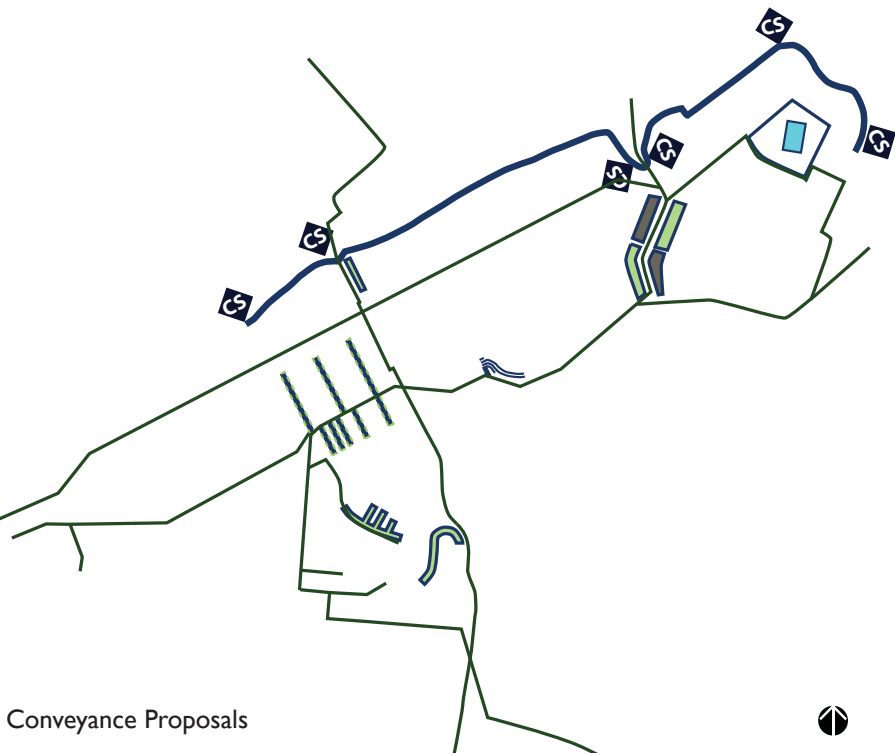
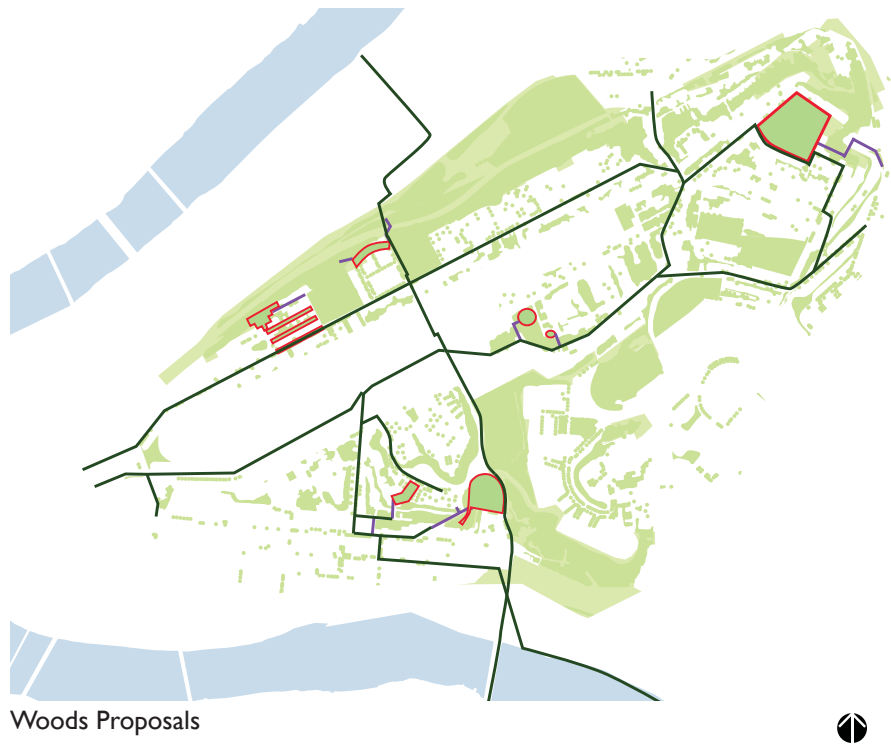
Conveyance / Circulation – Site Development – Plantings

Conveyance, the third identifying characteristic of the Hill landscape, refers to how people and water are conveyed through the neighborhood: between internal geographies and also out to external neighborhoods and rivers (the Monongahela and the Allegheny).

There are three project areas that deal with the history and present-day effects of the coal mining history embedded in the landscape of the Hill (for a technical summary see Appendix C – Coal Seam Notes). They include: Herron Avenue Thermal Corridor, a major circulation route, with thermal groundwater opportunities and visible contamination of surface water seeping from the coal seam; the new Coal Seam Trail, which traces the elevation on the north slope where coal is present; and the Chauncey Coal Mine Seam, a contaminated tributary emerges from a coal seam adjacent to a public stair.

Additional projects deal with the conveyance of water in Woods locations associated with open space and/or housing: Memory Lane Housing Rain Gardens run adjacent to Ammon Playground; Addison Terrace Gardens and Trails improve the landscape between dense multi-family housing, Martin Luther King Field Wetlands collects water run-off at the base of a hill that encircles the baseball field.

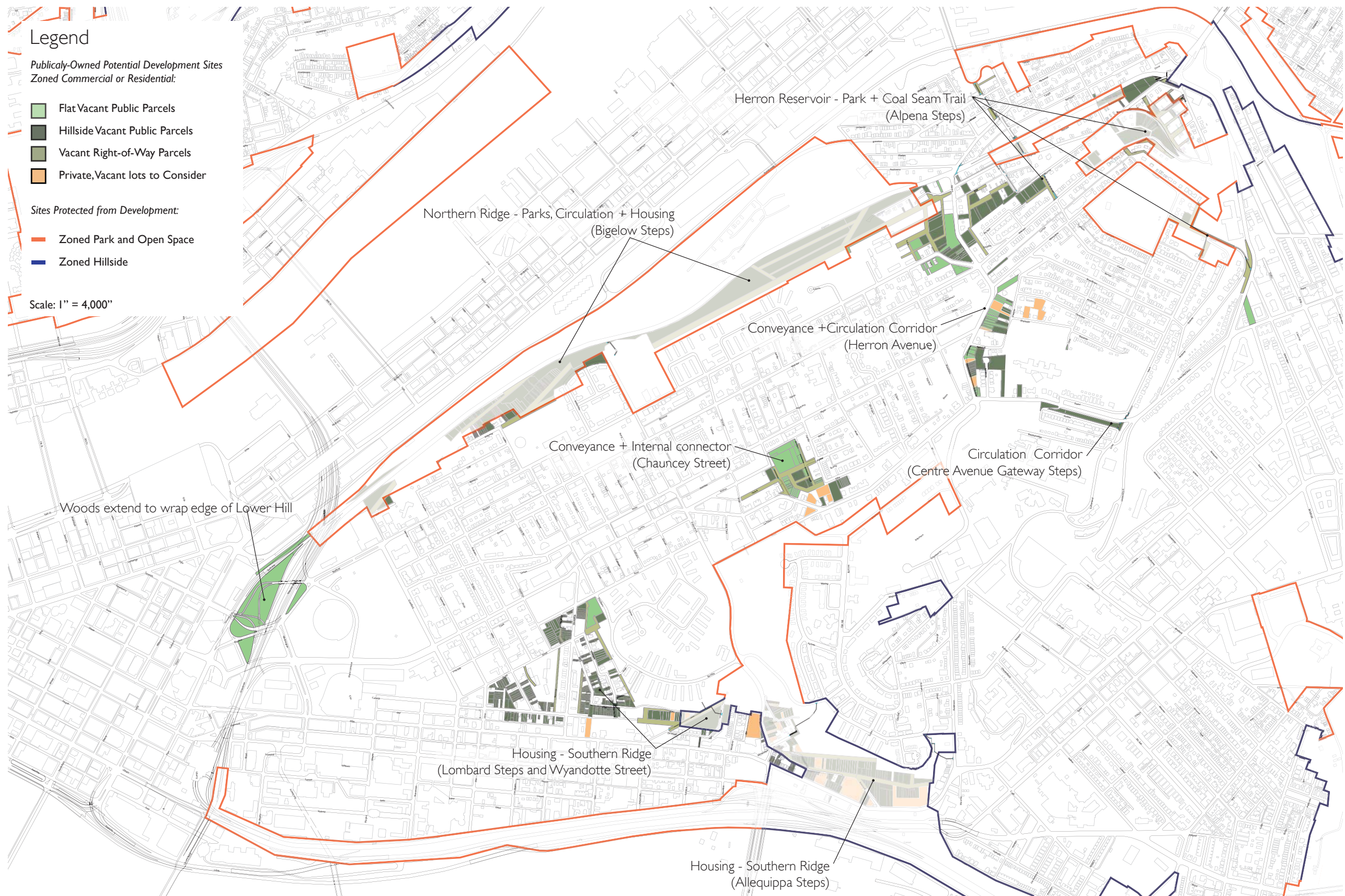
Centre Avenue Tributary is the conveyance project in the Village. Functioning as a low point in a small valley in the Hill, Centre Avenue drains storm water that flows down cross-streets. To mitigate the contamination of this surface water, new flow-through planters flank cross-streets.



LAND OPPORTUNITIES ASSOCIATED WITH THE HILL

The Greenprint proposes a new mode of public land use and conservation. The mapping to the left shows present (2010) property ownership and zoning in areas that have been identified through community participation and site observation as having significant ecological/cultural value to the neighborhood landscape: sites which consequently became the focus of our design proposals.

The mapping outlines sites that are protected from future development through their zoning status as either hillside or parks and open space. Parcels important to the Greenprint Projects outside of these areas are keyed according to the following categories: flat vacant public parcels, hillside vacant public parcels, vacant right-of-way parcels, and private, vacant lots to consider adding to public greenspace.



COMMUNITY PARTICIPATION

From its inception in 2003 the *Find the Rivers!* team facilitated community events and produced research reports and conceptual design plans “from the inside out.” Community residents and organizations took on the role of project developer rather than simply that of client. Essential elements of effective community participation (a critical mass of people, high quality and creativity of events and projects, local ownership of strategies and action plans reflecting new ideas and thinking) were evident. And there was a commitment of several years to nurture the project along. This method led to necessary shifts in perception, a broadening of the community’s sense of itself as a place of natural beauty and urban opportunity. By placing land and landscape at the center of thinking and strategizing about the Hill District’s future, new investments in housing or commercial development are viewed as broad opportunities that, if handled correctly, can lift economic health and improve the health of people and their neighborhood overall. This shift in thinking created the conditions that make the Greenprint projects possible. That the importance of land and landscape was embraced by residents was in evidence publicly in 2007/2008 when *Find the Rivers!* proposals were included in a list of key goals articulated by neighborhood leaders for a negotiated Community Benefits Agreement arising out of development of the new Pittsburgh Penguins hockey arena. As the late beloved community leader Dwayne Cooper put it, “[Through *Find the Rivers!*] we are changing the ballgame; shifting how people view the Hill.”

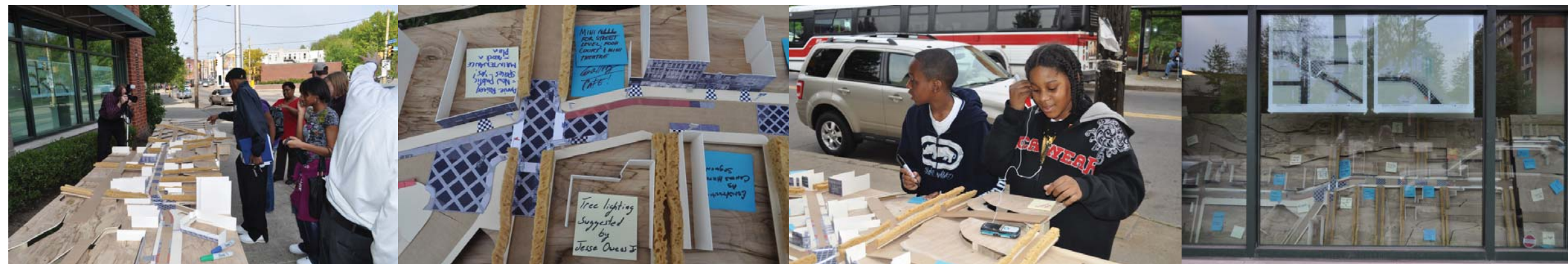
Community participation in the Greenprint included a series of focus group, advisory group and community meetings held from July 2009 to June 2010. The purpose of focus groups, convened to cover our three themes, Woods, Village and Conveyance, was to generate specific project plans and proposals and mobilize key constituencies whose commitment and resources would be vital to implementing the projects. Advisory Group meetings brought together a diverse group of city-wide actors and local stakeholders to provide ideas and a view of the Greenprint in the context of Pittsburgh as a whole. At key points, gatherings were designed to attract and involve community members not typically involved in planning meetings.

For example on April 23, 2010, events focused on the Hill District Village – especially the Centre Avenue corridor between five-way intersections at Centre/Dinwiddie and Centre/Kirkpatrick Streets. A scale model of the Centre Avenue “village,” constructed by team members from the Studio for Spatial Practice, was displayed in front of One Hope Square at 1901 Centre Avenue so that passers-by could become familiar with the Greenprint and offer information and ideas. Inside, additional drawings were on display along with food and refreshments. Similarly, on May 6th, illustrated proposals for Woods and Conveyance, particularly public staircases, were displayed while team members walked participants through, discussing possibilities and garnering ideas and collaborative proposals for project implementation. This event featured a video of the Woods throughout the Hill, complementing a related meeting of Urban Forestry project partners on April 13th.



March 20, 2010 Community Focus Group Meeting_Woods,Village, Conveyance

Photos by Larry Rippel



April 20, 2010 Public Community Meeting_The Village Civic Landscape

Photos by Hood Design



May 5, 2010 Public Community Meeting_Woods Planting

Photos by Hood Design

June 15th, 2010:Announcing Greenprint Proposals to the Hill District and City of Pittsburgh

The culmination of the participatory events was a day-long “roll-out” of Greenprint project proposals on June 15th, 2010. Typically, project proposals are announced at community meetings using a presentation format. Greenprint project proposals, by contrast, were demonstrated in practical ways in collaboration with project partners.

Woods: Late morning, 15 members and volunteer supporters of the Cliff Street Block Club joined the Greenprint team in marking the proposed Coal Seam Trail from Cliff Street to Memory Lane with ribbon. They hiked through key pathways and viewed potential walking paths and connections that can complement imminent renovations to Cliffs Park (the first Greenprint project, scheduled to get underway in 2010).A “Coal Seam Trail” sign was placed adjacent to new housing on Memory Lane near a set of steps leading to Bigelow Boulevard.

Conveyance: To demonstrate the importance of Conveyance, and in particular the potential for renovated public stairways, volunteers continued with Greenprint team members and, at midday, were joined by residents living on or near to Chauncey Street. Undeterred by the day’s heat, the group cleaned up the Chauncey Street steps leading to Centre Avenue. They also toured an adjacent six-acre site, a potential community park, and met and talked with residents using the steps as part of their daily routines.

Village: The group then walked to Centre and Kirkpatrick where, throughout the early and mid-afternoon, they joined local artists and demonstrated proposals for highlighting doorways (Greenprint proposals will also highlight corners, alleys and intersections). Names of existing businesses and historic buildings were stenciled along Centre Avenue, an activity sponsored in conjunction with the new Hill District Business Association. This provided further opportunities for conversation with residents and business owners.

Greenprint: To announce Greenprint project proposals, a large illustration of The Hill: A Village in the Woods was hung on the side of the Number 2 Police Station, situated at the key five-way intersection at Centre/ Dinwiddie Streets. The Pittsburgh Police, Hill House Economic Development Corporation, and Hill District Community Development Corporation assisted with arrangements. A celebratory barbeque was held and some 100 guests and passers-by viewed detailed proposal drawings set along the side of the building (which was dramatically visible to vehicular traffic coming eastward along Centre Avenue) and engaged in discussions with the Greenprint team.

The event was preceded by a press conference, attended by print and electronic media.



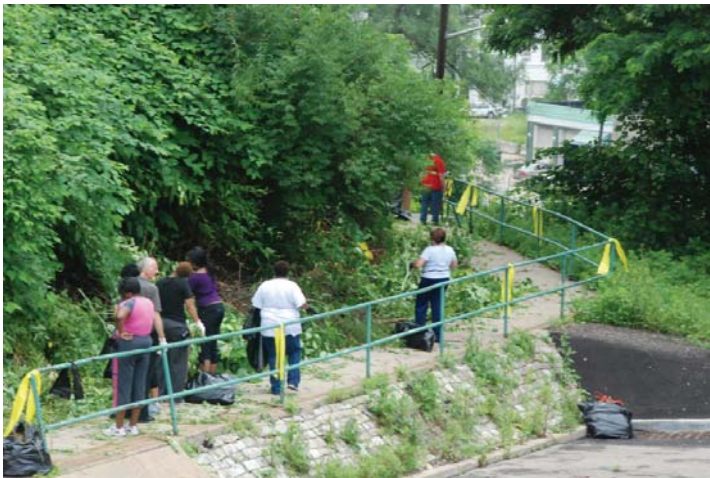
Final Exhibition and BBQ
Photo by Studio for Spatial Practice



Stenciling Historic Business names at Vacant Lot locations on Centre Ave.



Photos by Studio for Spatial Practice



Chauncey Stair Clean-up



Photos by Studio for Spatial Practice



Hiking and Marking the Coal Seam Trail



Photos by Hood Design



June 15, 2010 Public Roll-out Exhibition and Barbecue

Photo by Larry Rippel



Photo by Larry Rippel



Photo by Larry Rippel



Photo by Larry Rippel



Photos by Hood Design

COMMUNITY/PUBLIC RESOURCES FOR THE GREENPRINT:A PRELIMINARY LISTING

All: *Find the Rivers!* partners; Hill House Association; Hill District Planning Forum and Consensus Group; Community Partners Institute; and Pittsburgh Parks Conservancy. Also: the City of Pittsburgh; the Housing Authority; Urban Redevelopment Authority; Hill Master plan team; and the Greenprint Advisory Group.

Woods:

- Friends of the Pittsburgh Urban Forest
- Tree Tenders (volunteers)
- Cliff Street Block Club (Volunteers; planning; maintenance)
- Crawford Homeowners Association (Volunteers; planning; maintenance)
- Tree-Vitalize
- Landslide Farm
- Venture Outdoors
- PA Department of Conservation and Natural Resources (DCNR) (Funding)
- PA Department of Environmental Protection (DEP) (Funding – environmental projects)
- Schenley Heights Civic Association (Volunteers; planning; maintenance)
- Herron Avenue Corridor Coalition (Volunteers, planning, maintenance)
- Bedford Tenants Council (Volunteers; planning; maintenance)
- McCormack Baron Salazar (Technical assistance; maintenance)
- University Preparatory School (Program partner)
- Miller African American Academy (Program partner)

Conveyance

- University of Pittsburgh, School of Engineering (Technical assistance)
- Local Artists
- Schenley Heights Civic Association (Volunteers; planning; maintenance)
- Oak Hill Tenants Council (Volunteers; planning; maintenance)

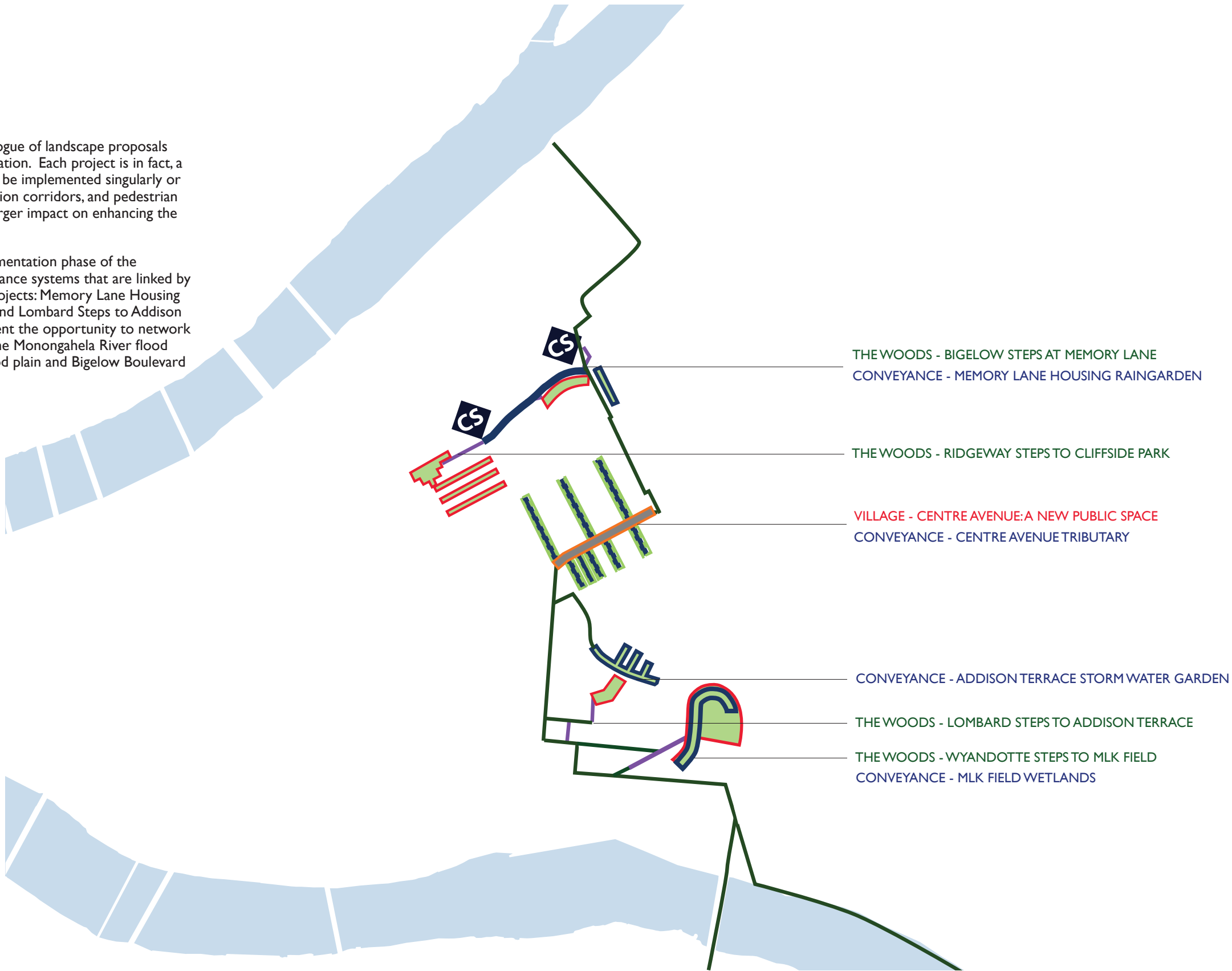
Village

- New Hill District Business Association
- Hill House Economic Development Corp.
- Hill CDC
- Friends of the Pittsburgh Urban Forest
- Tree Tenders (volunteers)
- City of Pittsburgh: City Planning; Urban Forester; Public Works
- Tree-Vitalize
- PA Department of Conservation and Natural Resources (DCNR)

Hybridized Implementation

The Greenprint projects outlined in this book are a catalogue of landscape proposals that offer possibilities for “hybridized” (multiple/mixed) implementation. Each project is in fact, a combination of multiple proposals within the project area that can be implemented singularly or combined with others. Linked through primary viewsheds, circulation corridors, and pedestrian stairways and trails, these projects form a network that makes a larger impact on enhancing the neighborhood than would a single conventional project.

The diagram below demonstrates a strategy for an implementation phase of the Greenprint. Shown here are new Village public spaces and Conveyance systems that are linked by primary circulation and views to other Woods and Conveyance projects: Memory Lane Housing Rain Garden and Bigelow Steps, Ridgeway Steps to Cliffside Park, and Lombard Steps to Addison Terrace Housing Gardens and Trails. Together, these projects present the opportunity to network new public spaces and passageways across the Hill District, from the Monongahela River flood plain and Fifth Avenue at the south end, to the Allegheny River flood plain and Bigelow Boulevard at the north end.



THE HILL NEIGHBORHOOD URBAN DESIGN GUIDELINES

(See City of Pittsburgh Urban Development Guidelines for more extensive standards and guidelines. The Hill neighborhood guidelines compliment the Pittsburgh Urban Development guidelines).

Context and Character

The Landscape:The Hill,Woods and Village

The Allegheny and Monongahela River and its flood plain define the Hill neighborhood. A series of hillocks were mined for coal reserves and stream tributaries were altered;a testament to the environmental and cultural transformations that formed present day downtown Pittsburgh. The steep wooded slopes and low-lying tributaries are characteristic of this neighborhood landscape.

Guidelines:

- Restore historic tributaries to the surface where possible.
- Preserve existing hillsides and hilltops.
- Minimize the cutting and removal of soil and vegetation during development of slopes and hillsides.
- Develop a long term landscape management strategy for the Hill Woods and streetscapes.

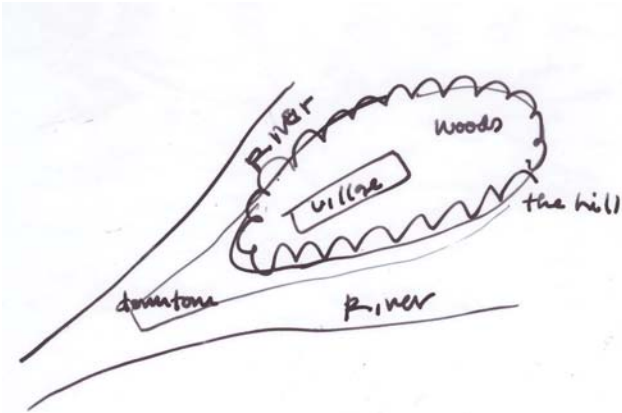
Historic Streets and Blocks

The Hill’s system of streets and blocks has been altered over the years due to development, transportation and neglect. The east-west running avenues – Centre, Bedford,Webster, and Wylie – are historically significant to the cultural and social history. These streets allow for the visual and physical experience of the rolling hills as well as distant and neighborhood views. Herron Avenue and Kirkpatrick Streets run north-south, reinforcing historic tributaries and circulation patterns.

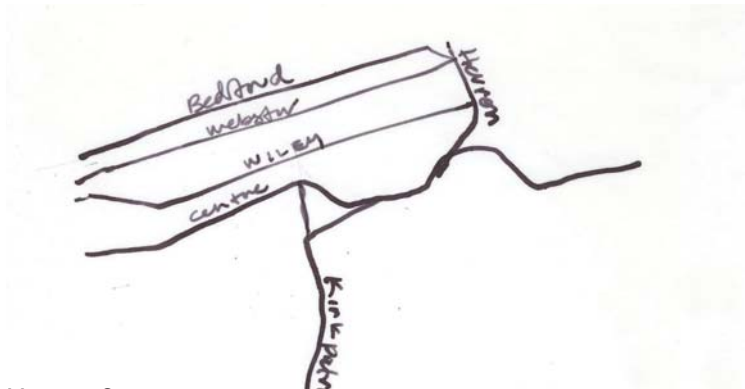
- Preserve/restore Wylie Avenue connection to downtown.
- Preserve Centre Avenue as major circulation spine.
- Maintain existing street widths for the following streets: Centre Avenue,Wylie Avenue, Herron Avenue, and Kirkpatrick Street.

Architectural History/Character

The Hill neighborhood is a collection of building types found throughout urban Pennsylvania. The single row house and duplex are remnants in the neighborhood. The double porch apartment building and 2-3-story storefront can be found on Wylie and Bedford Avenues. The Hill also is host to a Carnegie church and school. Many of the historic structures have been abandoned or removed on Centre and Wylie Avenues. As the centerpiece street to the Village, buildings of historic importance should be identified and preserved. Playwrite August Wilson’s house



Hill Landscape



Historic Streets



August Wilson House

at 1727 Bedford Avenue should be preserved as well as other significant buildings that preserve the neighborhood's cultural legacy. These include: St Benedict the Moor, the Kaufmann Hill Settlement House and Theatre, First Carnegie Church, Second Carnegie Library, New Granada Theatre, Crawford Grill, West Funeral Home, new Carnegie Library, and Leo Weil School.

- Preserve/restore historic buildings along Centre Avenue and Wylie Avenues.
- Develop a list of buildings for Historic designation in the Hill, including the August Wilson House, the First Carnegie Church and Second Carnegie Library.

Sympathetic Infill

The Hill neighborhood redevelopment should respect the historic building pattern as well as develop new infill strategies that reinforce the unique environmental setting. Large-scale housing projects and large-scale institutional development have historically redeveloped hilltops and hillsides. This has led to the loss of physical continuity of hillside and habitat, disrupting neighborhood circulation and use patterns. Infill development should build upon the Wood and Village character of the Hill neighborhood.

Guidelines:

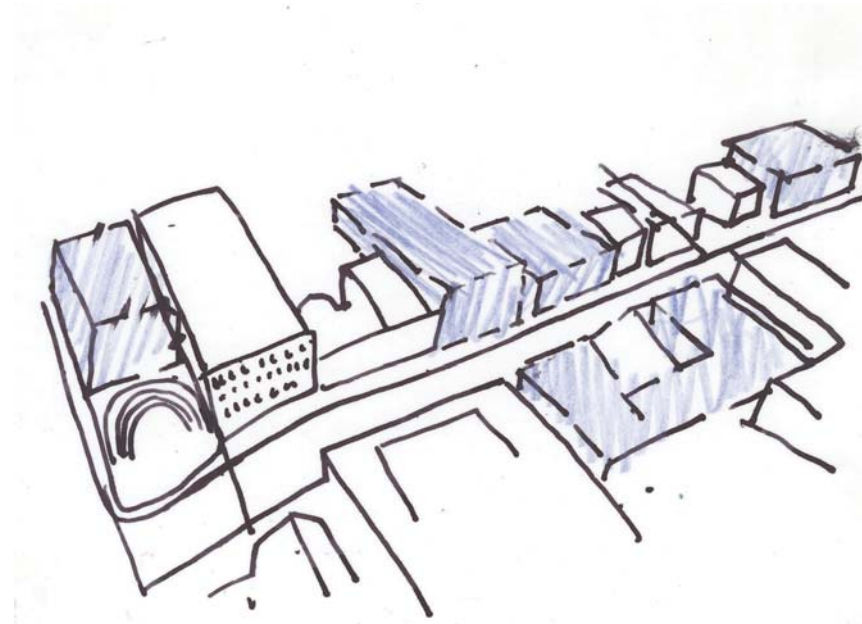
- Recreate the street wall along Centre and Wylie Avenues (zero setback).
- Main building entrances should be at Centre and Wylie Avenue.
- Discourage PUD/encourage scattered sites.
- Respect 2-3 story building heights along Centre and Wylie Avenues.

Gateways and Vistas

Entry into the Hill neighborhood is marked by the steep ascent from the adjacent rivers. Centre Avenue, Wylie Avenue, Herron Avenue, and Kirkpatrick Street are the primary roads that provide access to the neighborhood. Herron Avenue and Kirkpatrick Street relate to the hydrology of the Hill by following historic tributaries. Centre and Wylie Avenues are streets that follow the topography as they move southwest to northeast. The seven hills of the Hill provide stunning views and vistas to adjacent and adjoining neighborhoods and the river landscape. The Herron Hill Reservoir in the Sugar Top neighborhood is one of the most important vista points in the neighborhood, and one of the highest elevations in Pittsburgh.

Guidelines:

- Centre Avenue, Wylie Avenue, Herron Avenue and Kirkpatrick Street should be preserved as gateway streets.
- Preserve and build public spaces upon key visual vantage points such as the New Coal Seam Trail, Herron Hill Reservoir, Centre Avenue, and the Number 2 Police Station.



Sympathetic Infill

Civic Art

Art in Public Places

The Hill neighborhood hosts an abundance of art in the public realm. Historically, civic ornament and monument are visible throughout the neighborhood. The Carnegie schools and churches, St Vincent the Moor, and the Art Deco features of the Granada Theater are examples. More recently, single autonomous works have been commissioned, i.e. sculpture at the corner of Dinwiddie and Centre Avenue, Freedom Corner at Crawford Street and Centre Avenue, and murals on the sides of buildings along Centre Avenue.

Guidelines:

- Use public infrastructure as an opportunities for public art.
- Develop a mural program using scrim to attach to derilict building facades.
- Integrate Art with new development in the Hill, i.e.; facades, fencing, paving, lighting, etc.
- Support the development for a public art galley/center along Centre Avenue.
- Develop a lighting/signage program for the Hill’s Public Stairs.
- Create a cultural history walking tour.

Use Public Infrastructure Improvements to Enhance the Public Realm

Building on the city’s long tradition of utilizing public infrastructure to embellish the public realm, as exhibited in the “high caliber of bridge design” crossing the two rivers, the Hill District is poised to follow this rich tradition. The Hill hosts a diversity of public infrastructure opportunities based on its natural and cultural history:

- Promote the use of geo-thermal energy along Herron Avenue.
- Install a new false-cap at Herron Hill Reservoir at Williams Park to create a water garden.
- Rebuild the pedestrian stair circulation system.
- Create Green Street infrastructure through Best Management Practices (BMP’s).

Celebrate Pittsburgh’s History and Identity

As suggested in the City of Pittsburgh’s Downtown *Urban Design Guidelines*, Pittsburgh’s strong and distinctive image results from the interaction of the natural landscape, social history, and built environment. Understanding these complex relationships as they relate to development can encourage projects to be site-specific and to reflect their time and place. The natural and cultural environment of the Hill has symbiotically shaped its landscape and history in complex ways over time. Mining, particularly of coal, is a result of natural geological transformations of the riverine



morphology and diverse cultural transformations that resulted from this resource. Development projects can reinforce the following natural, social, and built characteristics of the Hill:

- The history of coal mining and the seam where coal had been extracted.
- The city's riverine ecology and its dynamic hydrological flux.
- August Wilson's landscapes and streetscapes.
- Multicultural landscapes; i.e. Polish, Jewish, etc.
- Religious structures (churches, storefronts, etc.).
- Entertainment (social and entertainment clubs).

Pedestrians First

Concentrated, Mixed-Use Development

The Hill District has two major nodes of concentrated development along its major circulation spine, Centre Avenue. This area is designated by the Greenprint as the Village landscape. Concentrated, mixed-use development is suggested along this corridor. Historically, concentrated development graced Wylie Avenue as well, but over time, most commercial activity has moved to Centre Avenue. Today, two major five-point intersections serve as distinct nodes for development in the Village, which connect to adjacent streets, such as the historic Wylie Avenue. The intersections of Centre Avenue and Dinwiddie Street, and of Centre Avenue and Kirkpatrick Street, create bookends for arrival and departure into the community. Currently, the rehabilitation of the Kaufmann Auditorium, the construction of a new drugstore and grocery, and the refurbishing of the Granada Theater anchor the western five-point intersection of Dinwiddie and Centre Avenue. At the easterly intersection of Centre and Kirkpatrick Street, a new YMCA, Library, and infill housing create the context for future development.

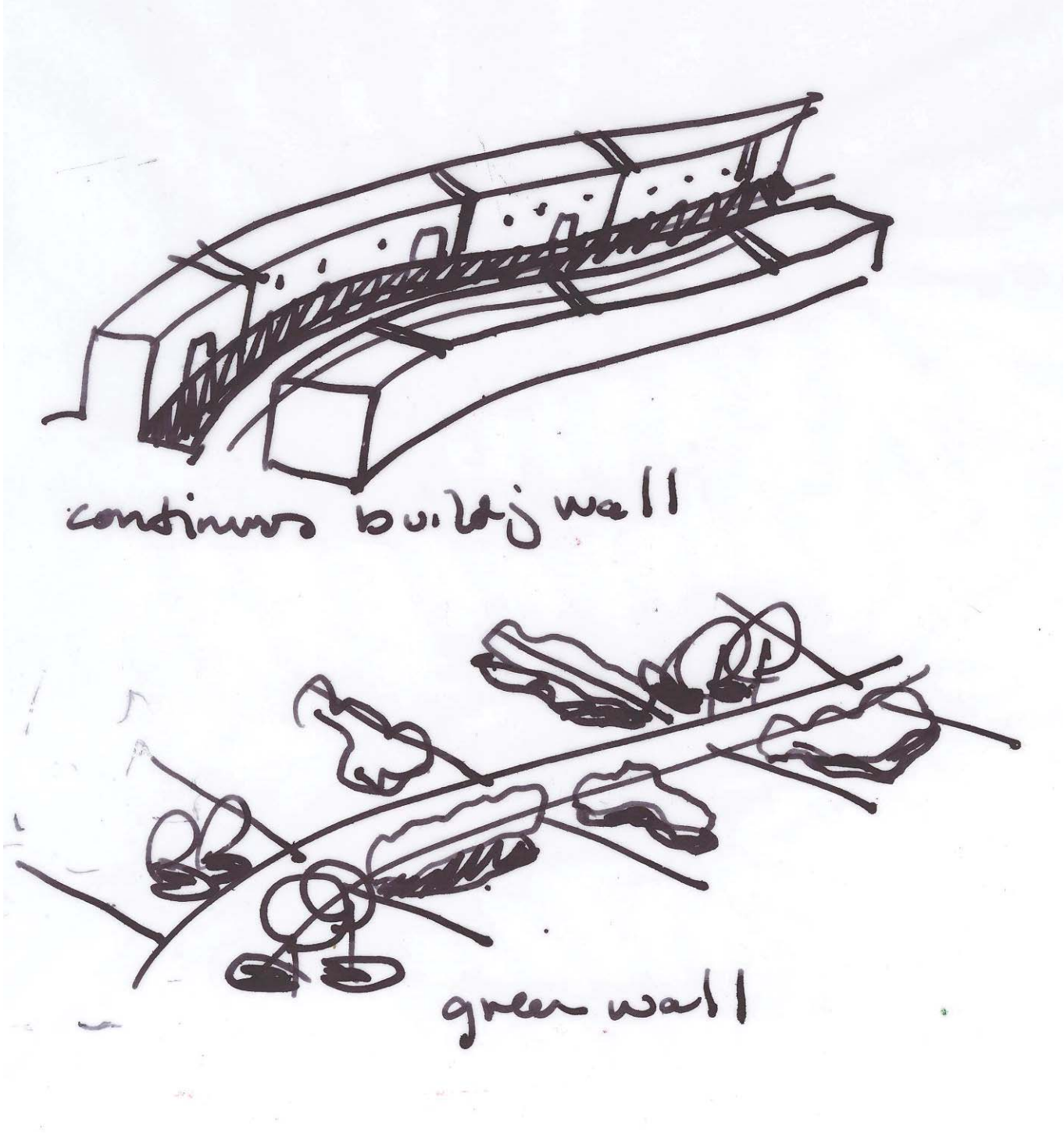
- Encourage local idiosyncratic mixed-use, i.e., African Market/office space, barber shop/retail, YMCA/housing.

Respect the Street Wall

The proposed landscape concepts, the Village and the Woods, suggest different treatments of the street's built edge condition. The experience and preservation of the built and natural landscape is key in each context. Within each environment the streetwall serves as a threshold to the private realm.

Within the Village landscape, the streetwall should be respected and built to the property line along Centre Avenue and Wylie Avenue where possible. Setbacks should be discouraged along these historic corridors and the streetwall should be seen as a continuous element.

In the woods, the street is defined by a "green" wall. Here trees and understory vegetation complement the street edge, enmeshing it into the landscape. Setbacks are



encouraged for single-family residential units. Yards and gardens reinforce the green streetwall, creating a horticultural threshold between public and private. Multi-family development should encourage courts, gardens and yards as transitions from the street. In the woods, the street wall disappears into the field, whereas in the Village the streetwall reinforces the corridor.

Place Activity at the Street Level

In the Village and Woods landscape the street is the primary public space that unites the neighborhood and city. In both environments the street is the place where activities are validated and encouraged.

In the Village landscape the street is seen as a place for the everyday: corners, stops and doorways are the primary places of activity. These places should encourage use through the development of street furnishings and specialty materials. Idiosyncratic to the Hill, these landscapes and activities reinforce the cultural setting. In the Woods landscape, street activity is encouraged through the development of new trails and street improvements. The Coal Seam Trail and Conveyance landscapes relate the street to the Hill’s rich cultural and natural history.

Develop New Public Spaces in Key Locations and Keep the Streets as Primary Space

Primary opportunities for new public spaces are along Centre Avenue, particularly at corners, doorways, and where cars pull over to stop. Corners at the two five-point intersections along Centre Avenue at Dinwiddie Street and Kirkpatrick Street are prominent locations of social activity in the Village and present strong opportunities for new larger public spaces in relation to the street.

New Public Spaces

Opportunities exist for the creation of new public spaces in the Village and in the Woods landscape. These new spaces should be developed in relationship to existing public spaces and right-of-ways. In the Village a new public space is developed at the corner of Centre Avenue and Dinwiddie Street, adjacent to the police station and across from the historic theater. Here the new development recovers space from a parking area and returns it to the public realm. Also, within the Village public stairs and streets are designated as major public spaces.

Public Seating

See Village and Woods Development Standards (pp. 23-25) for suggested site furnishings for seating in the Village and Woods.

Use Urban Monuments and Wayfinding Systems to Develop Clearer Pedestrian Orientation

See Village and Woods Development Standards (pp. 23-25) for suggested signage for streets, transit, and stairways, and trail markers for the Coal Seam Trail.

Trees

In the Village, prioritize street tree planting along cross streets to Centre Avenue which extend from single and multi-family housing down to the Central Business District. Trees in the Village

should be planted in formal rows, consistently spaced, and structural soil and/or tree grates should be utilized to prevent soil compaction and ensure the growth of healthy trees. See pp. 27-47 in the Village section for street-by-street planting designs.

In the Woods, tree planting should be along vacant property lines and in new planters along streets and should be planted in a staggered manner with understory and groundcover planting beneath. Important views should be preserved by selecting smaller tree varieties spaced more generously. See pp. 59-84 in the Woods section for planting designs and species suggestions.

C. Design Standards

As per the City of Pittsburgh Department of City Planning *Urban Design Guidelines*.

References

<http://www.city.pittsburgh.pa.us/dt/UDGUIDE.PDF>

City of Pittsburgh: Department of City Planning.” Urban Design Guidelines.” Pittsburgh 1998.*

*The Hill neighborhood guidelines should remain consistent with updated City of Pittsburgh Urban Design Guidelines.

VILLAGE Site Design Elements for Steps, Open Space/Park, and Expansion

Lighting

New custom lights will add idiosyncratic, vibrant illumination in the Woods. Placed in new open spaces and at the top and bottom of rehabilitated stairways, the Woods lighting adds a sense of security at night. These lights are to become a standard for new and replacement lighting in the Woods.

A standard LED light fixture illuminates a custom translucent casing, which can be marked to also serve as signage (LED's last considerably longer than conventional public lighting systems and are chosen to address long-term maintenance and budget concerns.) The steel post is custom-fabricated and painted yellow.

Signage

Signage for rehabilitated stairways in the Woods is incorporated into lighting (above). The new Coal Seam Trail utilizes existing galvanized steel guardrails to create trail head markers. The trail is also marked along its length with pre-cast concrete markers with "Coal Seam Trail" etched into the surface.

Benches

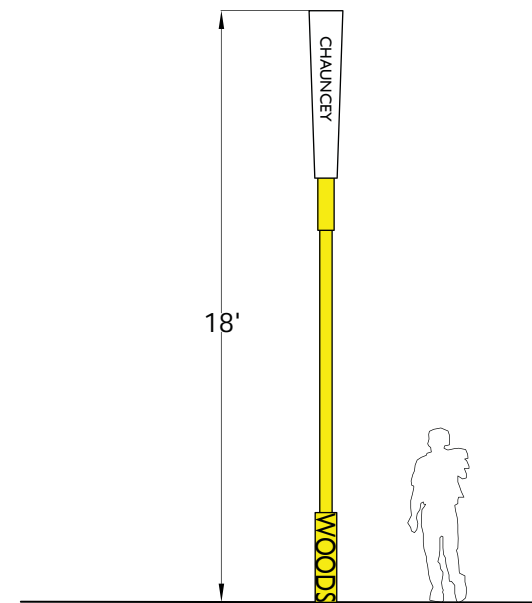
New benches for the woods are custom-fabricated, made from 2"x12"x7' boards on end, joined with steel bar and 1/2" spacers. Feet are made from three steel supports that are bolted to the underside of the wood seat.

Paving

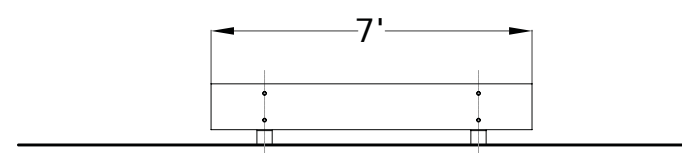
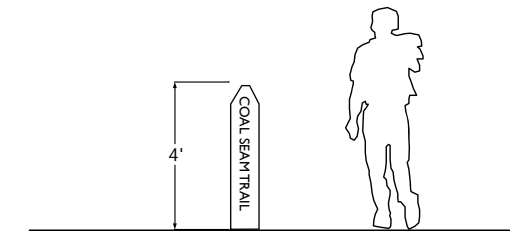
ASHTO #10 crushed limestone is used to surface the new Coal Seam Trail (edged on one side with black Hanover® brick) and other pathways in the Woods. Grass Pave used for new parking at the end of Bentley Drive near MLK and for other new or repaired parking in the Woods, per input from community members.

Litter Receptacles

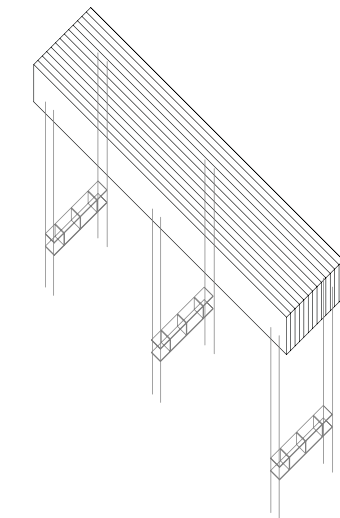
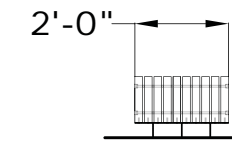
Litter Receptacles are Forms and Surfaces® "Urban Renaissance." Custom image for the Woods to be laser cut in surface of receptacle.



Custom Woods Lighting and Signage



Custom Wood Bench



Grass Pave®



ASHTO #10 Crushed Limestone



Black Hanover® Brick



Forms and Surfaces® "Urban Renaissance" Litter Receptacle

VILLAGE Site Design Elements to Create Corners, Stops, and Doorways

Lighting

Cultural references to spiritual and historical patterns and practices are explored through the development of building and street lighting. The Hill District once had a lively commercial district, illuminated with vibrant lights and sounds. New custom lights will add idiosyncratic, vibrant illumination along Centre Avenue, referencing the neighborhood’s rich past.

Bottle tree lights are placed along Centre Avenue according to input from community business-owners and residents. Locations of lighting will reinforce existing economic and social capital along Centre, concentrating illumination close to existing businesses, community amenities, and transit stops. LED lights illuminate the blue glass, creating a festive glow. (LED’s last considerably longer than conventional public lighting systems and are chosen to address long-term maintenance and budget concerns.)

Seating

Benches

Inspired by the historic stoops of the Hill District and greater Pittsburgh area, these custom benches for the Village are sturdy, spacious, and provide both a practical and playful place to sit and/or play on. Benches are another element of the proposed site furniture “kit of parts” from which business owners and cultural institutions along Centre can choose to place in front of their buildings.

Tree seating

At the new Plazas at the intersection of Centre/Dinwiddie/Devilliers, trees are adorned with circular seating to provide a location to sit, socialize, eat lunch, and play.

Paving

Cobblestone

Historic cobblestone paving (Belgium Block) lies beneath the asphalt surface of present-day Centre Avenue. In areas where cars and buses are coming to a stop and/or parking, asphalt is demolished to expose the texture of cobblestone below, thereby revealing the layered history and material value of the street.

Integral Color Concrete

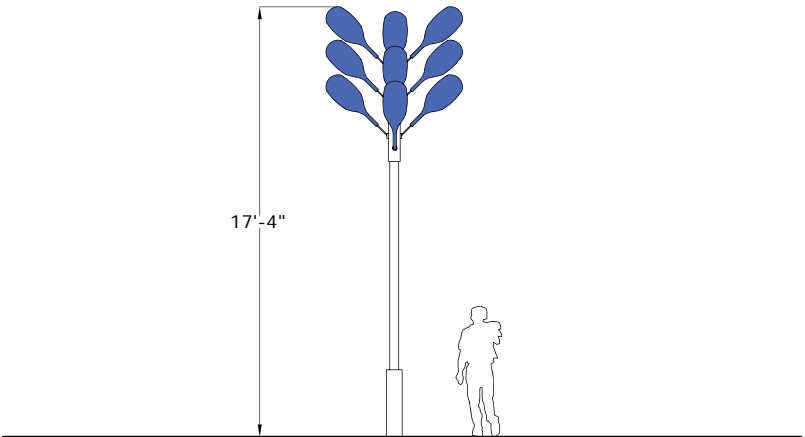
Where busses and jitneys pull over to stop to pick up passengers, the existing asphalt is removed and replaced with integral color concrete, marking the stop as a place of transit and socialization.

Striping

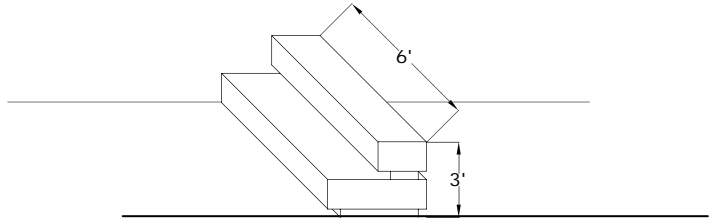
Striping of intersections along Centre Avenue creates the effect of a plaza through marking the ground. These guidelines identify intersections along Centre Avenue in the Village, creating a rhythmic pattern along the street.

Doormats

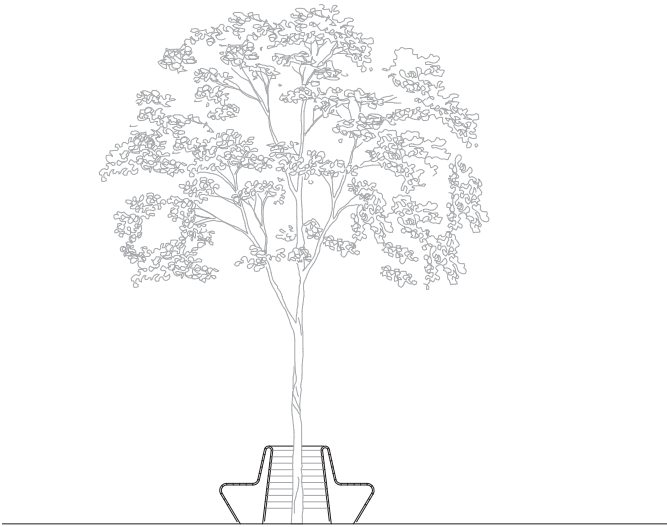
Local business owners along Centre Avenue may choose to have a doormat made of black brick across the sidewalk in front of their storefront. This new paving of the walk up to the door references historical precedents in the Hill



Bottle Tree Light



Stoop Benches



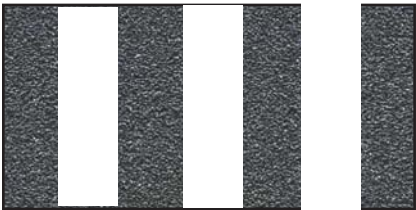
Tree Seating



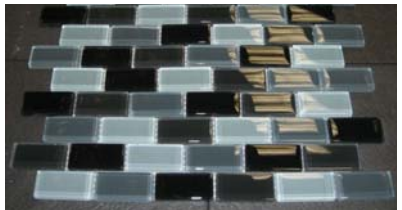
Cobblestone



Integral Color Concrete



Thermoplastic Striping



Black Brick



Grass Pave

of similar treatments in historic commercial entryways. Foremost, the doormat paving serves to support private entrepreneurial activity in the Village by improving the public walk directly outside their business. Doormats are not limited exclusively to businesses, however; they can be provided to public and cultural institutions as well.

Plaza paving

Plaza paving at the Centre/Dinwiddie/Devilliers intersection is striped with alternating ten-foot bands of black brick and poured concrete. The mixed-use plaza at the intersection of Chauncey and Centre Avenue is paved with Grass Pave.

Signage

Signage along Centre Avenue will reinforce/support existing transit activity in the community (Jitney, Public Bus, School Bus, and Street Signs). Custom designed and fabricated for the Hill, these brightly colored signs are modular and can be installed singularly or combined on a single post.

Bus Shelters

Like other site elements listed above, the bus and jitney stop canopies are placed to support and reinforce existing transit activity and social practices along Centre Avenue. The bus shelter materials are composed of custom steel tubing for the structure, spanned by a lexan cover that is illuminated with LED lights at night.

Litter Receptacles

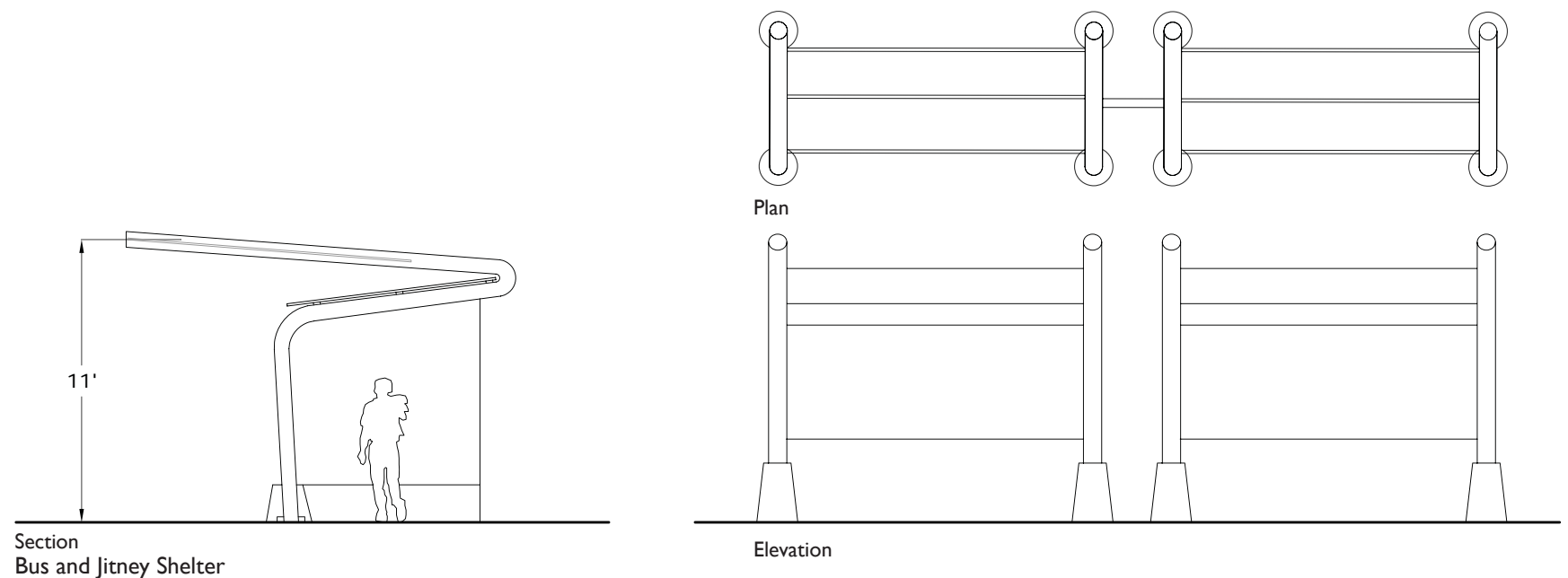
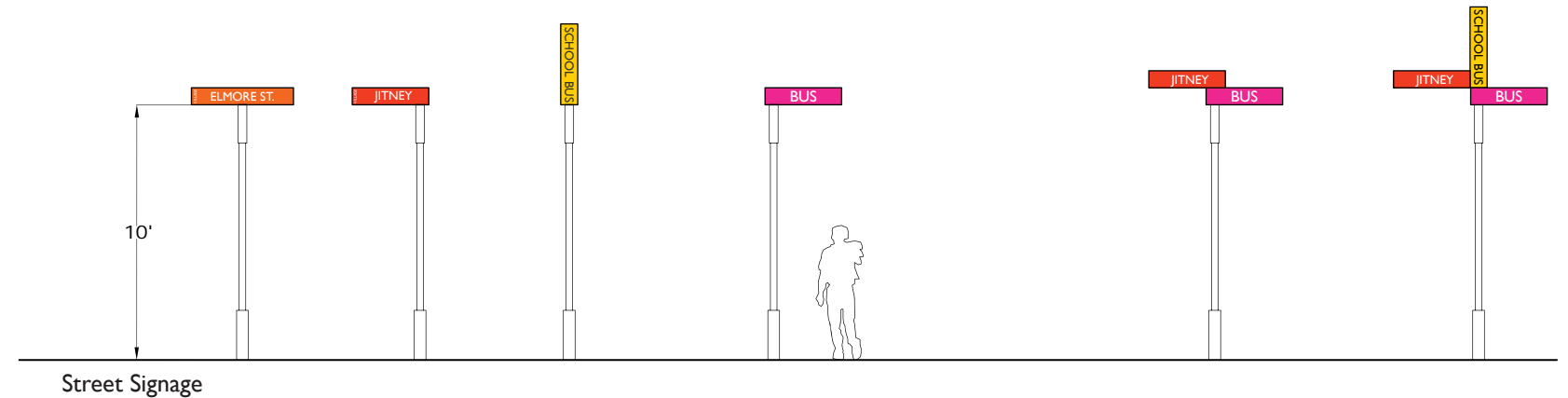
Litter Receptacles are Forms and Surfaces® “Urban Renaissance.” Custom image for the Village to be laser cut in surface of receptacle.

Tree Grates

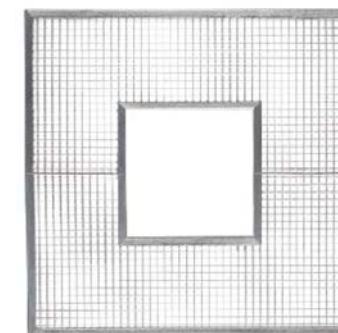
Hess® galvanized steel tree grates to be utilized for trees along cross streets, where there are no flow-through planters. Tree grates prevent soil compaction and promote the health and growth of urban street trees.

Bike Racks

Forms and Surfaces® “Bike Garden” bike racks to be placed at locations along Centre Avenue per recommendations of community organizations and local businesses.



Forms and Surfaces® “Urban Renaissance”
Litter Receptacle



Hess® Galvanized Steel Tree Grate



Forms and Surfaces® “Bike Garden”

THE VILLAGE

Development Standards and Guidelines, Centre Avenue: A New Public Space

- Centre Avenue at Heldman Street
- Centre Avenue at Dinwiddie Street
- Centre Avenue at Erin Street
- Centre Avenue at Elmore Street
- Centre Avenue at Kirkpatrick Street
- Centre Avenue at Chauncey Street

OVERVIEW

The new Village proposal arises not as something new, but as something built out of the existing cultural landscape. Inspired by August Wilson’s original theater backdrops of street scenes and Serlio’s scenes of the *Bucolic*, *Comedic*, and *Tragic* archetypal streets, the design of corners, stops, and doorways along Centre Avenue is conceived as a backdrop by which to celebrate and validate the vitality and performance of street life in the Hill.

Centre Avenue currently exhibits the highest concentration of business, places of cultural importance, institutional importance, and social life in the Hill District. Currently there are no designed public spaces along the street, only the corner that displays a sculpture at Dinwiddie Street: a lot that has a single sculpture and sloping landscape timber walls. There is an abundance of vacant parcels that give the street its open quality. On most days during the year, people come down to Centre Avenue to shop, walk, meet and socialize. It is within this context that the Centre Avenue proposal is developed. Community leaders and residents helped identify these particular practices along Centre Avenue, confirming that the street is the heart of the Village. The design guidelines are based on four key areas of focus -- Corners, Stops, Doorways, and Development (Infill) Opportunities -- and suggest that site amenities and improvements can reinforce and build upon the current street life. Existing site characteristics and social practices were identified through community participation and sensitive site observation. Site improvements and furnishings designed along Centre Avenue (and in some cases Centre’s cross streets) when amassed and added together, accumulate into a larger, idiosyncratic environment that is emerges from the place.

1. Corners

Corners are places from which to see and be seen. Connecting corners at intersections create crossroads with visual accenting pavements. Adding handicap ramps, lights, seating and signage builds upon the existing uses and creates a setting for socialization, way finding and circulation.

2. Stops

People stop along Centre Avenue – both pedestrians and automobiles. For pedestrians, the stops are transit-oriented and socializing. Drivers stop their cars at intersections, for parking, and for socializing purposes. Site amenities such as signage, shelter, canopy, benches, lighting, and new paving are developed to facilitate and reinforce each of these existing social practices.

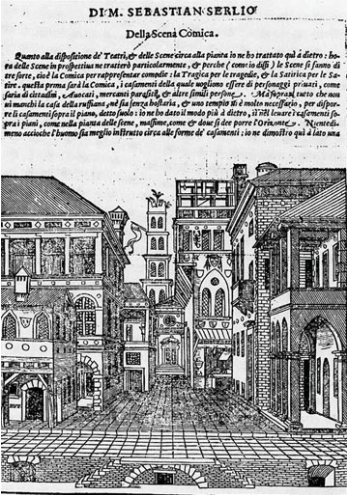
3. Doorways

People congregate on Centre Avenue around doorways. Whether at the barbershop, Hill House, or Family Dollar, store people meet at the building’s entry. Observing the existing building uses and activity, new site amenities are added at existing businesses’ doorways pronouncing their existence with physical programs: seating, lighting, signage, and paving. These improvements reintegrate existing social capital into the scene.

4. Development (Infill) Opportunities

Future infill development opportunities along Centre Avenue will be important if the street is to maintain a vibrant and distinct urban edge. The following principles will assist in guiding future development to help achieve this goal:

- Conform to historical buildings;
- Eliminate setbacks in parcels along Centre Avenue;
- Eliminate curb cuts along Centre Avenue, with the exception of alleys;
- Place parking lots behind buildings that face Centre Avenue;
- Provide service access to buildings in alley, back or side;
- Respect existing building heights, typically at 2-3 story street height;
- Encourage mixed-use; and
- Incorporate lighting when possible.

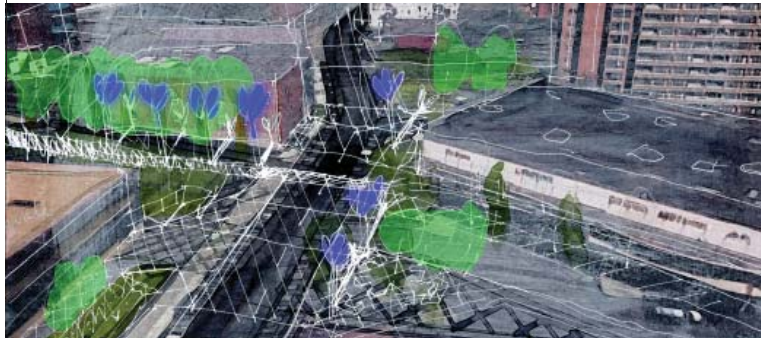
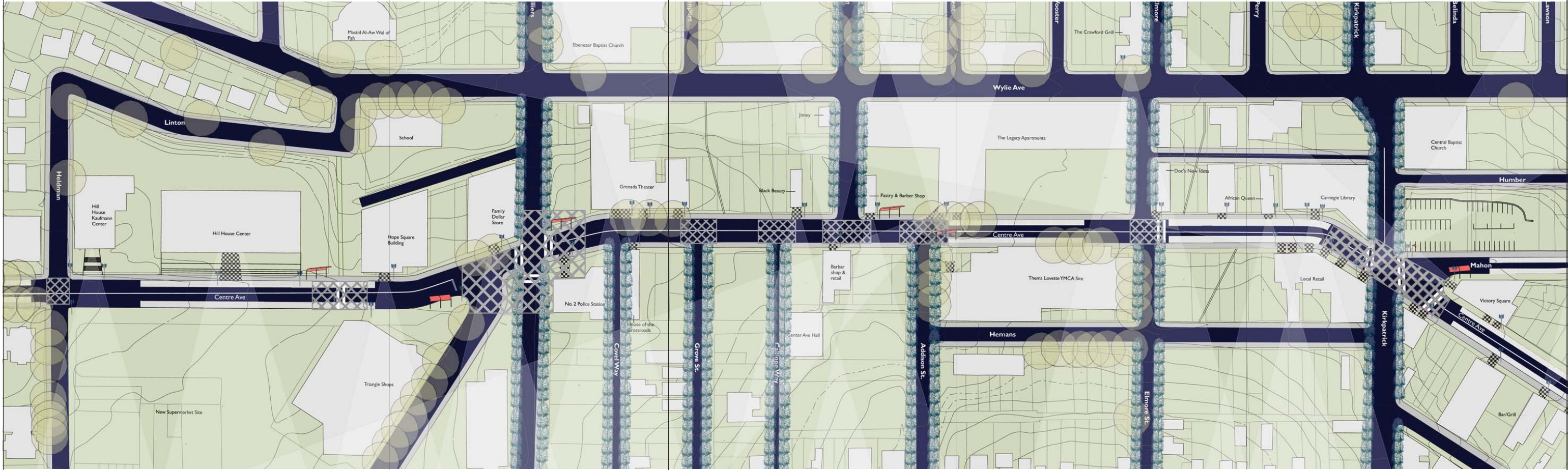
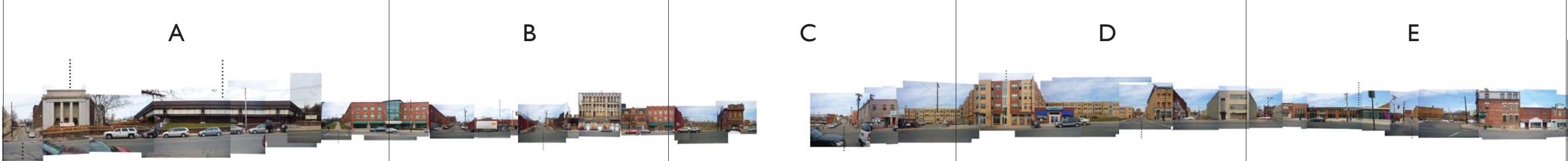


Serlio Street Scenes: the Bucolic, the Comedic, the Tragic

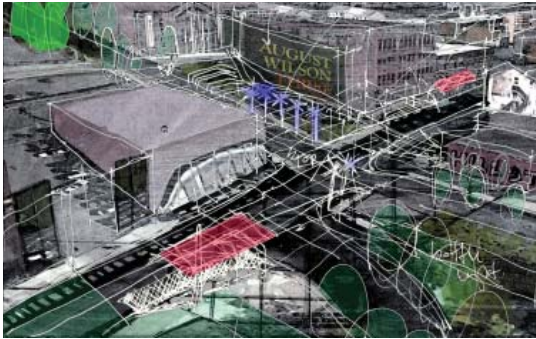
August Wilson Street Scene



The New Grenada Theater at Devilliers Street and Centre Avenue



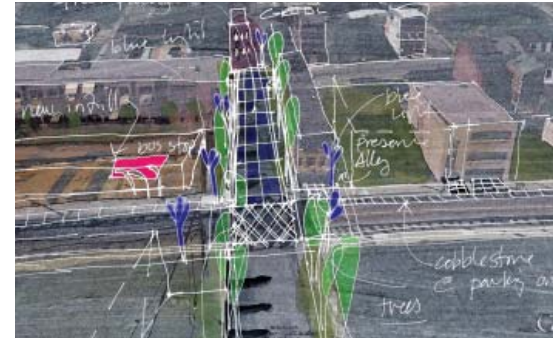
View of Centre Ave
towards One Hope Square



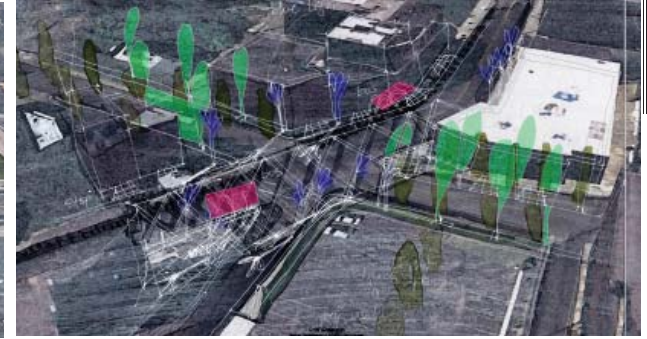
View of Centre Ave
towards the Grenada Theater



View of Centre Ave
towards Erin St



View of Centre Ave
towards The Crawford Grill



View of Centre Ave
towards Kirkpatrick St

CENTRE AVENUE

at HELDMAN ST [BLOCK A]

Doorways

- Paving
- Black brick creates a doormat entrance for property owners along Centre Avenue who would like a distinctive marking for their entrance.
 - New concrete terrace steps suggested in front of the Hill House, per input from members, to provide a place for people to see and be seen along Centre Avenue.

- Lighting
- Bottle Tree Lights placed near corners.

- Benches
- Property owners along Centre Avenue can choose to place a custom bench outside of their doorway.

- Bike Racks
- Custom bike racks placed per property owners’ recommendations.

Stops

- Paving
- Existing pavement is demolished on either side of the street to reveal existing historic cobblestone.
 - Integral color concrete paving is utilized in the roadway where buses pull over to stop.

- Shelter
- A new bus shelter is placed at Heldman Street and Centre Avenue.

- Lighting
- Bottle Tree Light placed near Bus Stop at Heldman Street.

- Benches
- Benches placed at bus stop.

- Signage
- Custom public bus signage placed next to shelter at Heldman Street.
 - Custom school bus signage placed next to shelter at Heldman Street.

Corners

- Paving
- The intersection of Heldman Street and Centre Avenue and the crosswalk next to the Hill House is striped with a thermoplastic process to create distinct spatial zones in the street.

- Lighting
- Bottle Tree Lights placed near corners.

- Seating
- Benches placed at corners

- Signage
- Custom street signs placed at Heldman Street and Centre Avenue.

- Trash Receptacles
- Custom trash receptacles placed incrementally, where needed, along Centre Avenue.

- Development Opportunities/Preservation
- Preserve existing Green Street alley connecting Wylie and Centre Avenue [between the Hill House and One Hope Square].
 - Preserve existing brick retaining wall next to sidewalk.
 - Preserve views of the Kaufmann Auditorium and access to new steps.

Planting Design

Trees on Heldman Street

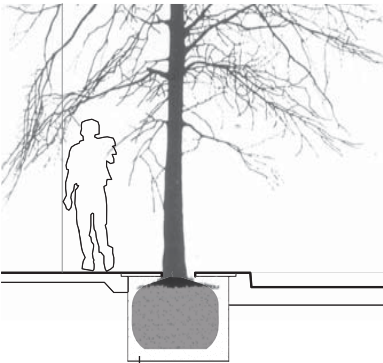
Specifications: 25’ O.C. planted in linear curb-edge flow-through planters with a minimum area of 30 S.F.

- A** Under Utility Lines [West Side]
Species: Standing Ovation Serviceberry [Amelanchier alnifolia ‘Obelisk’]
- B** Without Utility Lines [East Side]
Species: Columnar English Oak [Quercus robur ‘Fastigata’]

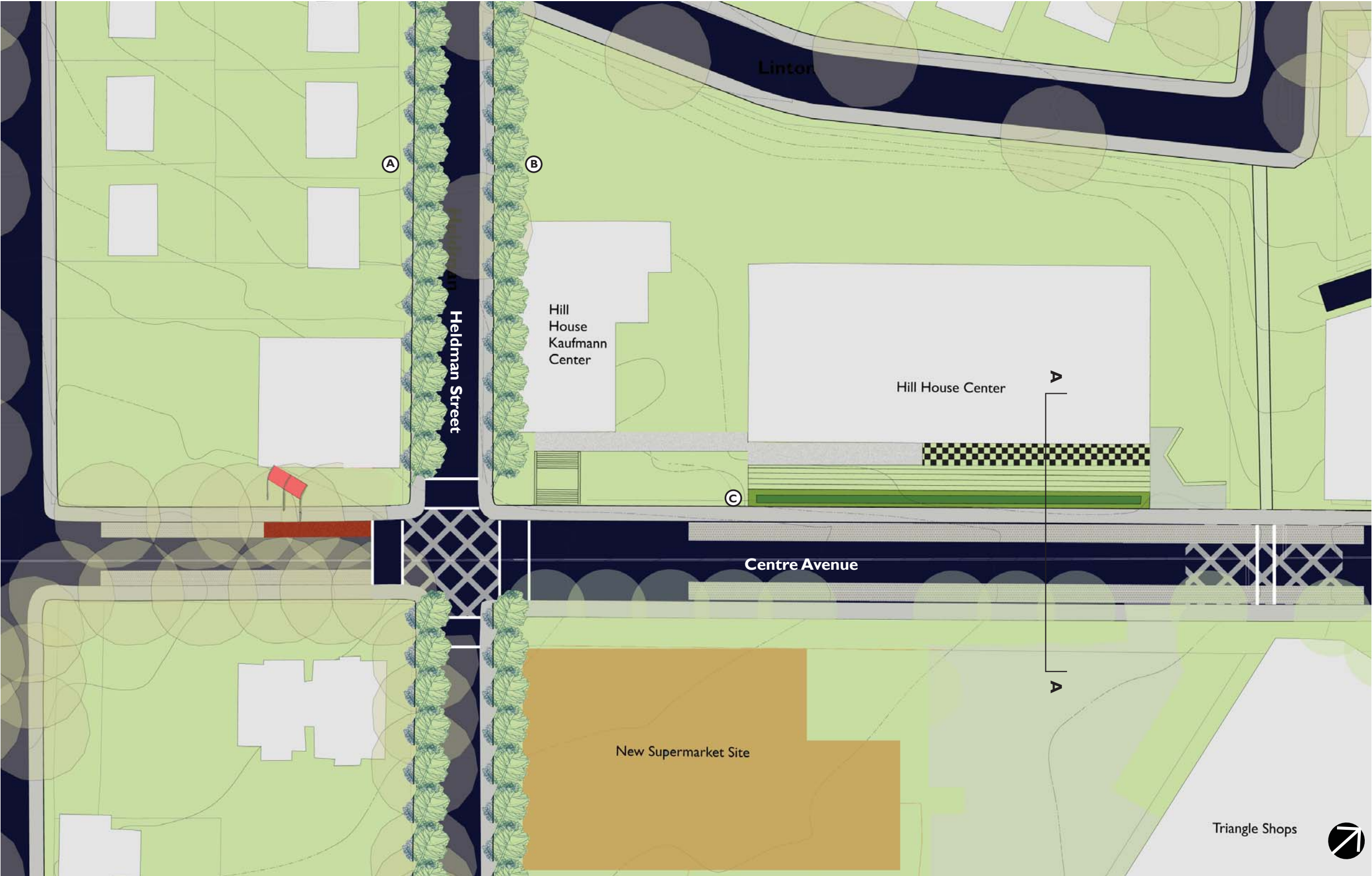
Hill House Flow-through Planter Groundcover

- Specifications: Prepare soil for bioswale, seed at 15 lb per acre.
- C** Species: Retention Basin Wildlife Seed Mix* [ERNMX-127]

* See pages 115-116 for list of Seed Mixes



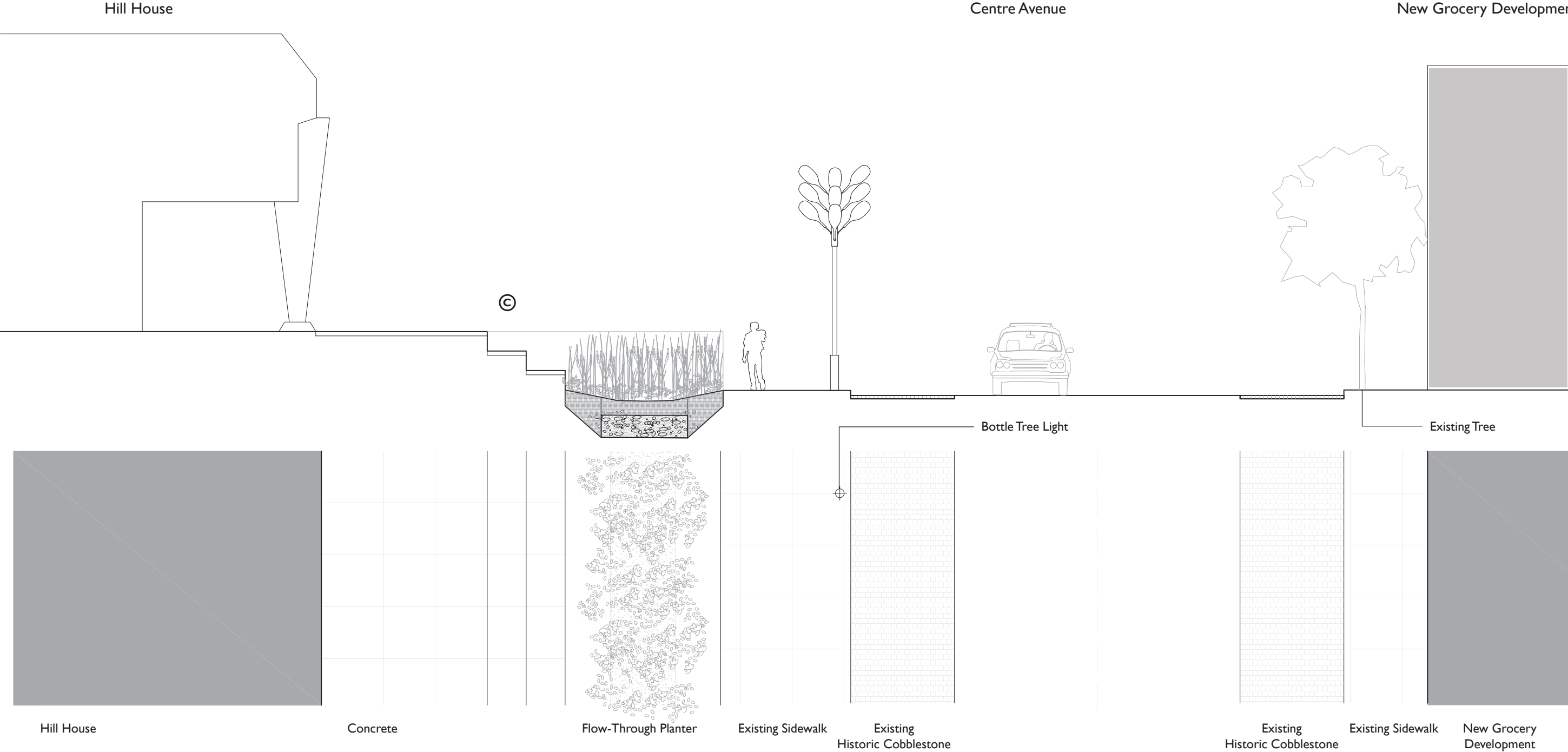
Tree pits with grate and structural soil, typical for cross streets without flow-through planters.



Heldman Street and Centre Avenue

VILLAGE

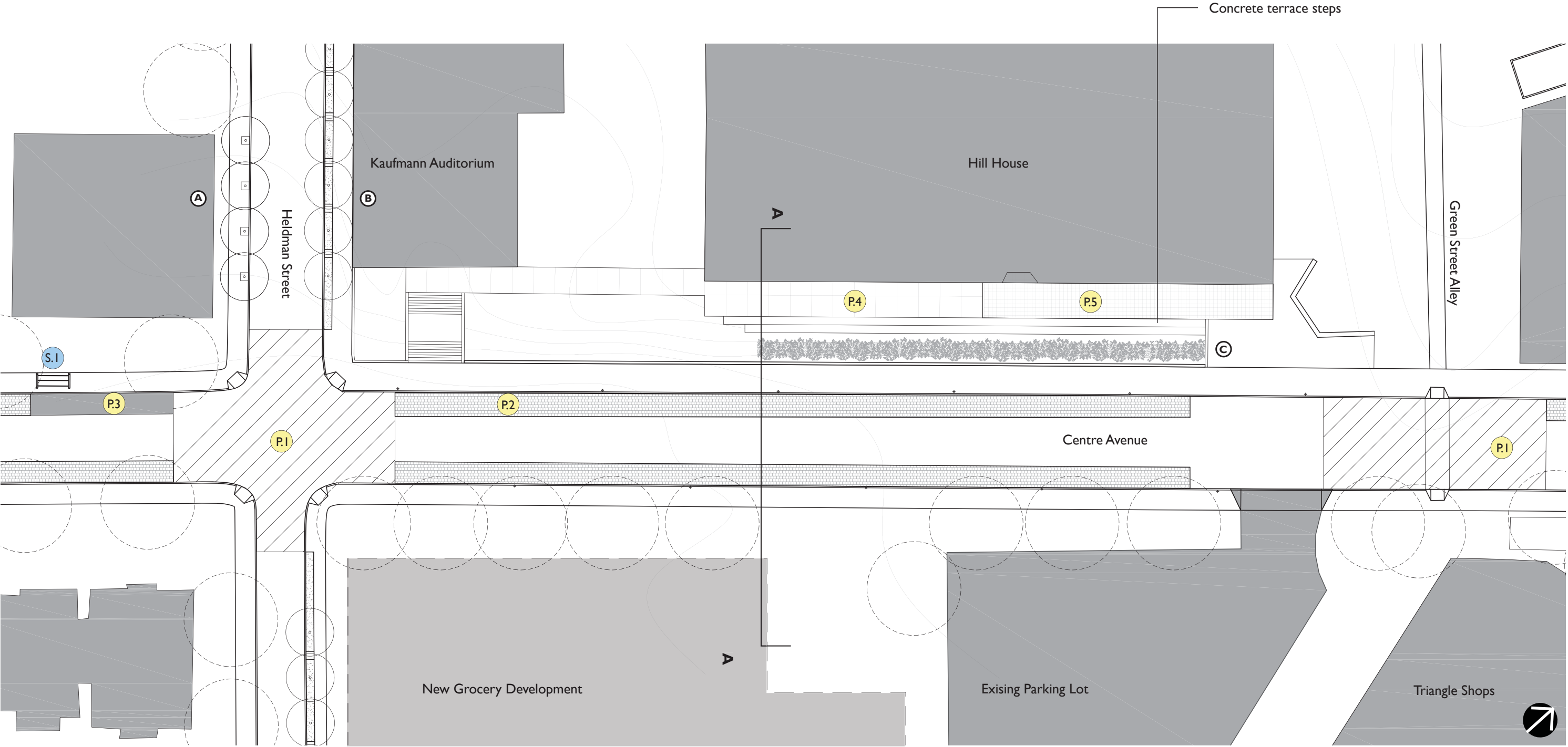
CENTER AVE at HELDMAN STREET [A]



Section and Plan Detail A-A - Recommendations for Hill House doorstep and New Grocery Development
Scale: 1/8" = 1'-0"

Hardscape and Site Furniture Legend

- P.1 Paving - Thermoplastic Striping
- P.2 Paving - Historic Cobblestone
- P.3 Paving - Integral Color Concrete
- P.4 Paving - Concrete
- P.5 Paving - Black Brick
- L.1 Bottle Tree Light - to be placed per community recommendations
- B.1 Bench - to be placed per community recommendations
- S.1 Shelter



Heldman Street and Centre Avenue

CENTRE AVENUE

at DINWIDDIE ST [BLOCK B]

Doorways

- Paving
- Black brick creates a doormat entrance for property owners along Centre Avenue who would like a distinctive marking for their entrance.

- Lighting
- Bottle Tree Lights placed near doorways per recommendations of local business owners.

- Benches
- Property owners along Centre Avenue can choose to place a custom bench outside of their doorway.

Stops

- Paving
- Existing pavement is demolished on either side of the street to reveal existing historic cobblestone.
 - Integral color concrete paving is utilized in the roadway where buses pull over to stop.

- Shelter
- New two-bay bus and jitney shelters are placed at the north side of Devilliers and Centre Avenue and at the south side of Dinwiddie and Centre.

- Lighting
- Bottle Tree Lights are placed near new bus stops.

- Benches
- Benches placed at bus stops.

- Signage
- Custom public bus signage placed next to bus shelter at Devilliers and Centre.
 - Custom jitney signage placed next to bus shelters.

Corners

- Paving
- A New Plaza is created, taking up a section of Devilliers Street that is currently being used only for parking access. Primary access for the Police Station would be through the back of the lot, and emergency access allowed through the plaza with curb cuts at entry and exit locations. The paving of the plaza is striped, alternating black brick and poured concrete. New trees adorn the new public space.
 - A second New Plaza is created at the opposite corner in the empty lot next to the

- New Grenada Theater. Paving design is created to the same specifications as the Dinwiddie Plaza. A new concrete seat wall is created against the hillside, creating a new place to sit, view the street, socialize, and play.
- The intersection of Dinwiddie/Devolliers/Centre is striped with a thermoplastic process to create a distinct spatial zone in the street.

- Lighting
- Bottle Tree Lights placed throughout the grid of trees in the New Plazas.

- Seating
- Circular seating is designed around plaza trees.

- Signage
- Custom street signs are placed at the Dinwiddie/Devolliers/Centre intersection.

- Trash Receptacles
- Custom trash receptacles are placed at both new plazas.

- Bike Racks
- Custom bike racks placed at the New Plaza at Dinwiddie Street.

- Development Opportunities/Preservation
- Preserve existing concrete bench in existing median between Dinwiddie and Devilliers Street.
 - Conceal portion of parking lot between One Hope Square and Family Dollar with a green screen wall.

Planting Design

- A

Trees on Devilliers Street

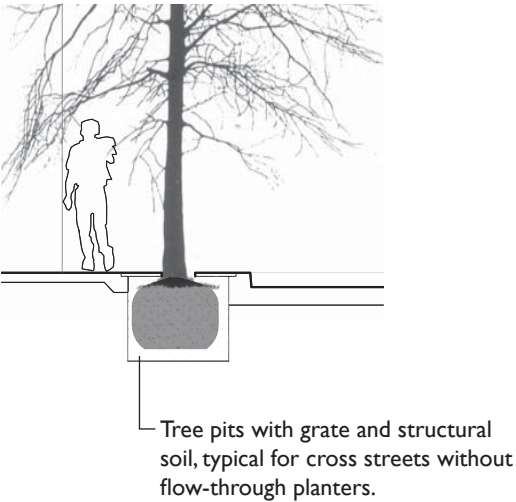
Specifications: 20’ O.C. planted in linear curb-edge flow-through planters with a minimum area of 30 S.F.
Species: Rainbow Pillar Serviceberry [Amelanchier canadensis ‘Glenform’]
- B

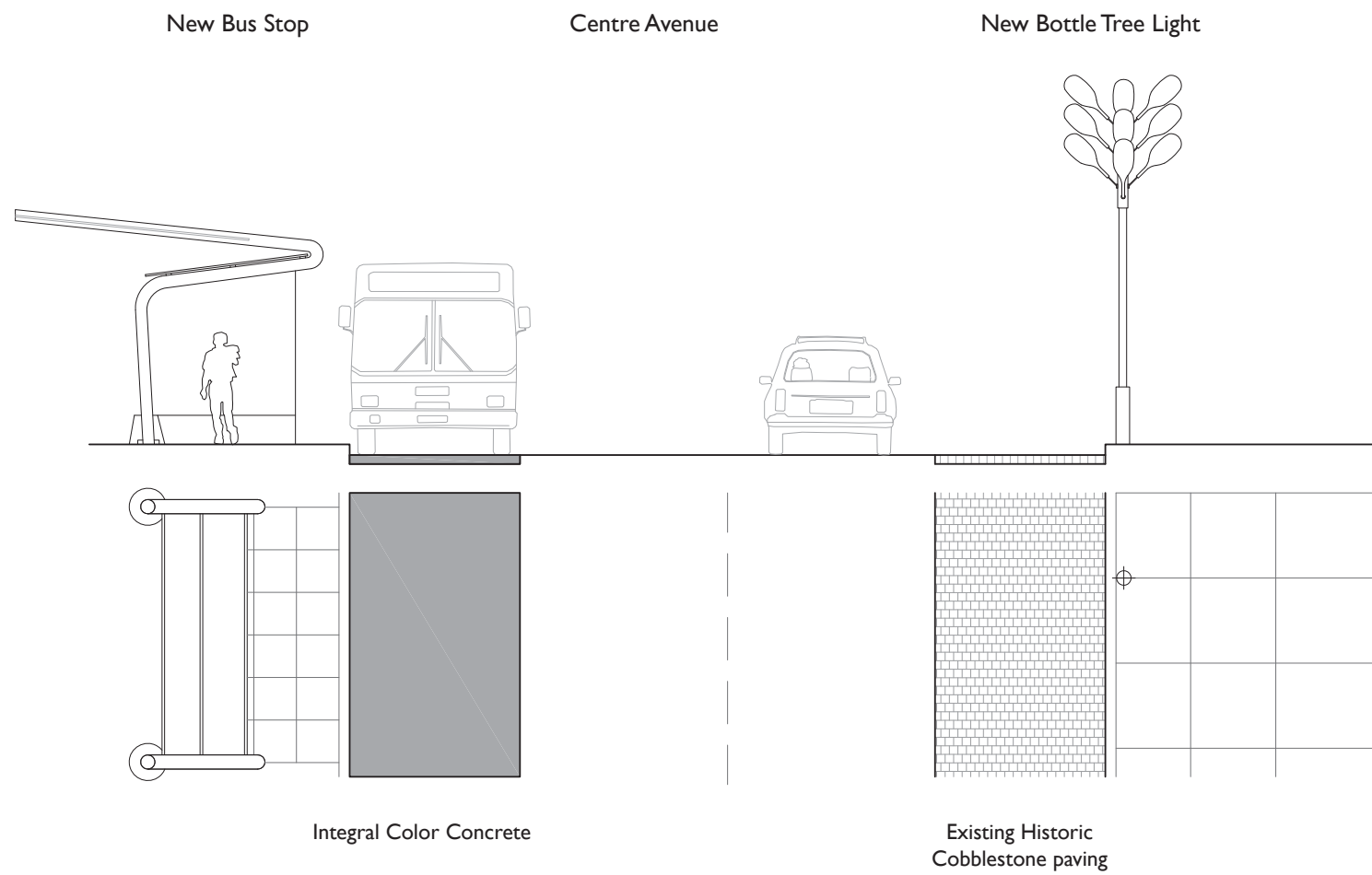
Trees in New Plazas

Specifications: planted in tree pits with circular bench.
Species: Columnar Tulip [Liriodendron tulipifera ‘Fastigiatum’]
- C

Trees on Covel Way

Specifications: 25’ O.C. planted in linear curb-edge flow-through planters with a minimum area of 30 S.F.
Species: Columnar Gingko [Ginkgo biloba ‘Fastigiata’]

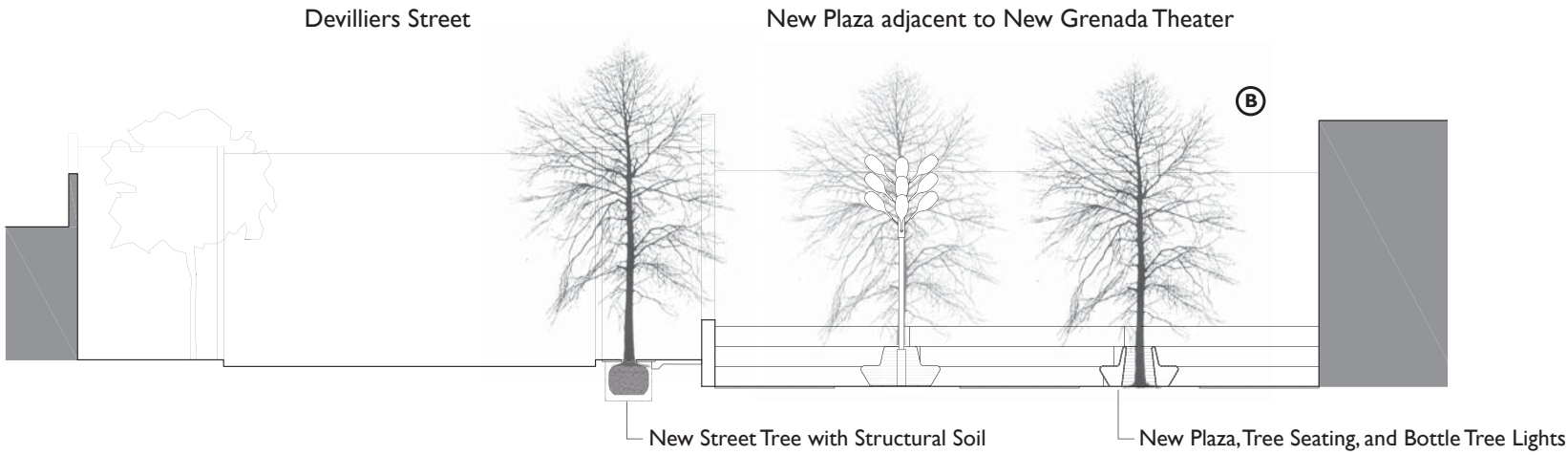




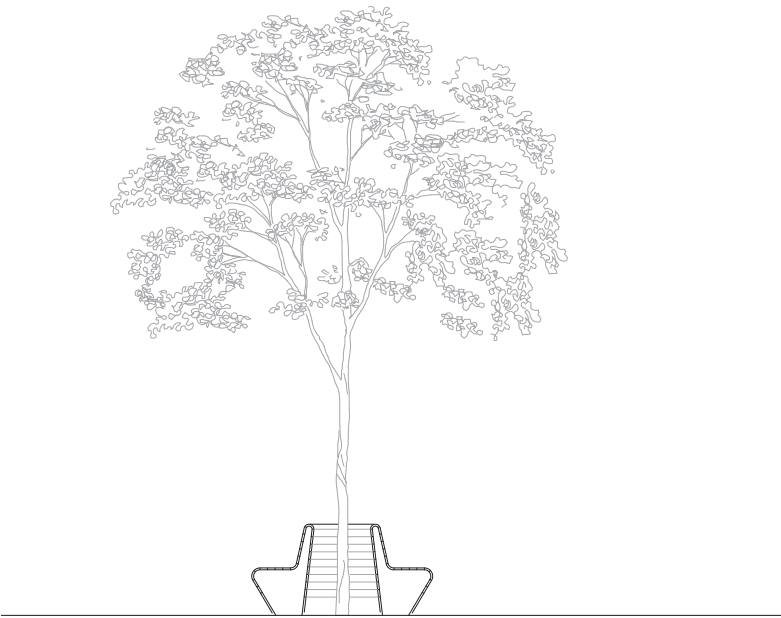
Typical Centre Avenue Section and Plan Detail - Bus Shelter and Street Light
Scale: 1/8" = 1'-0"



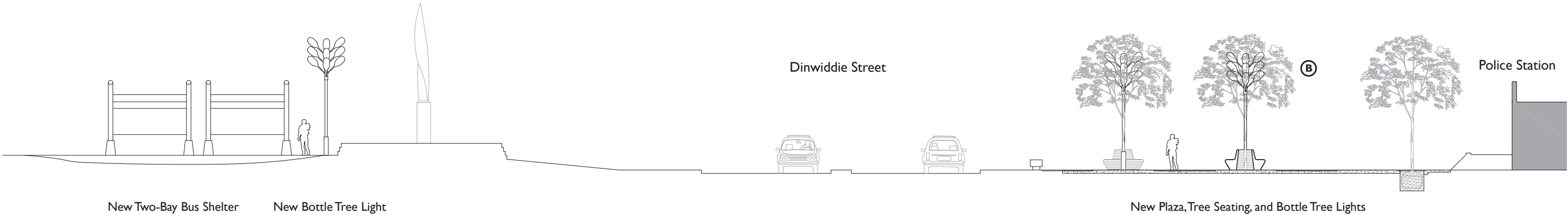
Dinwiddie Street and Centre Avenue



Section and Plan Detail A-A - New Plaza at Centre Avenue and and Devilliers Street
Scale: not to scale



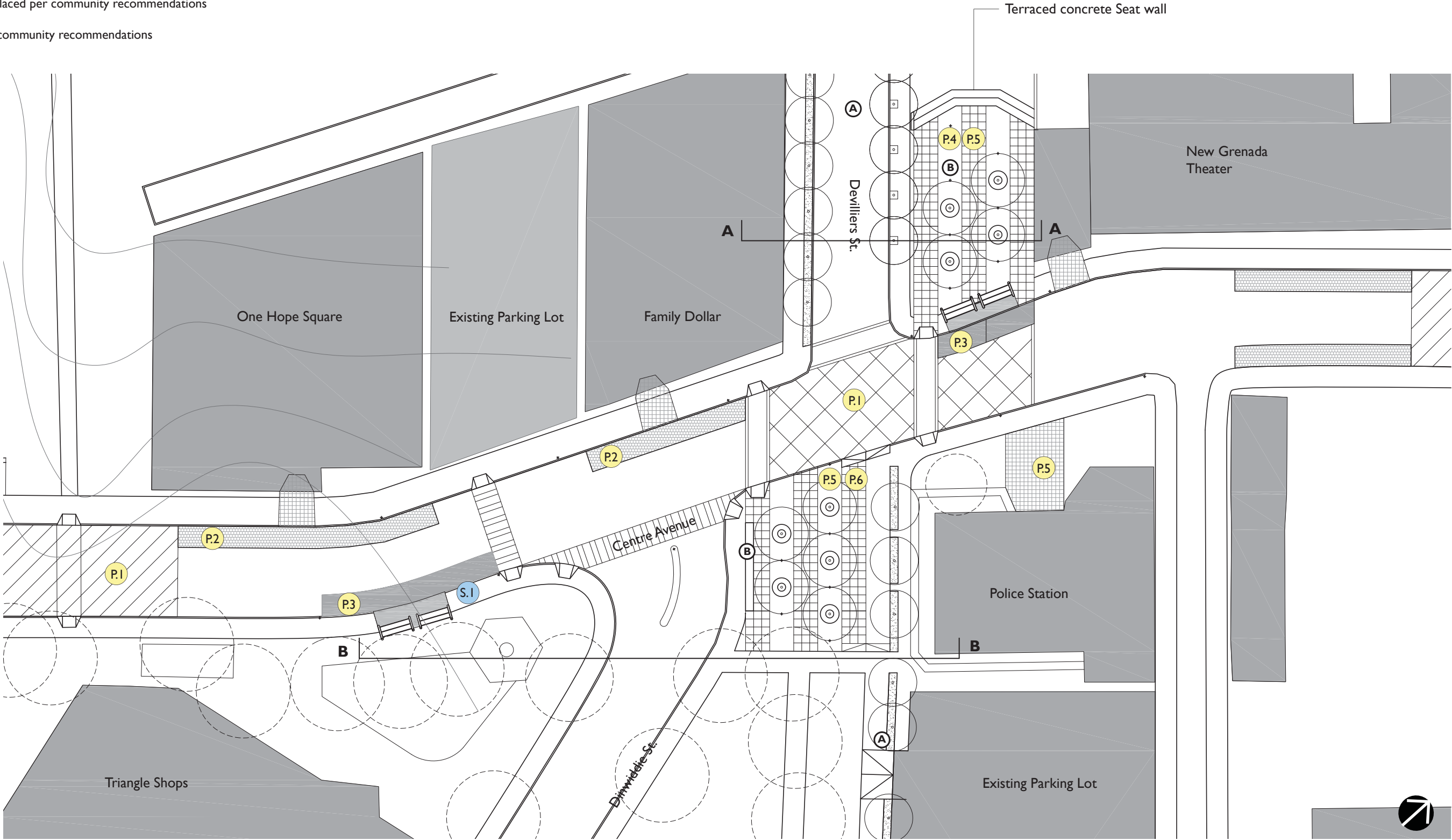
Tree Seating Detail for New Plazas



Section and Plan Detail B-B - New Plaza at Centre Avenue and Dinwiddie Street
Scale: not to scale

Hardscape and Site Furniture Legend

- P.1 Paving - Thermoplastic Striping
- P.2 Paving - Historic Cobblestone
- P.3 Paving - Integral Color Concrete
- P.4 Paving - Concrete
- P.5 Paving - Black Brick
- L.1 Bottle Tree Light - to be placed per community recommendations
- B.1 Bench - to be placed per community recommendations
- S.1 Shelter



Dinwiddie Street and Centre Avenue

CENTRE AVENUE
at ERIN ST [BLOCK C]

Doorways

Paving

- Black brick creates a doormat entrance for property owners along Centre Avenue who would like a distinctive marking for their entrance.

Lighting

- Bottle Tree Lights placed near doorways per recommendations of local business owners.

Benches

- Property owners along Centre Avenue can choose to place a custom bench outside of their doorway.

Stops

Paving

- Existing pavement is demolished on either side of the street to reveal existing historic cobblestone.
- Integral color concrete paving is utilized in the roadway where buses pull over to stop.

Shelter

- New one-bay bus shelters are placed at the corner of Erin Street and Centre Avenue and at Addison and Centre Avenue.

Lighting

- Bottle Tree Lights placed near bus stops.

Benches

- Benches placed at bus stops.

Signage

- Custom public bus signage placed next to bus shelters.

Corners

Paving

- The intersections of Grove/Centre, Calliope/Centre, and Addison/Centre are striped with a thermoplastic process to create distinct spatial zones in the street.

Lighting

- Bottle Tree Lights placed near corners.

Seating

- Benches are placed near corners.

Signage

- Custom street signs are placed at the intersections of Grove/Centre, Calliope/Centre, and Addison/Centre.

Trash Receptacles

- Custom trash receptacles are placed near corners.

Development Opportunities/Preservation

- Eliminate setbacks for future development in vacant lots that face Centre Avenue.
- Eliminate curb cuts along Centre Avenue, with the exception of alleys.
- Place parking lots behind buildings that face Centre Avenue.
- Provide service access to buildings in alley/back or side.
- Build to a height of 2-3 stories.
- Encourage mixed-use.
- Incorporate lighting when possible.

Planting Design

Trees on Grove Street

Specifications: 25’ O.C. planted in linear curb-edge flow-through planters with a minimum area of 30 S.F.

- Ⓐ Under Utility Lines [West Side] - Species: Columnar Golden Rain Tree [Koelreuteria paniculata ‘Fastigiata’]
- Ⓑ Without Utility Lines [East Side] - Species: Columnar Ginkgo [Ginkgo biloba ‘Fastigiata’]

Trees on Addison & Erin Street

Specifications: 25’ O.C. planted in linear curb-edge flow-through planters with a minimum area of 30 S.F.

- Ⓒ Under Utility Lines [East Side] - Species: Rainbow Pillar Serviceberry [Amelanchier canadensis ‘Glenform’]
- Ⓓ Without Utility Lines [West Side] - Species: Columnar Sweetgum [Liquidambar styraciflua]

Trees on Callipoe Way

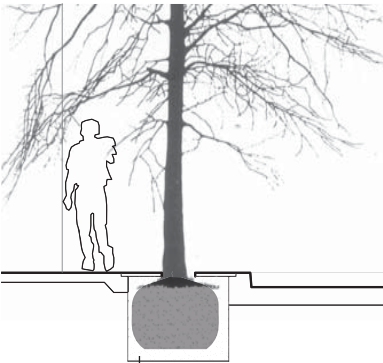
Specifications: 20’ O.C. planted in linear curb-edge flow-through planters with a minimum area of 30 S.F.

- Ⓔ Species: Columnar Sweetgum [Liquidambar styraciflua]

Optional Center Avenue Trees

Specifications: planted in 30 S.F. tree pits as requested by active businesses.

- Under Utility Lines [West Side]
 - Ⓕ Species: Rainbow Pillar Serviceberry [Amelanchier canadensis ‘Glenform’]
 - Standing Ovation Serviceberry [Amelanchier alnifolia ‘Obelisk’]
 - Columnar Golden Rain Tree [Koelreuteria paniculata ‘Fastigiata’]
 - Dixie Colonnade Dogwood [Cornus florida ‘Dixie Colonnade’]
- Without Utility Lines [East Side]
 - Ⓖ Species: Columnar English Oak [Quercus robur ‘Fastigata’]
 - Columnar Ginkgo [Ginkgo biloba ‘Fastigiata’]
 - Columnar Sweetgum [Liquidambar styraciflua]
 - Columnar Tulip [Liriodendron tulipifera ‘Fastigiatum’]
 - Columnar Hornbeam [Carpinus betulus ‘Frans Fontaine’]



Tree pits with grate and structural soil, typical for cross streets without flow-through planters.

Hardscape and Site Furniture Legend

- P.1 Paving - Thermoplastic Striping
- P.2 Paving - Historic Cobblestone
- P.3 Paving - Integral Color Concrete
- P.4 Paving - Concrete
- P.5 Paving - Black Brick
- L.1 Bottle Tree Light - to be placed per community recommendations
- B.1 Bench - to be placed per community recommendations
- S.1 Shelter



Typical Centre Avenue Section and Plan Detail A-A - Bus Shelter and Street Light
Scale: 1/8" = 1'-0"



Erin Street and Centre Avenue

CENTRE AVENUE
at ELMORE ST [BLOCK D]

Doorways

Paving

- Black brick creates a doormat entrance for property owners along Centre Avenue who would like a distinctive marking for their entrance.

Lighting

- Bottle Tree Lights placed near doorways per recommendations of local business owners.

Benches

- Property owners along Centre Avenue can choose to place a custom bench outside of their doorway.

Stops

Paving

- Existing pavement is demolished on either side of the street to reveal existing historic cobblestone.
- Integral color concrete paving is utilized in the roadway where buses pull over to stop.

Shelter

- New one-bay bus shelters are placed at the northwest corner of Elmore Street and Centre Avenue.

Lighting

- Bottle Tree Lights placed near bus stop.

Benches

- Bench placed at bus stop.

Signage

- Custom public bus signage placed next to bus shelter.

Corners

Paving

- The intersections of Elmore and Centre are striped with a thermoplastic process to create distinct spatial zones in the street.

Lighting

- -Bottle Tree Lights placed near corners.

Seating

- Benches are placed near corners.

Signage

- Custom street signs are placed at the intersections of Elmore Street and Centre Avenue.

Trash Receptacles

- Custom trash receptacles are placed near corners.

Development Opportunities/Preservation

- Eliminate setbacks for future development in vacant lots that face Centre Avenue.
- Eliminate curb cuts along Centre Avenue, with the exception of alleys.
- Place parking lots behind buildings that face Centre Avenue.
- Provide service access to buildings in alley/back or side.
- Build to a height of 2-3 stories.
- Encourage mixed-use.
- Incorporate lighting when possible.

Planting Design

Trees on Elmore Street

Specifications: 25’ O.C. planted in linear curb-edge flow-through planters with a minimum area of 30 S.F.

- Under Utility Lines
- A

Species: Dixie Colonnade Dogwood [Cornus florida ‘Dixie Colonnade’]
- Without Utility Lines
- B

Species: Columnar Tulip [Liriodendron tulipifera ‘Fastigiatum’]

Trees on Wooster & Perry Street

Specifications: 25’ O.C. planted in linear curb-edge flow-through planters with a minimum area of 30 S.F.

- Under Utility Lines
- C

Species: Columnar Golden Rain Tree [Koelreuteria paniculata ‘Fastigiata’]
- Without Utility Lines
- D

Species: Columnar Gingko [Ginkgo biloba ‘Fastigiata’]

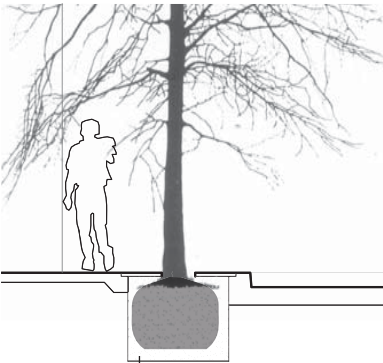
Optional Center Avenue Trees

Specifications: planted in 30 S.F. tree pits as requested by active businesses.

- Under Utility Lines [West Side]
- E

Species: Rainbow Pillar Serviceberry [Amelanchier canadensis ‘Glenform’]
Standing Ovation Serviceberry [Amelanchier alnifolia ‘Obelisk’]
Columnar Golden Rain Tree [Koelreuteria paniculata ‘Fastigiata’]
Dixie Colonnade Dogwood [Cornus florida ‘Dixie Colonnade’]
- Without Utility Lines [East Side]
- F

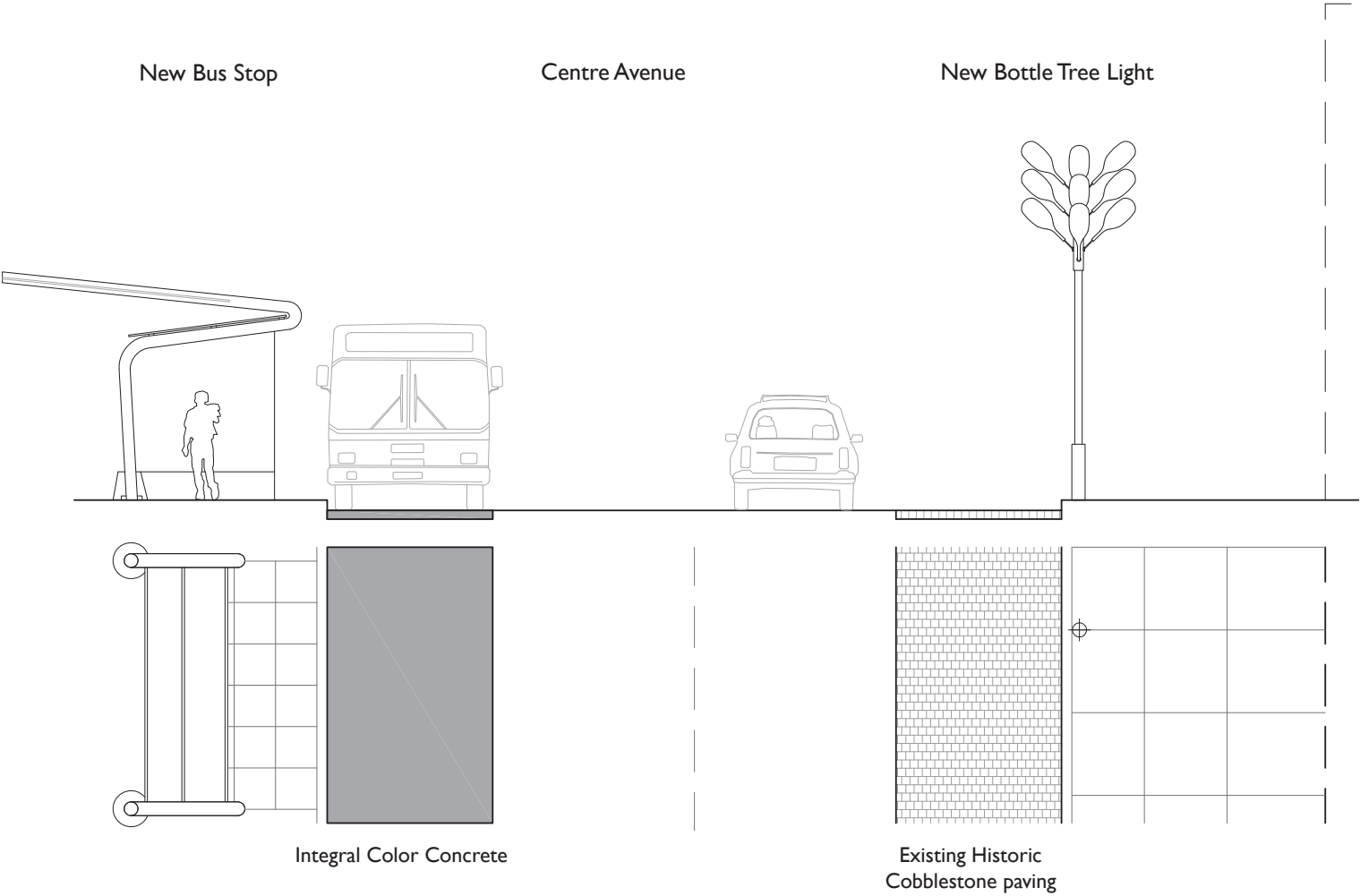
Species: Columnar English Oak [Quercus robur ‘Fastigata’]
Columnar Gingko [Ginkgo biloba ‘Fastigiata’]
Columnar Sweetgum [Liquidambar styraciflua]
Columnar Tulip [Liriodendron tulipifera ‘Fastigiatum’]
Columnar Hornbeam [Carpinus betulus ‘Frans Fontaine’]



Tree pits with grate and structural soil, typical for cross streets without flow-through planters.

Hardscape and Site Furniture Legend

- P.1 Paving - Thermoplastic Striping
- P.2 Paving - Historic Cobblestone
- P.3 Paving - Integral Color Concrete
- P.4 Paving - Concrete
- P.5 Paving - Black Brick
- L.1 Bottle Tree Light - to be placed per community recommendations
- B.1 Bench - to be placed per community recommendations
- S.1 Shelter



Typical Centre Avenue Section and Plan Detail - Bus Shelter and Street Light
Scale: 1/8" = 1'-0"



Elmore Street and Centre Avenue

CENTRE AVENUE

at KIRKPATRICK ST [BLOCK E]

Doorways

Paving

- A New Plaza is created, taking up a section of Devilliers Street that is currently being used only for parking access. Primary access for the Police Station would be through the back of the lot, and emergency access allowed through the plaza with curb cuts at entry and exit locations. The paving of the plaza is striped, alternating 8”x10” concrete pavers and poured concrete. New trees adorn the new public space.
- Black brick creates a doormat entrance for property owners along Centre Avenue who would like a distinctive marking for their entrance.

Lighting

- Bottle Tree Lights placed near doorways per recommendations of local business owners.

Benches

- Property owners along Centre Avenue can choose to place a custom bench outside of their doorway.

Stops

Paving

- Existing pavement is demolished on either side of the street to reveal existing historic cobblestone.
- Integral color concrete paving is utilized in the roadway where buses pull over to stop.

Shelter

- New two-bay bus and jitney shelters are placed across from the Carnegie Library on Centre Avenue and adjacent to Victory Square on Centre Avenue.

Lighting

- Bottle Tree Lights are placed near new bus stops.

Benches

- Benches placed at bus stops.

Signage

- Custom public bus signage placed next to bus shelters.
- Custom jitney signage placed next to bus shelters.

Corners

Paving

- The corner between Mahon Street and Centre Avenue is extended to create a larger zone to occupy. The paving is striped, like the new plazas at Dinwiddie and Centre, alternating 8”x10” concrete pavers and poured concrete.
- The intersection of Kirkpatrick/Centre/Mahon is striped with a thermoplastic process to create distinct spatial zones in the street.

Lighting

- Bottle Tree Lights are placed near corners and new bench seating.

Seating

- A new concrete bench wraps the north corner of Kirkpatrick and Mahon Street.

Signage

- Custom street signs are placed at the Kirkpatrick/Centre/Mahon intersection.

Trash Receptacles

- Custom trash receptacles are placed near corners.

Bike Racks

- Custom bike racks placed proximate to the new Carnegie Library and/or parking lot at the Central Baptist Church, per community recommendations.

Development Opportunities/Preservation

- Eliminate setbacks for future development in vacant lots that face Centre Avenue.
- Eliminate curb cuts along Centre Avenue, with the exception of alleys.
- Place parking lots behind buildings that face Centre Avenue.
- Provide service access to buildings in alley/back or side.
- Build to a height of 2-3 stories.
- Encourage mixed-use.
- Incorporate lighting when possible.

Planting Design

Trees on Kirkpatrick Street

Specifications: 25’ O.C. planted in linear curb-edge flow-through planters with a minimum area of 30 S.F.

- A

Under Utility Lines - Species: Rainbow Pillar Serviceberry [Amelanchier canadensis ‘Glenform’]
- B

Without Utility Lines - Species: Columnar Sweetgum [Liquidambar styraciflua]

Optional Center Avenue Trees

Specifications: planted in 30 S.F. tree pits as requested by active businesses.

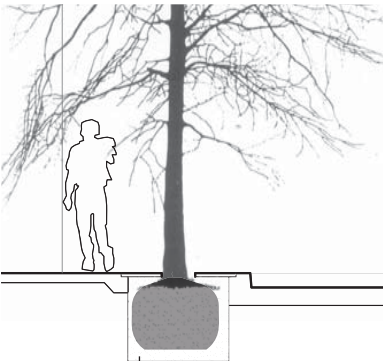
- C

Under Utility Lines [West Side]

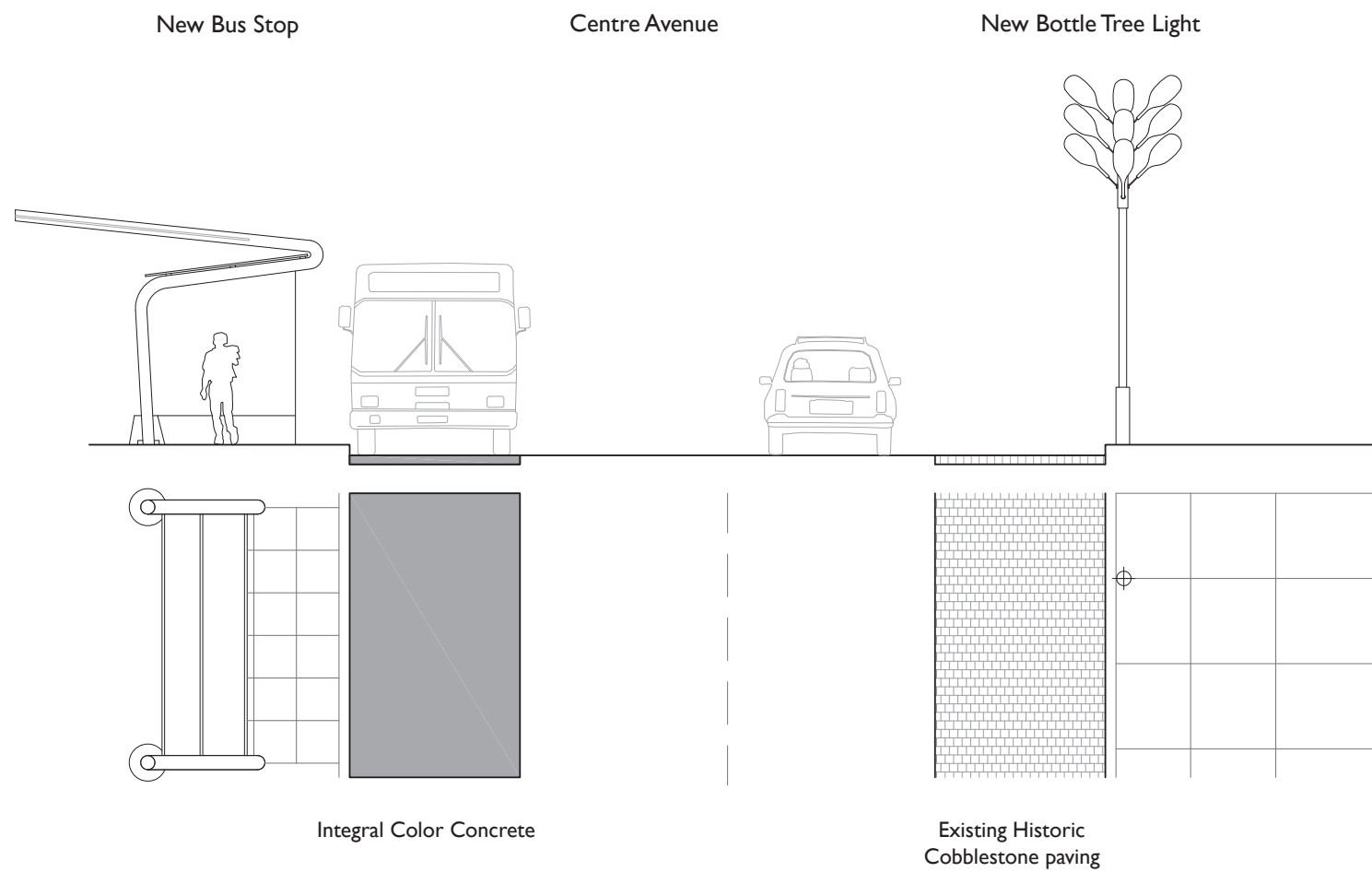
Species: Rainbow Pillar Serviceberry [Amelanchier canadensis ‘Glenform’]
Standing Ovation Serviceberry [Amelanchier alnifolia ‘Obelisk’]
Columnar Golden Rain Tree [Koelreuteria paniculata ‘Fastigiata’]
Dixie Colonnade Dogwood [Cornus florida ‘Dixie Colonnade’]
- D

Without Utility Lines [East Side]

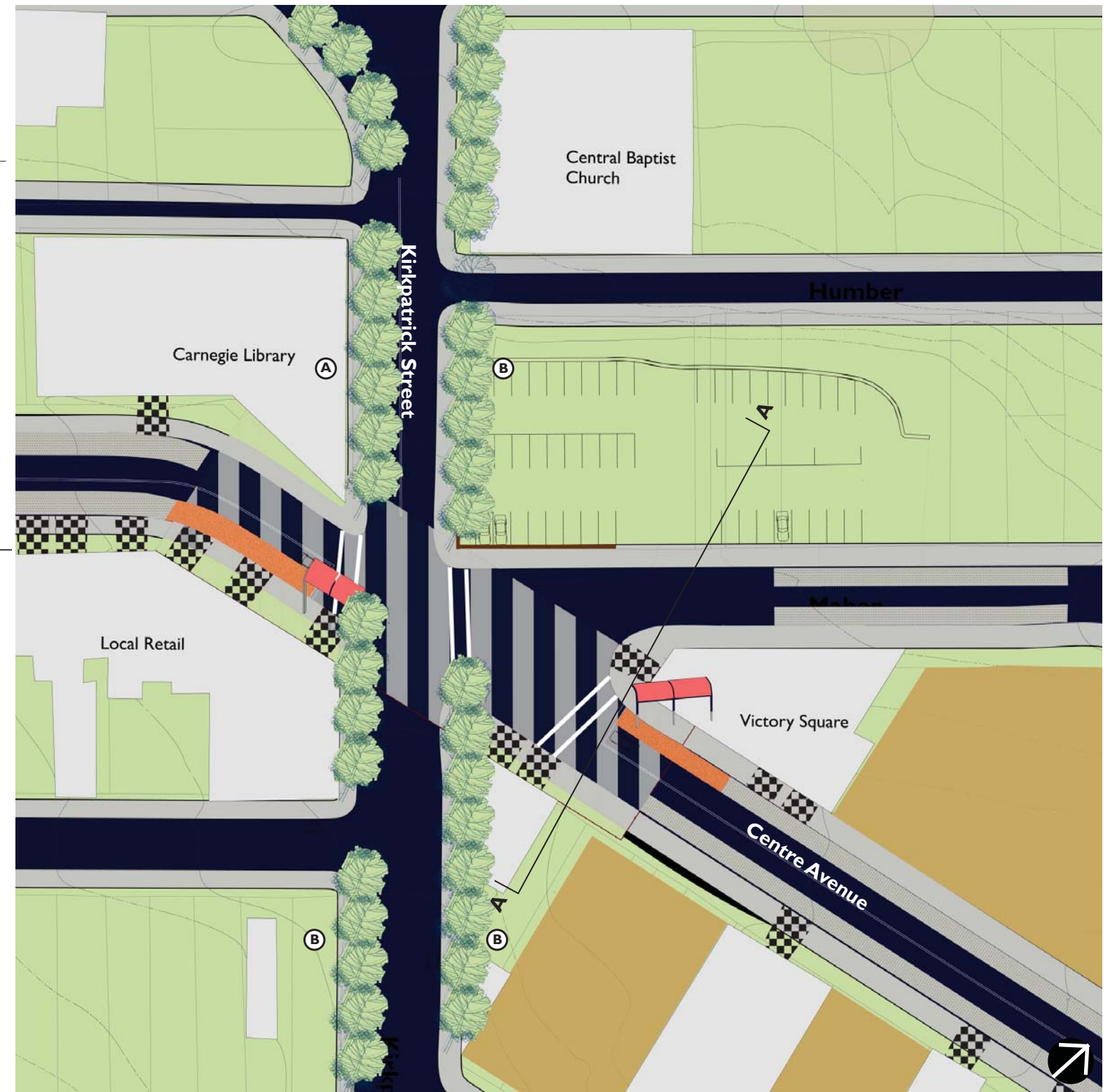
Species: Columnar English Oak [Quercus robur ‘Fastigata’]
Columnar Ginkgo [Ginkgo biloba ‘Fastigiata’]
Columnar Sweetgum [Liquidambar styraciflua]
Columnar Tulip [Liriodendron tulipifera ‘Fastigiatum’]
Columnar Hornbeam [Carpinus betulus ‘Frans Fontaine’]



Tree pits with grate and structural soil, typical for cross streets without flow-through planters.



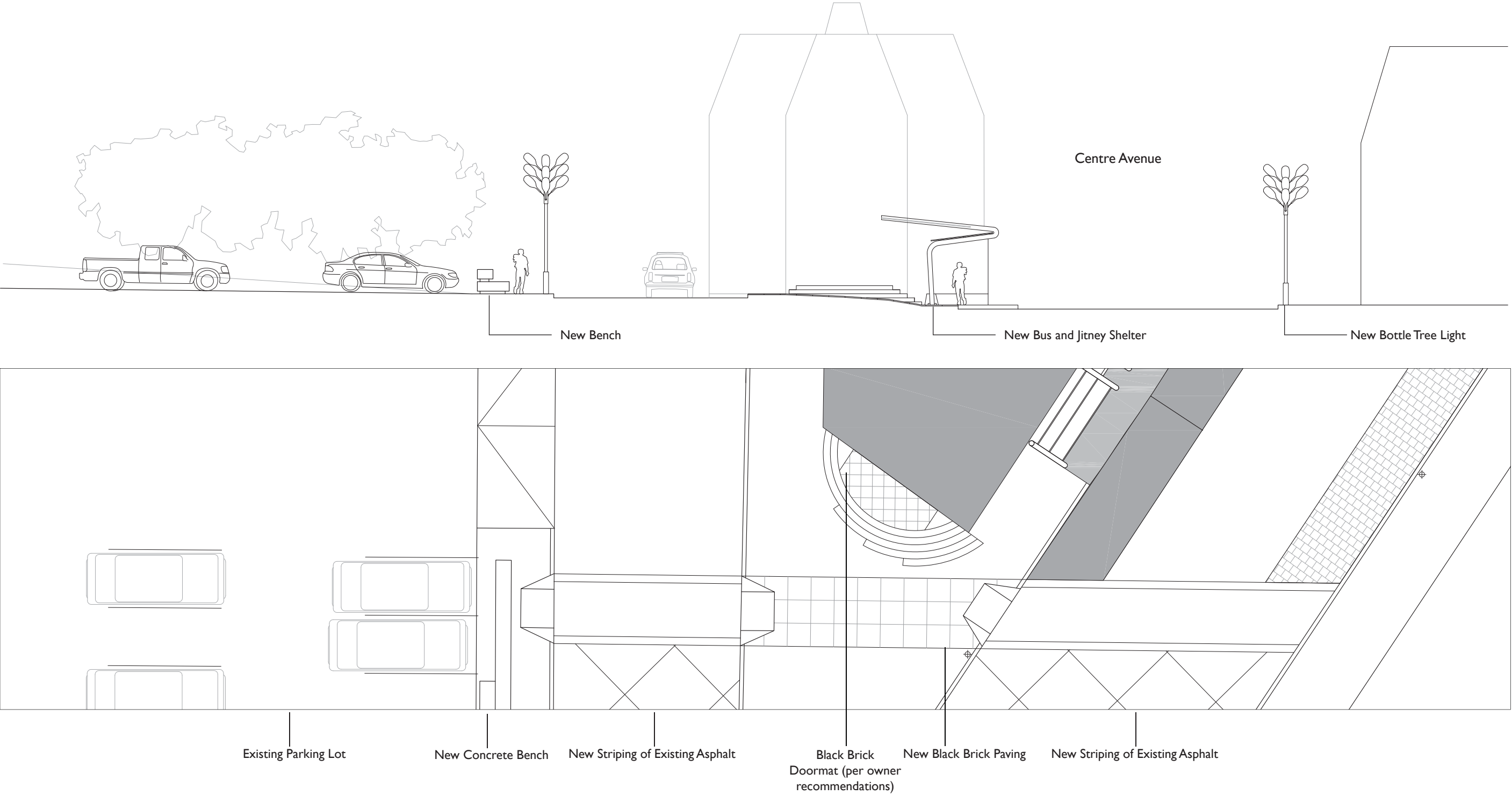
Typical Centre Avenue Section and Plan Detail - Bus Shelter and Street Light
Scale: 1/8" = 1'-0"



Kirkpatrick Street and Centre Avenue

VILLAGE

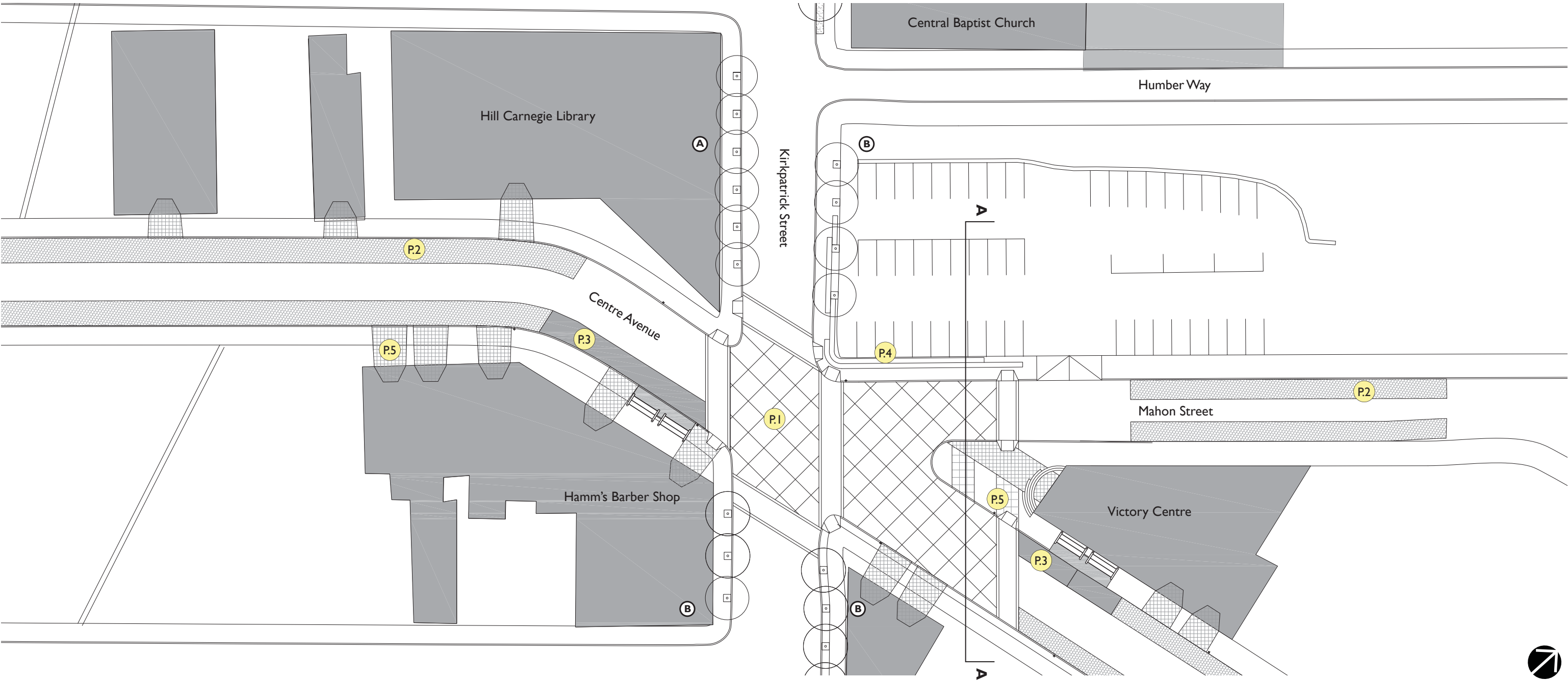
CENTER AVE at KIRKPATRICK ST [E]



Section and Plan Detail A-A - Centre Avenue and Kirkpatrick Street Intersection
Scale: not to scale

Hardscape and Site Furniture Legend

- P.1 Paving - Thermoplastic Striping
- P.2 Paving - Historic Cobblestone
- P.3 Paving - Integral Color Concrete
- P.4 Paving - Concrete
- P.5 Paving - Black Brick
- L.1 Bottle Tree Light - to be placed per community recommendations
- B.1 Bench - to be placed per community recommendations
- S.1 Shelter



Kirkpatrick Street and Centre Avenue

CENTRE AVENUE
at CHAUNCEY ST [BLOCK F]

- Doorways**

Paving
 - Black brick creates a doormat entrance for property owners along Centre Avenue who would like a distinctive marking for their entrance.

Lighting
 - Bottle Tree Lights placed proximate to the doorways per recommendations of local business owners.

Benches
 - Property owners along Centre Avenue can choose to place a custom bench outside of their doorway.
- Stops**

Paving
 - Existing pavement is demolished on either side of the street to reveal existing historic cobblestone.
 - Integral color concrete paving is utilized in the roadway where buses pull over to stop.

Shelter
 - A New one-bay bus shelter is placed on the south side of Centre Avenue across from the Chauncey Street Steps at La PI Street.

Lighting
 - Bottle Tree Lights are placed near the new bus stop.

Benches
 - Benches placed at bus stop.

Signage
 - Custom public bus signage placed next to bus shelters.
- Corners**

Paving
 - A New Mixed-use Plaza is created, triangular in plan, where Centre Avenue bends at the Chauncey Street Stair. This zone functions as a mixed-use space for people and for parking, which already exists informally. Grass pave is used as paving for the plaza.
 - The intersection of Chauncey/Centre is striped with a thermoplastic process to create distinct spatial zones in the street.

Lighting
 - Bottle Tree Lights are placed near corners.

Seating
 - Benches placed near corners.

- Signage*
 - Custom street signs are placed at the Chauncey/Centre/La PI Street intersection.
- Trash Receptacles*
 - Custom trash receptacles are placed near corners.
- Development Opportunities/Preservation*
 - Eliminate setbacks for future development in vacant lots that face Centre Avenue.
 - Eliminate curb cuts along Centre Avenue, with the exception of alleys.
 - Place parking lots behind buildings that face Centre Avenue.
 - Provide service access to buildings in alley/back or side.
 - Build to a height of 2-3 stories.
 - Encourage mixed-use.
 - Incorporate lighting when possible.

Planting Design

Optional Center Avenue Trees

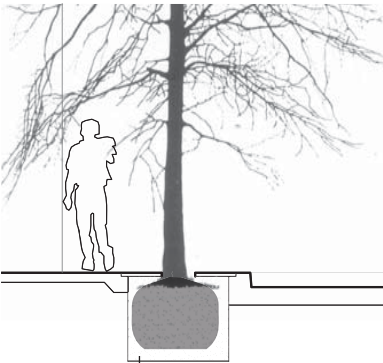
Specifications: planted in 30 S.F. tree pits as requested by active businesses.

- Under Utility Lines [West Side]

A Species: Rainbow Pillar Serviceberry [Amelanchier canadensis ‘Glenform’]
Standing Ovation Serviceberry [Amelanchier alnifolia ‘Obelisk’]
Columnar Golden Rain Tree [Koelreuteria paniculata ‘Fastigiata’]
Dixie Colonnade Dogwood [Cornus florida ‘Dixie Colonnade’]

- Without Utility Lines [East Side]

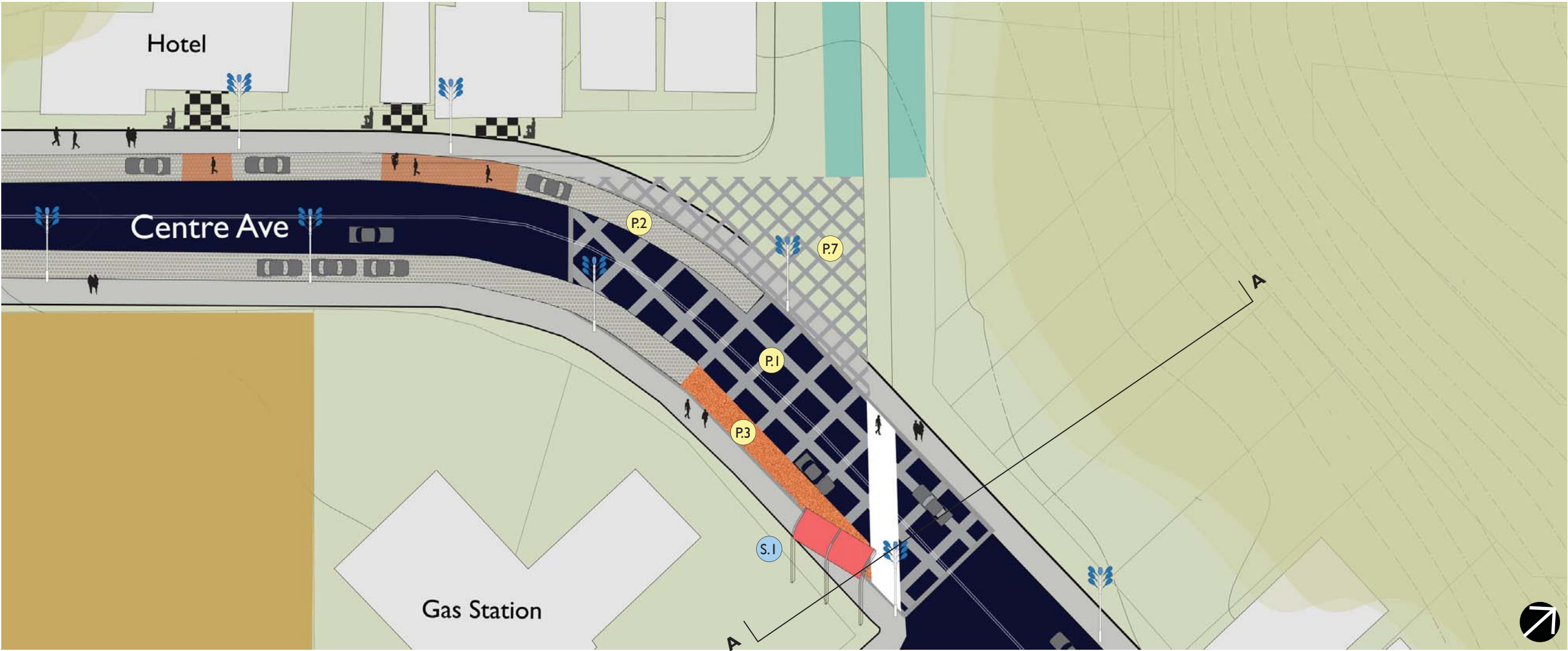
B Species: Columnar English Oak [Quercus robur ‘Fastigata’]
Columnar Gingko [Ginkgo biloba ‘Fastigiata’]
Columnar Sweetgum [Liquidambar styraciflua]
Columnar Tulip [Liriodendron tulipifera ‘Fastigiatum’]
Columnar Hornbeam [Carpinus betulus ‘Frans Fontaine’]



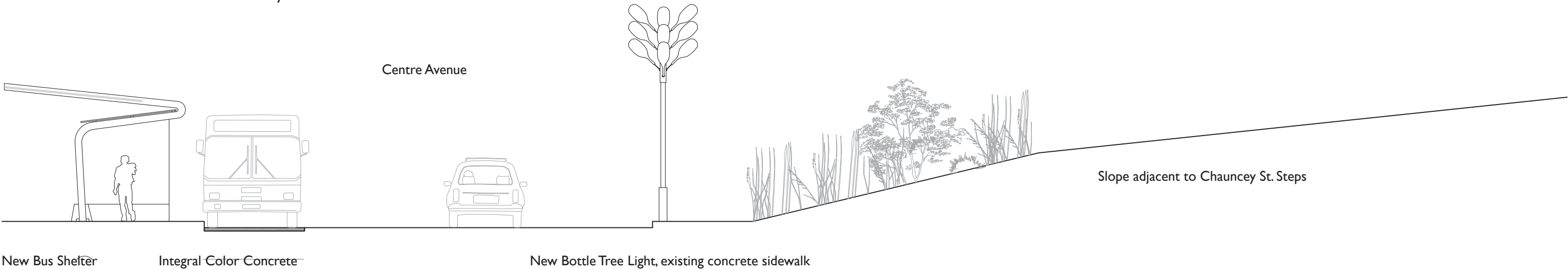
Tree pits with grate and structural soil, typical for cross streets without flow-through planters.

Legend

- P.1 Paving - Thermoplastic Striping
- P.2 Paving - Historic Cobblestone
- P.3 Paving - Integral Color Concrete
- P.4 Paving - Concrete
- P.5 Paving - Black Brick
- P.6 Paving - Grass Pave
- L.1 Bottle Tree Light - to be placed per community recommendations
- B.1 Bench - to be placed per community recommendations
- S.1 Shelter



Chauncey Street and Centre Avenue



New Bus Shelter Integral Color Concrete New Bottle Tree Light, existing concrete sidewalk

Section Detail A-A - Centre Avenue at Chauncey Street
Scale: 1/8" = 1'-0"

THE WOODS

Development Standards and Guidelines, Stairways and Public Spaces

- Chauncey and Junilla Steps
- Alpena (Ridgeway) Steps to Cliffside Park
- Bigelow Steps at Memory Lane
- Alpena Steps to Herron Hill Reservoir at Williams Park
- Wyandotte Steps to Martin Luther King Field
- Lombard Steps to Addison Terrace

OVERVIEW

The design and development of the ‘Woods’ as a public landscape emerged from community input, including local experts, residents, local institutions and non-profits. The ‘Woods’ occupy a large geography in the Hill landscape. To make manifest a sense of connection/and identity, we have chosen to organize the ‘Woods’ around the stair circulation system. 8 stairways were selected and from these, projects were developed as larger landscape units, each consisting of a rehabilitated stair/pathway system associated with single or multifamily housing, and existing open space. These projects are not distinct spatial objects in and of themselves, but instead explore a new typology of landscape cultural infrastructure that challenges common categorization (namely park/streetscape/etc.). Within the Woods there is also the potential for landscape-based enterprises that promote sustainable economic development through opportunities such as urban farming, agriculture, and livestock management of invasive species.

The stair/woods projects arose from the identification of existing assets to the landscape of the Hill. These proposals are not new spaces, but improvements to existing landscape elements that are currently of value to people living in the Hill; they are vital with use, be it formal or informal, and are imbued with a rich historical and cultural past. These projects will reveal the value of the existing landscape of the Hill. The goal of these proposals is to formalize, reinforce, and legitimize existing social and cultural practices in the landscape, thereby changing larger perceptions of the Hill District.

Design decisions were framed by the following criteria:

- **Existing connections** that link historic stairways with single and multifamily housing, existing open space, and adjacent neighborhoods (Bigelow Boulevard on the north side, Uptown, Oakland, and Downtown).
- **Topography** – As the community helped identify and characterize the internal neighborhoods of the Hill District, and it became apparent that their boundaries were foremost conceptualized through topography, namely the seven internal hills of the Hill District. From this information, projects could be identified in geographically diverse areas, with as much equity as possible.
- **Geomorphology** – Local ecologies within the Hill District were examined for the ways in which landscape is characterized by a range of factors: slope, soils, orientation, coal mine seepage and subsidence, and issues with invasive species (largely japanese knotweed) and infestation (mostly pear trees).

Each of the landscape unit proposals integrates the following elements/areas of focus: *Stair, Open Space, Expansion, and Development Opportunities.*

Stair

The Hill District is laced with over 30 historic pedestrian stairways that link to adjacent neighborhoods over steep hillsides. Many of these stairs are still vital corridors for residents of the Hill, though they have been largely unmaintained and are in need of repair and landscape clearing to improve visibility/safety.

Open Space

Each project is associated with an existing improved open space, creating a network of through-spaces and stay-spaces.

Expansion

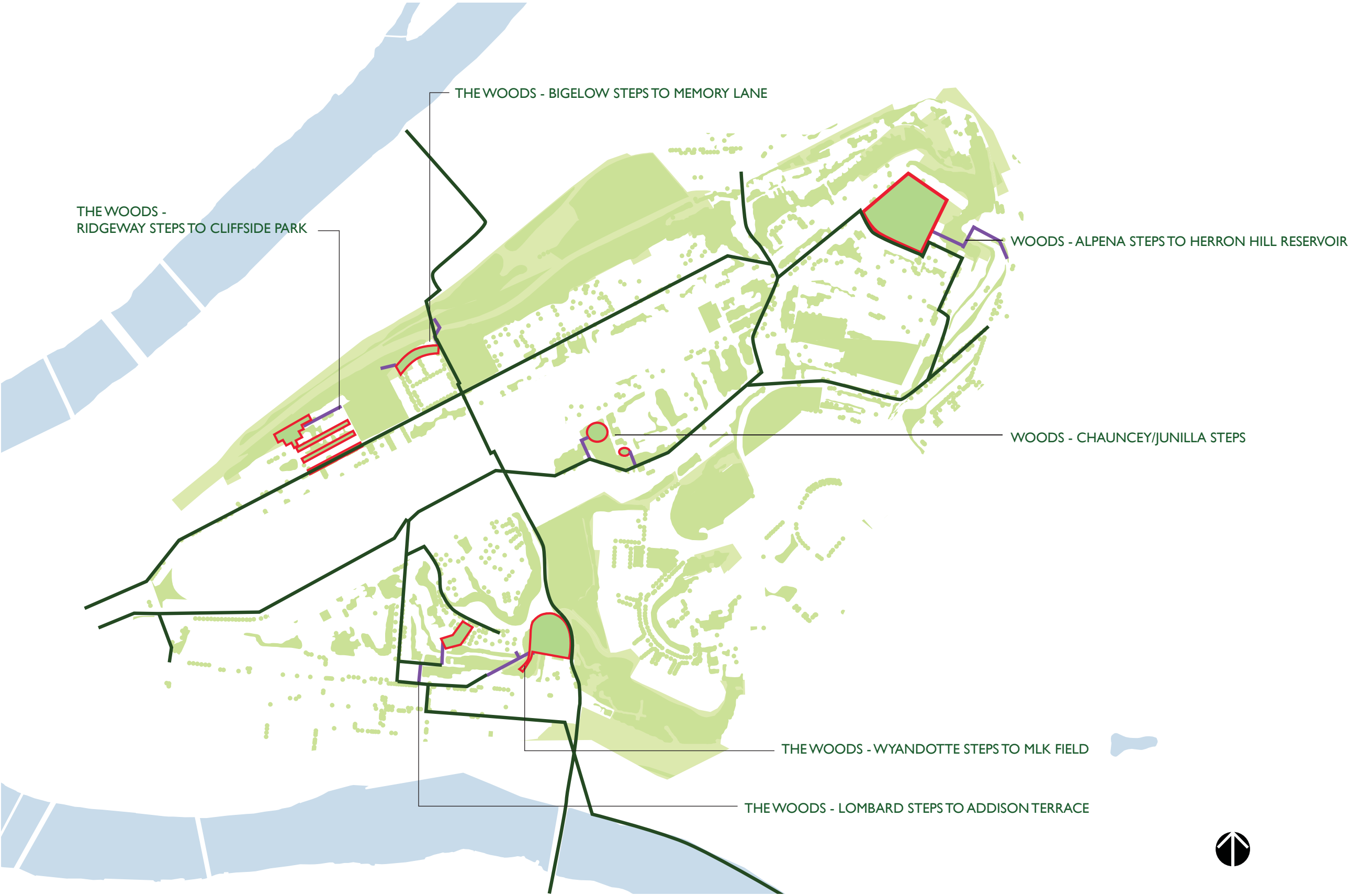
Key areas important to each project were identified as being important for future maintenance/stewardship of project areas. Each project outlines opportunities associated with expansion of the Woods.

Development Opportunities

Development opportunities have been identified for adjacent parcels to Greenprint proposals. They suggest opportunities for historical preservation, art, landscape protection, and economic development, that are particular to place.



Woods/Steps/Views



Chauncey and Junilla Steps

CHAUNCEY AND JUNILLA STEPS

The Chauncey and Junilla Steps serve as important internal connectors from single-family housing down to the central business district along Centre Avenue. Currently, the Woods around the stairs is overgrown with invasive Japanese knotweed that is encroaching on the stairways and impeding the health of native species on the adjacent hillside. Improvements include the clearing of vegetation, refurbishing of both Chauncey and Junilla Stairways, a new Meadow Plateau at the former baseball field with a perimeter pathway and stair, and new tree planting within the abandoned right-of-way parallel to Junilla Street. Additional opportunities exist for a nursery or livestock site in the vacant parcels adjacent to the abandoned right-of-way.

Stair

Rehabilitation: Chauncey and Junilla Stairways

Rehabilitation: Restore and reinforce existing stairs at Chauncey and Junilla Street.

Materials: Concrete, steel reinforcing, sand bedding.

Railing: Refinish existing rail, and fabricate steel tube where replacement is required, matching existing character.

Specialty Treatment: Pathway at top and bottom of Chauncey is rehabilitated by demolishing existing concrete and replacing with grey decomposed granite, edged by a new four-inch concrete band.

Lighting: Place two Woods LED up-lights at the Chauncey Stairway (one above at the edge of Chauncey Street, and one at the bottom of the steps where it becomes a crushed limestone path). Place two Woods LED up-lights at the Junilla Stairway (one at top and one at bottom).

Signage: New signage for the Chauncey and Junilla Stairs is incorporated into lighting described above.

New: Meadow Stairway

New Stair: Connects Chauncey Street to the old baseball field meadow.

Materials: Concrete, steel reinforcing, sand bedding.

Railing: Fabricated steel tube, painted, matching the character of the Chauncey rail.



Chauncey Street Steps



Planting Design

- Ⓐ

Trees on Hallett Street

Specifications: 50’ O.C. planted in 8’ diameter holes cut on either side of existing street surface. Tree rows on either side staggered.

Species: Columnar English Oak [Quercus robur ‘Fastigata’]
- Ⓑ

Groundcover for Cleared Hillsides and Zones along Stairs & Street

Specifications: Clear invasive understory plants, till remaining weeds into soil, seed at 10 lb per acre.

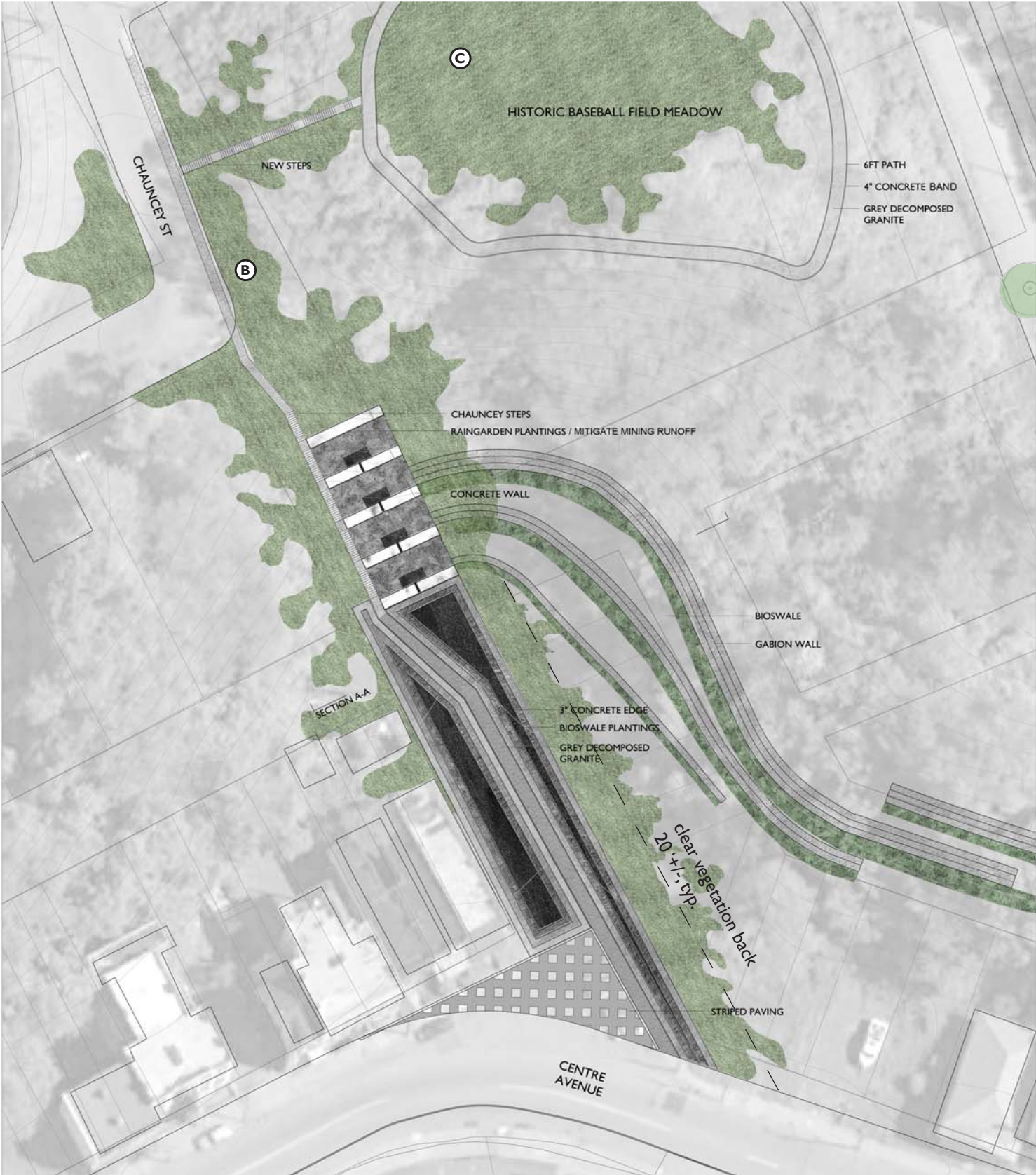
Species: Showy Northeast Native Wildflower Mix* [ERNMX-153-1]
- Ⓒ

Groundcover for Historic Baseball Field

Specifications: Clear invasive understory plants, till remaining weeds into soil, seed at 15 lb per acre.

Species: Low-Growing Wildflower/Grass Seed Mix* [ERNMX-156]

* See Pages 115-116 in Appendix A for full plant lists of seed mixes.



Chauncey Street Stair



Junilla Street Stair

Lighting: Place one Woods LED up-lights at both the top and bottom of the New Meadow Stair.

Open Space:

Meadow at Former Baseball Field

New Meadow Open Space is associated with the Chauncey Stairway.

Seating: Place (3) Woods benches along new path around Meadow.

Paving: Six-foot path encircles Meadow, paved with crushed limestone. Edge of path is made by a four-inch concrete band on either side of crushed stone.

Trash receptacles: Place (1) new trash receptacle next to benches along path.

Junilla Steps Open Space

New Park at Junilla Street is associated with Rehabilitated Stairway.

Seating: Place (1) Woods bench overlooking New Junilla Steps Open Park.

Bollards: Place behind New Open Park at abandoned right-of-way and at the end of Elba St. where it intersects Junilla Street.

Expansion

Outline parcels – show diagram/map

Development Opportunities

Protect from future development: parcels on steep hillside and directly adjacent to proposed site elements.



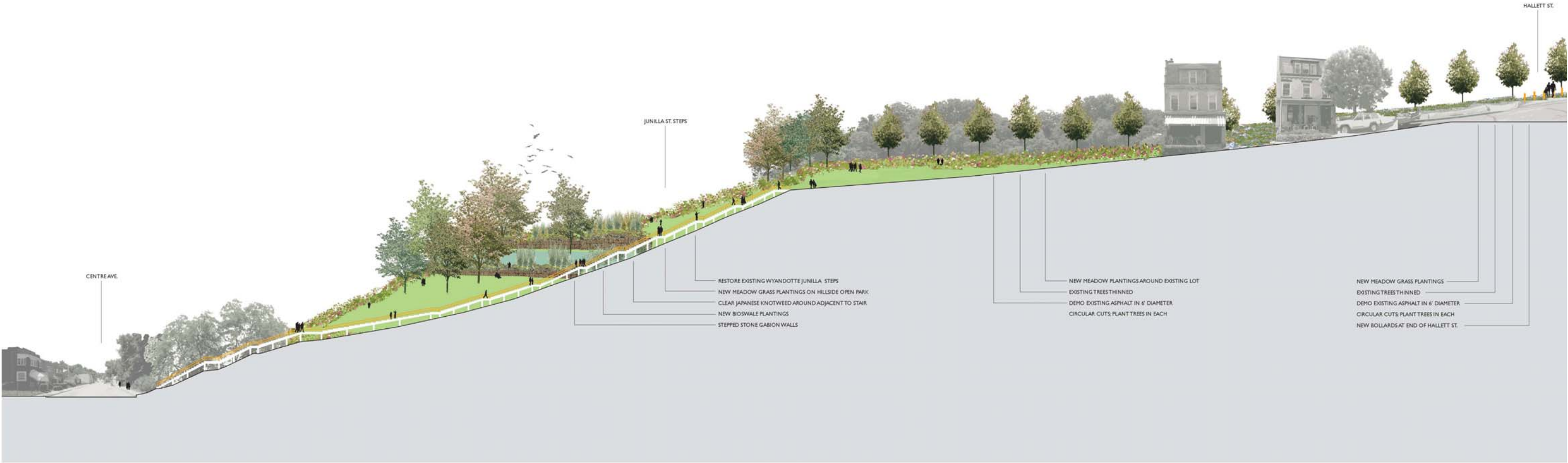
Chauncey Stairway



Chauncey Steps and Field

WOODS

CHAUNCEY AND JUNILLA STEPS



Junilla Steps and Field

Arcena (Ridgeway) Steps to Cliffside Park

Note: Gabion walls, concrete retention walls next to Chauncey Stair, and bioswale/mine mitigation plantings are a project under Conveyance.

ARCENA (RIDGEWAY) STEPS TO CLIFFSIDE PARK

The new Arcena steps link Arcena Street and the proposed Coal Seam Trail with Cliffside Park at the northwestern edge of the Hill. The new Arcena steps and open spaces along Arcena Street take advantage of sweeping views of downtown and the Allegheny River. Understory vegetation is cleared around the new stairway to increase visibility and a staggered alleé of new trees flanks the extension of Arcena Street where the steps begin. New Woods tree and understory planting parallel to the hillside (along Cliff Street and Monaca Place) enlarge the patch ecology of the hillside and Cliffside Park.

Stair

New: Arcena (Ridgeway) to Cliffside Park

Materials: Wide section: concrete, crushed limestone; narrow section: concrete, steel reinforcing, sand bedding.

Railing: Fabricated steel tube, painted, matching the character of the typical historic rail existing in the Hill.

Specialty Treatment: At the end of Ridgeway St., the steps begin as wide, shallow treads (2ft), taking up the same width as the street. Sets of three concrete steps are separated with crushed limestone in between. The middle step in each set is half the length of the others, allowing planting to come in and appear embedded in the stair. The decomposed granite here is edged by a four-inch concrete band.

Lighting: Place two Woods LED up-lights at the New Arcena Stairway (one above at the end of Ridgeway Street, and one at the bottom of the steps where it meets Cliffside Park).

Signage: New signage for stairway and paths is incorporated into lighting described above.

Bollards: Place (4) bollards at the end of Arcena Street where the stairway begins.

Seating: Place (1) Woods bench at the wide section of the new Arcena Steps.

Open Space:

Cliffside Park (Existing)

The new Arcena steps create an easterly connection to Cliffside Park.

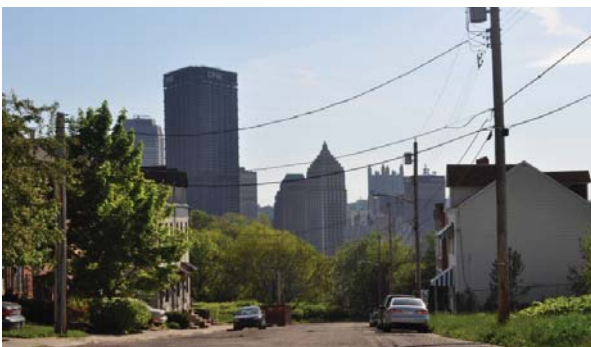
Lighting: Woods LED light fixture design recommended for Cliffside Park.

Open space on the north side of Arcena Street

Seating: Low concrete seat wall at the edge of hillside.



Cliffside Park



Ridgeway Street

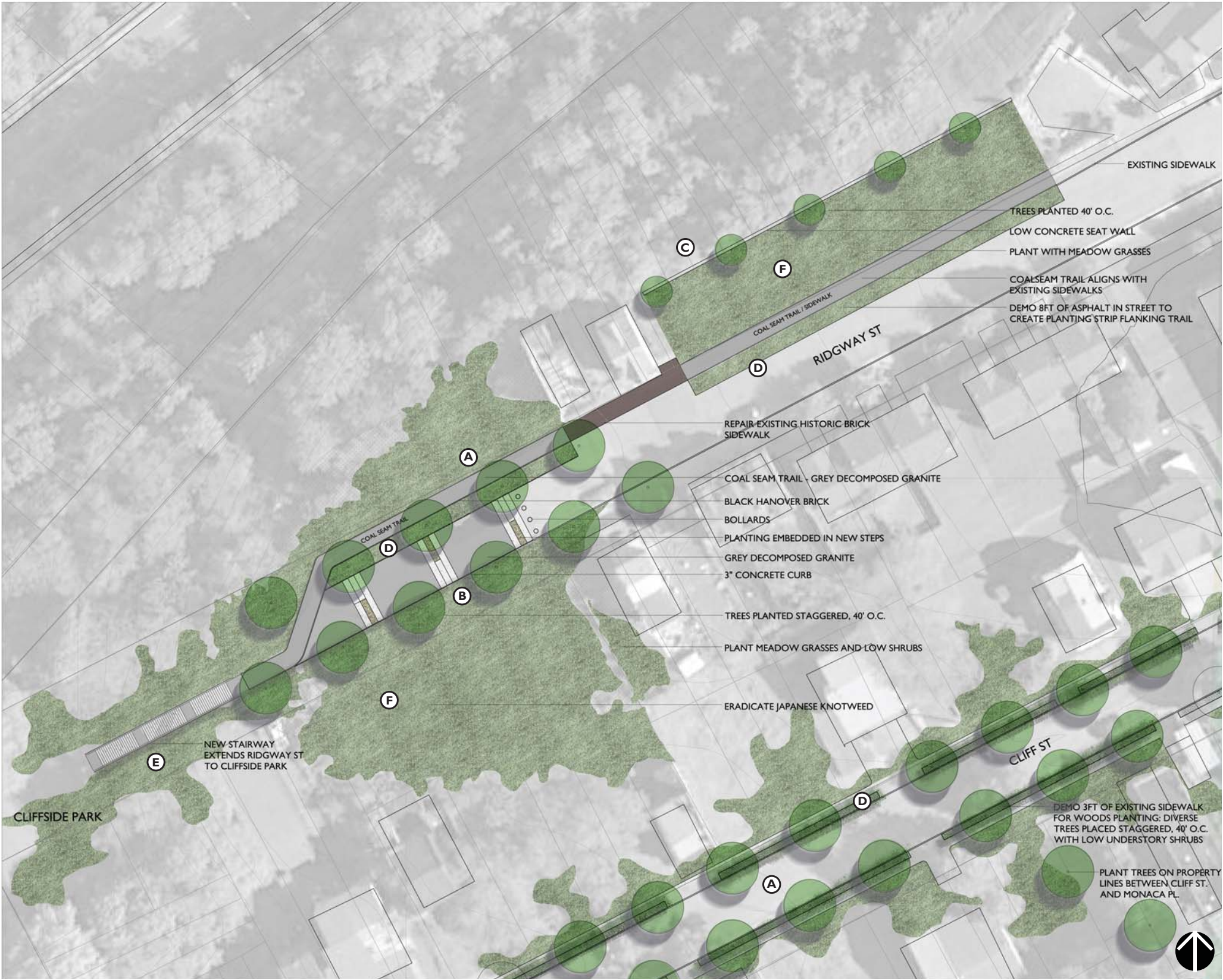
Expansion

Outline parcels – show diagram/map

Planting Design

Trees on Ridgeway St. Cliff St. & Monaca Pl. Specifications: 40’ O.C. Tree rows on either side staggered. No more than two consecutive trees of the same species should be planted in a row.		Lowbush blueberry [Vaccinium angustifolium] Great Blue Lobelia [Lobelia siphilitica L.] Ironweed [Vernonia fasciculata] Gateway Joe-Pye-weed [Eupatorium Maculatum] Sneezeweed [Helenium Autumnale] Eastern Purple Cone Flower [Echinacea Purpurea] Baptisia [Baptisia australis]
Ⓐ Under Utility Lines Species: Paperbark Maple [Acer griseum] Japanese Tree lilac ‘Summer Snow’ [Syringa reticulata] Cornus Kousa [Kousa Dogwood] Eastern Redbud [Cercis canadensis] Serviceberry [Amelanchier canadensis]		
Ⓑ Without Utility Lines Species: American Linden [Tilia americana] Northern Red Oak [Querus rubra] Black Tupelo [Nyssa sylvatica] Kentucky Coffeetree [Gymnocladus dioicos]		
Ⓒ Trees on Ridgeway St. along Overlook Seating Wall Specifications: 40’ O.C. planted in row 8’ from seating wall. Species: Yellow Poplar Tuliptree [Liriodendron tulipifera]		
Ⓓ Shrubs & Perennials on Ridgeway St. Cliff St. & Monaca Pl. Specifications: Perennials & shrubs in mass plantings, spacing varies by species. Species: Black Chokeberry [Aronia melanocarpa] Ninebark [Physocarpus opulifolius]		
	Ⓔ Understory Shrubs Adjacent to New Ridgeway Stairs Specifications: Staggered row 8’ O.C. parallel to stairs. Species: Witch Hazel [Hamamelis virginiana] Elderberry [Sambucus canadensis] Highbush Cranberry [Viburnum trilobum] Willow-leaved Spice Bush [Lindera glauca var. salicifolia]	
	Ⓕ Groundcover for Cleared Zones along Stairs & Street Specifications: Clear invasive understory plants, till remaining weeds into soil, seed at 3 lb per acre. Species: Midwest Forbs Seed Mix* [ERNMX-145]	

* See Pages 115-116 in Appendix A for full plant lists of seed mixes.



New Ridgeway Street Steps to Cliffside Park



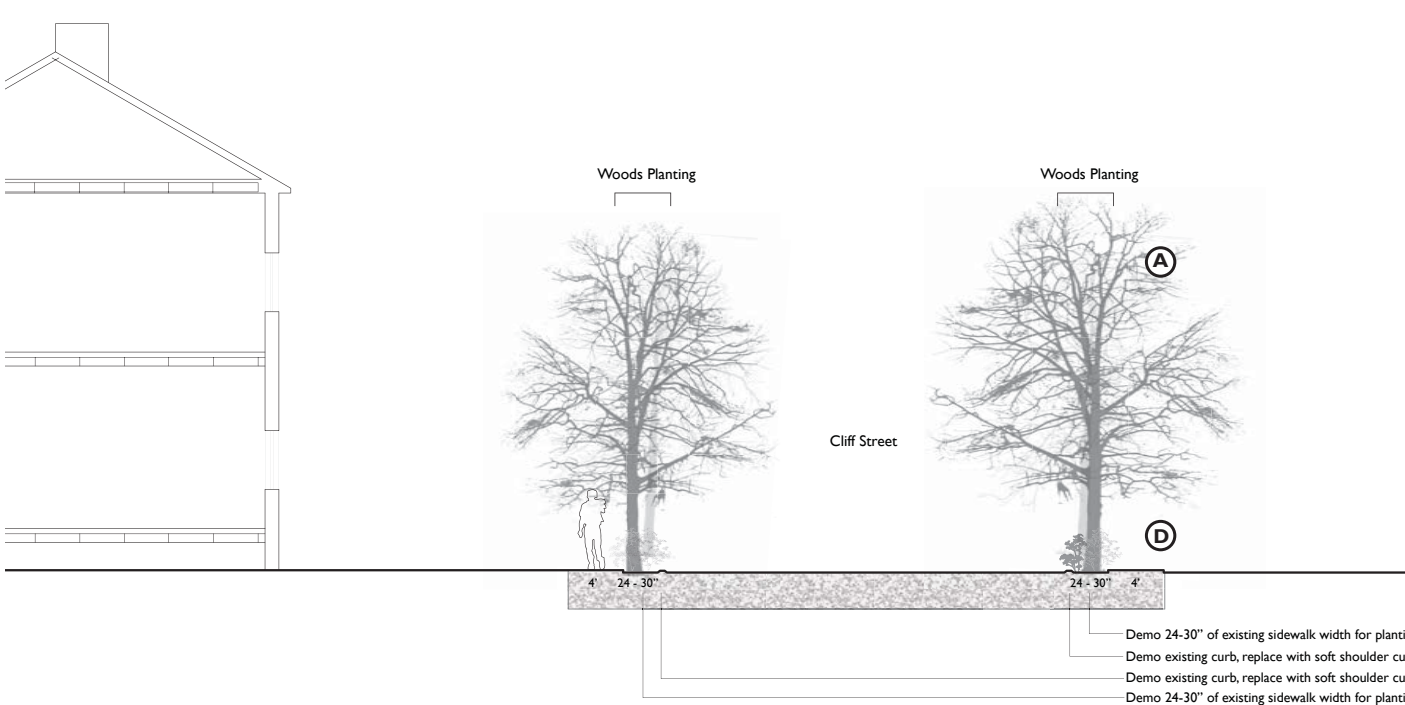
Monaca Place



Cliff Street



Monaca Place Woods Planting



Cliff Street Woods Planting

Bigelow Steps at Memory Lane

Development Opportunities

Protect from future development: open parcels on either side of the New Arcena Steps and the set of rectangular parcels on the north side of Arcena Street.

Lighting: Paint existing street light lamp fixtures yellow along Ridgeway Street, Cliff Street, and Monaca Place.

BIGELOW STEPS AT MEMORY LANE

The existing landscape adjacent to Ammon Playground and the new Bedford Hill housing development, located at the north slope of the Hill between Bedford Avenue and Memory Lane, is characterized by homogeneous landscape plantings that have been stripped of the character and richness of the native woods planting. Additionally, the historic stair that once served as a connection down to Bigelow Boulevard is partially demolished. There is the opportunity to repair the stair connection down to Bigelow and the adjacent Strip District/Lower Lawrenceville neighborhood through rebuilding and refurbishing the existing steps. Additionally, new woods plantings on the hillside, including staggered trees, understory shrubs, and groundcover enmeshes with adjacent woods. Care has been taken to choose tree species and spacing that preserve hillside views. The improved Woods landscape at this location immerses the existing Bedford Hill housing and Ammon Playground.

Stair

Rehabilitation/new extension: Stairway from Bigelow Boulevard to Memory Lane

Improve/repair the existing connection from townhouses at Memory Lane down the hillside to Bigelow Boulevard below.

Rehabilitation: Restore and reinforce existing stairs from Bigelow Boulevard to just below Memory Lane, where they currently stop on the hillside. Add a new extension (matching the existing stair’s design and construction) from this terminus up to Memory Lane.

Materials: Concrete, steel reinforcing, sand bedding.

Railing: Refinish existing rail, and fabricate steel tube where replacement/new rail is required, matching existing character of the existing rail.

Lighting: Place (1) Woods LED up-light at both the top and bottom of the Bigelow Stairway.

Signage: New signage for stairway is incorporated into lighting described above.

Seating: Place (1) Woods bench at the top of the Bigelow steps.

Open Space:

Ammon Playground and the Memory Lane Hillside (Existing)

The new Bigelow steps are associated with two existing open spaces:Ammon Playground and the Hillside over look at in the Bedford Hill housing development.



Steps from Memory Lane to Bigelow Boulevard

Planting Design

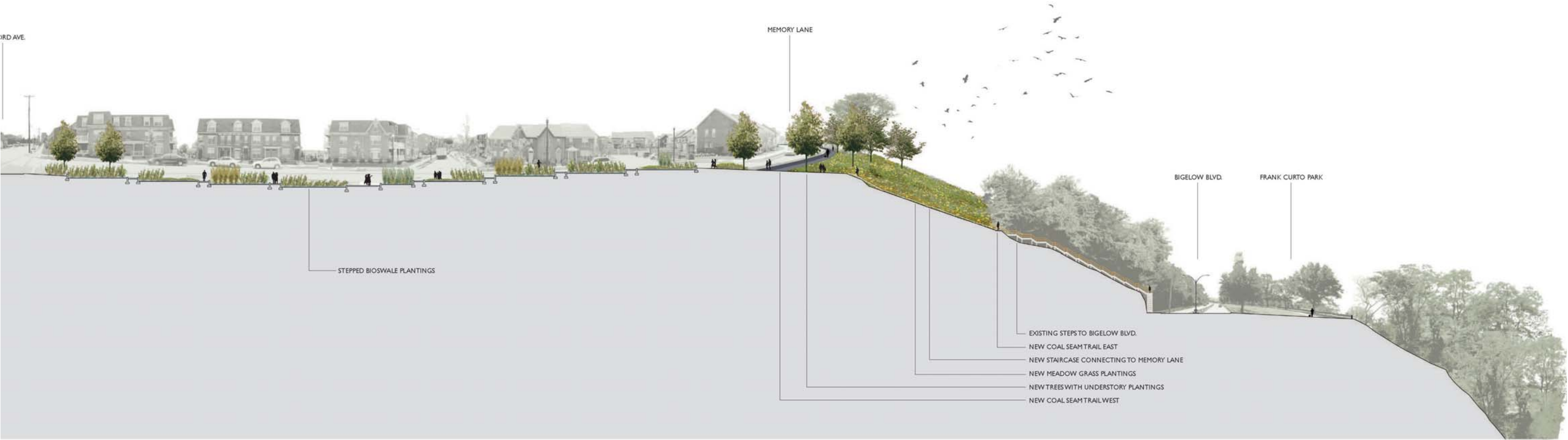
<p>A Trees on Memory Ln. & Hillside</p> <p>Specifications: 30’-50’ O.C. Staggered tree rows to fill in hillside clearings. No more than two consecutive trees of the same species should be planted in a row.</p> <p>Species: American Linden [Tilia americana] Eastern Hemlock [Tsuga canadensis] Northern Red Oak [Querus rubra] Black Tupelo [Nyssa sylvatica] Cucumber Tree [Magnolia acuminata] Kentucky Coffeetree [Gymnocladus dioicos] Serviceberry [Amelanchier canadensis]</p>	<p>C Groundcover for Cleared Areas Adjacent to Memory Ln.</p> <p>Specifications:Till existing lawn and weeds into soil, seed at 3 lb per acre.</p> <p>Species: Midwest Forbes Seed Mix* [ERNMX-145]</p> <p>* See Pages 115-116 in Appendix A for full plant lists of seed mixes.</p>
<p>B Shrubs & Perennials Understory on Memory Ln. & Hillside</p> <p>Specifications: Perennials & shrubs in mass plantings, spacing varies by species.</p> <p>Species: Black Chokeberry [Aronia melanocarpa] Witch Hazel [Hamamelis virginiana] Willow-leaved Spice Bush [Lindera glauca var. salicifolia] Ninebark [Physocarpus opulifolius] Lowbush blueberry [Vaccinium angustifolium] Great Blue Lobelia [Lobelia siphilitica L.] Ironweed [Vernonia fasciculata] Gateway Joe-Pye-weed [Eupatorium Maculatum] Sneezeweed [Helenium Autumnale] Eastern Purple Cone Flower [Echinacea Purpurea] Baptisia [Baptisia australis]</p>	



Memory Lane and Bigelow Steps



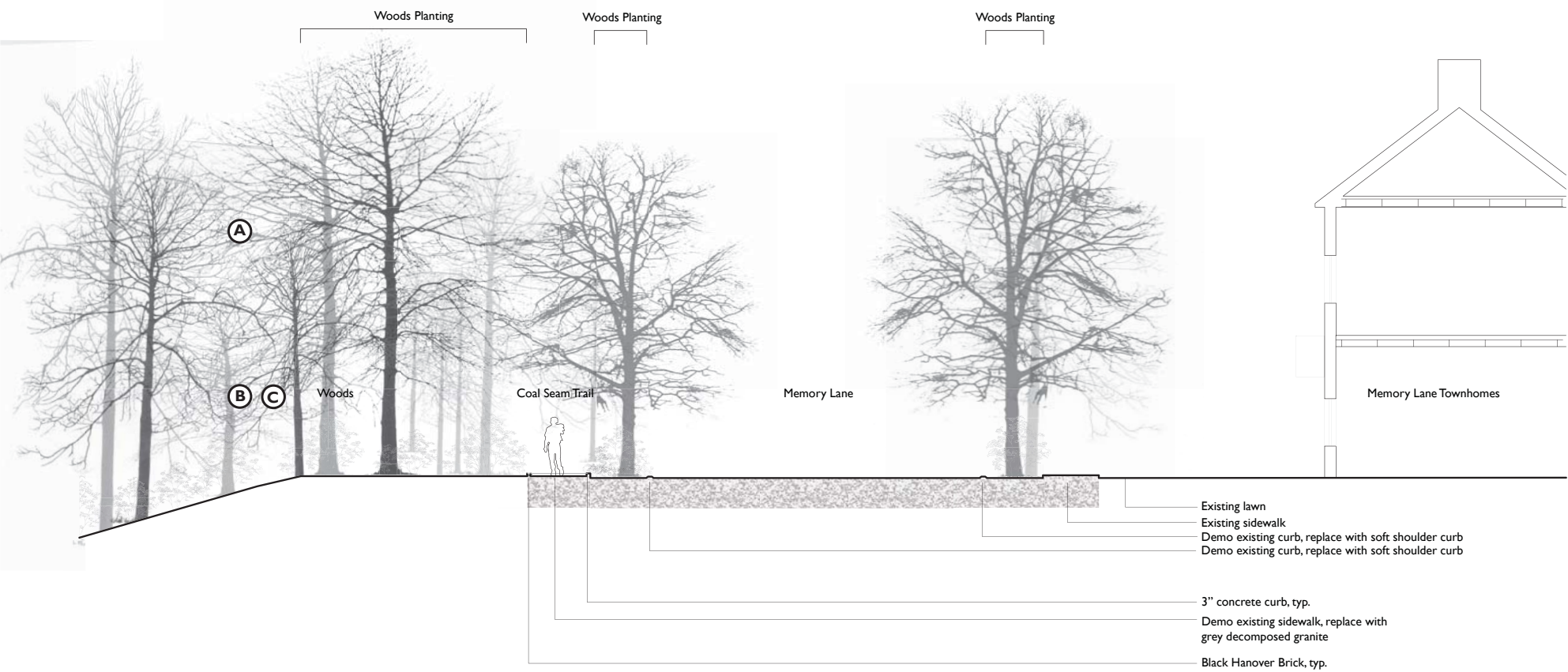
Bioswale Adjacent to Ammon Playground



Memory Lane Steps to Bigelow and the Coal Seam Trail

WOODS

BIGELOW STEPS AT MEMORY LANE



Memory Lane Woods Planting

Alpena Steps to Herron Hill Reservoir

Expansion
Outline parcels – show diagram/map

Development Opportunities
Incorporate woods planting strategies into future development/landscape alterations at the Memory Lane Bedford Hill housing. Incorporate woods site furnishings/lighting when upgrading/improving amenities at the Memory Lane hillside overlook and Ammon Playground.

Lighting: Paint existing street light lamp fixtures yellow along Bedford Avenue, Webster Avenue, and Whiteside Road.

ALPENA STEPS TO HERRON HILL RESERVOIR AT WILLIAMS PARK

The rehabilitated Alpena Stairway provides an improved connection from Bloomfield and Oakland to Herron Hill Reservoir at Williams Park and neighboring single-family housing. Lined with new trees, the Rampart Street alley becomes an allée of trees that connects the top of a new stair segment with Herron Hill Reservoir/Williams Park. A new terrace and site furnishings run along the south and west edges of Herron Hill and rows of new trees flank the west and east sides of the reservoir.

Stair

Rehabilitation/new extension: Stairway from Bigelow Boulevard to Memory Lane

Rehabilitation: Restore and reinforce existing stairs and path from Bigelow Boulevard to where it turns sharply to become Dakota Street. Add a new extension (matching the existing stair’s design and construction) from this terminus up to Iowa Street.

Materials: Concrete, steel reinforcing, sand bedding.

Railing: Refinish existing rail, and fabricate steel tube where replacement/new rail is required, matching existing character of the existing rail.

Lighting: Place (1) Woods LED up-light where stair begins at Alpena Street and Bigelow Boulevard; one at Alpena Street and Dakota Street; one at the top of the new stair segment at Iowa Street and Rampart Street; and one at the intersection of Rampart and Camp Streets.

Signage: Place new signage for the stairway at locations for proposed lighting listed above.

Open Space:

Herron Hill Reservoir (Existing)

Seating: Place (10) Woods benches overlooking the reservoir and on the new pervious terrace (below).



Herron Hill Reservoir at Williams Park

Planting Design

- A** Trees on Reservoir Edges

Specifications: 40’ O.C. planted along east and west edges of the reservoir, 4’ from the existing walkway.

Species: Columnar Sweetgum [Liquidambar styraciflua]
- B** Under Utility Lines

Species: Paperbark Maple [Acer griseum]
Serviceberry [Amelanchier canadensis]
- C** Without Utility Lines

Species: American Linden [Tilia americana]
Black Tupelo [Nyssa sylvatica]
Kentucky Coffeetree [Gymnocladus dioicos]
- D** Groundcover for Reservoir Hillsides

Specifications: Till weeds into soil, seed at 3 lb per acre.

Species: Midwest Forbs Seed Mix* [ERNMX-145]
- E** Groundcover for Rampart St. edges, Iowa St. right-of-way, & Coal Seam Trail

Specifications: Clear invasive understory plants, till remaining weeds into soil, seed at 10 lb per acre.

Species: Showy Northeast Native Wildflower Mix* [ERNMX-153-1]
- * See Pages 115-116 in Appendix A for full plant lists of seed mixes.



Alpena Street and Steps

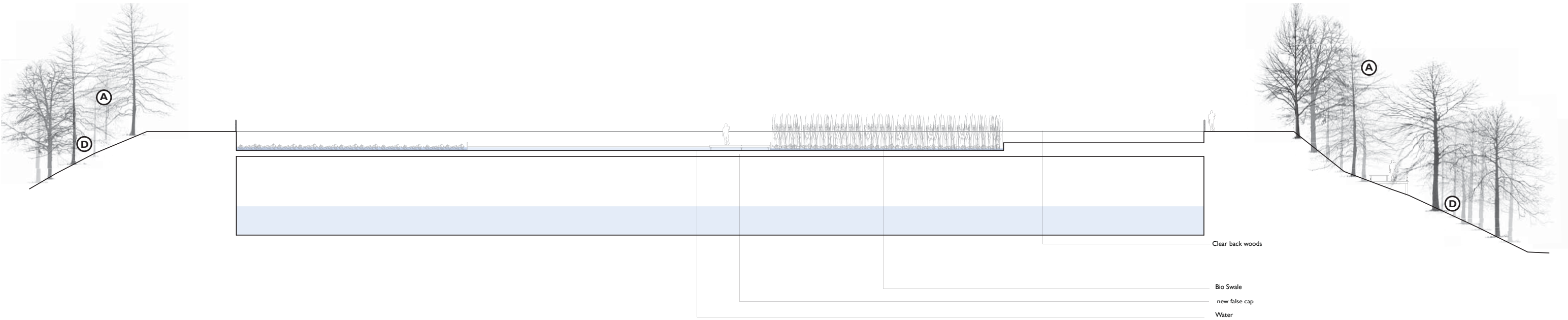




Herron Hill Reservoir



Herron Hill Reservoir at Williams Park with a new connection to Bigelow Blvd.



Herron Hill Reservoir Wetland

Wyandotte Steps to Martin Luther King Field

Terrace: Create terrace with pervious grass pavers.

Lighting: Place eight Woods LED up-lights around the perimeter of Herron Reservoir.

Paving: Use cast-in-place integral color concrete for perimeter path around Herron Hill Reservoir.

Expansion

Outline parcels – show diagram/map

Development Opportunities

- Incorporate woods site furnishings/lighting when upgrading/improving amenities at Herron Hill Reservoir.
- Paint existing street light lamp fixtures yellow along Rampart, Alpena, Adelaide, Milwaukee, Finland, and Camp Street.

WYANDOTTE STEPS TO MARTIN LUTHER KING FIELD

Martin Luther King (MLK) Field is a recreational landscape that has a tremendous opportunity to make visible the hydrology of the Hill. Currently the space is hidden from view due to an overgrown/unmanaged landscape edge. The field is connected to Kirkpatrick Street, a major through-street that extends through the center of the Hill neighborhood and out to Fifth Avenue and the Monongahela River flood plain. It also links to the Wyandotte Stairway that connects the upper hillside with the adjacent neighborhood, Uptown. There is also the possibility to connect southerly to De Ruad Street. Improvements include, the clearing of vegetation, refurbishing of the Wyandotte Stairway, a raingarden/bioswale along the entire ball field perimeter, and new groundcover and bioswales on either side of Kirkpatrick Street.

Stair

Rehabilitation: Wyandotte Stairway

Materials: Concrete, steel reinforcing, sand bedding.

Railing: Refinish existing rail, and fabricate steel tube where replacement is required, matching existing character.

Specialty Treatment: From the end of the Wyandotte Stair at De Ruad Street, a crushed limestone path extends the connection up to MLK Field and around to Kirkpatrick Street, replacing the existing concrete path. The new path is edged with Black Hanover Brick.

Lighting: Place three Woods LED up-lights on either end of the Wyandotte Stairway (one above at Addison Terrace, one at Wyandotte Street, and one where the stairs intersect De Ruad Street).

Signage: Place new signage for the stair next to new lighting at each end of the Wyandotte Stairway.

Bollards: Place (4) bollards at the end of De Ruad Street where the stairway begins.



Wyandotte Steps

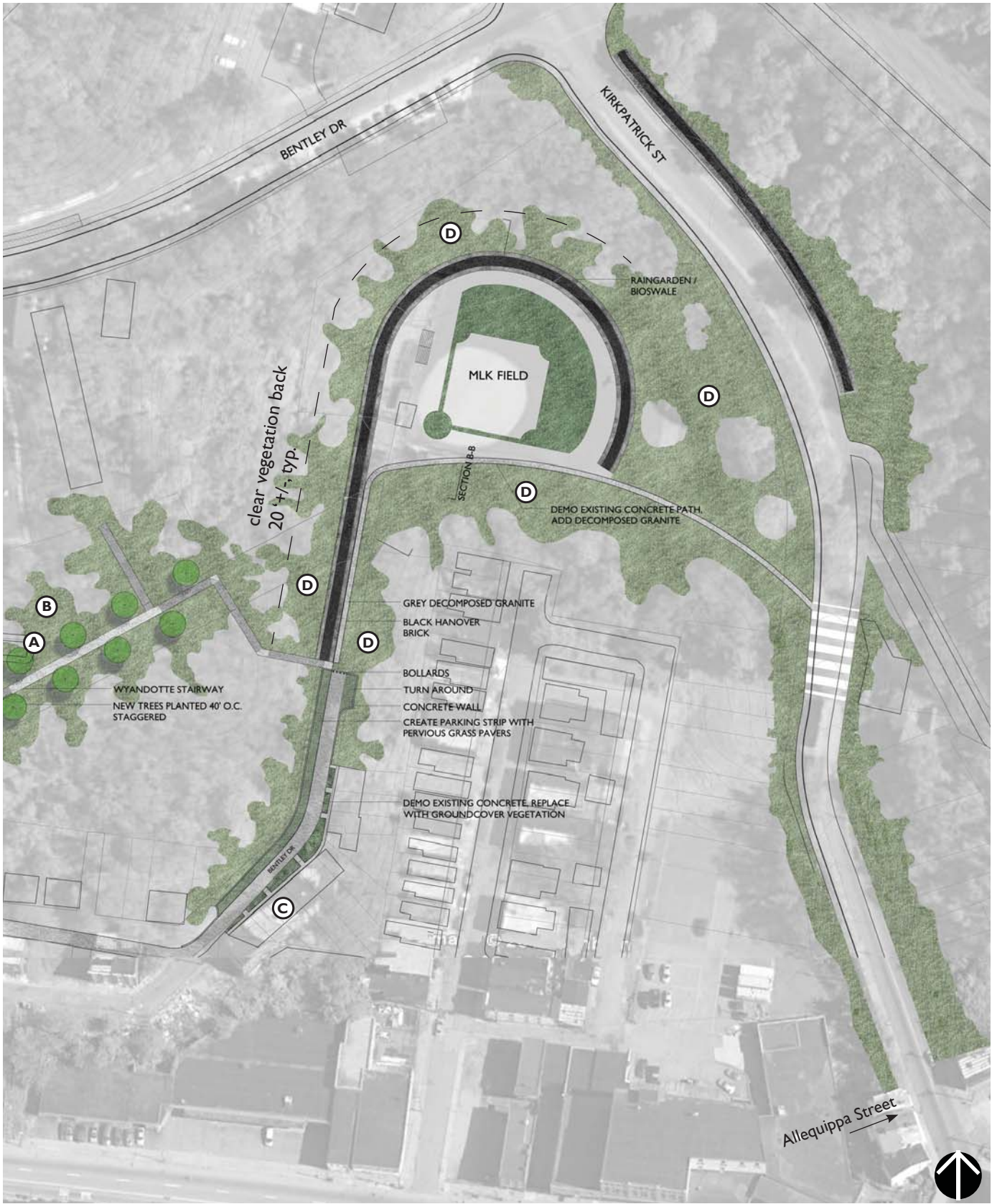
Planting Design

- Ⓐ Understory Trees Parallel to Wyandotte Stairs
Specifications: 40’ O.C. planted 10’ from stair edges.
Species: Flowering Dogwood [Cornus florida]
Serviceberry [Amelanchier canadensis]
- Ⓑ Shrub Understory Parallel to Wyandotte Stairs
Specifications: 10’ O.C. planted 15’ from stair edges in same species masses parallel to stair edges.
Species: Black Chokeberry [Aronia melanocarpa]
Witch Hazel [Hamamelis virginiana]
Willow-leaved Spice Bush [Lindera glauca var. salicifolia]
Ninebark [Physocarpus opulifolius]
- Ⓒ Shrubs & Perennials on De Ruad St.
Specifications: Perennials & shrubs in mass plantings, spacing varies by species.
Species: Black Chokeberry [Aronia melanocarpa]
Lowbush blueberry [Vaccinium angustifolium]
Great Blue Lobelia [Lobelia siphilitica L.]
Gateway Joe-Pye-weed [Eupatorium Maculatum]
Eastern Purple Cone Flower [Echinacea Purpurea]
- Ⓓ Groundcover for Cleared Hillsides and Zones along Stairs, Field Edges & Street
Specifications: Clear invasive understory plants, till remaining weeds into soil, seed at 10 lb per acre.
Species: Showy Northeast Native Wildflower Mix* [ERNMX-153-1]

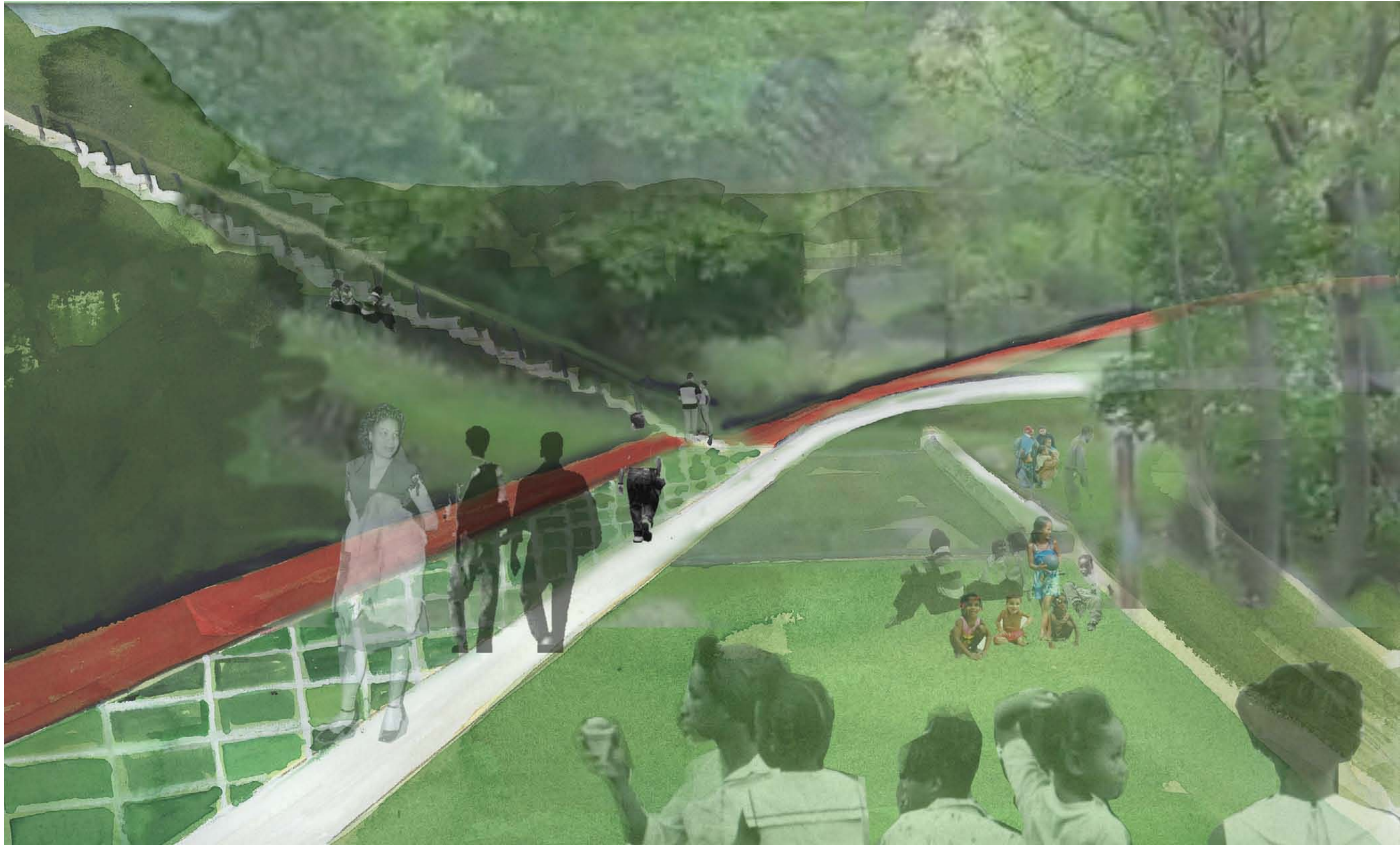
* See Pages 115-116 in Appendix A for full plant lists of seed mixes.



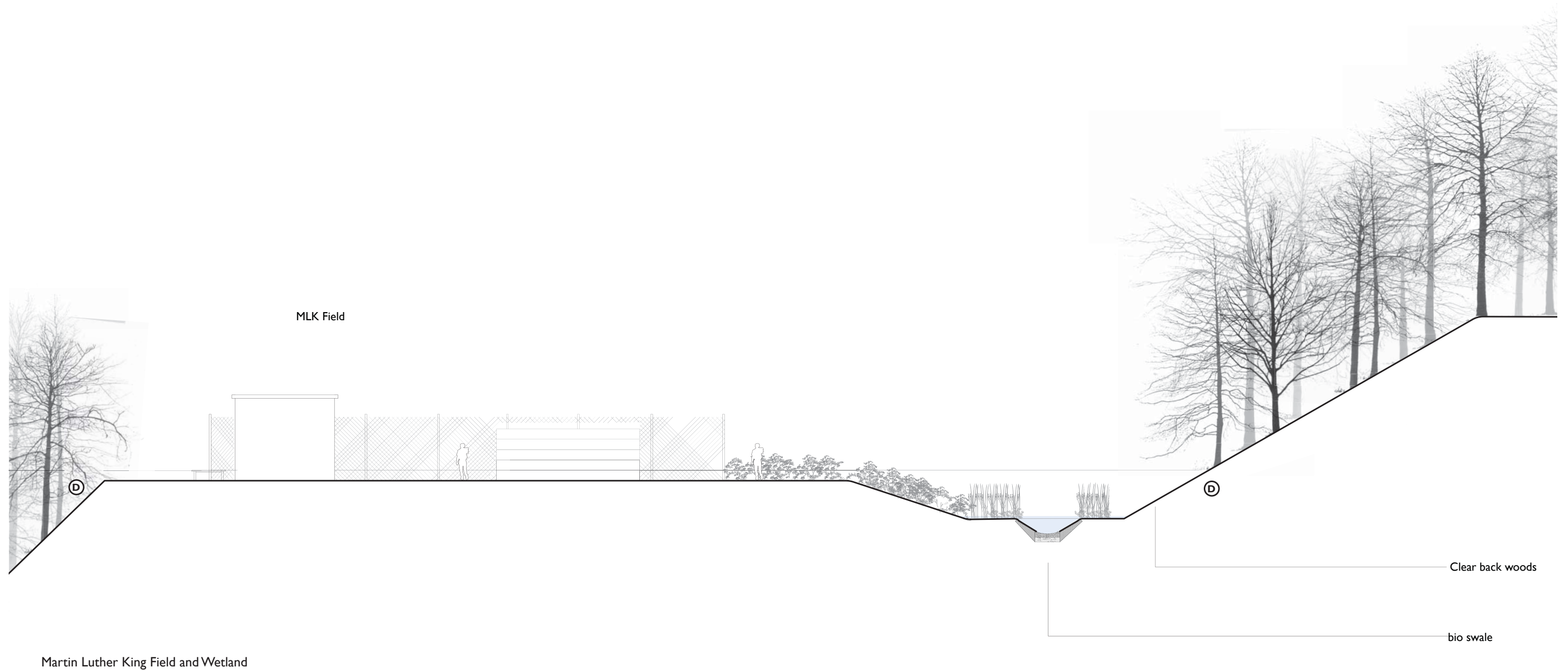
Martin Luther King Field



Wyandotte Steps to Martin Luther King Field

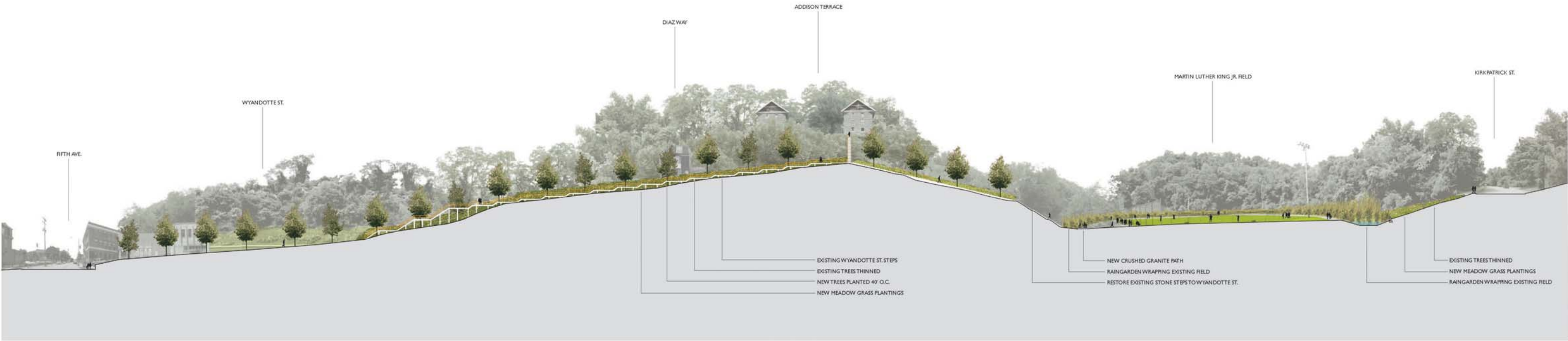


Rain Garden leading up to Wyandotte Steps and MLK Field



WOODS

WYANDOTTE STEPS TO MLK FIELD



Wyandotte Steps to MLK Field

Lombard Steps to Addison Terrace

Lighting: (4) Woods LED light fixtures placed in MLK Field.

Seating: Place (3) Woods benches overlooking MLK Field adjacent to the new Wetlands.

Expansion
Outline parcels – show diagram/map

- Development Opportunities**
- On the west side of De Ruad Street a new parking strip with pervious grass pavers provides parking for residents across the street and visitors of the Stairway and MLK field. A new turn-around, edged with a concrete wall, is also provided at the end of Bentley Drive.
 - On the east side of De Ruad Street remove existing concrete and replace with ground-cover vegetation.
 - Paint existing street light lamp fixtures yellow along Kirkpatrick and De Ruad Street.

LOMBARD STEPS TO ADDISON TERRACE

The historic stone steps at Lombard Street and Diaz Way and worn pathways down the hillside provide an important connection for residents of Addison Terrace down to Fifth Avenue, a major thoroughfare in Uptown. Improvements include: new meadow plantings and pathway between Bentley Drive and Lombard Street, new trees between housing, refurbishing of the historic stone steps at Lombard Street and Diaz Way, and formalizing of informal hillside pathways with crushed stone.

Stair
Rehabilitation: Lombard Steps

Materials: Sandblast existing stone walls around stair, repair/refinish concrete steps.

Railing: Refinish existing rail at top of stair; fabricate steel tube where replacement is required, matching existing character.

Specialty Treatment: There are three new path/stair segments that link Addison Terrace to Fifth Avenue through the Lombard Steps; each is an existing informal path that cuts through a vacant and is formalized in this proposal. New, wide-tread stairs link Fifth Avenue to Colwell Street and Colwell Street to Diaz Way; and a new crushed stone edged with a concrete band links Lombard Street with Bentley Street.

Lighting: Place five Woods LED up-lights in relation to paths and stair: one at path start at Fifth Avenue, one where it ends at Colwell Street, one where the next path starts at Colwell Street up to Diaz, and one at the top and bottom of the Lombard Steps.

Signage: New signage for stairway and paths is incorporated into lighting described above.

Bollards: Place (5) bollards at the end of Lombard Street where the stairway begins.



Lombard Steps to Addison Terrace Housing

Open Space:
New Meadow at Addison Terrace

Lighting: (2) Woods LED light fixtures placed along the path that cuts through the meadow.

Planting Design

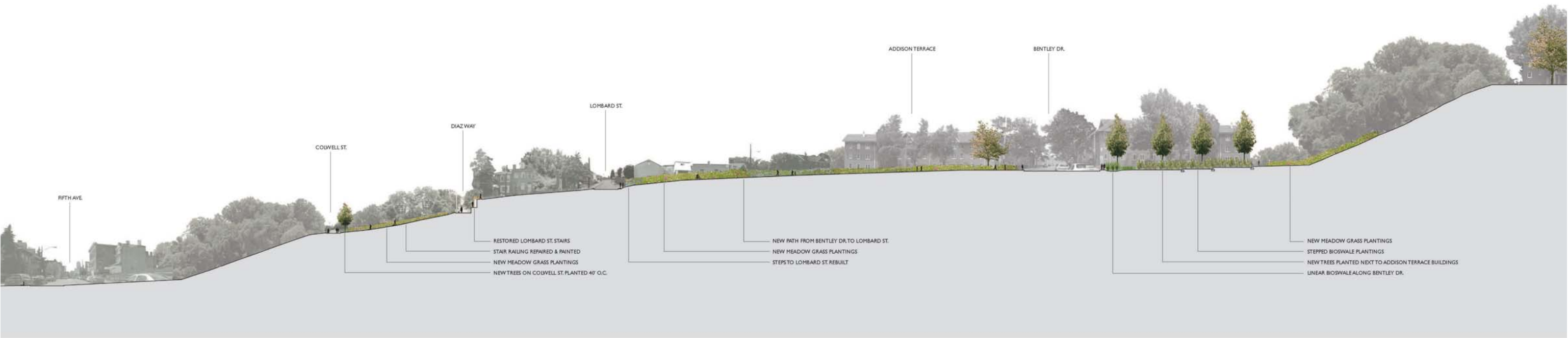
- | | |
|---|---|
| <p>Ⓐ Trees Parallel to Addison Terrace Buildings
Specifications: 40’ O.C. planted 20’ from facades avoiding existing trees.
Species: Silver Maple [Acer saccharinum]
Bitternut Hickory [Carya cordiformis]
Yellow Buckeye [Aesculus octandra]
Hackberry [Celtis occidentalis]</p> | <p>Ⓒ Groundcover for parcels along new steps from Diaz to Colwell Street and from Colwell to Fifth Avenue.
Species 2: Midwest Forbs Seed Mix* [ERNMX-145]</p> |
| <p>Ⓑ Species 1: Showy Northeast Native Wildflower Mix* [ERNMX-153-1]
Ⓒ Species 2: Midwest Forbs Seed Mix* [ERNMX-145]
Ⓓ Species 3: Low-Growing Wildflower/Grass Seed Mix* [ERNMX-156]</p> | <p>* See Pages 115-116 in Appendix A for full plant lists of seed mixes.</p> |



Lombard Steps to Addison Terrace Housing

WOODS

LOMBARD STEPS TO ADDISON TERRACE



Lombard Steps to Addison Terrace Housing

CONVEYANCE

Proposals for Conveyance and Circulation

- Coal Seam Trail
- Centre Avenue Tributary
- Chauncey Coal Mine Seam
- Herron Avenue Thermal Corridor
- Memory Lane Housing Raingarden
- Herron Hill Reservoir at Williams Park
- Martin Luther King Field Wetlands
- Addison Terrace Storm Water Garden

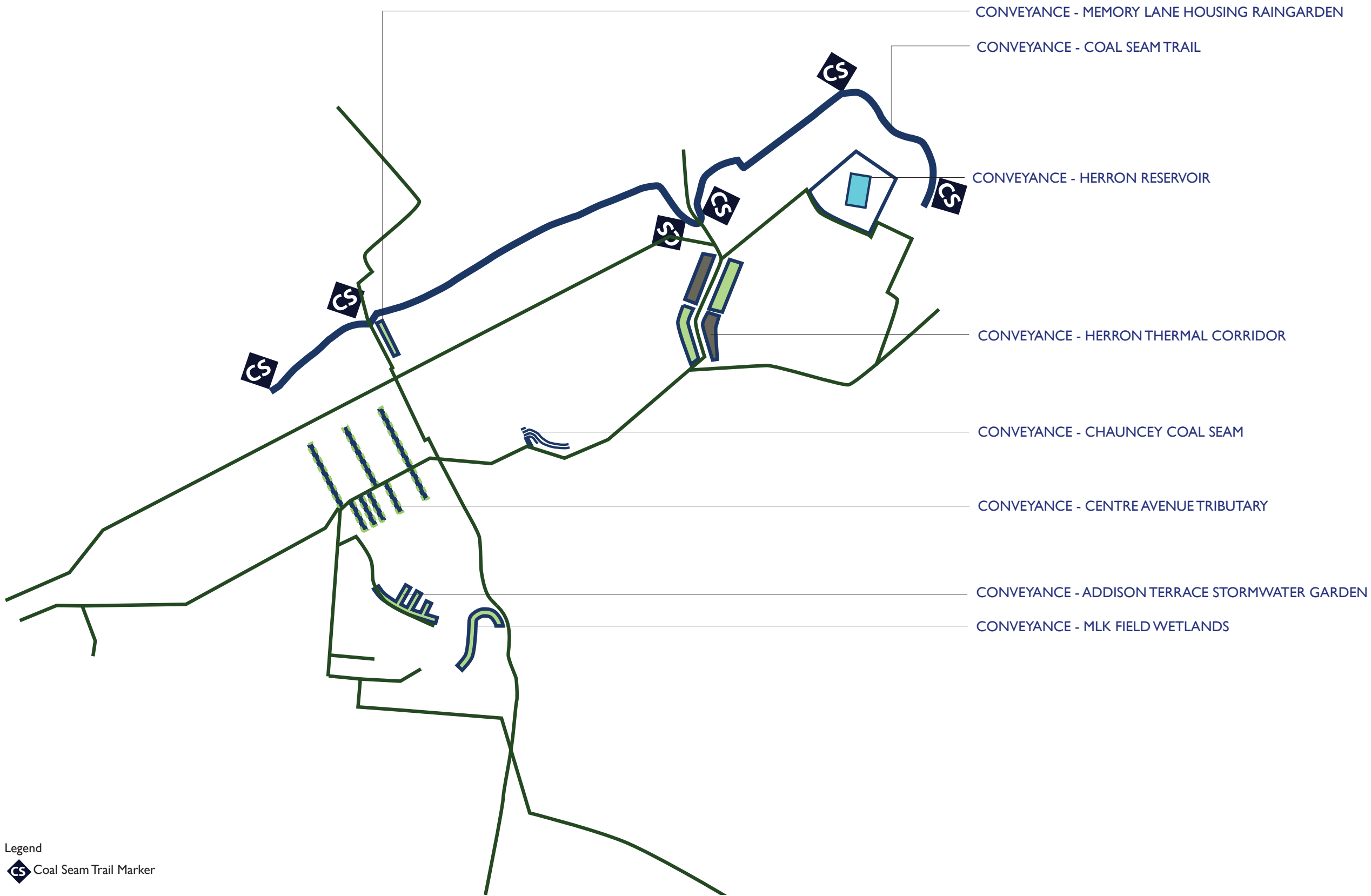
OVERVIEW

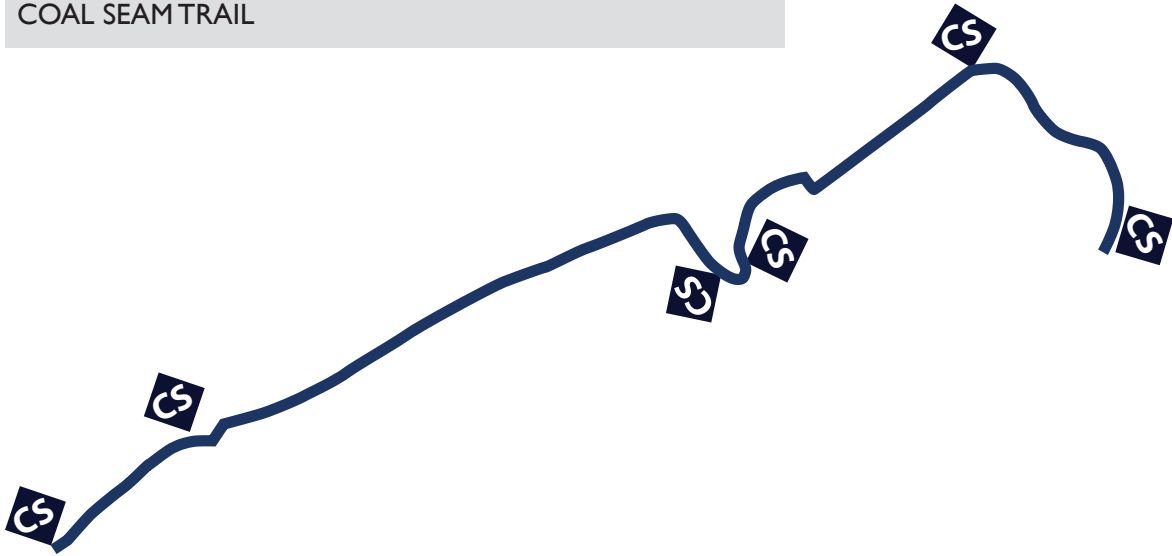
Conveyance, the third identifying characteristic of the Hill landscape, refers to how people and water move through the neighborhood: between internal geographies and also out to external neighborhoods and rivers (the Monongahela and the Allegheny).

There are three project areas that deal with the history and present-day effects of the coal mining history embedded in the landscape of the Hill (for a technical summary see Appendix C – Coal Seam Notes). They include: Herron Avenue Thermal Corridor, a major circulation route, with thermal groundwater opportunities and visible contamination of surface water seeping from the coal seam; the new Coal Seam Trail, which traces the elevation on the north slope where coal is present; and the Chauncey Coal Mine Seam, a contaminated tributary emerges from a coal seam adjacent to a public stair.

Additional projects deal with the conveyance of water in Woods locations associated with open space and/or housing: Memory Lane Housing Raingardens run adjacent to Ammon Playground; Addison Terrace Storm Water Gardens improve the landscape between dense multi-family housing, and Martin Luther King Field Wetlands collects water run-off at the base of a hill that encircles the baseball field.

Centre Avenue Tributary is the conveyance project in the Village. Functioning as a low point in a small valley in the Hill, Centre Avenue drains storm water that flows down cross streets. To mitigate the contamination of this surface water, new flow-through planters flank cross streets.





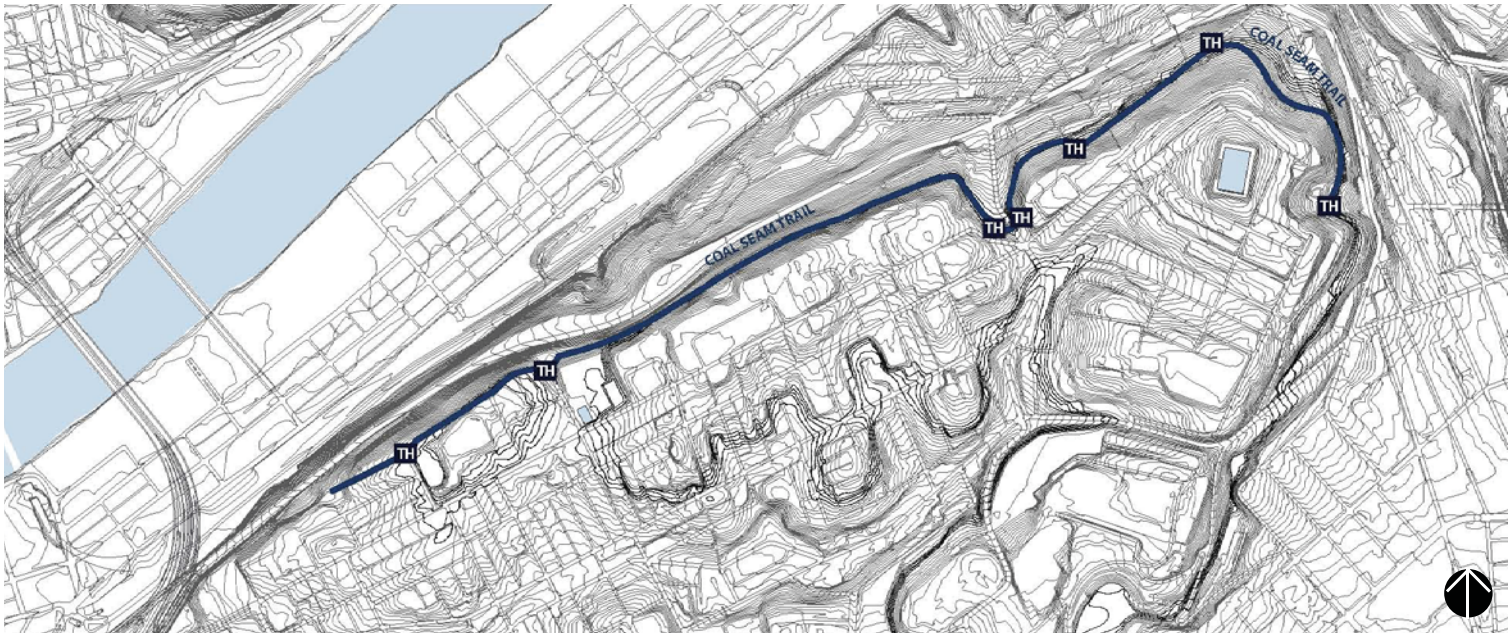
COAL SEAM TRAIL

The Coal Seam Trail runs along Northwest edge of the Hill at the elevation that coal deposits occur naturally in the Pittsburgh area. This natural resource was once mined extensively in the Hill District. Tracing its edge helps reveal the complex history of the industrial, cultural, and natural landscape the Hill.

Site Development

Paving: The new Trail is graded and paved with crushed limestone. The trail is designed with **soft edges that blend into the landscape**. One foot from one edge, a line of black Hanover Brick runs along the length of the trail, signifying the elevation of the coal seam found throughout the Hill.

Signage: Six New Trailhead markers announce the Coal Seam Trail at key locations with good visibility. The following Trailhead markers utilize existing guardrails, adding “COAL SEAM TRAIL” lettering to the surface :Arcena Street at the end of Ridgway Street, Memory lane at Whiteside Road, and Iowa Street and Dakota Street. New guardrails with lettering are placed on either side of Herron Avenue, where the Trail crosses the road. Where the Coal Seam Trail shares the roadway along Monroe Street, the entire existing guardrail is labeled with Black lettering reading: “COAL SEAM TRAIL COAL SEAM TRAIL COAL SEAM TRAIL COAL SEAM TRAIL”.



Plan Diagram - The Coal Seam Trail

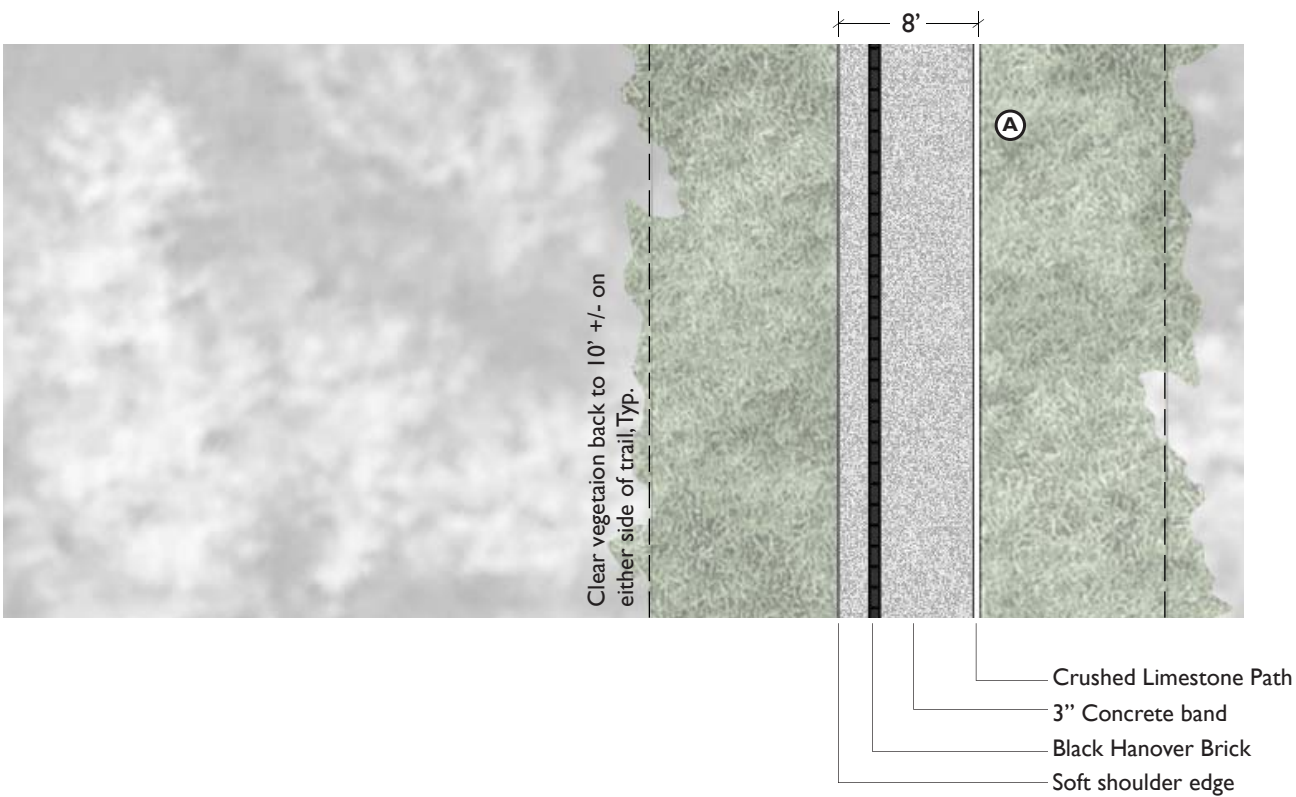
Clearing and Thinning

Clear invasive understory plants and vines (Japanese knotweed, grape vine, poison ivy,) till under weeds and remove trees below 6” caliper from a 20’ wide corridor for the Coal Seam Trail. The precise trail right-of-way should be determined in relation to the terrain and the avoidance of large caliper existing trees.

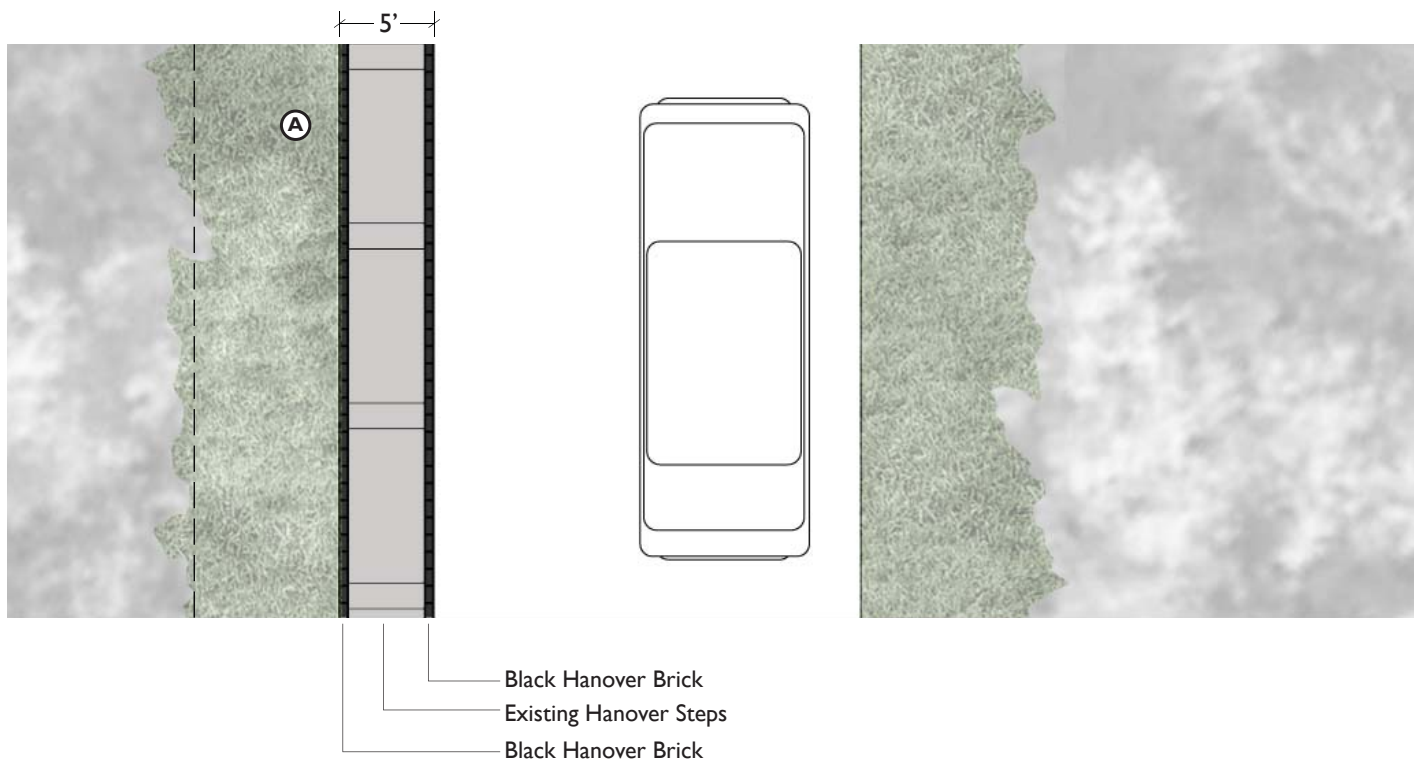
Planting Design

Much of the Coal Seam Trail runs along densely wooded hillsides. In these areas the primary operation is clearing the trail and thinning the woods adjacent to the trail. However in some areas the trail follows or crosses streets or neighborhood edges. In these areas understory shrubs should be planted parallel to the trail. Species should vary and be determined in relation to existing vegetation.

- Ⓐ Shrub & Tree Understory Along Open or Developed Trail Edges
- Specifications: Staggered 20’ O.C. in parallel to trail 5’ from its edge as space allows.
- Species: Serviceberry [Amelanchier canadensis]
- Eastern Redbud [Cercis canadensis]
- Buttonbush [Cephalanthus occidentalis]
- Grey Dogwood, PA Ecotype [Cornus racemosa, PA Ecotype]
- Willow-leaved Spice Bush [Lindera glauca var. salicifolia]
- Witch Hazel [Hamamelis virginiana]
- Winterberry [Ilex verticillata]
- Black Chokeberry [Aronia melanocarpa]



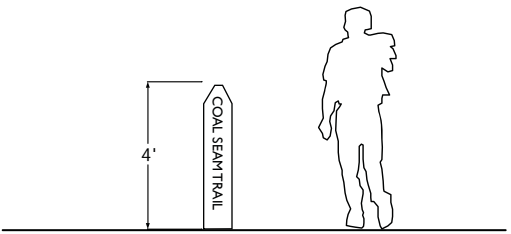
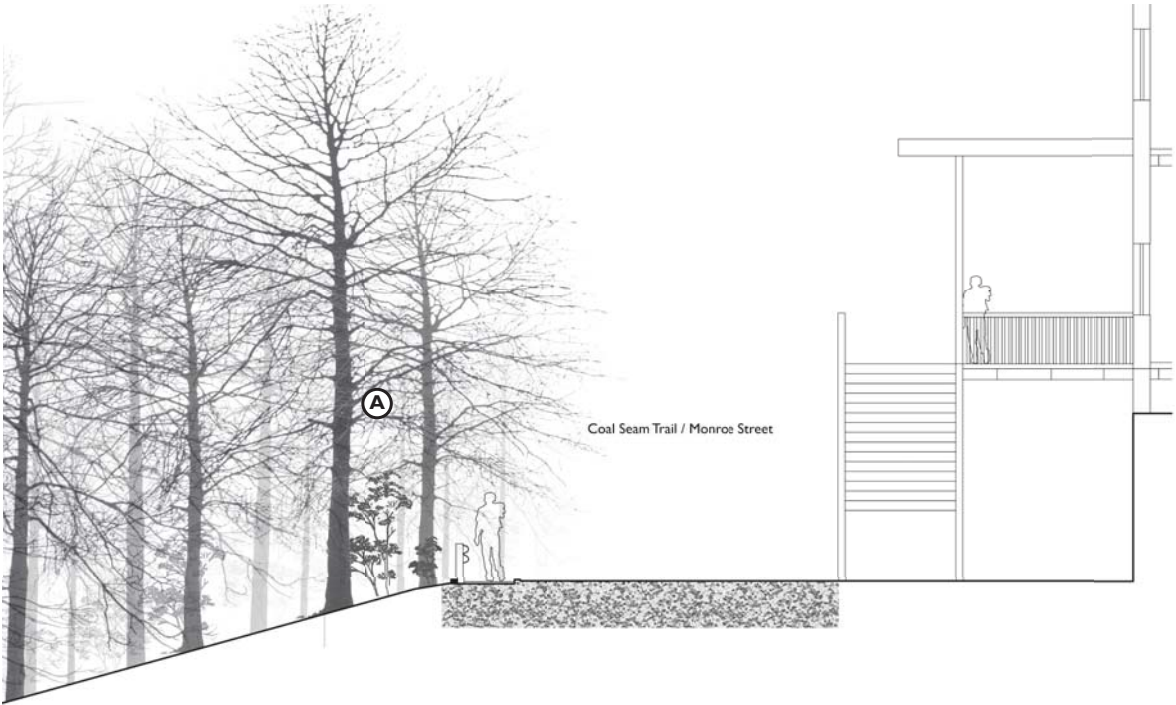
The Coal Seam Trail - Typical Condition



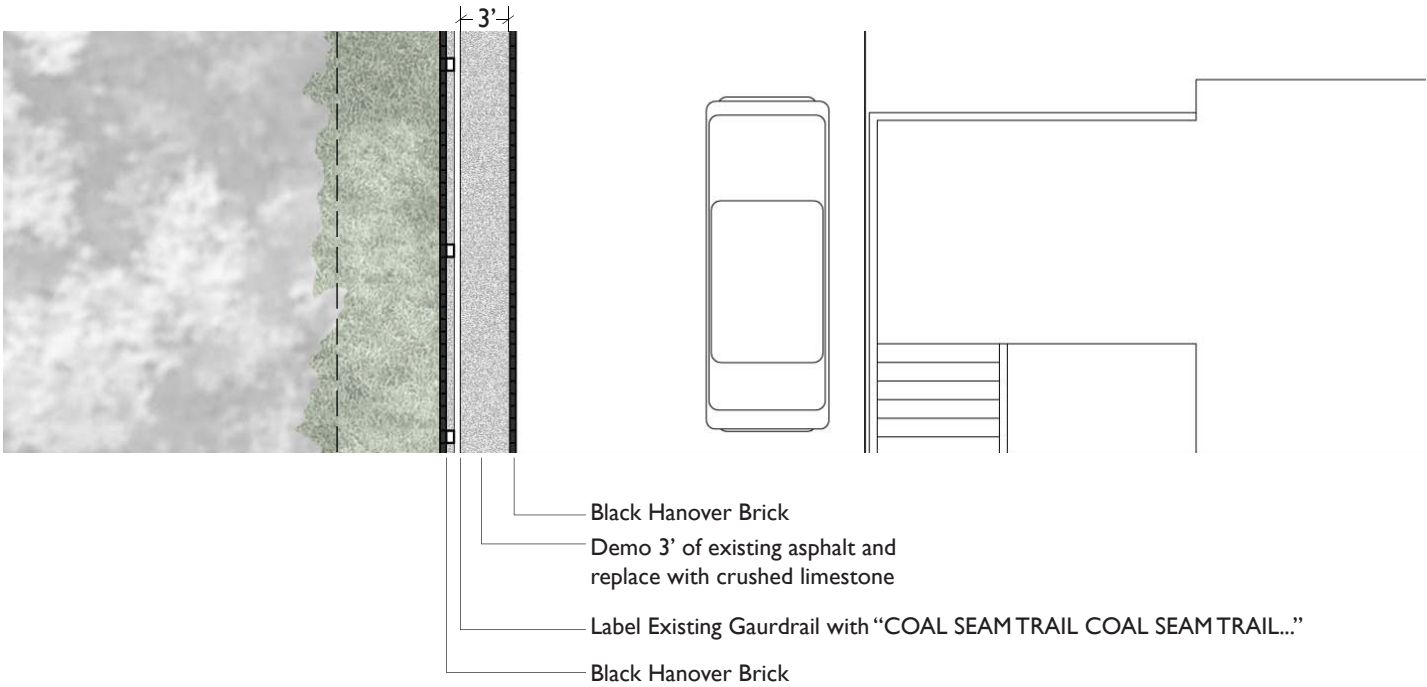
The Coal Seam Trail at Hancock Street

CONVEYANCE

COAL SEAM TRAIL



Concrete Coal Seam Trail markers, placed at equal increments along trail

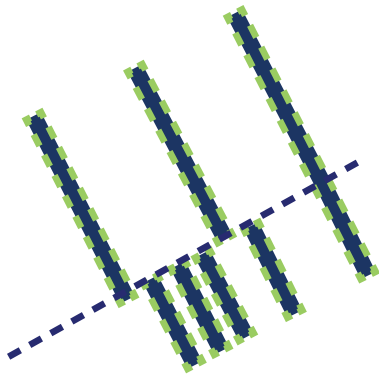


Coal Seam Trail guardrail trail head

The Coal Seam Trail at Monroe Street

CONVEYANCE

CENTRE AVENUE TRIBUTARY



CENTRE AVENUE TRIBUTARY

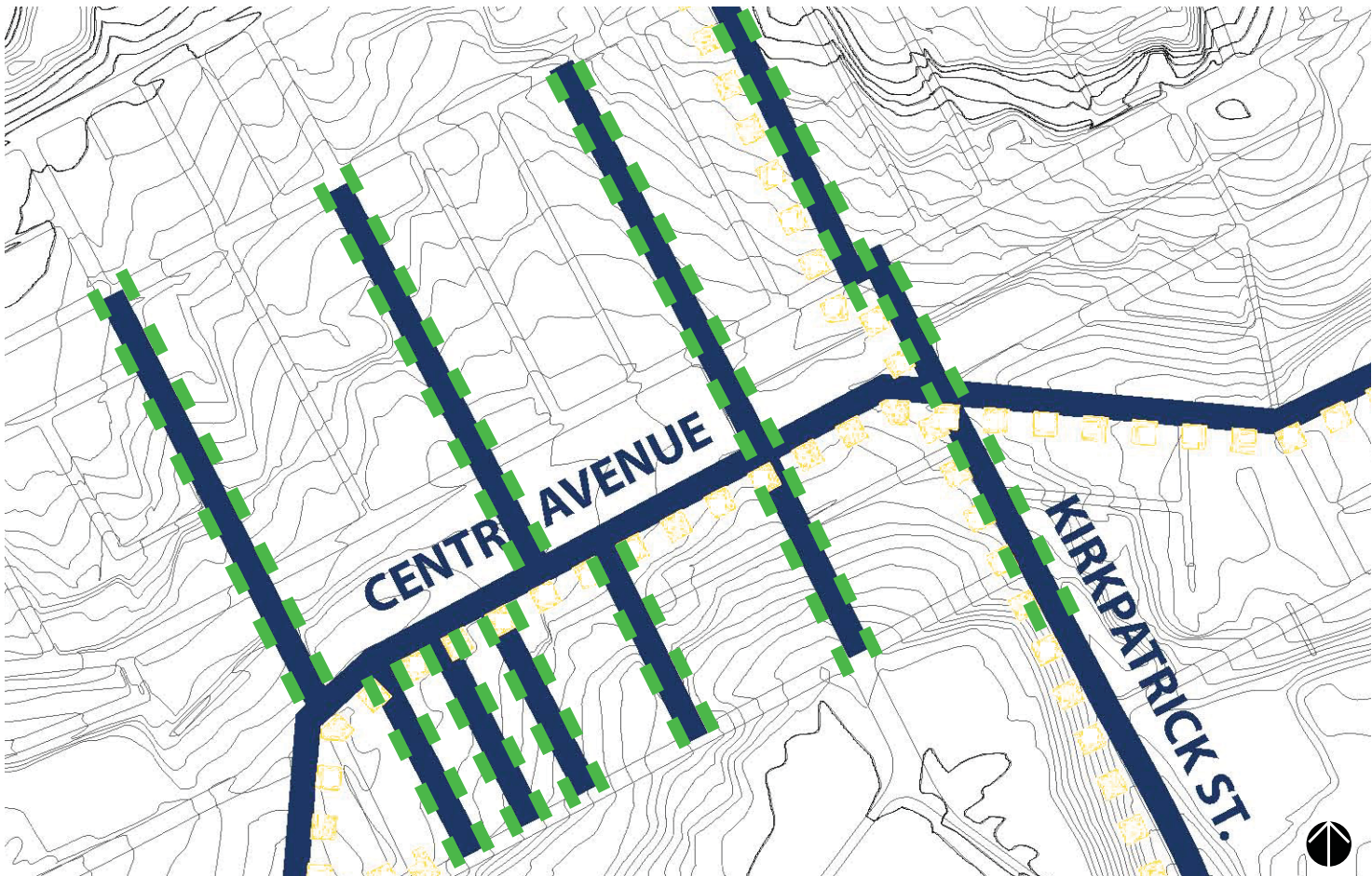
Centre Avenue is an elevational low point in the topography of the village, the base of a small valley into which water runs. Streets that run down to Centre Avenue perpendicularly will be flanked with flow-through planters (those same streets the Greenprint has defined as important connection routes from housing to the Village, along which street tree planting for the Village will be centered). The flow-through planters will be located between street trees, creating green street edges by which to walk through on the way to the central business district of the Hill along Centre Avenue.

Flow-through planters are a storm water mitigation strategy that assists in capturing storm water run-off from paved surfaces. Flow-through planters allow water to be conveyed slowly, thus increasing infiltration into the ground, and reducing the contamination of storm water from sediments and impurities.

Site Development

Paving: On cross-streets/alleys where there is an existing sidewalk, demolish half the width, or enough to maintain a remaining three-foot sidewalk width. On cross-streets/alleys where there is no existing sidewalk width, take three feet on either side of road to create space for new flow-through planters.

Edges: Curb is broken every eight feet to allow storm water to enter flow-through planters from the street.



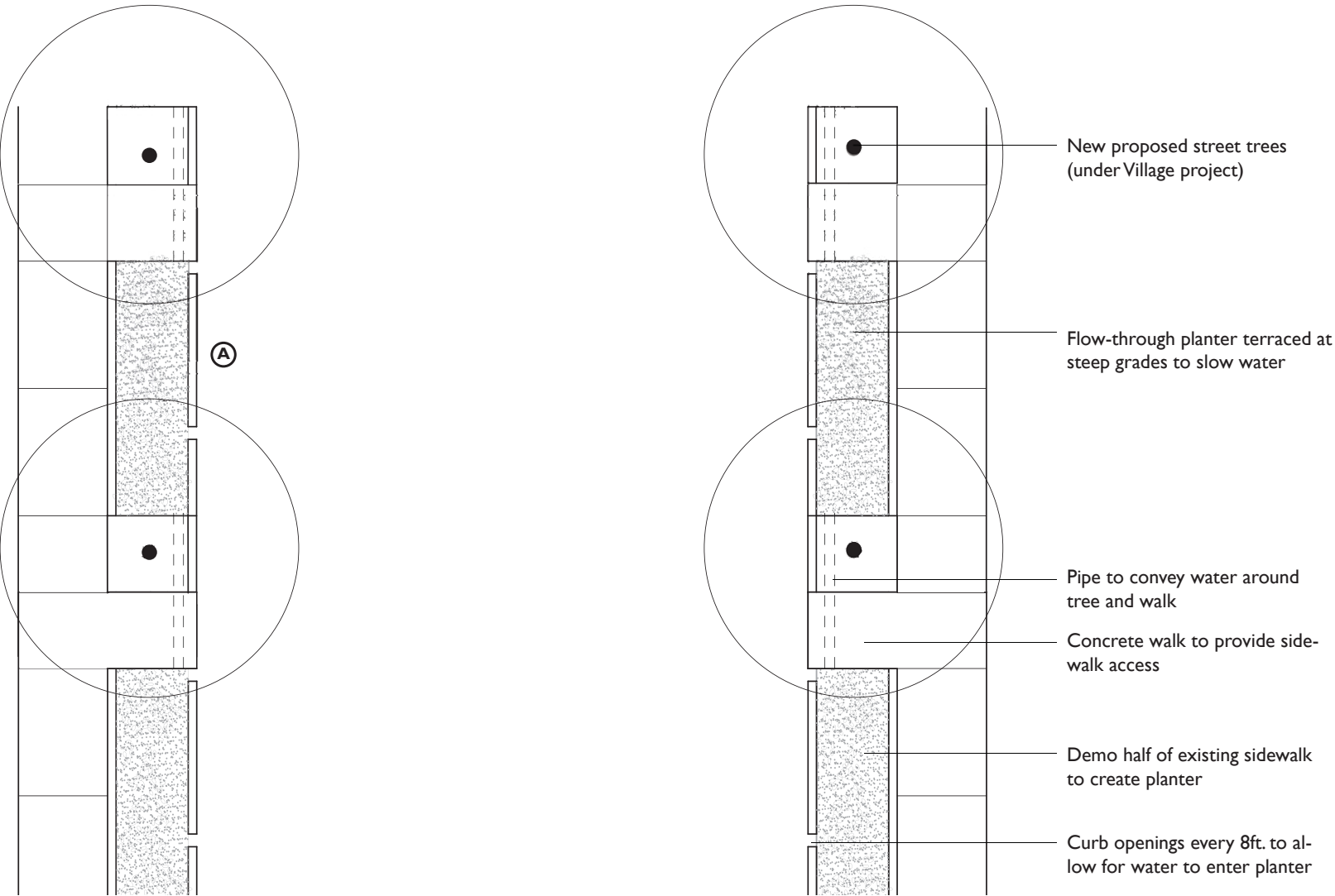
Village Conveyance

Conveyance Flow-through planters

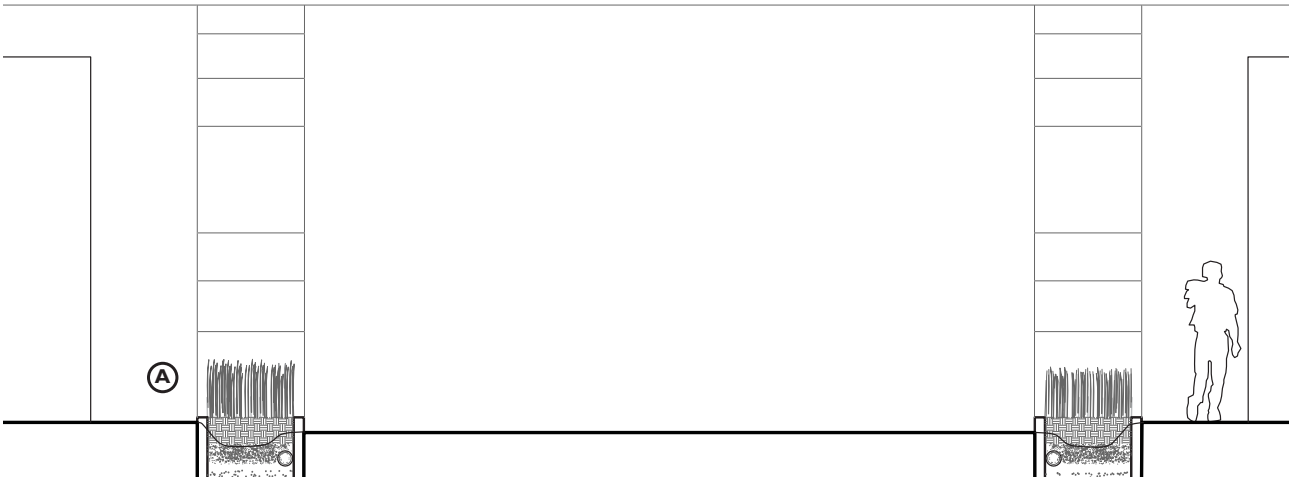
Planting Design

- Ⓐ Flow-through Planters Groundcover
Specifications: Prepare soil for bioswale, seed at 15 lb per acre.
Species: Retention Basin Wildlife Seed Mix* [ERNMX-127]

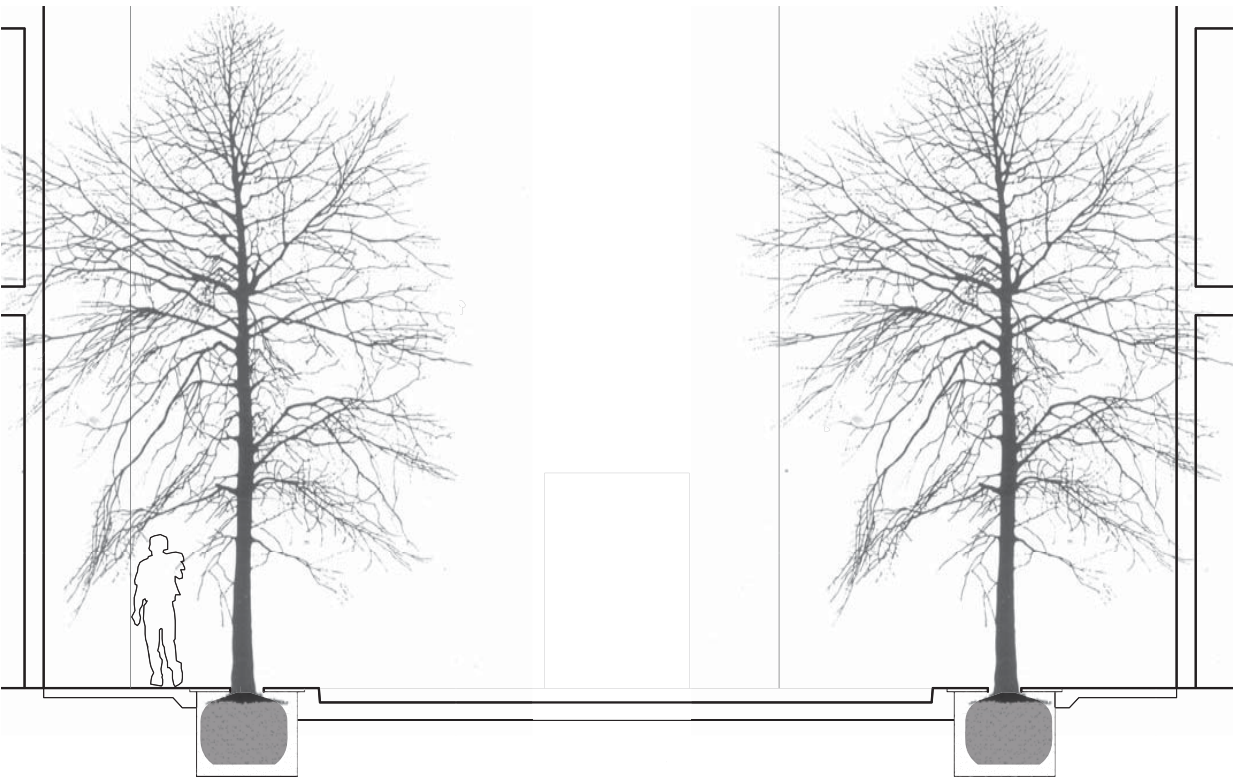
* See Pages 115-116 in Appendix A for full plant lists of seed mixes.



Plan Diagram - Flow-through planter and street trees for Centre Avenue cross streets (sloping)
Scale: 1/8" = 1'-0"



Flow-through planters for Centre Avenue cross streets
Scale: 1/8" = 1'-0"



Street trees for Centre Avenue cross streets planted in structural soil
Scale: 1/8" = 1'-0"



CHAUNCEY COAL MINE SEAM

Water seepage from the abandoned Coal Mine Seam at the Chauncey Stair appears to pose a sign of health hazard, due to the presence of acid mine water in similar locations in the Hill. Contaminated water emerges as surface run-off, with no current mitigation strategy in place. To help address this issue, adjacent to the Chauncey Street Stair, a series of stepped terraces help slow and detain water to allow greater infiltration into the soil, thus improving the ability for plants and sediments to clean the water passively. At the bottom of the Chauncey Steps, the water is held in two sculpted bioswales flanking the path as it extends to Centre Avenue.

Where the hillside traverses north and increases in slope, there are problems with subsidence due to the instability of the coal seam. Here, a series of gabion walls assist in stabilizing the soil, and also create terraced depressions in which to catch and clean water.

In these bioswale/rain garden areas, plantings have been specified that have been known to perform well to remediate the soil and water in the Pittsburgh area where coal mine seepage is a problem.

Site Development

Walls: Five concrete retaining walls with weep holes terrace the hillside adjacent to the Chauncey Street Stairway. Gabion walls, made from rectangular block units of wire-mesh encased rock, run along the hillside between the Chauncey and Junilla Stairways.

Edges: Three-inch concrete bands separate bioswale grading and planting from adjacent landscape.

Planting Design

- Ⓐ

Trees parallel to bioswales

Specifications: Staggered 30’ O.C. parallel to bioswales & gabion walls.

Species: Silver Maple [Acer saccharinum]
Bitternut Hickory [Carya cordiformis]
Yellow Buckeye [Aesculus octandra]
- Ⓑ

Shrub & Tree Understory Parallel to Bioswales

Specifications: Staggered 20’ O.C. parallel to bioswales & gabion walls.

Species: Serviceberry [Amelanchier canadensis]
Eastern Redbud [Cercis canadensis]
Buttonbush [Cephalanthus occidentalis]
Grey Dogwood, PA Ecotype [Cornus racemosa, PA Eco-type]
Lowbush blueberry [Vaccinium angustifolium]
Willow-leaved Spice Bush [Lindera glauca var. salicifolia]
Witch Hazel [Hamamelis virginiana]
Winterberry [Ilex verticillata]
Black Chokeberry [Aronia melanocarpa]
- Ⓒ

Groundcover for Hillside Bioswale Plantings

Specifications: Clear invasive understory plants, prepare soil for bioswale, seed at 15 lb per acre.

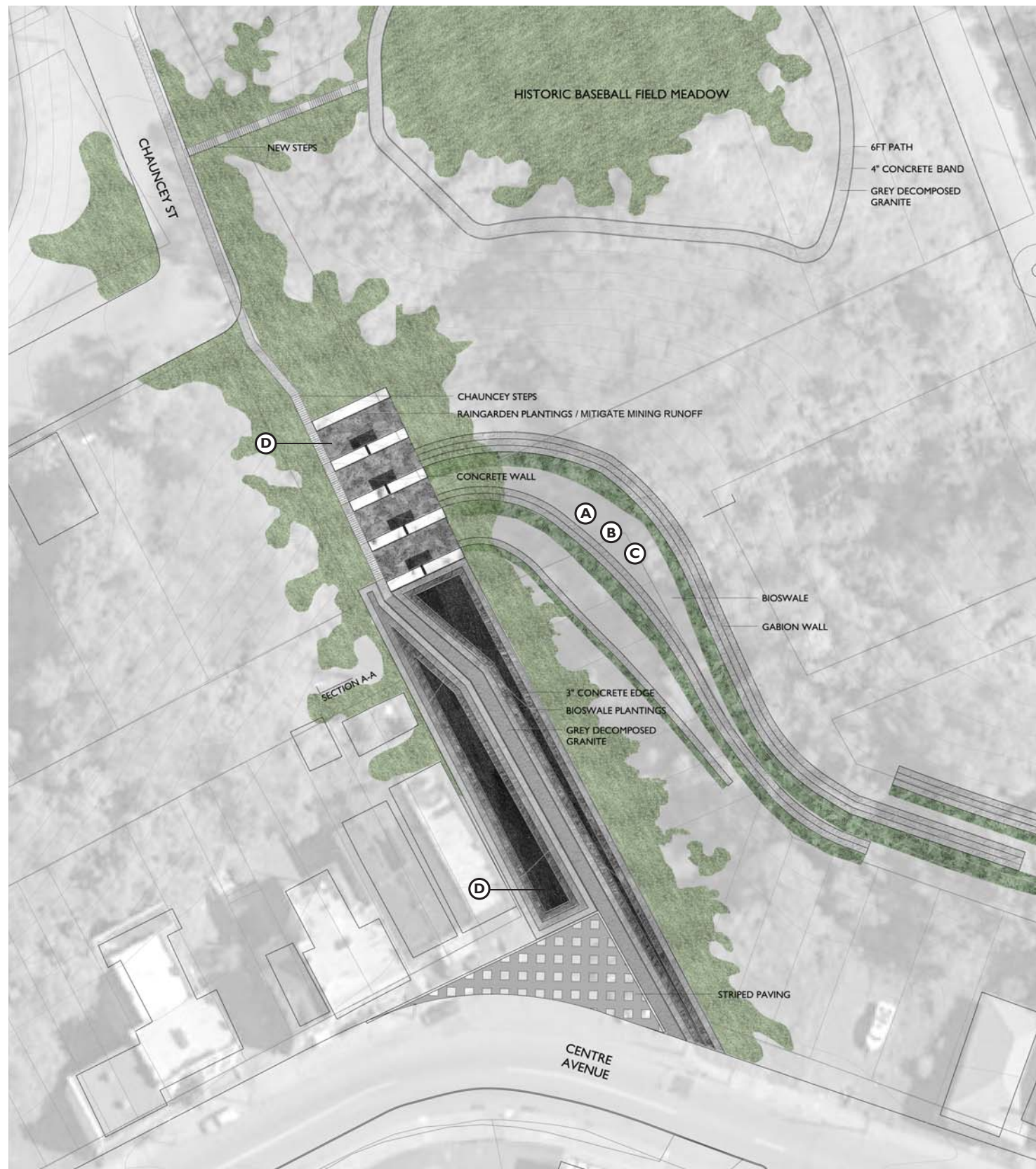
Species: FACW Wetland Meadow Seed Mix* [ERNMX-122]
- Ⓓ

Groundcover for Stepped Staircase & Chancy Raingardens

Specifications: Clear invasive understory plants, till remaining weeds into soil, prepare soil for raingarden, seed at 15 lb per acre.

Species: Passive Acid Mine OBL Wetland Mix* [ERNMX-176]

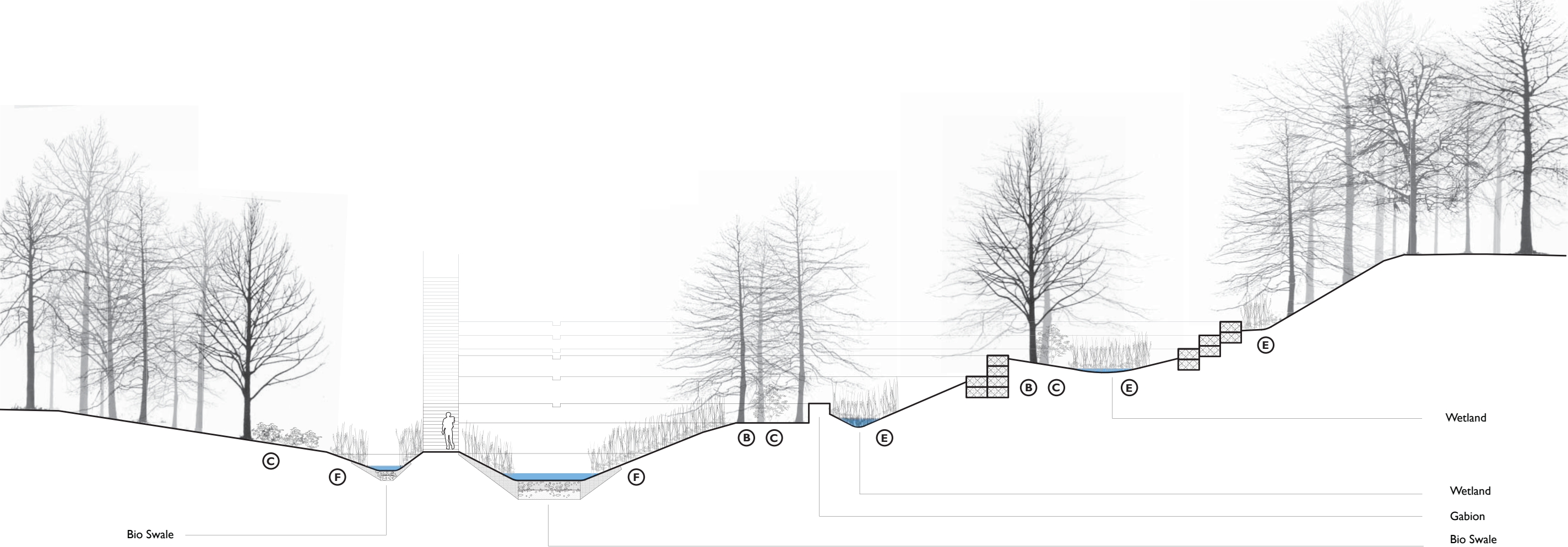
* See Pages 115-116 in Appendix A for full plant lists of seed mixes.



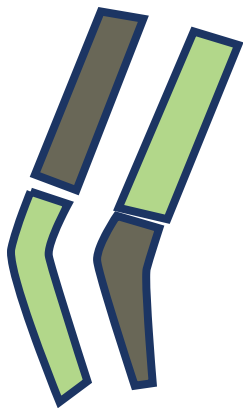
Chauncey Street Stair



Junilla Street Stair



Chauncey Street Stair and Bioswales



HERRON AVENUE THERMAL CORRIDOR

Herron Avenue is a key circulation corridor through the Hill District, connecting Lawrenceville and the Strip District with Centre Avenue in the Hill. Herron Avenue cuts through part of the coal seam and lies at an elevational low point in the surrounding topography. The presence of ground and surface water characterizes the landscape of this circulation corridor. It has been found that geo-thermal could be a viable source of energy for new and existing development. The proposal suggests future development that is characterized by performative landscape edges and commercial/economic development. The landscape design incorporates large, formal bioswale/raingardens to mitigate the presence of acid groundwater seeping from the Coal Seam. Future development is proposed without setbacks to create a distinct, contrasting urban edge on the opposite side of the street from the bioswales. Along this suggested built edge, flow-through planters occupy the space between the sidewalk and roadway, mitigating storm water run-off from the roadway.

Site Development

Paving: Create new flow-through planter by demolishing three feet of concrete sidewalk next to the roadway. Edge with concrete curbs with openings every eight feet to let in water.

Site Engineering: Grade landform within bioswales. Along Herron Avenue next to bioswales (across from suggested new development), place pipe every 20 feet under sidewalk to convey storm water to bioswales.

Walls: Terraced concrete seating above bioswale at Ossipee Street.

Planting Design

- A** Trees on Heron Ave.

Specifications: 40' O.C. along right-of-way edges without existing trees.

Under Utility Lines - West Side

Species: Hackberry [Celtis occidentalis]
Hawthorne [Crataegus pennsylvanica]
Serviceberry [Amelanchier canadensis]

Without Utility Lines - East Side

Species: Sycamore [Platanus occidentalis]
Silver Maple [Acer saccharinum]
Bitternut Hickory [Carya cordiformis]
Yellow Buckeye [Aesculus octandra]
- B** Flow-through Planters Groundcover

Specifications: Prepare soil for bioswale, seed at 15 lb per acre.

Species: Retention Basin Wildlife Seed Mix* [ERNMX-127]
- C** Raingarden Sidewalk Edge Perennials & Shrubs

Specifications: Perennials & shrubs in mass plantings, spacing varies by species.

Species: Lowbush blueberry [Vaccinium angustifolium]
Great Blue Lobelia [Lobelia siphilitica L.]
Ironweed [Vernonia fasciculata]
Gateway Joe-Pye-weed [Eupatorium Maculatum]
Sneezeweed [Helenium Autumnale]
Eastern Purple Cone Flower [Echinacea Purpurea]
Baptisia [Baptisia australis]
- D** Raingarden Hillside Edge Shrubs

Specifications: Shrubs in group plantings in zone parallel to bio-swale, spacing varies by species.

Species: Buttonbush [Cephalanthus occidentalis]
Ninebark [Physocarpus opulifolius]
Willow-leaved Spice Bush [Lindera glauca var. salicifolia]
Witch Hazel [Hamamelis virginiana]
Winterberry [Ilex verticillata]
Black Chokeberry [Aronia melanocarpa]
Eastern Redbud [Cercis canadensis]
- E** Perennials & Groundcover for Raingarden Bioswale

Specifications: Till existing lawn and weeds into soil, seed at 15 lb per acre.

Species: Rain Garden Mix* [ERNMX-180]
- F** Groundcover for Hillsides

Specifications: Clear invasive understory plants, till remaining weeds into soil, seed at 15 lb per acre.

Species: Wildlife Food and Shelter Mix [ERNMX-138]

* See Pages 115-116 in Appendix A for full plant lists of seed mixes.



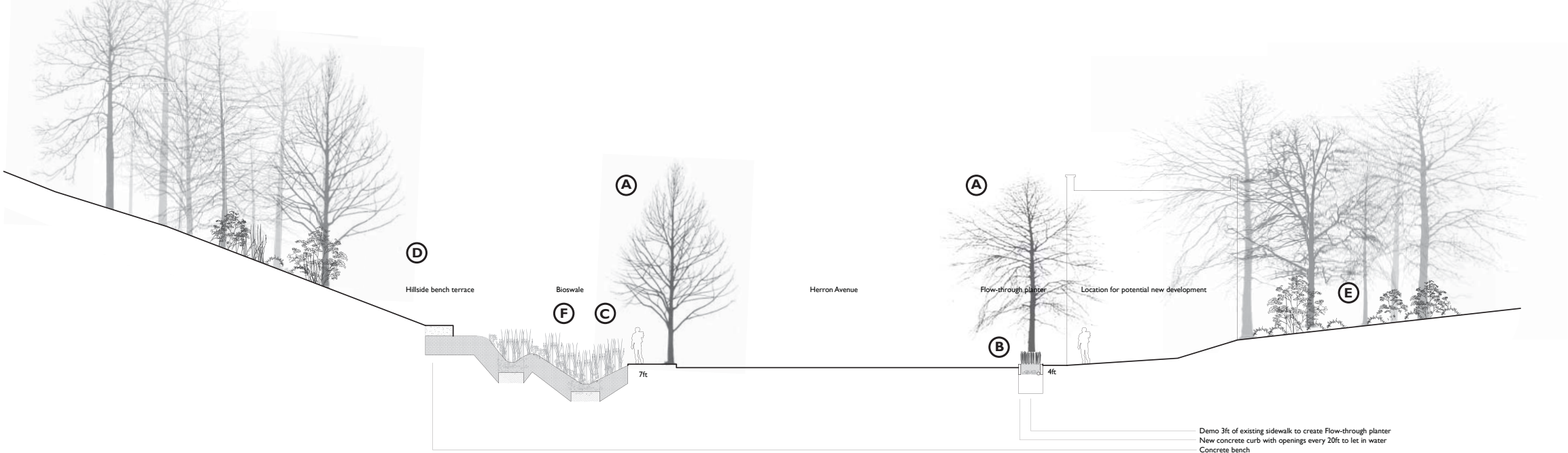
Herron Avenue at Milwaukee Street



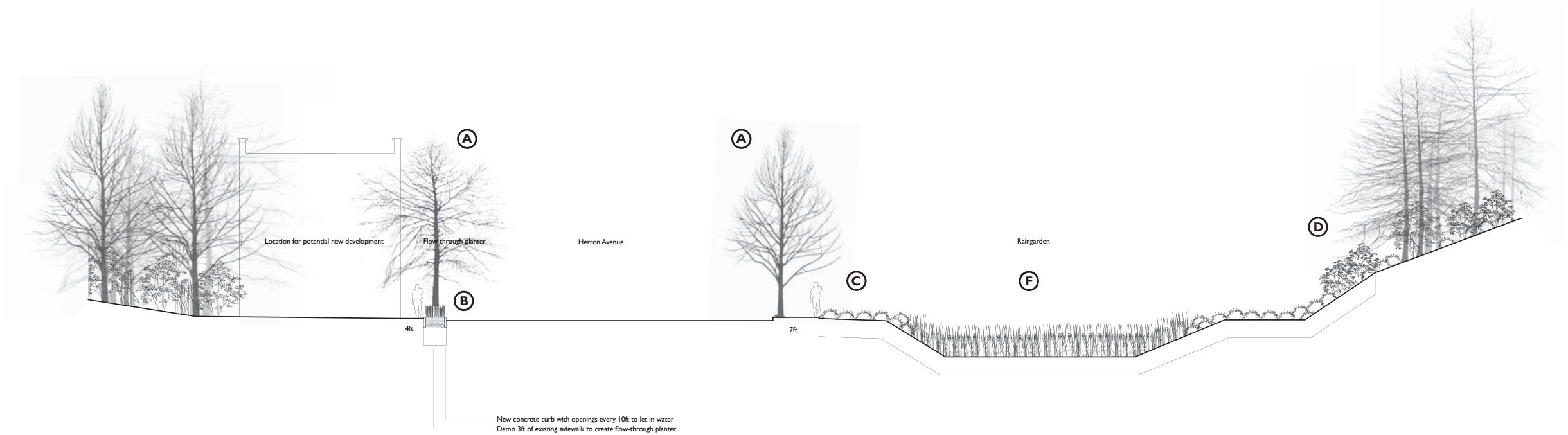
Herron Avenue between Ossipee Street and Centre Avenue

CONVEYANCE

HERRON AVENUE THERMAL CORRIDOR



Section Detail A-A - Herron Avenue Raingarden/Bioswale and Flow-through Planter



Section Detail B-B - Herron Avenue Raingarden/Bioswale and Flow-through Planter



MEMORY LANE HOUSING RAINGARDEN

The raingardens stretching from Memory Lane and the Coal Seam trailhead down Whiteside Road create a softened, riparian edge between the Memory Lane townhomes and Ammon Playground. The new raingarden enmeshes with adjacent woods on the northern hillside, running diverse woods ecology through a site that is currently characterized by homogeneous landscape plantings.

Site Development

Site Engineering: Grade landform within raingarden.

Planting Design

- A

Raingarden Edge Shrubs

Specifications: Shrubs in group plantings in zone parallel to bioswale, spacing varies by species.

Species: Buttonbush [Cephalanthus occidentalis]
Ninebark [Physocarpus opulifolius]
Lowbush blueberry [Vaccinium angustifolium]
Willow-leaved Spice Bush [Lindera glauca var. salicifolia]
Witch Hazel [Hamamelis virginiana]
Winterberry [Ilex verticillata]
Black Chokeberry [Aronia melanocarpa]
- B

Perennials & Groundcover for Raingraden Bioswale

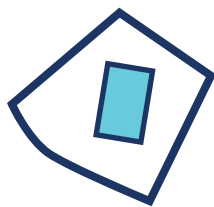
Specifications: Till existing lawn and weeds into soil, seed at 15 lb per acre.

Species: Rain Garden Mix* [ERNMX-180]

* See Pages 115-116 in Appendix A for full plant lists of seed mixes.



Memory Lane Raingarden



HERRON HILL RESERVOIR AT WILLIAMS PARK

A new public space is created at the top of Herron Hill Reservoir in Williams Park, the highest elevation in the Hill. A new diverse wetland is planted atop the hill, where visitors can walk along and through on wood boardwalks. This new conveyance landscape takes advantage of existing panoramic views of the Hill and greater Pittsburgh. Wetland plantings are composed as formal rectangular fields within the pool of water, maintaining surface water quality through passive cleaning.

Site Development

- Site Engineering:

The existing reservoir cap is replaced with a new false cap which allows water and plantings to be visible as the cover.
- Paving:

A crushed limestone path traverses the reservoir north-south, while two wood plank boardwalk paths traverse east-west.

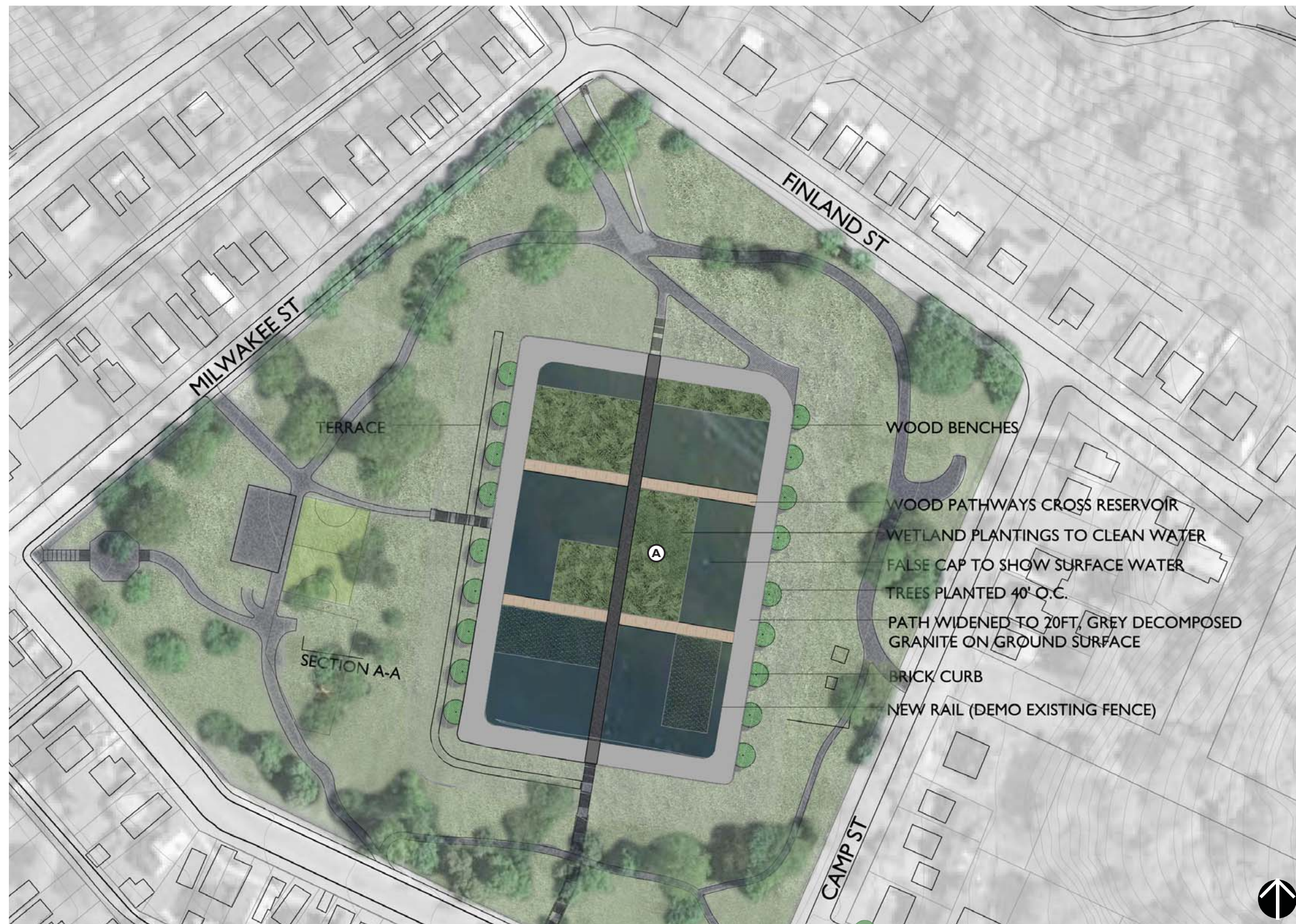
Planting Design

- Ⓐ

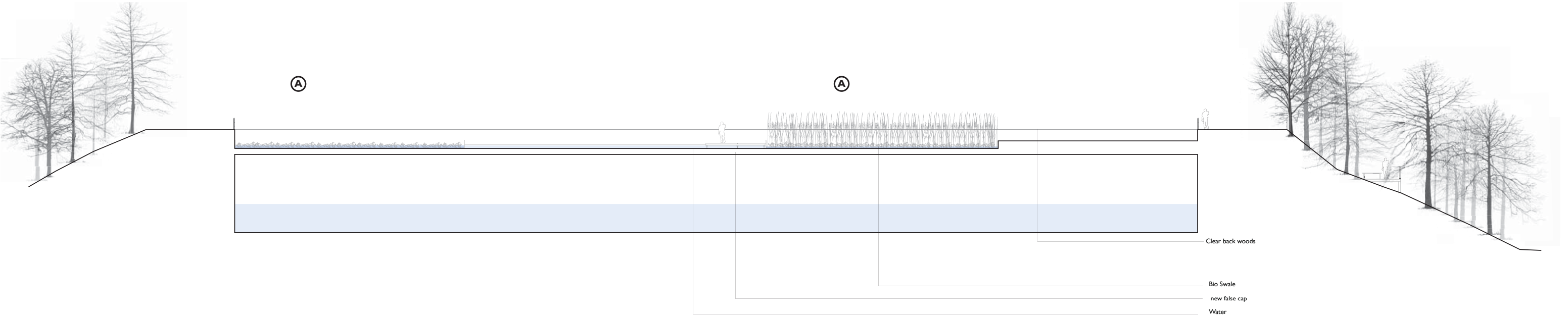
Reservoir Cap Wetlands

Specifications: Aquatic Perennials in mass plantings, spacing varies by species; moisture levels varied between planting cap areas.

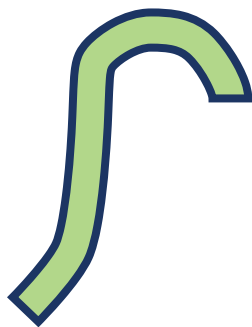
Species: Graceful Cattail [Typha laxmannii]
Dwarf Cattail [Typha minima]
Rough Horsetail [Equisetum hyemale]
Yellow Flag [Iris pseudacorus]
Siberian Iris [Iris sibirica ‘Steve’]
Yellow Skunk Cabbage [Lysichiton americanus]
Sacred Lotus [Nelumbo nucifera]
Golden Club [Orontium Aquaticum]
Virginalis Waterlily [Nymphaea ‘Virginalis’]
Bog Arum [Calla Palustris]



New Herron Hill Reservoir Wetland



Section Detail A-A - Herron Hill Reservoir Wetland



MARTIN LUTHER KING FIELD WETLANDS

A new Wetland is created at the base of the hillside encircling MLK Field. The Wetland encircles the entire baseball field, extending down to the Wyandotte Stair. The new raingarden enmeshes with the field with adjacent woods on the northern hillside, creating a wild riparian edge and improving habitat, which maintaining visibility and safety.

Site Development

Site Engineering: Grade landform within wetland.

Planting Design

- A

Raingarden Edge Shrubs

Specifications: Shrubs in group plantings in 15' zone between bio-swale and hillside, spacing varies by species 12'- 3' O.C..

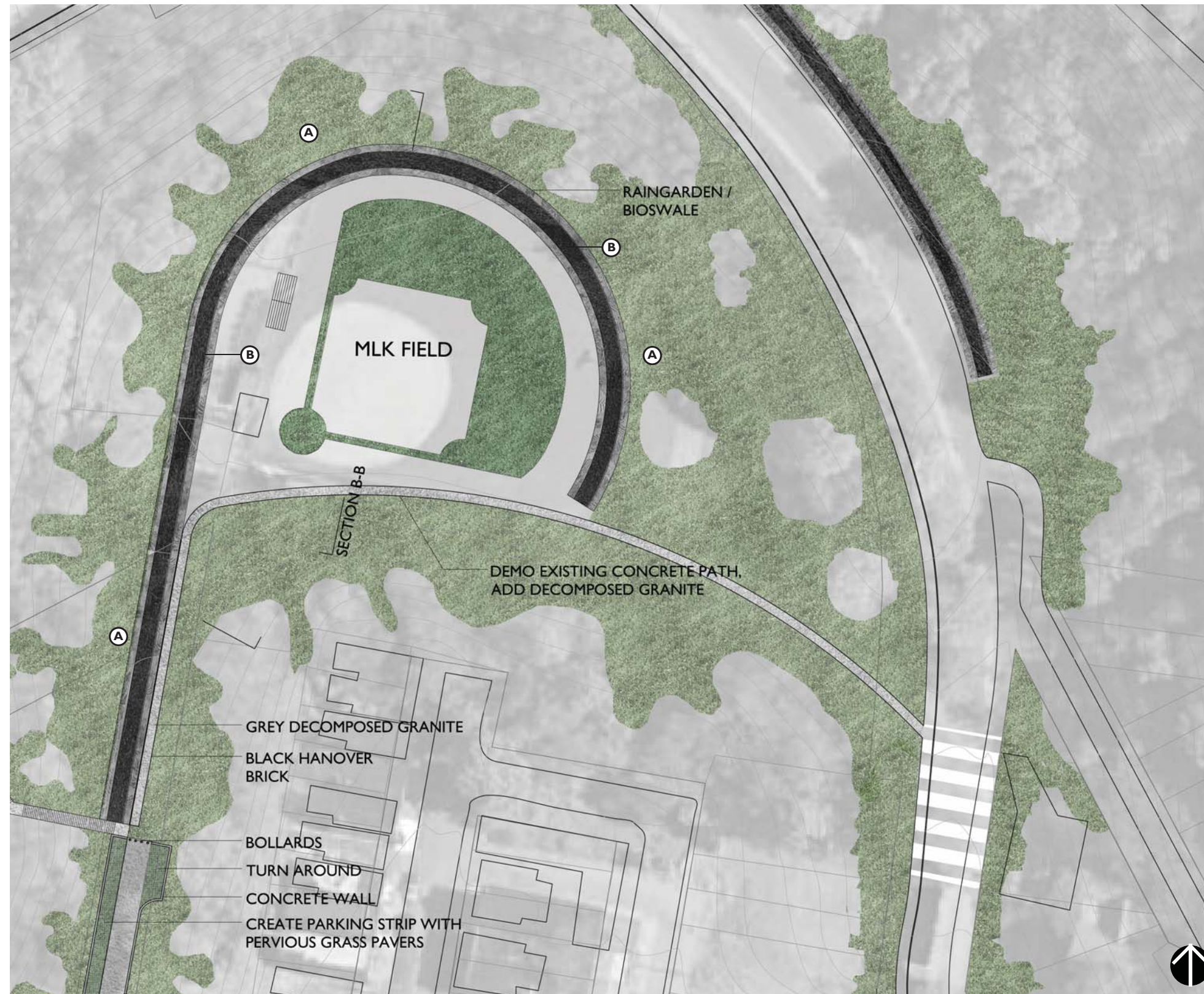
Species: Buttonbush [Cephalanthus occidentalis]
Silky Dogwood [Cornus amomum]
Ninebark [Physocarpus opulifolius]
Grey Dogwood, PA Ecotype [Cornus racemosa, PA Eco-type]
Lowbush blueberry [Vaccinium angustifolium]
Willow-leaved Spice Bush [Lindera glauca var. salicifolia]
Witch Hazel [Hamamelis virginiana]
Winterberry [Ilex verticillata]
Black Chokeberry [Aronia melanocarpa]
- B

Perennials & Groundcover for Raingraden Bioswale

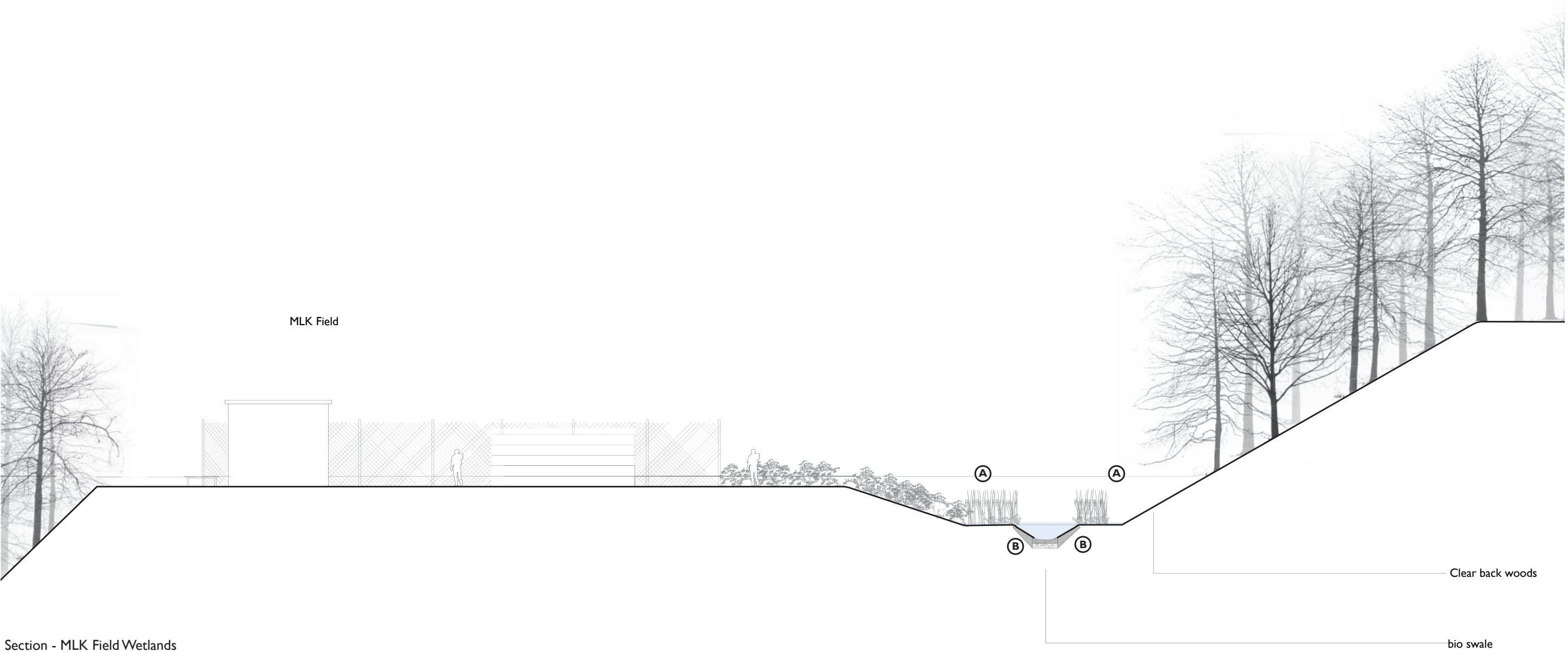
Specifications: Clear invasive understory plants, till remaining weeds into soil, seed at 15 lb per acre.

Species: Rain Garden Mix* [ERNMX-180]

* See Pages 115-116 in Appendix A for full plant lists of seed mixes.



Martin Luther King Field Wetlands and Bioswale





ADDISON TERRACE STORM WATER GARDENS

The new Addison Terrace Storm Water Gardens improve the landscape between dense multi-family housing, while capturing, slowing, and cleaning rainwater run-off that is currently diverted by a small concrete culvert. The gardens enmesh with adjacent woods on the northern hillside, bringing the diverse ecology of the woods through the spaces in-between housing units. New plantings are selected species that are low enough to maintain visibility and a sense of safety.

Site Development

- Site Engineering: Grade landform within storm water gardens.
- Walls: Low concrete check dam walls, typical detail.
- Paving: Extend existing concrete pathways across new storm water gardens.

Planting Design

- Ⓐ Raingarden Edge Shrubs & Perennials

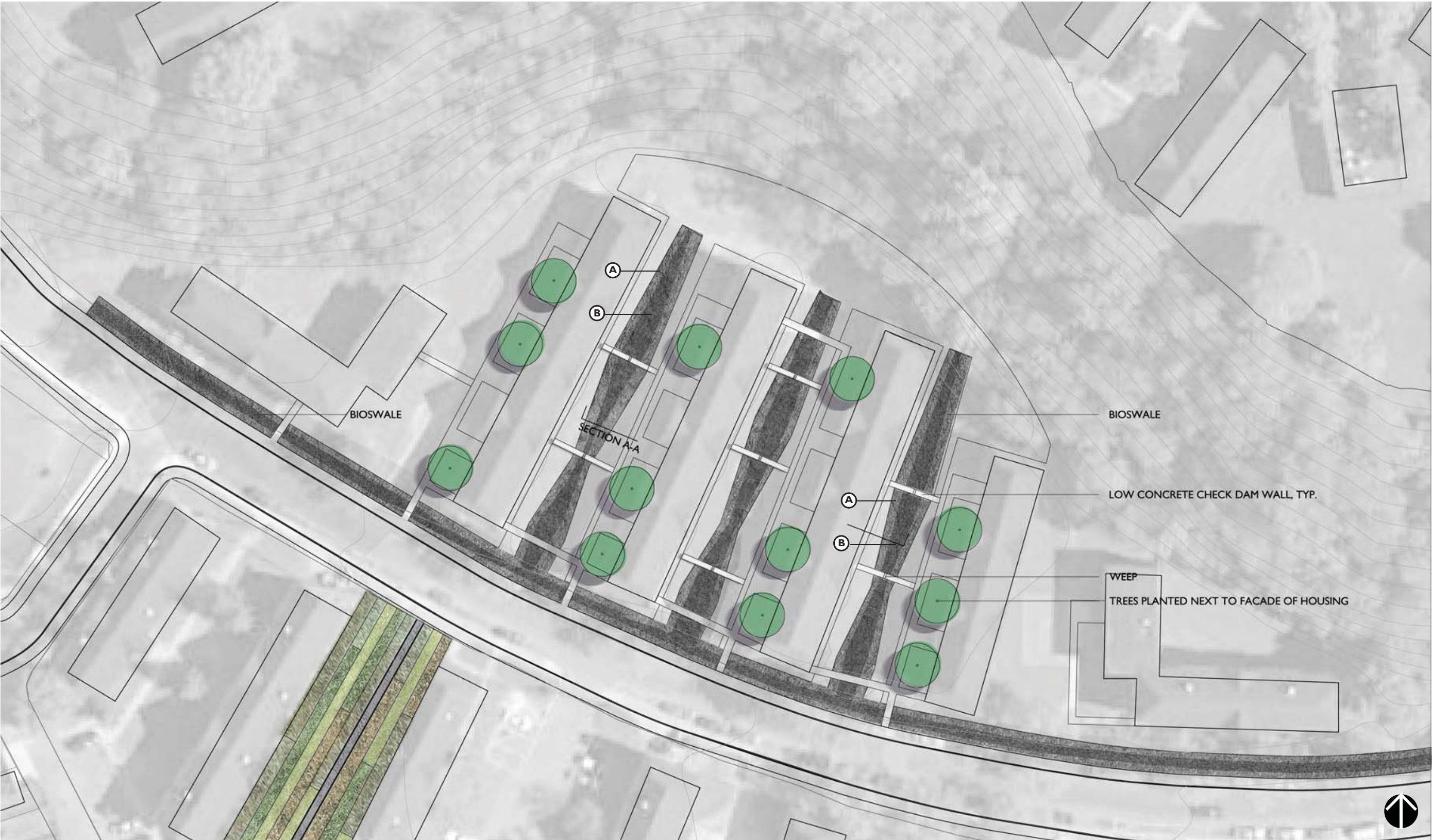
Specifications: Shrubs in group plantings in 10' zone parallel to bioswales between buildings, spacing varies by species 6'- 2' O.C..

Species: Black Chokeberry [Aronia melanocarpa]
Lowbush blueberry [Vaccinium angustifolium]
Great Blue Lobelia [Lobelia siphilitica L.]
Gateway Joe-Pye-weed [Eupatorium Maculatum]
Eastern Purple Cone Flower [Echinacea Purpurea]
Bottle Gentian [Gentiana andrewsii]
Swamp Milkweed [Asclepias incarnata]
- Ⓑ Perennials & Groundcover for Raingraden Bioswale

Specifications:Till lawn and weeds into soil, seed at 15 lb per acre.

Species: Rain Garden Mix* [ERNMX-180]

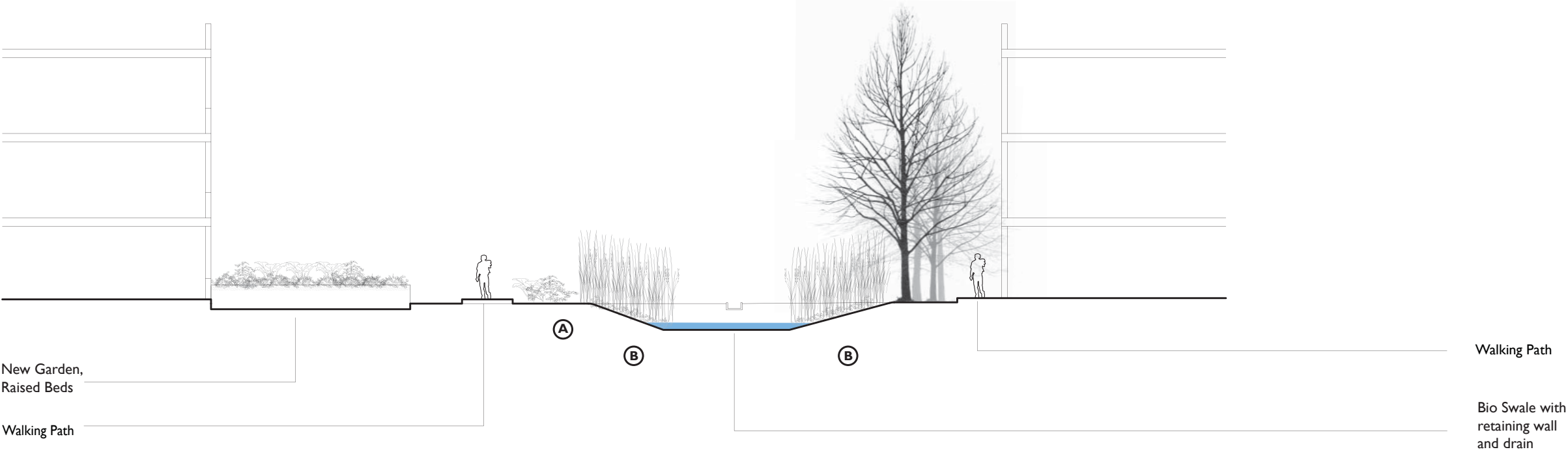
* See Pages 115-116 in Appendix A for full plant lists of seed mixes.



Addison Terrace Raingardens/Bioswales

CONVEYANCE

ADDISON TERRACE STORM WATER GARDENS



Plant Seed Mix Lists

Showy Northeast Native Wildflower Mix [ERNMX-153-1] Species List:

Native northeastern wildflowers with wide variety of flowering perennials suitable for hillside meadows

- 12% Ohio Spiderwort, IA Ecotype (Tradescantia ohiensis, IA Ecotype)
- 12% Tall White Beard Tongue, PA Ecotype (Penstemon digitalis, PA Ecotype)
- 12% Golden Alexanders (Zizia aurea)
- 10% Wild Bergamot (Monarda fistulosa)
- 8% Wild Senna, VA & WV Ecotype (Senna hebecarpa (Cassia h.), VA & WV Ecotype)
- 8% Blue False Indigo, S WV Ecotype (Baptisia australis, S WV Ecotype)
- 8% Partridge Pea, PA Ecotype (Chamaecrista fasciculata (Cassia f.), PA Ecotype)
- 6% Grass Leaved Goldenrod, PA Ecotype (Euthamia graminifolia (Solidago g.), PA Ecotype)
- 5% Black Eyed Susan, CP NC Ecotype (Rudbeckia hirta, CP NC Ecotype)
- 5% Marsh (Dense) Blazing Star (Spiked Gayfeather) (Liatris spicata)
- 4% Maryland Senna (Senna marilandica (Cassia m.))
- 3% Whorled Rosinweed (Silphium trifoliatum)
- 3% Smooth Blue Aster, NY Ecotype (Aster laevis (Symphyotrichum laeve), NY Ecotype)
- 2% Early Goldenrod, PA Ecotype (Solidago juncea, PA Ecotype)
- 2% New England Aster, PA Ecotype (Aster novae-angliae (Symphyotrichum n.), PA Ecotype)

Midwest Forbs Seed Mix [ERNMX-145] Species List:

Simpler wildflower mix with mostly yellow flowering perennials suitable for hillside meadows

- 30% Partridge Pea, PA Ecotype (Chamaecrista fasciculata (Cassia f.), PA Ecotype)
- 30% Plains Coreopsis (Coreopsis tinctoria)
- 16% Black Eyed Susan, CP NC Ecotype (Rudbeckia hirta, CP NC Ecotype)
- 16% Illinois Bundleflower (Desmanthus illinoensis)
- 8% Grey Headed Coneflower, OH Ecotype (Ratibida pinnata, OH Ecotype)

Low-Growing Wildflower/Grass Seed Mix [ERNMX-156] Species List:

Low-growing grass and wildflower mix for hillside meadows

- 54% Sheep Fescue, Variety Not Stated (Festuca ovina, Variety Not Stated)
- 17% Annual Ryegrass (Lolium multiflorum (L. perenne var. italicum))
- 6% Lance Leaved Coreopsis, CP NC Ecotype (Coreopsis lanceolata, CP NC Ecotype)
- 5% Blue Chicory (Cichorium intybus)
- 5% Partridge Pea, PA Ecotype (Chamaecrista fasciculata (Cassia f.), PA Ecotype)
- 4% Ox Eye Daisy (Chrysanthemum leucanthemum)
- 4% Black Eyed Susan, CP NC Ecotype (Rudbeckia hirta, CP NC Ecotype)
- 3% Corn Poppy, Red (Papaver rhoeas, Red)
- 1% Common Yarrow (Achillea millefolium)
- 1% Plains Coreopsis (Coreopsis tinctoria)

FACW Wetland Meadow Seed Mix [ERNMX-122] Species List:

Mix of sedge, grasses and perennial wildflowers suitable for wet meadows and bioswales

- 21% Fox Sedge, PA Ecotype (Carex vulpinoidea, PA Ecotype)
- 21% Virginia Wild Rye, PA Ecotype (Elymus virginicus, PA Ecotype)
- 10% Blunt Broom Sedge, PA Ecotype (Carex scoparia, PA Ecotype)
- 8% Lurid (Shallow) Sedge, PA Ecotype (Carex lurida, PA Ecotype)
- 5% Soft Rush (Juncus effusus)
- 4% Blue Vervain (Verbena hastata)
- 3% Green Bulrush, PA Ecotype (Scirpus atrovirens, PA Ecotype)
- 3% Square Stemmed Monkey Flower, PA Ecotype (Mimulus ringens, PA Ecotype)
- 2% Hop Sedge, PA Ecotype (Carex lupulina, PA Ecotype)
- 2% Grass Leaved Goldenrod, PA Ecotype (Euthamia graminifolia (Solidago g.), PA Ecotype)
- 2% Cosmos (Bristly) Sedge, PA Ecotype (Carex comosa, PA Ecotype)
- 2% Common Sneezeweed (Helenium autumnale)
- 2% Golden Alexanders (Zizia aurea)
- 2% Many Leaved Bulrush, PA Ecotype (Scirpus polyphyllus, PA Ecotype)
- 1% Seedbox, PA Ecotype (Ludwigia alternifolia, PA Ecotype)
- 1% Purple Stemmed Aster, PA Ecotype (Aster puniceus (Symphyotrichum puniceum), PA Ecotype)
- 1% Swamp Milkweed, PA Ecotype (Asclepias incarnata, PA Ecotype)
- 1% Flat Topped White Aster, PA Ecotype (Aster umbellatus (Doellingeria umbellata), PA Ecotype)
- 1% Zigzag Aster, PA Ecotype (Aster prenanthoides (Symphyotrichum p.), PA Ecotype)
- 1% New England Aster, PA Ecotype (Aster novae-angliae (Symphyotrichum n.), PA Ecotype)
- 1% New York Ironweed, PA Ecotype (Vernonia noveboracensis, PA Ecotype)
- 1% Great Blue Lobelia, PA Ecotype (Lobelia siphilitica, PA Ecotype)
- 1% Rough Avena, PA Ecotype (Geum laciniatum, PA Ecotype)
- 1% Boneset, PA Ecotype (Eupatorium perfoliatum, PA Ecotype)
- 1% Joe Pye Weed, PA Ecotype (Eupatorium fistulosum, PA Ecotype)
- 1% Awl Sedge, PA Ecotype (Carex stipata, PA Ecotype)
- 1% Woolgrass, PA Ecotype (Scirpus cyperinus, PA Ecotype)

Rain Garden Mix [ERNMX-180] Species List:

- Mix of Grasses and perennial wildflowers suitable for raingardens
- 22% Little Bluestem, FIG PA Ecotype (Schizachyrium scoparium, FIG PA Ecotype)
 - 14% River Oats, PA/VA Ecotype blend (Chasmanthium latifolium, PA/VA Ecotype blend)
 - 10% Riverbank Wild Rye, PA Ecotype (Elymus riparius, PA Ecotype)
 - 5% Black Eyed Susan, CP NC Ecotype (Rudbeckia hirta, CP NC Ecotype)
 - 5% Marsh (Dense) Blazing Star (Spiked Gayfeather) (Liatris spicata)
 - 5% Purple Coneflower (Echinacea purpurea)
 - 5% Fox Sedge, PA Ecotype (Carex vulpinoidea, PA Ecotype)
 - 5% Squarrose Sedge,VA Ecotype (Carex squarrosa,VA Ecotype)
 - 4% Wild Senna, VA & WV Ecotype (Senna hebecarpa (Cassia h.), VA & WV Ecotype)
 - 4% Tall White Beard Tongue, PA Ecotype (Penstemon digitalis, PA Ecotype)
 - 3% Golden Alexanders (Zizia aurea)
 - 2% Lance Leaved Coreopsis, CP NC Ecotype (Coreopsis lanceolata,CP NC Ecotype)
 - 2% Blue Vervain (Verbena hastata)
 - 2% Swamp Milkweed,WI Ecotype (Asclepias incarnata,WI Ecotype)
 - 2% Purple Bergamot, PA Ecotype (Monarda media, PA Ecotype)
 - 2% Blue False Indigo, S WV Ecotype (Baptisia australis, S WV Ecotype)
 - 2% New England Aster, PA Ecotype (Aster novae-angliae (Symphyotrichum n.), PA Ecotype)
 - 2% Big Bluestem, ‘Niagara’ (Andropogon gerardii, ‘Niagara’)
 - 2% Ohio Spiderwort, IA Ecotype (Tradescantia ohiensis, IA Ecotype)
 - 1% Rough Avens, PA Ecotype (Geum laciniatum, PA Ecotype)
 - 1% Autumn Bentgrass, APB (Agrostis perennans, APB)

Passive Acid Mine OBL Wetland Mix [ERNMX-176] Species List:

- Wetland mix designed for passive acid-mine-drainage mitigation
- 25% Fox Sedge, PA Ecotype (Carex vulpinoidea, PA Ecotype)
 - 20% Virginia Wild Rye, PA Ecotype (Elymus virginicus, PA Ecotype)
 - 8% Lurid (Shallow) Sedge, PA Ecotype (Carex lurida, PA Ecotype)
 - 8% Soft Rush (Juncus effusus)
 - 6% Green Bulrush, PA Ecotype (Scirpus atrovirens, PA Ecotype)
 - 5% Giant Bur Reed, PA Ecotype (Sparganium eurycarpum, PA Ecotype)
 - 5% Blunt Broom Sedge, PA Ecotype (Carex scoparia, PA Ecotype)
 - 5% Woolgrass, PA Ecotype (Scirpus cyperinus, PA Ecotype)
 - 4% Fringed (Nodding) Sedge, PA Ecotype (Carex crinita, PA Ecotype)
 - 3% Cosmos (Bristly) Sedge, PA Ecotype (Carex comosa, PA Ecotype)
 - 3% Inflated Sedge, PA Ecotype (Carex vesicaria, PA Ecotype)
 - 3% Ticklegrass (Rough Bentgrass), PA Ecotype (Agrostis scabra, PA Ecotype)
 - 3% Autumn Bentgrass, APB (Agrostis perennans, APB)
 - 1% Bailey’s Sedge, PA Ecotype (Carex baileyi, PA Ecotype)
 - 1% Awl Sedge, PA Ecotype (Carex stipata, PA Ecotype)

Wildlife Food and Shelter Mix [ERNMX-138] Species List:

- Mix of sedges and shrubs for suitable for wetlands and bioswale edges
- 22% Fox Sedge, PA Ecotype (Carex vulpinoidea, PA Ecotype)
 - 15% Riverbank Wild Rye, PA Ecotype (Elymus riparius, PA Ecotype)
 - 10% Silky Dogwood (Cornus amomum)
 - 10% Lurid (Shallow) Sedge, PA Ecotype (Carex lurida, PA Ecotype)
 - 10% Grey Dogwood, PA Ecotype (Cornus racemosa, PA Ecotype)
 - 7% Blunt Broom Sedge, PA Ecotype (Carex scoparia, PA Ecotype)
 - 5% Hop Sedge, PA Ecotype (Carex lupulina, PA Ecotype)
 - 5% Buttonbush (Cephalanthus occidentalis)
 - 3% Hercules’ Club, PA Ecotype (Aralia spinosa, PA Ecotype)
 - 3% Winterberry, PA Ecotype (Ilex verticillata, PA Ecotype)
 - 2% Arrow Wood (Viburnum dentatum)
 - 2% Awl Sedge, PA Ecotype (Carex stipata, PA Ecotype)
 - 2% Swamp Rose, PA Ecotype (Rosa palustris, PA Ecotype)
 - 1% Meadow Sweet, PA Ecotype (Spiraea alba, PA Ecotype)
 - 1% Highbush Blueberry, PA Ecotype (Vaccinium corymbosum, PA Ecotype)
 - 1% Steeple Bush, PA Ecotype (Spiraea tomentosa, PA Ecotype)
 - 1% Cosmos (Bristly) Sedge, PA Ecotype (Carex comosa, PA Ecotype)

Seed mixes specified from Ernst Conservation Seeds. Ernst Seeds specializes in native and naturalized seeds and plant material of Eastern North American ecotypes, cleaned and tested to U.S. standards. Ernst Conservation Seeds supplies the highest quality seeds, mixes, and bioengineering products for restoration, reclamation, and conservation applications.

www.ernstseed.com
(800) 873-3321
(814) 336-2404
9006 Mercer Pike
Meadville, PA 16335



Find the Rivers! Hill District Greenprint – “Woods; Village; Conveyance”

Focus Groups (#1): Steps

Date/time: February 18th, 9 a.m.

Location: One Hope Square

Attendance: Mike White (Deputy Director, Parks and Recreation); Harry Johnson (Councilman Daniel Lavelle), Terri Baltimore (*FTR!*), Denys Candy (*FTR!*), Chelsea Johnson (Hood Design), Christine Brill (Studio for Spatial Practice).

Summary:

Introduction: Denys Candy

Overview of Greenprint Concept – Woods, Village, Conveyance

We view Greenprint as the framework into which Master Plan fits.

Q and A

Chelsea Johnson: City Steps in Context

Overview: We propose to complete schematic designs for up to 7 sets of steps – by June.

GOAL: Collaborative design process; potential for public art, leading to ideas and potential re-building partners.

Conversation

Steps connections to other neighborhoods will be key.

We should have geographic spread among the seven steps selected for initial interest. E. g. Lower, middle, upper Hill.

Think of the steps as a civic space – involve neighbors and artists. (For example, Southside). Steps could become destinations – not just a pass through place. Opportunities for views; places to highlight geography. Fits with Planning Forum theme – “Come home to the Hill.” Tell the neighborhood story in the landscape. Out of town folk – “Let’s go see the Hill steps.” Each set expresses the local character of part of the City and the Hill and serves as a neighborhood anchor.

Steps as landmarks – close to significant places. E.g. If there are steps adjacent to August Wilson house – celebrate history and literature on the steps.

Steps to Bigelow are important external connectors – can then connect to Polish Hill steps.



Bentley Drive – steps and connections/new entrance to Kennard field (and potential link to Eliza Furnace trail) important.

Some steps are being tended to informally – which ones? Can we support what is already going on. Examples include Chauncey Street, Lombard Street and Alequippa Street extension.

Kennard Field: potential link along the slope above to Oak Hill – in some places we may look to make new connections – steps or pathways.

How many of the thirty plus current steps are viable? How many are still relevant? Which ones will we let “rest in peace.” Where do we need them? Where might we need new steps? (E.g. Oak Hill to Kennard field.)

Undergraduate engineering students – assessing City Steps – will present data; a research asset for us.

Visibility is important: Centre Avenue to Schenley Heights, for example, with adjacent steps across Centre leading to the VA hospital and Pitt upper campus. This is a potential Hill/Oakland gateway.

Visibility is not the only issue – beauty too. E.g. elegant steps on Bigelow. Render them more visible.

Accessibility – how do we address it?

Links to City’s transportation plan, Hill bus loop (Hill House EDC) and Ship of Zion (van transportation for underserved routes to jobs. Service run by Grace Memorial Church).

How will we select? A matrix? Potential criteria – use levels/ cultural issues/proximity to issues/ daily use etc.

March 4th: Opportunity to gat a bus and go to look at steps with residents.

Seven sets were tentatively identified:

- Bigelow Connection at Bedford/Kirkpatrick (McCormack Baron/HACP site)
- Chauncey Street to Centre Avenue
- Alequippa St. Extension from Bentley Drive
- Lombard Street (pair)
- Schenley Heights (near hotel on Bigelow)
- Williams Park area – series of steps leading to Bigelow,
- “Hill/Oakland Gateway”- Centre at the VA and Pitt upper campus . Both sides of Centre (to Schenley Heights and the VA,
- Shawnee Street (gently sloping steps by the Minersville Cemetery)
- Connections to Herron / Bigelow underpass
- Bigelow near Bloomfield Bridge?



Further Thoughts on selection criteria:

Activity levels,

Cultural or aesthetic value (stone and other materials),

Geographic diversity - balance N, S E, W,

Connectivity – to markets and important buildings or places

Thursday February 18, 2010

2 p.m.

Meeting with Engineering students from Pitt (4) and Laura Lund (Engineering faculty), Susan Rademacher, Sophia Hodari, Christine Brill, Chelsea Johnson, Terri Baltimore, Denys Candy

Students will conduct a project to assess how steps can connect Hill residents to their surroundings.

Goal: Assess which stairs give most benefit:

Location and condition,

Cost for Repairs,

Discussion

Students will focus on three stairs – perhaps one could be internal and two external?

Students will pick from the above list – three sets of steps

Suggestions: Chauncy/Centre; Bigelow; Bentley/Allequippa; +2

Laura Lund will appraise Terri of progress and the team will have the opportunity to review the students’ work and incorporate it as appropriate.



Find the Rivers! Hill District Greenprint – “Woods; Village; Conveyance”

Focus Groups (#1): Woods

Date/time: February 18th, 2010, 3.30 p.m.

Location: One Hope Square, 1901 Centre Avenue.

Attendance: Jeff Bergman (Tree-Vitalize), Danielle Crumrine (Friends of the Urban Forest), Christine Brill, Sapiya Hodari (SSP), Sheldon Goettel (Architect on Oak Hill project);Chelsea Johnson, Robert Bouden (Crawford Square), Von Singletary, W. J. Perry (Landslide Community Farm), Terri Baltimore, Denys Candy (*FTR!*)

Summary:

Introductions: Denys introduced the Greenprint – The Hill District- A Village in the Woods and underlined our intention for the Greenprint as the “frame” for the Master Plan.

Greenprint Context: Chelsea

- Emphasize threshold between village and woods,
- Use planting to enmesh open spaces with surrounding green,
- Thicken the boundary of the Hill by expanding the woods,
- Create formal planting strategies to connect Hill to adjacent communities.

Discussion:

Management and maintenance protocol will be crucial – advocate to the City to manage trees beyond street trees.

Zero public dollars currently available.

Coal seam – species that may thrive in coal seam – reclamation methods.

Invasive species – big issue. Difficult. Solutions – goats; burning; three-year spray cycle.

Resources: Tom Baxter – Friends of the Riverfront – FofR have run into it a lot.

John Buck – consultant – Civil and Environmental Engineers.

Friends of the Urban Forest (FUF): Currently growing 13, 000 seedlings. Interested in developing a tree farm. (Including reclamation trees)

Woods – promoting green businesses and entrepreneurship – does a tree nursery fit in the woods or more in the village (or threshold)?



Nursery needs: To start – one acre; access to water; room for a small structure, lots of sun, neighbors who would act as stewards.

Issue- views: some people want to take out trees to open up views. Village has few trees – so gaps can be left in the street tree network to leave views open. Vacancy leaves more possibilities. Proper site assessment can resolve numerous issues.

Identify the top internal and external views (E.g. Valleys; river view-sheds) – assess how to draw them out as assets.

Street Trees: Treevitalize application process: Talk to Jeff Bergman at Treevitalize,, City arborist Lisa Cheoffe then assesses the land; neighbors sign up to maintain the trees. After award: close assessment – site for each tree, taking all local details into account. Trees are picked individually for each spot. First application: 25, then 50 then 100. Application for Fall ’10 – March 26. (Walk-through before then – flexibility due to weather).

Build on existing work in the Hill – E.g. Cliff Street.

Visibility important – Centre Avenue. (Businesses as tree tenders)

Woods above Landslide farm- new woods. Formerly 70 houses destroyed by landslide in 1960’s (mines and hill-top development are suspected); collapse of fungi and other nutrients. Lots of rapidly growing invasive weeds. Invasive species co-exist with healthy trees and help hold the hillside together; large animal population (salamander to deer). During thaw and heavy rain – visible water making its way to the Monongahela. This area is one of the biggest “green bands” of woodlands in the Hill. High value and opportunity – woods; landslide farm; business and personal investment in Oak Hill – lots of important elements. Potential for woods, trails, steps.

Potential eligibility for DCNR PA Greenways funds.

Oak Hill Master Plan: Re-alignment of central road artery. Oak Hill built in 1940’s – internalized street patterns (isolated) – seen as transitional. Current goal – re-organize streets to re-make external connections as Oak Hill Drive. It will have 4 story apartment building s and town houses.

At the edge –Burrows Street – drop in scale; single family houses; maintain views. Less dense – “open canopy; open views” series of framed views between houses. Idea is to have the edge belong to the whole community not just one street. Sheldon Goetel (architect) will share the drawing and we will incorporate it.



Find the Rivers! Hill District Greenprint – “Woods; Village; Conveyance”

Focus Groups (#1): Public Space

Date/time: February 19th, 2010, 9 a.m.

Location: One Hope Square, 1901 Centre Avenue

Attendance: Mary Kellers (McCormack Baron Salizar),Claire Shoyer (Landslide Farm),Harry Johnson (Office of Councilman Daniel Lavelle), Denys Candy (*FTR!*), Chelsea Johnson (Hood Design), Christine Brill (Studio for Spatial Practice).

Summary

Introduction: Denys Candy. Background on the Greenprint and yesterday’s work on Woods/ Green Edges and Stairs.

Context: Chelsea Johnson

Item – tributaries. Are we talking about visible tributaries? Issue for further discussion and study.

E.g. Significant water flows after rainfall from Oak Hill in vicinity of Landslde Farm.

Goal: A new civic landscape in the village- a civic design project. Schematic design for targeted site,

Ideally, the civic space will reinforce the experience of the Hill as a Village in the Woods.

We want to locate the civic space in the village. May include gathering, lighting, public art, furnishings etc.

Discussion

Locations and Activities:

- Five way intersection at Centre/Kirkpatrick – behind Victory Center – between Centre and Wylie- across from Weil School. Currently owned by City and URA – Hallet/Soho streets. Current site of Green-Up lot. Topography challenges seem to preclude commercial development (parking and other issues) so it might be good for a civic space. Probably under-mined.

This five way intersection has the “energy of a marketplace” (albeit illegal activity). Can we transform it to a market place of positive ideas, products etc?

- Former site of teen activity near Wylie that was closed – can it be re-opened?
- Lower Hill – Wylie and Webster will be re-connected as the street grid is extended toward Downtown.
- Ujamaa Collective- Building with green and open space. Centre Avenue.



Ujamaa – range of local products; opportunities for emerging entrepreneur; showcase talents and goods and make income. Cooperative partnership with Landslide Farm related to food. Ujamaa currently in discussions with the URA about site and design.

Why is the Civic space a priority in the Greenprint?

Research Needed: Set-backs etc. of planned buildings (Ujamaa/ new YMCA) – so we can see what spaces we might augment. McCormack Baron has a lot of data they are willing to share.

Uses of a civic space: Multi-generational recreation, games (chess) ; outdoor performances.

Model: Washington Square (Manhattan) on a smaller scale.

Include somewhere to buy food and eat lunch.

Bedford Overlook (McCormack Baron): Public safety issues. Hanging out, vandalism – fence for playground, residents complain that kids run there at 3 a.m. How do we address public safety issues?

We need a youth- friendly civic space. Not enough currently for youth – ask them what they want.

Locate the civic space in the commercial district –more eyes on the street.

Programming and maintenance- who are the stewards?

Denys – What about Walter’s “archetypes” – “the thief” etc? The idea is to make a space in which lots of different types of people can rub shoulders.

Site: adjacent to the YMCA (E. of it) between the YMCA and Storefront at Centre/Kirkpatrick.

Space adjacent to New Grenada – at one time there was a plan for infill development on that site.

Research needed (SfSP) – footprints for plans in various stages of development.

Look beyond Centre: What about Wylie and other places? Wylie is very close to Centre in several places. E.g. vacant lot adjacent to Crawford Grill (privately owned). Add the civic space to / near Crawford Grill – celebrated jazz/ literature/ art and music. Crawford Grill investors as important stewards.

Legacy has 2000 sq ft of retail across from Crawford Grill near Elmore. Legacy and Crawford Grill as stewards? Also maybe connect to public art behind library on Wylie/Kirkpatrick. On-street parking to encourage walking around.

Considerable interest in potential opportunity near the Crawford Grill on Wylie.

Next Steps: Denys to set up meeting for local team and Crawford Grill investors; Local team to get property ownership and site related data. NOTE: Focus has since shifted to Centre Ave. – the street – as the civic space.



Find the Rivers! Hill District Greenprint – “Woods; Village; Conveyance”

Hill Planning Forum: Woods, Village, Public Space

Date/time: February 19th, 2010, 11.30 a.m.

Location: One Hope Square

Attendance: Carl Redwood, Bonnie Laing (Hill Planning Forum), Chelsea Johnson, Denys Candy, Christine Brill, Susan Rademacher (Greenprint Team).

Summary:

Introduction and briefing: Denys and Chelsea

Discussion:

Carl: Most important thing – making sure the Greenprint is the frame for the Master Plan. The Master Plan “has a lot of moving parts.” Planning Forum has a Master Plan committee with sub-committees – land use and housing both currently active.

Most important issues: Master Plan Committee of the Planning Forum needs to approve Greenprint Phase One (and later Phase two). Not everyone may see the natural environment as important.

Other committees: CBA Steering Committee; Management Committee

Carl: It has taken years of education by *Find the Rivers!* “More of see the value of the natural landscape than before.”

What should we be doing to make sure of Master Plan integration?

Bonnie: Spell out the Greenprint implications of each Master Plan component – E.g. Market Analysis; Housing; Economic development; Education – establish Greenprint principles for each area. Get it to CH planning.

Issue: Critical lack of play space in the neighborhood.

Look to public/private partnerships. Wylie Avenue – talk to Macedonia Baptist. They have done a conceptual plan for Wylie Avenue (Perkins Eastman). *Find the Rivers!* has ongoing conversations with their developer, Jack Johnson.

Organize a knotweed festival.

Offer specific information on our three themes to the Master Plan Committee.



Addison Terrace will be re-developed – may be the largest development tract. It is in the woods – wee will need to educate residents and HACP.

Take the Greenprint into schools .

Civic Space – water feature.

Potential for green space within the Lower Hill – explore this.

Get summary of current Greenprint work to Planning Forum for Consensus Group newsletter (with pictures).

Carl: Community decision- making (not just input) is an issue – Greenprint has been very good on this.

Master Plan management meeting: WED 25th – 4pm – 6 pm One Hope Square (last WED of every month).

Incorporate principles identified by Planning Forum

Housing – make sure it expands woods and places to play that are and safe- setback from street etc.



Find the Rivers! Hill District Greenprint – “Woods; Village; Conveyance”

March 20, 2010, 10 a.m. to 1 p.m. One Hope Square, 1901 Centre Avenue

Greenprint Focus Group, Village Public Spaces; City Steps; Woods and Plantings

Village: Task-Specific Notes (Studio for Spatial Practice):

1. Identify **stops** (multimodal) –
Places where people are coming and arriving/staying/waiting along Centre Ave. (between the Hill House and Chauncey Steps).
 - School Bus Stop(s):
 - Centre Ave at Heldman St (in front of Kaufmann Center)
 - Centre Ave at Soho St (in front of Weil School)
 - Public Bus Stop(s):
 - Centre Ave at Heldman St (in front of Kaufmann Center)
 - Centre Ave just west of Dinwiddie St (in front of Hill House and Triangle Shops)
 - Centre Ave just east of Devillers St (across from Police Station, Westbound only)
 - Centre Ave at Addison (in front of Legacy Apts and New YMCA)
 - Centre Ave at Elmore (in front of Legacy Apts and New YMCA)
 - Centre Ave at Kirkpatrick (Five Point Intersection)
 - Centre Ave at Soho St (in front of Weil School)
 - Centre Ave at Chauncey St (in front of Chauncey St stairs, Westbound only)
 - Centre Ave at La Place St (in front of Sunoco Gas Station, Eastbound only)
 - Jitney Stop(s):
 - There used to be a cab stand at Centre Ave and Kirkpatrick St. When the formal business shut down, that general area became a well-known location for Jitney pick-ups.
 - Today, most people walk to Fifth Ave and Dinwiddie St for a Jitney or call a cab for a pick up at a specific time and place.
 - Car Stop(s):
 - Traffic Stop(s):
 - Centre Ave at Dinwiddie St and Devillers St (Five Point Intersection, in front of Family Dollar and Police Station)
 - Centre Ave at Kirkpatrick St (Five Point Intersection, in front of Carnegie Library Hill District Branch)
 - Centre Ave at Soho St (Four-way stop intersection, Stop sign)
 - Crosswalk Light Stop(s):
 - Centre Ave at Green St (in front of Hill House and Triangle Shops; Cars must yield to pedestrians in crosswalk)
 - Informal Pedestrian Crossing(s):
 - Centre Ave just west of Kirkpatrick St (in front of Carnegie Library Hill District Branch; People often cross here exactly where the street bends)



- Centre Ave at Chauncey St (in front of Chauncey St stairs and Sunoco Gas Station; There is a lot of pedestrian activity in this area back and forth across Centre Ave, but rarely stops vehicular traffic)
 - Parking Stop(s):
 - Parking Lots:
 - Centre Ave at Green St-Triangle Shops Parking Lot
 - Centre Ave at Dinwiddie St-Family Dollar/One Hope Square Parking Lot
 - Centre Ave at Devillers St-Police Station No. 2 Parking Lot
 - Centre Ave at Grove St-House of Crossroads Treatment Center Parking Lot
 - Centre Ave at Grove St-In vacant lot adjacent to Centre Ave Hall
 - Centre Ave at Kirkpatrick St-Central Baptist Church Academy Parking Lot
 - Centre Ave at La Place St-Weil Accelerated Learning Center Parking Lot
 - Centre Ave at Chauncey St-Sunoco Parking Lot and informal parking at bottom of Chauncey St stair
 - Other parking: There is free on-street parking along this entire portion of Centre Avenue. It's a "park at your own risk kind of thing," says one lifelong Hill District Resident.
 - Bike Stop(s):
 - There is one bike rack in front of the Carnegie Library Hill District Branch.
2. Identify **doorways** –
Places where people convene to socialize.
- Institutions:
 - Centre Ave between Heldman St and Green St-in front of Kaufmann Center and Hill House
 - Centre Ave at Soho St-in front of Weil Accelerated Learning Center
 - Retail:
 - Centre Ave at Green St-in front of Triangle Shops
 - Here, people buy/sell miscellaneous items, wait for friends, talk to people going in and out of the shops, gather before/after Hill House events, wait for buses, hang out.
 - Centre Ave at Erin St-in Pastry/Barber Shops
 - Here, many people often seen waiting on the stoop of the Barber Shop or just in front of the doorway
 - Centre Ave at just west of Kirkpatrick St-in front of Carnegie Library Hill District Branch and Convenient Store across the street
 - Centre Ave at Chauncey and La Place St-in front of Sunoco and Tire Shop
3. Identify **corners** –
Places where people convene to socialize.
- Centre Ave at Erin St-On most occasions, there are at least 5-6 men on this corner (in front of the Pastry/Barber Shop). It is near a bus stop, so there is lots of activity. Many



- focus group members identified this corner as having negativity energy because of the presumed activities that occur here. It is directly across the street from a building that served as an Obama Campaign Headquarters for Pittsburgh. The building's owner is said to be very determined to sell it.
- Centre Ave at Kirkpatrick St-This corner has a lot of history, but now seems to possess the same negative energy as Centre Ave and Erin St, according to many focus group members. They also noted that the intersection of Centre Ave and Elmore St is a secondary corner for illicit activity.
4. Identify **alleys/crossroads** –
Alleys are physical and social paths of movement. Places between important destinations – i.e. paths residents take from housing down to Centre Ave
- Primary Streets:
 - Both vehicles and pedestrians use all perpendicular streets that lead to Centre Ave. Focus group members noted Kirkpatrick St as a major thoroughfare in and out of the Hill District
 - Secondary Streets:
 - Pedestrians use all perpendicular streets that lead to Centre Ave, particularly the cobblestone streets at Elmore and Addison, which lead to the Addison Terrace Housing Project to the south and often serve as broad sidewalks.
 - Pathways/Short-cuts/Vacant Lots:
 - As evident on the Google aerial map, pedestrians cut through most vacant lots to get to Centre Ave. Key locations include:
 - From Heldman St and Rose St to Centre Ave and Green St
 - From Wylie St and Davenport St to Centre Ave between Grove St and Calliope Way
 - From Hemans St and Elmore St to Centre Ave between Elmore St and Kirkpatrick St

Centre Avenue -General Notes:

- One focus group member described the area between Green St. (in front of the Hill House and the Triangle Shops) and The New Granada Theater as "a whole plaza." This section of Centre Ave where the street bends is often full of people crossing back and forth. There is a lot of positive energy at this Five Point intersection because of the Hill House community activities, Triangle Shops and Family Dollar commercial activities, entrepreneurial ventures, and the sense of safety that the police station presumably provides. Also, the statue at the intersection of Centre Ave and Dinwiddie St. is by Thad Moseley, a loved Hill District sculptor. Some focus group participants identified the parking lot behind the police station as an ideal local for a public plaza and a space for kids.
- This aforementioned plaza space is also noted for its historic significance. The New Granada Theater used to have a large marquee, making it a beacon in the Hill. It was the only building



There was a lot of interest from local artists wanting to know how they can be part of the revitalization and reinvention of the Hill District's stairways. Where are we making specific recommendations for improvements, with some detail, and where are we just coming up with general improvement guidelines, etc? Hood Design/SfSP should think about places where our work can accommodate future interventions by others and where the design team wants to maintain design control.

Sidney Kaikai from Kimball (on the Master Planning Team) asked for a memo re: issues relating to different stairways. From what Sidney tells us, Charnelle Hicks tasked Kimball with Greenprint coordination. It appears that this is their primary scope of work so they are looking for engineering tasks. Sidney was very interested in finding specific tasks/projects that they can hone in on. Kimball has civil engineers, so they could be very useful in relation to the Chauncey Street restoration/remediation effort, for example. They could also help with stair improvements, and with elements proposed for the Centre Avenue civic space. They also could be very useful for thinking about storm water strategies.

The interconnectedness of the stairs was emphasized and recognized as being important, and the idea of a unique, urban, wooded "loop" (from Greenprint I) around the Hill District reemerged.

Susan Rademacher wants us to include a Calatrava-esque pedestrian crossing at Bigelow Boulevard where the stair used to connect at Ammon Field/Memory Lane. She has also spoken about the idea proposed by *Find the Rivers!* in the Kirkpatrick Street plan of bringing back an incline that leads down to the Strip District.

Woods/ Plantings

A general question that came up is about specificity: where are we making specific recommendations for improvements, with some detail, and where are we just coming up with planting guidelines and developing plant lists for various zones in the neighborhood? We spent a lot of time discussing this and how to prioritize planting efforts. Through discussion we came to a series of tentative conclusions:

- 1) Detailed planting recommendations and early phase improvements should be developed in relation to the plaza and stair interventions and other major circulation corridors. So there is a priority framework of planting areas that really follows conveyance paths. This is where we may actually do a detailed schematic design.
- 2) The rest of the neighborhood could be covered with general plant list recommendations for different zones - hillside, public housing, single family lot housing woods, village streets etc. Susan reported to us that the Friends of the Pittsburgh Urban Forest is looking to do a woodlands assessment and management plan for the entire city which would address all types of woodlands and tree canopy in the city. So from Susan's perspective they can wait and look to this for specific management and restoration recommendations on say wooded hillsides. So for us it means that we can be general and not that specific unless it is something unique to the Hill, or something specific we feel is key to the design.



3) Some on the team think the Herron Avenue corridor should be thought of as a linear park - as opposed to a development corridor. However the stakeholders on Herron want to see development. It makes sense to think about Herron as a green development corridor – less dense than Centre. *FTR!* has encouraged the Herron Avenue Corridor coalition to think about Herron as a “geo-thermal corridor” since John Wesley AME Zion church has a pilot geo-thermal unit running from underground water. PADEP has identified another underground water source near Herron/Bigelow with up to 50,000 gallons an hour flowing.

A related development issue for Herron will be assessing the potential of attracting business from Pitt’s expanding activities (dorms and sports fields) and residences in Oak Hill.

4) Expanding the parks should be a priority (a carry-over from Greenprint I that we haven't talked much about lately).

5) We should consider the public housing sites, particularly the pastoral vacant lot on the north side, as a possible park space.

6) We had a good discussion about storm water with Sidney Kaikai from Kimball. They have some experience locally engineering sidewalk/tree-pit based storm water capture systems (like in Portland.) We discussed having them help us think about two types of storm-water systems. First using sidewalk based systems in the right of way on some key neighborhood streets and second looking at larger capture systems on private parcels in the big conveyance corridor particularly along Herron and Kirkpatrick where there is a lot of room.

7) Denys is organizing a lunch meeting including local tree and planting specialists who were unable to attend Saturday's focus group. SEE APRIL 13th NOTES.

General: Can we find out the status of plans for the overpass to Downtown from the lower Hill?



Find the Rivers! Hill District Greenprint – “Woods; Village; Conveyance”

April 13, 2010, 12.20 p.m. to 2 p.m.

Woods and Plantings Group, Studio for Spatial Practice, Penn Avenue

Matt Erb, Danielle Crumrine, (Friends of the Urban Forest), Jeff Bergman (Treevitalize), Marijke Hecht (Pittsburgh Parks Conservancy), Lisa Coeffe (City Forester)

Greenprint team: Jonathan Kline, Christine Brill, Denys Candy

Lisa: Use a Centre Avenue tree palate to bring Centre Avenue to the fore. Give us (the City) the principles and practices we want to see followed. The City can then insist on them being followed in new developments, such as the new YMCA. Similar templates for Fifth Avenue and other areas would be helpful so that when plantings are requested, the City will follow the Greenprint template. What is the overall schematic for plantings – our vision – that can be applied by the City throughout the Hill?

Elements of the schematic will be set by June, with some guidelines.

Marijke: DCNR book resource – will forward to SfSP

Danielle: City has old soil maps.

Matt: Several generations of plantings can gradually improve the health of the landscape.

Mount Washington plan- review the current plan.

Managing the view shed: Thinning trees to open up views creates an artificial landscape. We have in mind a more varied approach. We want access to view-points but not large scale cutting of trees for views.

Generational issue: Kids and future residents as tree stewards – important connections to schools and youth programs will be needed.

Lisa: have guidelines for each “zone” that the City can follow. E.g. Grocery store review – can include Greenprint guidelines. Tree plantings can then take place in the context of the emerging Greenprint vision.

Lisa: Crawford Square, Schenley Heights (Williams Park) and Uptown are expressing interest in tree-plantings, along with Oak Hill.

Village: Trees along side streets; vertical; string lines; distinct. Connect Wylie to Centre – pull Wylie back into the action.

Centre Avenue: Streets “empty” into Centre.



Mixed street trees. Different pattern – non repetitive pattern. Establish a pattern that relates to the existing buildings. Draw out unique qualities of Centre.

Marijke: Woods – to build comfort with “the woods” – take a small area and demonstrate the potential of the woods. People tend to want a few tall trees and grass, as distinct from woods – can have a scary connotation.

Projects: Radiating street trees at Centre/Kirkpatrick – street trees along the new Centre civic space.

Plantings – where there is current energy- Crawford Square; Schenley Heights etc.

Lisa/Danielle: Management plan for these trees and open spaces? The Greenprint raises longer term organizational and stewardship issues.

Matt: Where to plant – 100 trees can be planted in a vacant lot for every ten street trees. Cost issue.

Lisa- add trees to existing permanent green/open spaces. E.g. Lot behind the library.

Matt: Old stream corridors – mark them with different varieties of trees. A different look/feel for each stream.

Daylight water opportunity- Chauncey Street steps.

Lisa: Potential sites -green “portals”- E.g. Herron Avenue; Gateway near the Bloomfield Bridge – build on existing open space.

Economic development/Jobs: Currently there are not enough contractors to do all of the plantings in the City. How will we link plantings and economic development, especially jobs.

Can we create a program to implement a planting project and have a collaboration with Hill organizations related to a jobs component?

Lisa: Potential for four or five planting projects in the next year.

Lisa: Treevitalize deadline- end of September

Tell us (the City) the neighborhood “hot spots” – where you want us to concentrate or places to avoid.



Find the Rivers! Hill District Greenprint – “Woods; Village; Conveyance”

April 23, 2010, Noon to 2 p.m.

Greenprint Advisory Group, One Hope Square, 1901 Centre Avenue

Sean Brady (Venture Outdoors), Tom Halloran (URA), Danielle Crumrine (Friends of the Urban Forest), Mary Kellers (McCormack Baron Salazar), Bill Generett (Keystone Innovation Zone), Elbert Hatley (Hatley and Associates), Anne Marie Lubenau (Community Design Center),Harry Johnson (Office of Councilman Lavelle), Renee Aldrich (Office of Stat Rep. Jake Wheatley),Annie Rainey (Cliff Street Block Club), Leeretta Payne (Cliff Street Block Club), Daniel Lavelle (City Council), Bonnie Young Laing (Hill District Consensus Group), Sheldon Goettel (PWWG Architects – Oak Hill projects architects),Tracy Myers (Carnegie Museums), Holly Cairns (PADEP),Renee Piechocki (Office of Public Art),Larry Rippel (Photographer), Fiona Cheong (University of Pittsburgh),Von Singletary (Landslide farm), Claire Schoyer (Landslide farm), Christine Bethea (Artist)

FTR! / Greenprint Team: Terri Baltimore, Christine Brill, Denys Candy, Walter Hood

Denys Candy opened the meeting with an overview of key concepts from Greenprint Phase One – the Woods, Village and Conveyance – and said our goal is to propose actionable projects and provide an ecologically healthy framework into which the Hill Master Plan can fit. Denys introduced Walter Hood.

Walter: The Hill District’s real value is in its 1,000 acres of prime land formed by the rivers. When looking to the future, we ask, how do we renew what we have (rather than tearing down to start over)? We find the value in what we have and work from there.

The woods: Amazing trees, biomass, plants and animals, adjacent to the rivers. It can be made more navigable (by removing invasive species, for example) and healthier. The woods are and will continue to be less densely occupied than the village.

The village: What constitutes the village – the more densely occupied part of the Hill? Where will the village begin and end? Centre Avenue acts a kind of living room for the Hill. People are already out on the street. We want to add reasons for more people to be out there.

Conveyance: It is important to look at how people and natural elements move in and through the Hill. We can support additional biological systems to remediate mine water and expose people to healthy wetlands adjacent to steps (E.g. Chauncey Street).

There are seven or more hills in the Hill District – steps and pathways are important ways that people get around.

We want to propose a number of programs and projects in the Greenprint.



Walter “walked” participants past a series of maps and diagrams, work in progress from the Greenprint.

Centre Avenue: An energized street – we can build on that. Wylie is more episodic (quieter in more places) but has energetic connections to Centre at key points.

Stops, Alleys, Corners, Intersections.

We are not proposing a “streetscape” – not the kinds of things you usually see – involving planting trees along Centre. To draw out the existing character of Centre, we look to **stops** (pauses along the street), **alleys** (people come down to Centre Avenue by making their own pathways in some places – an important attribute), **corners** (great places where people embark from and are places to be seen) and doors (where you go into a building – articulate the doorways).

A simple palette was used to change traffic patterns in Manhattan – they went out and painted the street (Broadway). Where people are, we want to put things there. At Centre Avenue, we want to plant most of the trees on the streets *running down into Centre Avenue*. An example is Colwell Way -similar trees on both sides of the streets.

At doorways, we punctuate the street. Every business would have some kind of tile outside leading to the curb. This gives a sort of mosaic as you move down the street. We mark the street with immediate changes. When new buildings come they contribute more to the place but we don’t wait for new development. We start to mark changes right away.

At the 5-corners, where 5 streets come together, we want to paint the street like crosswalks in downtown – the places where people are. We are suggesting blue glass bottle lights at intersections to illuminate the intersections and mark them. We propose a kit of parts that we can apply to all of the street. Over time there might be quality materials used to enhance the environment. Red flags mark jitney stops. We’re suggesting that we dig into the street to see if there are cobblestones where we want people to park. Rumble strips with a historic feel, and visual activity.

There is also a tradition of murals along the sides of buildings – and thinking about August Wilson’s stage sets, we can view buildings as a backdrop. We might be able to do a scrim project – walls next to some of the buildings on “fallow, between” properties. The Venetian scrims... there’s something there. Maybe we want to fill it up, or maybe we don’t? These would suggest that something is going on in the hill... not a passive strategy.

This strategy accepts a) that we build on existing assets, rather than trying to clear land, raze more structures and start over and b) that population density in coming decades will not rise to historic levels. This is important – we are not trying to put the Hill District back as it was, but we are building on its history and the qualities in its land to create a future. This involves people being willing to move beyond fantasies about things returning as they were. We draw on the essential qualities that made and still make the place great and work with those for the future.



Discussion

Anne Marie: This is a timely neighborhood vision that will fit well into the City’s comprehensive open space plan.

Renee: The art scrim project on buildings can have one or more pieces focused on the future.

Leeretta: How far does the village go? Interesting question still in play – at least to Weil School.

Danielle: Greenprint is timely. There is funding for planting. We are trying to plant thousands of trees in this city.

Sheldon: Greenprint is a very good fit for this time and place.

Bonnie: Can we make Centre usable for all – including kids?

Walter: Some parts of Centre may be more adult oriented, with kids’ spaces in other locations along Centre – past Weil school, for example.

Christine Brill: There are many playgrounds but are they used? What kind of shape are they in?

Many are small, in poor condition or taken over by older youth in the evening.

Walter: Rare to see kids in the public realm.

Daniel: Good fit between the Master Plan (Daniel chairs the Master Plan Management Committee) and the Greenprint.

Mary: Use materials that are comfortable for all – accessibility is an issue on cobblestone, for example.

Von: Thank you for a plan that values green and open space. We can’t continue to think only cling to what we were but we need to move to a different future. This is an “Aha!” moment for me.

Walter: It’s a psychological and social issue in many Black communities because each generation builds on a romantic view of the past and it’s sometimes problematic.Sometimes history needs to be brought back especially when it’s taken from you.In many cases there was no healing process after Urban renewal and similar projects.

Planning can be the healing process. We can talk about what was taken away, in the context of moving forward. This has happened in communities across the country. We need to think about planning not being about taking something else away, while staying humble and listening to local people.



April 23, 2010, 4 p.m. to 6 p.m.

Greenprint Community Open House, Store-front and sidewalk Avenue in from of One Hope Square, 1901 Centre Avenue

Walter Hood, Chelsea Johnson, Christine Brill, Jonathan Kline, Safia Hodari, Denys Candy, Terri Baltimore, Robert Bowden,

A model of Centre Avenue (made by Studio for Spatial Practice) was set up on the sidewalk and illustrations were placed in the store-front. An estimated 50 – 60 residents and stakeholders stopped by and shared ideas for Centre Avenue and the Greenprint.





Find the Rivers! Hill District Greenprint – “Woods; Village; Conveyance”

May 6 and 7, 2010

May 6, 2010

Meeting with CH Planning

2 p.m. Westin Hotel

Walter Hood, Charnelle Hicks, Oliver Carley (CH Planning), Chelsea Johnson, Jonathan Kline, Christine Brill, Denys Candy

Discussion: Overview of emerging Greenprint proposals and commitment by Greenprint team to share proposals and design drawings with CH Planning and Sasaki.

Adjourned: 3 p.m.

Greenprint Open House for Advisory Committee and Hill residents: Woods and plantings, Conveyance and stairs.

4.30 p.m. to 6.30 p.m. One Hope Square, 1901 Centre Avenue.

Attendance Included: Josie Ramsey (PHCA), Audrey Reichblum (Save the Igloo), Danielle Crumrine (Friends of the Urban Forest), Tamara Canty, Nate Darwin, Nicole Evans, Autumn Clark Jordan (Hill House), Lisa Ceoffe (City Forester), Jeff Bergman (Treevitalize),Matt Smuts (URA), Casey Campetti (Resident),S. Washington (C. Davis consultants), Dewayne Ketchum (resident),Charnelle Hicks, Oliver Carley (CH Planning),Elbert Hatley (Hatley and Associates), Emma Lucas Darby (resident), George Moses (Consensus group), Rev. Calvin Cash (John Wesley AME Zion), Kimberly Ellis (Historic Hill),Rob Stephany (URA),LaKeisha Wolf (Ujaama), Jennifer Cash Wade, Jeanne McNutt (Uptown partners), Bill Generett (Keystone Innovation Zone), Celita Hickman (Ujaama), Kevin Pugh, Renne Aldridge (Office of Rep. Jake Wheatley)

Find the Rivers! and Greenprint design team members provided overviews of potential proposals. Participants gave comments and feedback and viewed a video of the Hill district Woods made by Studio for Spatial Practice.



May 7, 2010, 8.30 a.m. to 10 a.m.

Hill Consensus Group, Hill House, 1835 Centre Avenue

Carl Redwood, Walter Hood, Jonathan Kline, Christine Brill, Susan Rademacher, Denys Candy

Discussion:

Issue for the Master Plan and Greenprint is the importance of “non-displacement.” The Greenprint team is working on a document to connect key proposals to planning “sectors” identified in the Master Plan.

Carl: The planning forum is in discussion about reducing the number of sectors and also about identifying a number of Nodes of future development activity throughout the Hill.

Village – Big issue is what Carl called “taking back the space” for positive activities that attract people who will not now go there – bringing people in to shop.

Walter: Greenprint proposals will signal imminent changes along Centre Avenue, particularly between the key five-point intersections of Centre/Kirkpatrick and Centre/Dinwiddie. The full Village proposals extend from Hill House to Chauncey Street and include tree-plantings along side streets that run down onto Centre from the S. and N.

Denys: We have adopted the language of writer William Henry Lewis for key intersections. He has observed their importance to many African American communities where they are referred to as “five-points.”

Carl: “We need to give people reasons to come to Centre; reasons to shop.”

Housing – a big issue. Housing may provide the population density needed to have a critical mass of people on Centre. One option would be to explore a transfer of development rights (TDR) between the Housing Authority and the City/URA, allowing future housing improvements for Addison Terrace to take place on Centre.

Trek Development is renovating Section 8 units on Dinwiddie but there is an issue with tenants wanting to take their Section 8 and move out of the Hill. We need to keep the Section 8 tenants in the Hill so that this development is financially feasible. People need to get the message that they are part of a bright future for the Hill.

New Grenada is a key part of Centre Avenue.

Walter: Other uses make it possible for old theaters to work again. Example: Fox Theater (Oakland?)- has housing and a school for the performing arts for children.

Christine/Jonathan: Lots of scope for new activities around stair connections.

Carl: Skateboarders daily use the parking lot at Milliones School on Centre (now called University Prep).



Process for ratifying the Greenprint: Greenprint proposals should come to the Consensus Group and Planning Forum for a formal vote of its members.



Find the Rivers! Hill District Greenprint – “Woods; Village; Conveyance”

May 7, 2010, 8.30 a.m. to 10 a.m.

Hill Consensus Group, Hill House, 1835 Centre Avenue

Carl Redwood, Walter Hood, Jonathan Kline, Christine Brill, Susan Rademacher, Denys Candy

**June 15th, 2010:Announcing Greenprint Proposals to the Hill District and City of Pitts-
burgh**

The culmination of the Greenprint related participatory events was a day-long “roll-out” of Green-
print project proposals on June 15th, 2010. Typically, project proposals are announced at community
meetings using a presentation format. Greenprint project proposals, by contrast, were demonstrated
in practical ways in collaboration with project partners.

Woods: late morning, fifteen members and volunteer supporters of the Cliff Street Block Club joined
the Greenprint team in marking the proposed Coal Seam Trail from Cliff Street to Memory Lane with
ribbon. They hiked through key pathways and viewed potential walking paths and connections that can
complement imminent renovations to Cliffside Park (the first Greenprint project, scheduled to get
underway Summer 2010). A “Coal Seam Trail” sign was placed adjacent to new housing on Memory
Lane near a set of steps leading to Bigelow Boulevard.

Conveyance: To demonstrate the importance of Conveyance, and in particular the potential for
renovated public stairways, volunteers continued with Greenprint team members and, at midday, were
joined by residents living on or near to Chauncey Street. Undeterred by the day’s heat, the group
cleaned up the Chauncey Street steps leading to Centre Avenue. They also toured an adjacent six-acre
site, a potential community park, and met and talked with residents using the steps as part of their
daily routines.

Village: The group then walked to Centre and Kirkpatrick where, throughout the early and mid-
afternoon, they joined local artists and demonstrated proposals for highlighting doorways (Greenprint
proposals also highlight corners, alleys and intersections). Names of (*number?*) existing businesses
and historic buildings were stenciled along Centre Avenue, an activity sponsored by the Hill District
Business Association. This provided further opportunities for conversation with residents and business
owners.

Greenprint: To announce Greenprint project proposals, a large illustration of The Hill: A Village in the
Woods was hung on the side of Number 2 Police station at the key five-way intersection at Centre/
Dinwiddie Streets. The Pittsburgh Police, Hill House Economic Development Corporation and Hill
District Community Development Corporation assisted with arrangements. A celebratory barbeque
was held and around one hundred (*what’s our best guess?*) guests and passers-by viewed detailed
proposal drawings set along the side of the building, viewed the illustration on the building (which was
also dramatically visible to vehicular traffic coming Eastward along Centre Avenue) and engaged in
discussions with the Greenprint team.

The event was preceded by a press conference, attended by print and electronic media.



To	Kirsten Weekes	Reference number
		209922/TWB
cc		File reference
From	Tom Berry x 27227 (San Francisco) Frank Greguras	Date
		August 26, 2009
Subject	Pittsburgh - Preliminary Engineering Geological Investigations	

1 Introduction

1.1 Scope of Memorandum

Arup have been asked to describe the physical characteristics of the Hill District in Pittsburgh Pennsylvania to develop a scheme called a 'greenspace planning exercise' to rejuvenation the neighborhood. The description of the physical characteristics of the neighborhood includes issues and opportunities related to aspects of ecology, geomorphology and geology.

This memorandum makes a remote assessment of and discusses high level issues specifically related to the topography, geomorphology and ground conditions of the Hill District. The preliminary findings of the memorandum are presented below and divided into the following sections:

- Topography – Section 2
- Geology – Section 3
- Hydrology – Section 4
- Coal Mining – Section 5
- Geoecology – Section 6
- Contamination – Section 7

It should be noted that this memorandum is for information only and should not be used for design.

1.2 Available Information

This memorandum has been written using the following publically available information from the following sources:

- The Pittsburgh Geological Society.
- The Commonwealth of Pennsylvania Department of Conservation and Natural Resources Bureau of Topographic and Geologic Survey.
- Chatham University

2 Topography

2.1 Regional Topography

The regional topography of the state of Pennsylvania is dominated by the Appalachian Mountains to the east, Pittsburgh itself sits within the Pittsburgh Low Plateau physiographic province. The Department of Conservation and Natural Resources (DCNR, Ref 1) describes the Pittsburgh Low Plateau as a having "low to moderate relief" with elevation between topographic high land forms and lows land forms typically between 101 ft and 600 ft (no datum stated).

The current topography was formed by the fluvial erosion of a broad plain (similar to present Mid-western USA) over the last 5 million years (after Prellwitz and Kyslakevych, Ref 2) leading to smooth undular high ground (around 1400 ft in the Pittsburgh area) incised by relatively shallow fluvial valleys (at an elevation of 700 ft in the Pittsburgh area).

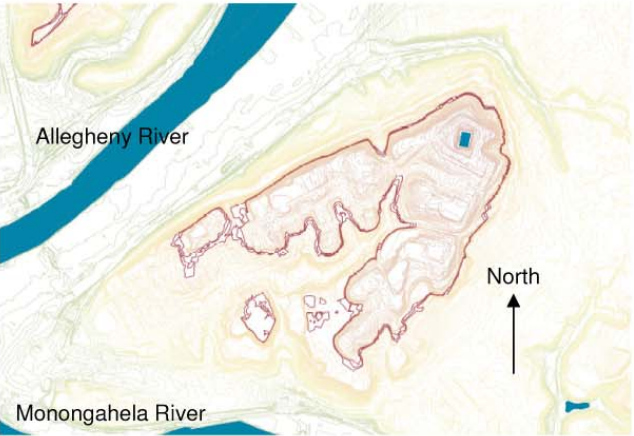
2.2 The Hill District

The topography of the Hill District is thus dominated by these regional topographical features but never the less maintains a unique identity being the prominent local topographic high. The Hill District comprises a wedge shaped topographical high at the confluence of the Allegheny and Monongahela Rivers and the start of the Ohio River.

The Hill District rises from around 900 ft in the river valleys in the north-west and south to over 1,200 ft at its highest and most northerly extent. The morphology of the Hill District follows the course of rivers and is steep sided to the west on the Allegheny valley and steep sided at the northern tip. The topography of the Hill District on the east becomes progressively less steep as one traverses south until on the southern boundary with the Monongahela River the slopes up to the Hill District are relatively shallow.

The Hill District has itself been incised, albeit on a smaller scale, by the tributaries of the Allegheny and Monongahela Rivers and these features can be seen as low relief valleys running off the higher ground toward the main valleys. Figure 1 below shows the main topographical features of the Hill District.

Figure 1: Topography of The Hill District



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3 Geology

3.1 Regional Topography

The geology of Pittsburgh and indeed western Pennsylvania is dominated by Carboniferous Period rocks of Pennsylvanian Age, formed between 290 and 323 Million years ago, (after DCNR Ref 1) when Pittsburgh was lay almost at the equator.

These rocks comprise a cyclic sequence of sandstones mudstones and coals called cyclothems. The change in the rock type is associated with a change in the depositional environment and suggests a low-lying afforested coastal plain that was periodically inundated by the sea resulting in a repeated rhythmic cycles of marine, deltaic, fluvial sedimentation.

The following cyclical depositional environments have be identified in the rocks of the Pennsylvanian Period:

- 1) Marine conditions – limestone and mudstone marine deposits.
- 2) Sea level drops / land rises leading to deltaic sedimentation – sandstone and mudstone were deposited at or near sea level.
- 3) Sea level continues to drop / land continues to rise leading to land fluvial sedimentation – sandstone and mudstone deposits.
- 4) Land conditions including luxuriant forest growth and swamps - coal and seat earths

The above sequence is repeated regularly but necessarily Figure 2 Below shows a schematic idealized geological stratagraphic section of Pennsylvanian cyclic sequences.

Figure 2: Idealized Geological Section of Pennsylvanian Rocks, (From PDEP Ref 4).

LITHOLOGY	SEQUENCE	DEPOSITIONAL ENVIRONMENT	PHASE
shale			
coal		swamp and marsh	
underclay		overbank and levee silts and muds	DELTA PLAIN
argillaceous limestone			
sandy shale		alluvial plain sheet sands	
		distributary and barrier sands	PROXIMAL
sandstone and siltstone		channel sands	PROGRADING
		delta slope and prodelta muds and silts	DELTA
gray fossiliferous shale			
fossiliferous limestone		marine platform limestones and muds	DISTAL
black fossiliferous shale			MARINE
limestone			
gray shale pyritic concretions		destructural phase muds and silts	
coal			
underclay			

(adapted from Pryor & Soble, 1974)

After the deposition of these sedimentary rocks they underwent a period of uplift and folding as North America and Africa collided in an event that is called the Alleghenian orogeny. This coming

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together of two great plates occurred around 290 and 220 million years ago and formed the Appalachian mountains, (after Chatham University, Ref 3).

3.2 The Hill District

The Hill District is underlain by Pittsburgh Formation rocks of the Monongahela Group rocks that are in turn underlain by Casselman Formation rocks of the Conemaugh Group. These rocks comprise predominately sandstone units with subordinate units of mudstones, limestones and coals. The boundary of the upper Monongahela Group and lower Conemaugh Group rocks is the Pittsburgh Coal and this located at an elevation of between 1055 ft and 1063 ft in the Hill District.

Figure 3 below presents an extract of the geology of the Hill District, showing the main geological features of the area.

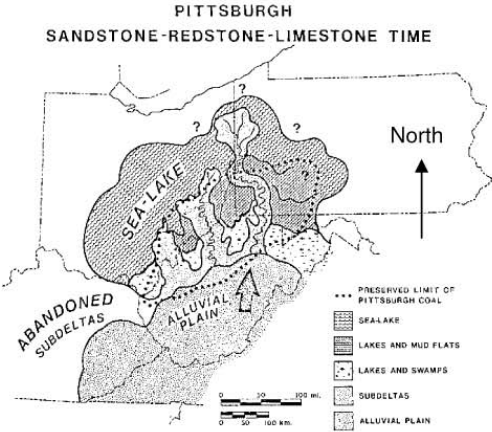
3.2.1 Casselman Formation

The thickness of the Casselman Formation is in the range of 230 feet (70 m) to 485 feet (148 m) and is composed predominately of fresh water sandstone, siltstone and mudstone with subordinate units of "marine shales above the Ames limestone, and the Skelly horizon, which occurs about 30 to 60 ft (9 to 18 m) above the Ames marine zone" PDEP Ref 4.

3.2.2 Pittsburgh Formation

The Pittsburgh Formation is composed predominately of sandstone, limestone and coal. The organic debris that would eventually become the Pittsburgh Coal was deposited and further material was deposited burying the organic materials including sandstones deposited in river channels running through the southwestern corner of Pennsylvania and limestone or shale deposited in the lakes and on the mud flats, (after PDEP, Ref 4). Figure 4 is a reconstruction of paleodepositional environments during the time of deposition after the deposition of the Pittsburgh coal.

Figure 4: Paleodepositional Environments After the Pittsburgh Coal. (From PDEP, Ref 4)



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4 Hydrology & Hydrogeology

4.1 Hydrology Around the Hill District

As discussed in Section 2.1 above the current topography was formed by fluvial erosion of a broad plain that has created a mature dendritic drainage pattern. Dendritic drainage is typically associated with branching drainage patterns coalescing into a single major river, this pattern is often seen on maps as drainage pattern that looks like a tree.

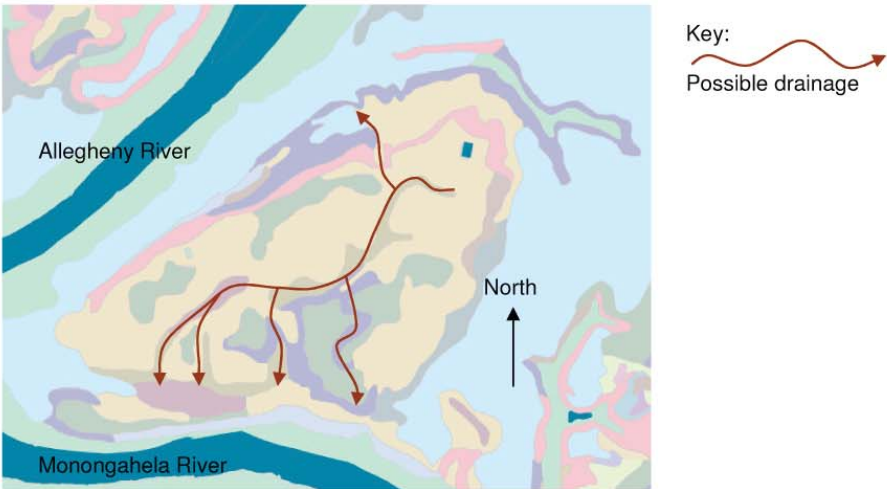
The Allegheny and Monongahela Rivers that exist now have occupied a similar course for many thousands of years, generally flowing steadily but occasionally rapidly eroding the valleys in response to glacial and tectonic uplift forces and frequently changing course. As the rivers cut down the plains to form the topography we see today, the flows slowed and was able to deposit fluvio-glacial sands and gravels. The meandering long profile of the Allegheny and Monongahela Rivers suggest they are 'mature' rivers having developed there course over many generations.

4.2 Hydrology of the Hill District

Although the Hill District is relatively small geographically, it still has the potential to have its own drainage system. The topography will influence any drainage superimposed on to the area and as such any indicators of drainage (particularly pre-settlement) will run perpendicular to the contours down the steepest slopes and into the regional drainage system. As discussed above drainage systems cause erosion that manifests itself as small erosion channels eventually becoming valleys so topographic maps can be used to tentatively identify landforms associated with fluvial systems. In addition, fluvial systems can deposit indicator soils types that can be used to locate current and historic fluvial courses.

Figures 1 above and 5 below can be used to suggest locations of current and historical drainage in the Hill District although due to recent developments the natural drainage could have been culverted in their natural channels.

Figure 5: Soils of the Hill District



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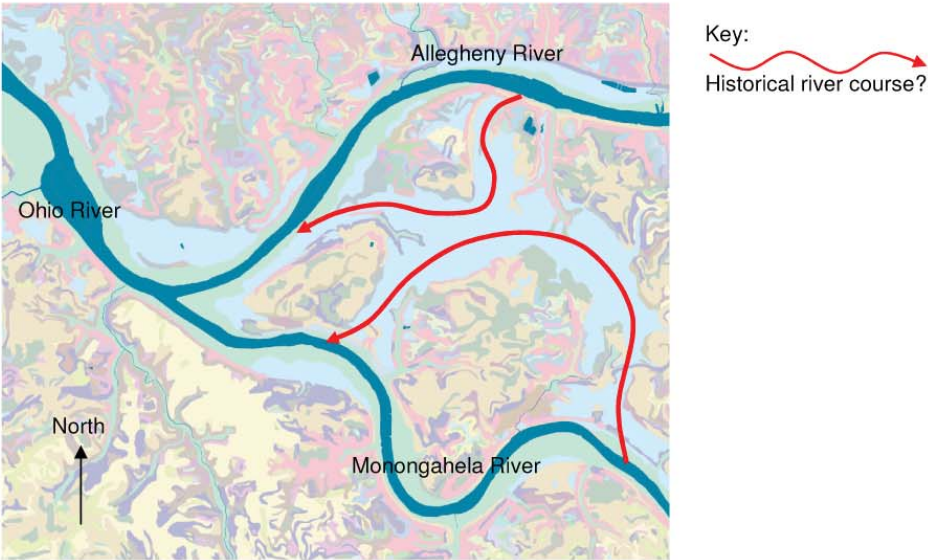
4.3 Historic Course of River Monongahela River

The current course of the Allegheny and Monongahela Rivers was determined by the Illinoian glaciations around 770,000 years ago when ice advanced south and cut off the north flowing Allegheny and Monongahela Rivers causing a large lake called Lake Monongahela to form. Eventually the lake got so deep it over topped local watersheds and flowed south. Eventually the rivers courses settled into their current positions draining south and west towards the Mississippi River.

As the glaciers melted the great quantities of water were released which combined with the isostatic uplift, caused by the weight of the ice being removed, led to erosion and relatively minor changes in the course of the rivers. The rapid erosion and changes in river courses led to remnants of the old river valley floors 200 to 250 feet above the present river level.

An example of the old course of the Allegheny River can be seen as the low lying area to the north of the Hill District and an example of the old course of the Monongahela River can be seen as the low lying areas to the north-east of the Hill District, (after Chatham University, Ref 3). Figure 6 below indicates the possible previous courses of the Allegheny and Monongahela Rivers.

Figure 6: Possible Historic Course of Rivers



4.4 Hydrogeology

Groundwater flow is either through the spaces between rock grains (pore water flow) or the rock fractures (fissure flow), the permeability being determined by the density of the grains and connectivity of the pore spaces or dimensions and connectivity of fractures. Clearly the flow through fractures is the dominant flow mechanism for fluid flow through rock. It can be seen from the above that the importance of connectivity and fractures has a large influence on the hydrogeology.

The interconnectivity of the rocks are on all scales is very important, Poth (1963) suggests hills constitute "hydrologic islands" that are not connected to the wider hydrogeological network. As such a discrete groundwater system may operate in the Hill District separated from adjacent islands but

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connected to the rivers through discharges to local streams, and, to some extent, springs above stream level, (after PDEP, Ref 4)

Underground mine working can act as large open fractures in the rock intercepting and transmitting the groundwater and percolating surface water. When mine openings are constructed below the water table the abandoned voids draw groundwater from the surrounding saturated rock resulting in dewatering.

5 Coal Mining

5.1 A Historical Perspective

Coal mining in the Hill District was first carried out around the early to mid 1800's and is recognized as some of the earliest coal mining in Pennsylvania. The most mined of these beds was the formation called the Pittsburgh Coal, which fueled the future industries of the area and is present below the Hill District. While the location of Pittsburgh was initially determined by the confluence of three rivers, it was coal that drove its subsequent development, (after PDEP, Ref 4).

5.2 The Pittsburgh Seam

There are little if any mineable coals in the Conemaugh Group as such the only mineable coal in the near surface rocks in the Hill District is in the Pittsburgh Formation and is the Pittsburgh Seam. "The largest production of underground coal in Pennsylvania is from the Pittsburgh coal seam" PDEP, Ref 4.

"The Pittsburgh Coal is unusually continuous, covering thousands of square miles (km²), and is unusually thick (5 to 10 ft or 1.5 to 3 m) for a coal of western Pennsylvania", PDEP Ref 4. The other major coals in the Pittsburgh Formation that have been deep mined in the past are the Redstone and Sewickley, however, these are not thought to be present beneath the Hill District as they are located higher up in the stratagraphic column and are thought to have been eroded out of the geological sequence in the Hill District, (after PDEP, Ref 4).

It is likely that the full thickness of the seam has been removed.

5.3 Mining Induced Subsidence

Subsidence is the sinking of the ground surface above an underground void and can be caused by the collapse of an underground mine or cave. If the subsidence occurs beneath or directly adjacent to a man-made object, the result can be very costly and dangerous. Western Pennsylvanian is prone to coal mining induced subsidence and foundation subsidence problems due to its long and often uncontrolled mining history, (after PGS, Ref 7).

Mining operations are generally carried out in two ways firstly open cast or strip mining where shallow coal is extracted from the surface and secondly deep mining where shafts or adits are sunk or dug into the coal seem and the coal removed. It is generally the latter that causes subsidence issues.

Historically room and pillar mining has been the preferred method for extracting coal. Room and pillar techniques comprise extracting around 50% of the coal in either a square or irregular pattern and leaving behind pillars of coal to support the roof. It is not uncommon for modern mines to remove pillars left by previous generations of miners. This method was clearly inefficient and modern coal mining practice is to completely remove the seem using what is called long wall extraction , (after PGS, Ref 7).

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A likely cause of future subsidence in the Hills District could come from the collapse of previously mined seams of or the collapse of a (poorly backfilled) mine shaft. Subsidence associated with long wall mining has usually stopped within a few years of the completion of mining unless circumstances change when reactivation of settlement can occur.

5.4 Ground Gas

Naturally occurring ground gas is produced in several ways including a thermogenic origin from organic materials under relatively high temperatures and pressures deep in the earth, microbial breakdown of near surface organic material (e.g. in bogs and landfill sites) and from coal beds. Coal bed gas comprises two principal odorless and tasteless gases; explosive methane and carbon dioxide that is an asphyxiant.

Natural gas when it can be economically collected and distributed is a valuable resource but when uncontrolled can become a major geologic hazard. If the conditions are right naturally occurring ground gas can migrate from the reservoir rock along fractures in the bedrock (and mine shafts / adits), up to the surface where if it comes into contact with structures can collect in basements or other enclosed structures with poor ventilation, potentially causing explosion or asphyxiation.

5.5 Mine water

"Groundwater reflects the chemical character of the rock units through which it flows . For example, groundwater that has come in contact with sandstone and shale containing pyrite remains 'soft'. Water in limestone or calcareous aquifers usually is a calcium magnesium bicarbonate type and is sometimes 'hard'", (DPEP, Ref 4).

It should be noted that groundwater drawn from coal mining areas is likely to be of poor water quality both with concentrations of dissolved elements such as metals above recommended levels and with acidity above 'normal' levels. In addition the ground water drawn from coal mining areas is often discolored and prone to 'frothing'.

"Well yields vary over the area with a reported median yield of about 1 gpm for Washington County (Newport, 1973) and a reported median yield of 8 gpm for the upper section (Uniontown Formation) of the Group (Stoner, 1987) in Greene County", (DPEP, Ref 4).

6 Geoecology

6.1 Soils

Figure 7 below shows the soil and the 1055 – 1065 ft Pittsburgh Coal contours indicating the suggested influence of the underlying geology (particularly the coal) on the soil type.