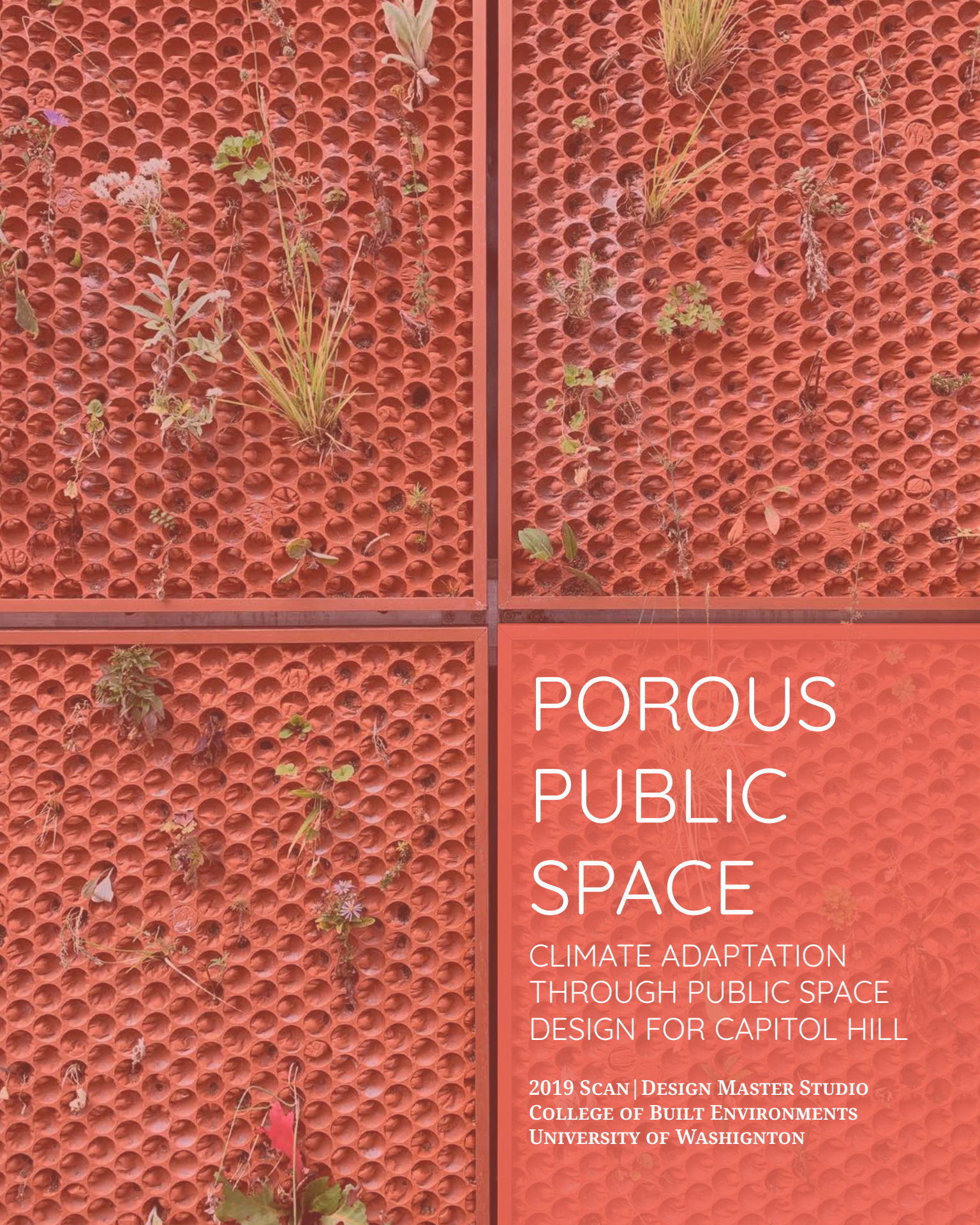

POROUS PUBLIC SPACE

CLIMATE ADAPTATION THROUGH PUBLIC SPACE DESIGN FOR CAPITOL HILL

2019 SCAN | DESIGN MASTER STUDIO
COLLEGE OF BUILT ENVIRONMENTS
UNIVERSITY OF WASHIGNTON

PHOTO BY KRISTA DOERSCH

COVER PHOTO BY ASYA SNEJNEVSKI

POROUS PUBLIC SPACE

CLIMATE ADAPTATION THROUGH PUBLIC SPACE DESIGN FOR CAPITOL HILL

2019 Scan|Design Master Studio
College of Built Environments, Univeristy of Washignton

INSTRUCTORS

Nancy Rottle *Professor of Landscape Architecture, University of Washington*

Louise Grassov *Master Teacher, Shulze + Grassov*

Krista Doersch *Teaching Assistant, MLA*

STUDIO PARTICIPANTS

Sarah Bartosh *MLA*
Emilio Craddock *MLA/MARCH*
Jim Ditto *MLA/MARCH*
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Lauren Iversen *MLA*
Zoe Kasperzyk *MLA*
Shihui Liu *MLA*
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Alanna Matteson *MLA*
Kelsey McKay *MARCH*
Jake Minden *MLA*
Heather Parker *MLA*
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Mengting Ye *MLA*

ACKNOWLEDGEMENTS

Scan|Design Foundation *by Inger & Jens Bruun*
Capitol Hill EcoDistrict *and Erin Fried*
Seattle 2030 District *and Steven Fry*
and thank you to all of our panelists and reviewers.

PHOTO BY EMILIO CRADDOCK

CONTENTS

PHOTO BY ZOE KASPERZYK

FOREWORD

The Capitol Hill neighborhood is known for its hip bars, cultural diversity, historic mansions, and steep streets. With its reputation for being Seattle's coolest neighborhood, the addition of the light rail station, and corporate growth in nearby South Lake Union, is rapidly intensifying, bringing both opportunities and challenges to this urban, but historically residential neighborhood. The community values public space for informal and celebratory social events, and organizations are working to increase both the amount of green space available and commercial corridors to support vibrant, local businesses. However, population growth also increases demands on the city's infrastructure, such as the stormwater system.

Capitol Hill's urban hydrology is unique in that the neighborhood is surrounded by water bodies on three sides, which receives stormwater draining from the hill's contaminated streets, roofs, and in severe rain events, its sanitary sewers. The goal of this year's studio was to enhance the public realm of Capitol Hill while also lessening the impact of stormwater runoff through innovative designs. Our experiences in Copenhagen and Malmö inspired our efforts to design equitable, sustainable, and porous public spaces that embrace stormwater as a potential civic asset.

This year marks the twelfth Scan|Design Interdisciplinary Master Studio and we would like to give special thanks to the Scan|Design Foundation for their continued support of this extraordinary opportunity. The immersive relationship between life in Seattle and Copenhagen would not be possible without our Master Teacher, Louise Grassov; we are so thankful for her guidance and talent, from which our students benefit greatly both in Copenhagen and during her visit to Seattle.

This year we had the opportunity to once again partner with the Seattle 2030 District, an initiative to create efficient, sustainable, and resilient cities; we especially thank Steven Fry for his insight and participation in panels and reviews. We also worked with the Capitol Hill EcoDistrict's Public Life project, which collects data to inform equitable planning for holistic public spaces; we especially thank Erin Fried who gave students feedback, hosted our final review, and made our final exhibit at 12th Avenue Arts possible. Both Steven and Erin will continue to use this student work to inform and inspire sustainable development in Capitol Hill moving forward. Finally, we sincerely thank all of our reviewers from our professional community who volunteered their time to support students' ideas, progress, and visions.

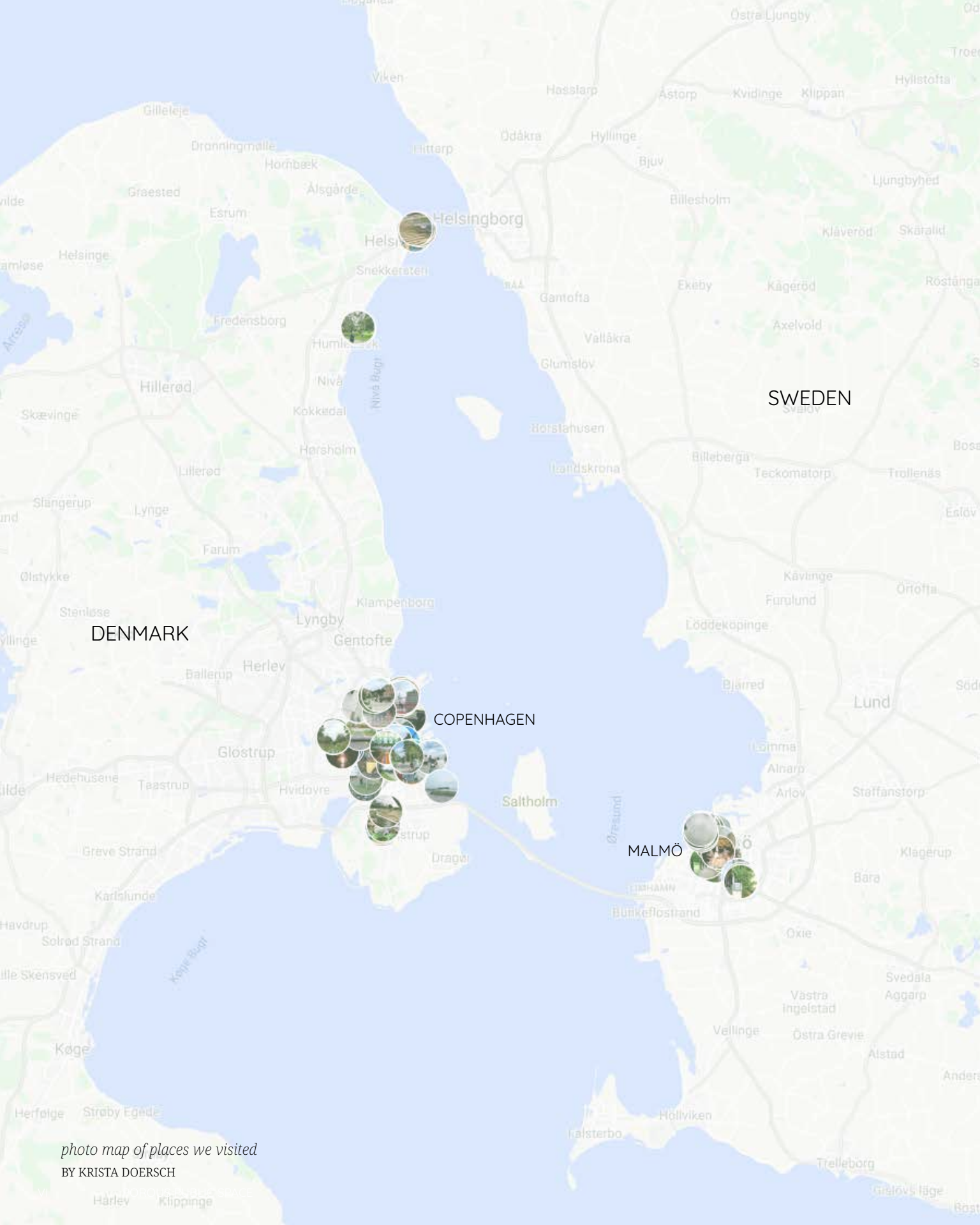


photo map of places we visited

BY KRISTA DOERSCH

STUDY TOUR & STUDIO

The Scandinavian approach to the design of public spaces is multilayered, deeply complex, and designed with elegant simplicity. The 'people first' approach strives to accommodate ecological function and climate adaptation without sacrificing one aspect for another. The study tour allows students to observe many facets of the design process that can then be applied in the studio to a local site with the guidance of the studio faculty and the continued involvement of our Danish Master Teacher, Louise Grassov.

SEQUENCE

Study Tour

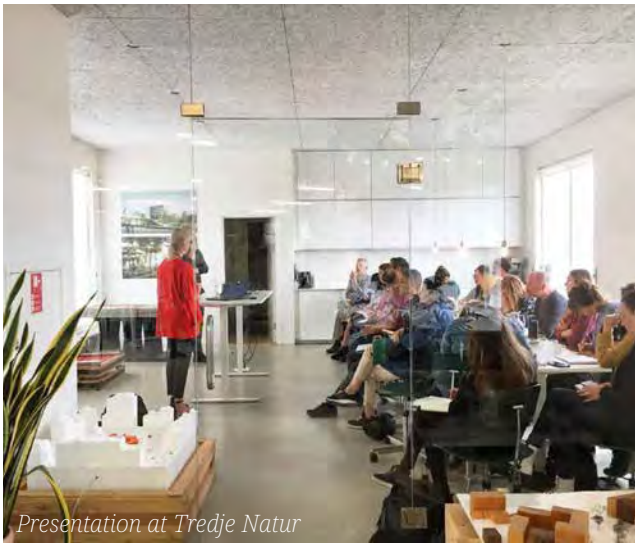
- Copenhagen, Denmark
- Helsingør, Denmark
- Malmö, Sweden

Autumn Quarter

- precedent studies
- district & site analyses
- site concepts
- schematic design
- reviews
- Capitol Hill Art Walk exhibit

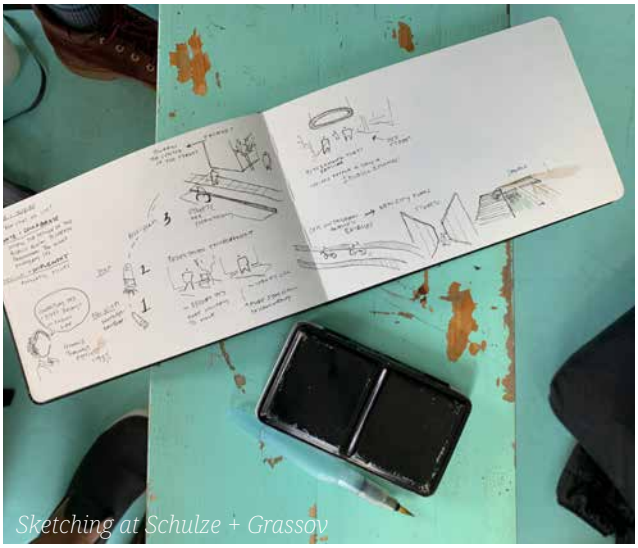
STUDY TOUR

The trip is a two-week, whirlwind introduction to the influence of design in everyday life in Scandinavia. With Copenhagen as our home base, we traveled by foot, bike, and train to visit many sites, firms, and museums. Days included a mix of tours with local firms, drawing exercises, and independent exploration. Favorite activities included biking in heavy rain, swimming in the harbor baths, and exploring new media for visual note taking.



Presentation at Tredje Natur

Bike tour to Superkilen



Sketching at Schulze + Grassov

Nyhavn

Quality criteria exercise with Gehl

Tour of Sankt Kjelds Plads with SLA

Visit to Scandinavian Green Roof Institute

Biking along Amager Strandpark

Sketch break at Kvarterhuset

Kusama intallation at Louisiana Museum of Modern Art

STUDIO

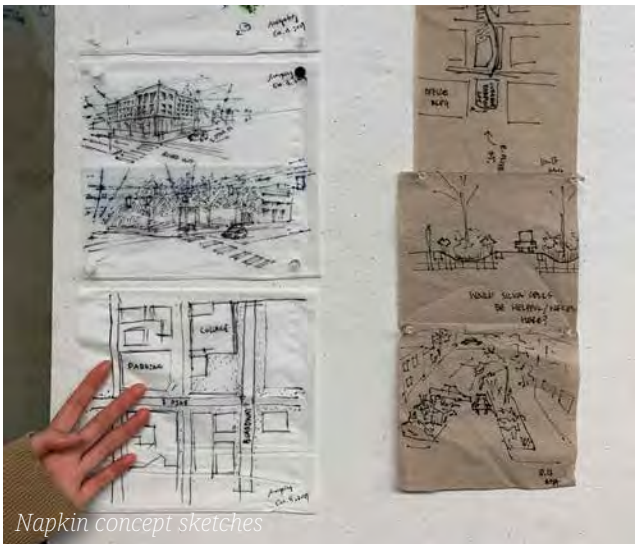
Each year the studio takes on a different theme based on the project site and needs, which involves working at various scales from districts to design details without compromising human use and ecological function.

This year, the focus is on Porous Public Space. How can the integration of water management, activation of the public realm, and infusion of a healthy "Nature," help to create a vibrant, healthful, climate-change resilient urban district? As a case example, how might Seattle's Capitol Hill neighborhood integrate green infrastructure to eliminate combined sewer overflows into Lake Washington, and cleanse water before it is discharged into Lake Union, in ways that also help to regenerate a healthy urban nature and equitably provide the ecosystem services of heat island reduction, air quality improvement, habitat provision, and social and cultural space? How can such an integrative design approach help to create and sustain a democratic, just, public life, and foster a safe, vibrant, creative urban neighborhood? What if it were really safe for people to swim, and for salmon to thrive, in Lake Union and Lake Washington? Can the city "feel and function like a forest?" (SLA) with all its benefits and capacity to address climate change?

Inspired by our experiences of Copenhagen's and Malmö's design examples for successful public spaces that contribute to climate resilience, we worked with the Seattle 2030 District and Capitol Hill EcoDistrict's Public Life project to begin to answer these questions and to advance an enhanced, connected public realm that cultivates a public life culture while managing stormwater.

Studio objectives were to:

- explore strategies for creating a democratic public realm that is ecological, resilient, regenerative, playful and just
- artfully integrate water into the cityscape for hydraulic performance to address the challenge of climate change in Seattle
- implement and expand on urban design concepts observed during the study tour
- practice working at all scales, using both large and small scales simultaneously to each inform the other



Napkin concept sketches

Exploring Capitol Hill

The Space Needle from Capitol Hill

Programming exercise

Desk crit with Louise

Schematic model

Mid review

FINAL EXHIBIT

The studio culminated with an exhibit of the students' final designs for Capitol Hill. Following final presentations to local professionals at the 12th Avenue Arts center, students curated their boards for display. The exhibit debuted at the Capitol Hill Art Walk where people from all over the city were able to see ideas for a bluer neighborhood. It remained on display for two months where visitors to the Capitol Hill EcoDistrict office continued to be inspired.

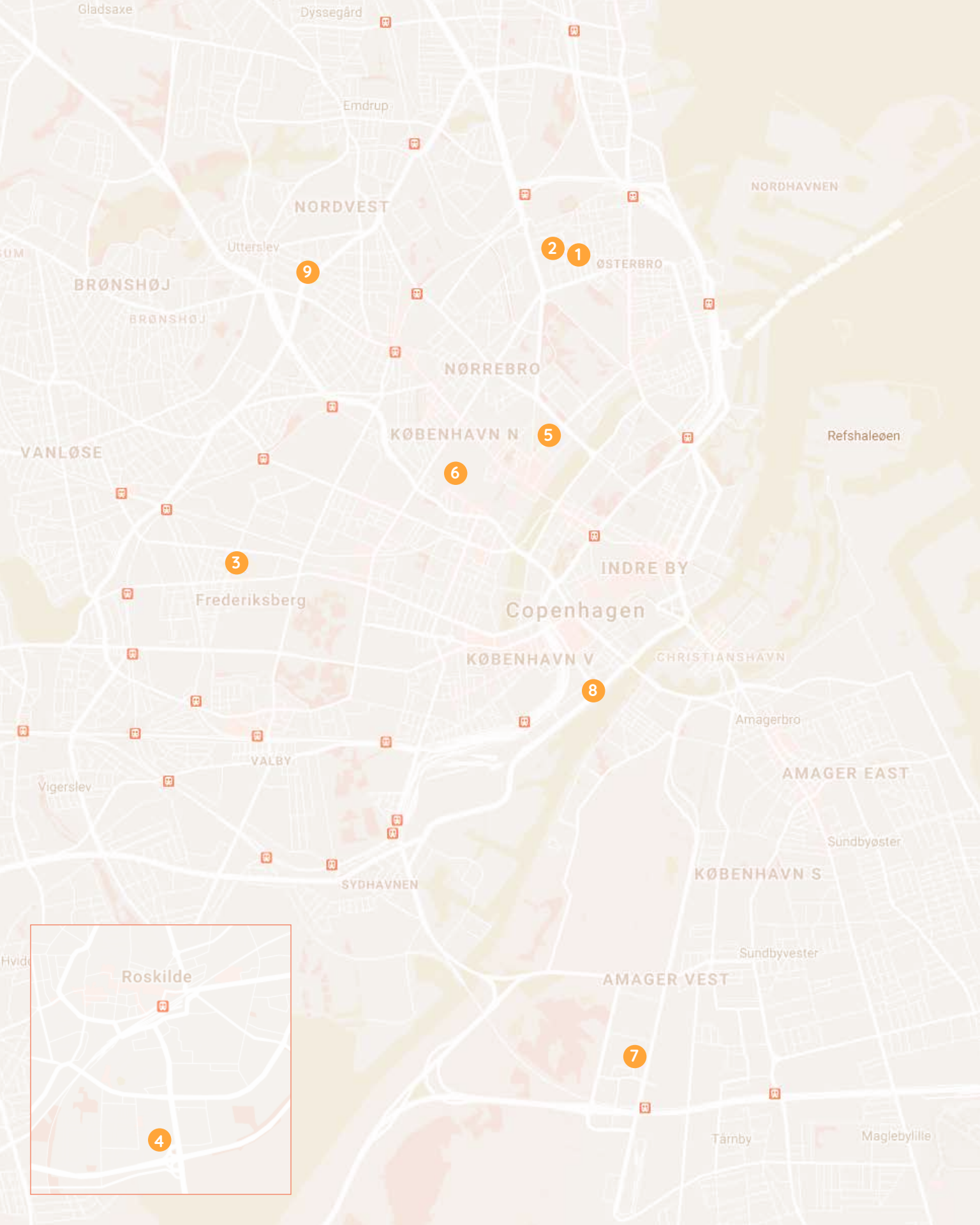
Art Walk reception

Exhibit on display at 12th Avenue Arts

Post-final review cheer

Installing the exhibit

2019 studio group visiting Superkilen in Copenhagen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Dyssegård
Emdrup
NORDVEST
NORDHAVNEN
Utterslev
ØSTERBRO
BRØNSHØJ
NØRREBRO
KØBENHAVN N
VANLØSE
Refshaleøen
INDRE BY
Frederiksberg
Copenhagen
KØBENHAVN V
CHRISTIANSHAVN
Amagerbro
VALBY
Vigerslev
AMAGER EAST
Sundbyøster
SYDHAVNEN
KØBENHAVN S
Sundbyvester
AMAGER VEST
Roskilde
Tårnby
Maglebylille
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PRECEDENT STUDIES

On the study tour, students analyzed precedents in and around Copenhagen. This assignment challenges students to move beyond the site and dig deeper into precedent studies through shifting scales and perspectives: small scale interventions, site form and function, and surrounding terrain. Each case study pays special attention to stormwater mitigation, urban greening, and social amenity strategies observed at each site. Working in pairs, students documented their sites through the skills we practiced throughout the tour, such as observation of how the site ranks on the Gehl quality criteria, sketching, and project research.

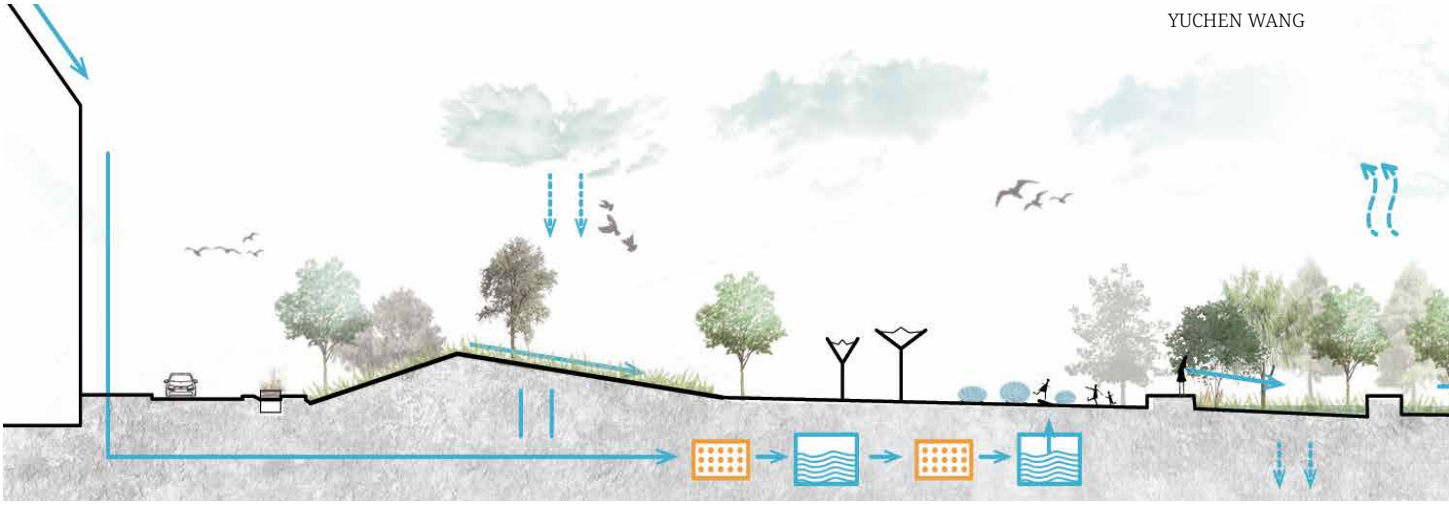
1. TÅSINGE PLADS
2. SANKT KJELDS PLADS & BRYGGERVANGEN
3. LINDEVANGSPARKEN
4. RABALDER PARK
5. SUND NATURE PARK
6. HANS TAVSENS PARK & KORESGADE
7. KAREN BLIXEN PLADS & ØRESTAD
8. THE CITY DUNE / SEB BANK
9. BIBLIOTEKET / PLAZA

Aerial photo of Tåsinge Plads

GHB LANDSKABSARKITEKTER / STEVEN ACHIAM

Water management through the site

YUCHEN WANG



TÅSINGE PLADS

SARAH BARTOSH + YUCHEN WANG

LOCATION Østerbro, Copenhagen, Denmark

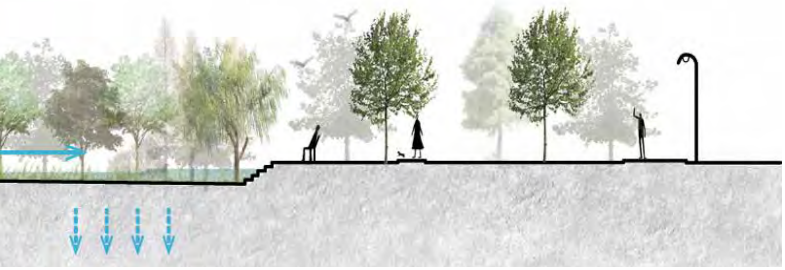
FIRMS Malmos A/S, GHB Landskabsarkitekter A/S, Orbicon A/S, VIA Trafik Radgivning A/S, Feld Studio for Digital Crafts

CLIENT Municipality of Copenhagen

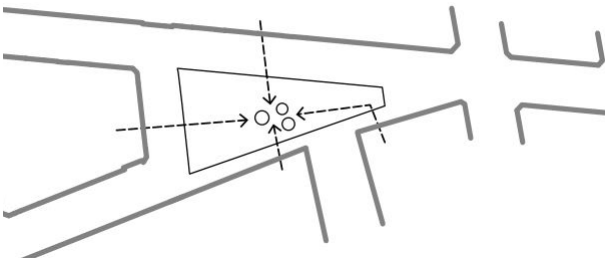
STATUS Completed 2015

Located in the Østerbro neighborhood of Copenhagen, Tåsinge Plads is Copenhagen's first climate-adapted urban space and has served as a model for integrating social and stormwater systems in one place. The design was developed through an extensive community driven process. A series of small and large projects gave neighbors the opportunity to learn about the project and talk about ideas.

The square acts as a place to control and retain as much rainwater that falls around the square as possible. Altogether, Tåsinge Plads can delay and percolate rainwater from a surrounding area of 4,300 m^2 and separates more than 7000 m^2 rainwater from the sewers. The rainwater is collected from various spaces and is treated differently throughout the site.



The plantings that were chosen throughout the site have an emphasis on seasonal diversity and have the capacity to support a variety of functions.



Rainwater from the surrounding roofs reaches a reservoir (water tank) below ground.

PHOTO FROM FACEBOOK

SOLSKR/ENTEN

TORVET

REGNSKOVEN

SKETCHES BY SARAH BARTOSH
SITE PLAN BY YUCHEN WANG

URBAN GREEN

Tåsinge Plads represents a cross section of the Danish countryside, with a variety of biotopes that extend from the hillside to the lakeside. There are three distinct types of green spaces on the site, the SOLSKR/ENTEN, which serves as a lawn, the TORVET, which is where the sun shines most of the day and public life is centered, and then REGNSKOVEN, which is the rainforest that is full of lush vegetation. Each of these provides a distinct social and ecological function.

LEARNING THROUGH PLAY

There are two art pieces on site that highlight the presence and process of water. The rain parasols collect the water and provide shelter from the rain, whereas the water drops reflect the sky and their surroundings that can be touched and climbed on. Water can be pumped out of the biggest of the drops and flow on the surface and into the raingarden. This allows for a playful learning experience.

FORM DIAGRAM BY YUCHEN WANG

SKETCH OF INTERACTIONS BY SARAH BARTOSH

CONNECTIVITY

Tåsinge Plads is one of three Cloudburst projects that is located within a system of stormwater projects to increase their capacity to manage stormwater in the event of a year, 10 year, 100 year, or 500 year storm.

Skt. Kjelds Plads
PHOTO BY ASYA SNEJNEVSKI

SANKT KJELDS PLADS & BRYGGERVANGEN

LAUREN IVERSEN & ASYA SNEJNEVSKI

LOCATION Østerbro, Copenhagen, DK

FIRMS SLA, Alectia, Viatrafik and Jens Rørbech

CLIENT Copenhagen Municipality

STATUS Completed 2019

As a response to Copenhagen's massive cloudburst in 2011 that caused damages all over the city, the city realized they needed to do something. Named the first climate-resilient district in Copenhagen, Østerbro has become a place for green infrastructure and adaptation. SLA's Skt. Kjelds Plads and Bryggervangen project are at the heart of this district, containing and controlling water while bringing urban nature back into the neighborhood. This project spans 34,900 m^2, 9,000 of which were asphalt that was able to be replaced with green.

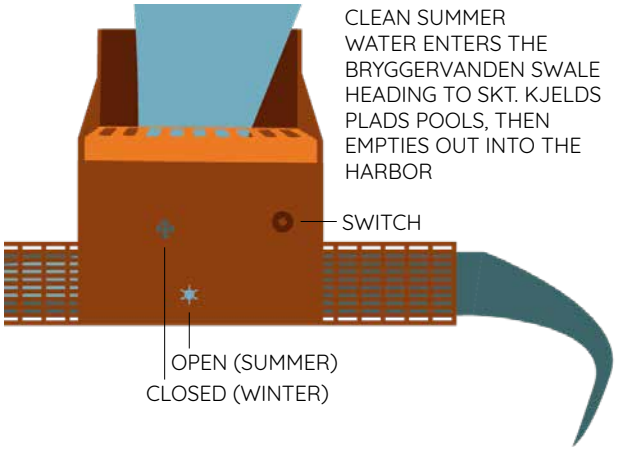
"Bryggervangen and Skt. Kjelds Plads centers around climate adaptation. But the project is also about the extra benefits we get from climate adaptation: The blue, the green, the health, the active and the social. In short: All what makes life in the city worth living." - SLA

Skt. Kjelds Plads and Bryggervangen Site Plan
PLAN BY SLA

INTERVENTION

The project's main focus is on cleaning and containing water both in an everyday storm as well as in a larger cloudburst event. A unique aspect of this project was to consider water throughout the seasons. In the winter, Copenhagen's streets and sidewalks must be salted because they get icy, however the water run off is not good for the health of various plants that are in the swales and raingardens. As this project is managed by the municipality, SLA was able to work with the climate neighborhood to have them use potassium formiate instead of salt on the roadways to melt any ice or snow.

However they cannot impose such restrictions on the sidewalks, which are not managed by the city. From our site tour with SLA's Kristoffer Holm Pedersen, we learned that the firm implemented a special storm drain that is open in the summer to allow rainwater to enter the swales and then is manually shut in the winter in order to separate the salty water. This intervention allows for maintaining the health of the green and blue within the climate neighborhood.



Drain Diagram
DIAGRAM BY ASYA SNEJNEVSKI

Normally, the water that enters the raingarden along Bryggervanden street continues to flow towards Skt. Kjelds Plads, which is able to hold and treat that water before it gets piped out into the harbor. During a cloudburst, the area can also hold water for up to 24 hours (according to city regulations). This project can protect the neighborhood during a cloudburst event while bringing back wild nature to the community and creating spaces for people and wildlife in the neighborhood of Østerbro.

Inside the drain from sidewalk to swale
PHOTO BY KRISTA DOERSCH

Drain is open in the summer (sun)
PHOTO BY ASYA SNEJNEVSKI

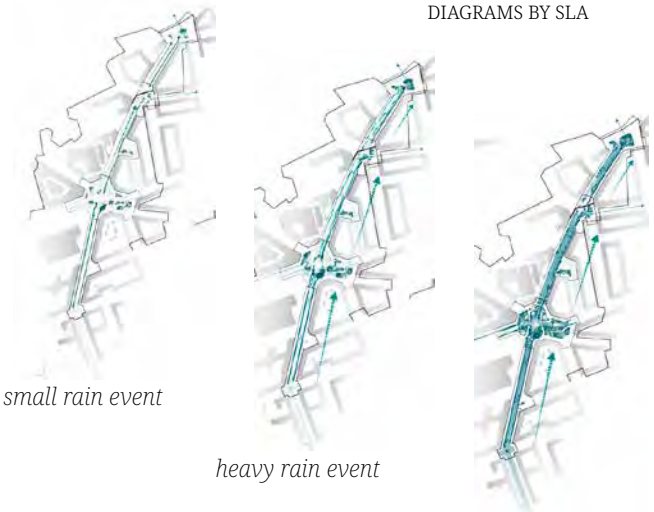
SITE

- respite through nature in the city
- resident bike parking
- space to sit and meet a neighbor or friend

- native plant species and climate change adaptive species
- increased biodiversity through diverse plants and downed trees for habitat

- mimicking natural systems to contain water

DIAGRAMS BY SLA



small rain event

heavy rain event

cloudburst rain event

Bird's eye view of Skt. Kjelds Plads, northwest

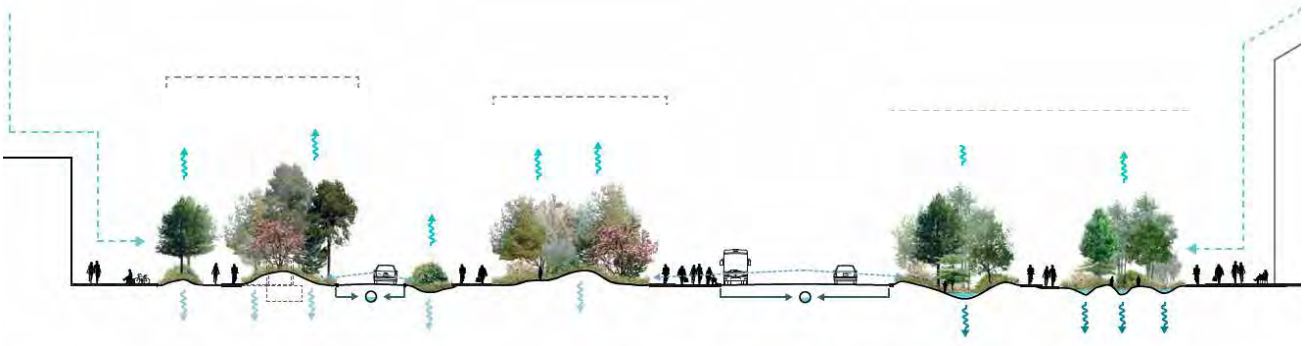
PHOTO BY ASYA SNEJNEVSKI

TERRAIN

- community engagement in the design process
- desirable walking space and social gathering space
- safer transportation through separated bike lanes and slower car traffic

- maintained all parking, and increased green space by 9,000 sq ft
- connectivity with adjacent urban green spaces

- localized containment of water from roofs and streets



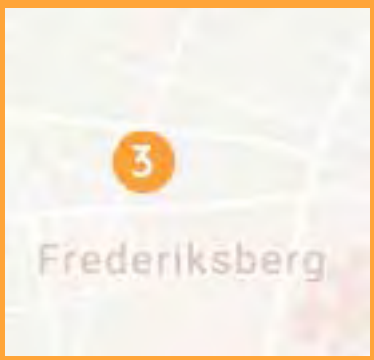
Social amenity mixes with dense green biotopes. In this terrain, there are multiple opportunities for stormwater containment, urban greening, and community gathering.

SECTION BY SLA

The Loop
PHOTO BY ALANNA MATTESON

LINDEVANGSPARKEN

SHIHUI LIU + ALANNA MATTESON



LOCATION Frederiksberg

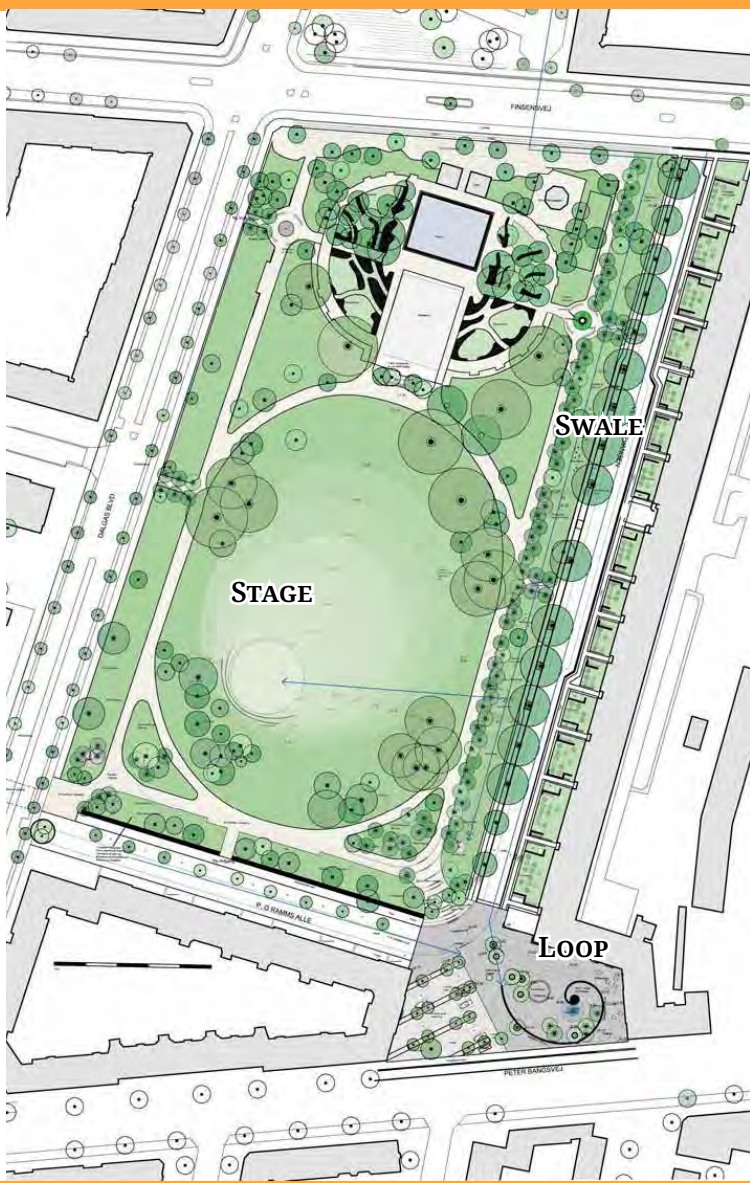
FIRMS Marianne Levinsen Landskab, Nira A/S

CLIENT Frederiksberg Municipality, Frederiksberg Supply

STATUS Completed 2015

Prior to its renovation in 2015, Lindevangsparken was a site of untapped potential. Despite being the largest park in West Frederiksberg, it was overgrown and underutilized. A combination of security issues and a lack of park programming kept people away. Furthermore, despite its proximity to two flood-prone areas north and south of the park it did little to soften the impact of the 2011 cloudburst event. The flooding that ensued prompted the city to rethink the park as a site of green stormwater infrastructure and also to improve the quality of the public space. This intention was materialized in Marianne Levinsen's design intervention which included a system of hardscaped and organic elements designed to detain stormwater and create unique places to rest and play. These elements include:

- **SWALE** – a playful, vegetated bioswale designed to filter stormwater.
- **STAGE** – a bowl shaped lawn and stage designed to detain stormwater overflow.
- **LOOP** – an interactive water feature designed to detain and recirculate stormwater.



PLAN BY MARIANNE LEVINSEN LANDSKAB

TERRAIN

Besides Lindevangsparken, there are only small linear green spaces in West Fredericksberg. Therefore the park is important to the neighborhood both in supporting biodiversity and providing residents with opportunities for relaxation and nature play. While there is a shortage of green space in the neighborhood, there is an abundance of preschools and kindergartens that use the playground at the north end of the park and enjoy government sponsored activities such as rock painting and tree climbing. Given its location between two flood prone areas, the park is an important site of stormwater detention, with the capacity to hold and slowly release over 2,500 m³ of stormwater.

LEGEND

- Kindergartens
- Green spaces
- Water Catchment Area

DIAGRAM BY SHIHUI LIU

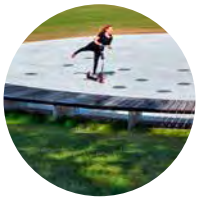
SITE

The project consists of two separate systems with different catchment areas. Lindevangsparken receives stormwater from the neighborhood in the north and detains it in its swale and stage. Meanwhile the loop detains stormwater from adjacent streets, retaining and recirculating a portion of this in its water feature.

① **SWALE:** **250 M³**

② **STAGE:** **1600 M³**

③ **LOOP:** **700 M³**



STORMWATER MANAGEMENT

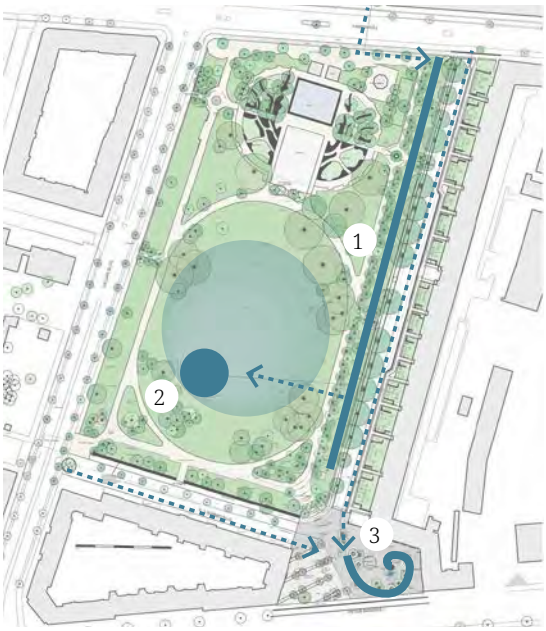


DIAGRAM BY SHIHUI LIU

Urban Greening

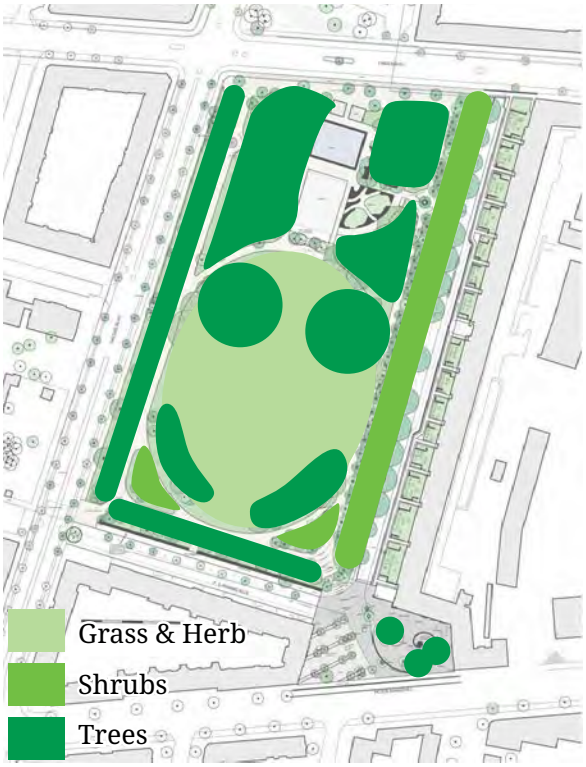


DIAGRAM BY SHIHUI LIU

Social Amenity

DIAGRAM BY SHIHUI LIU

INTERVENTION

A bowl shaped lawn draws both people and rainwater to its center. On sunny days people gather on benchs around a stage that marks the lowest point of the bowl. During cloudburst events water from the swale overflows into a dry well below the stage. From the well the water slowly rises to fill the bowl of the lawn before slowly draining into the ground and sewer. The concrete stage prevents the lawn from becoming muddy.

Sunny Day

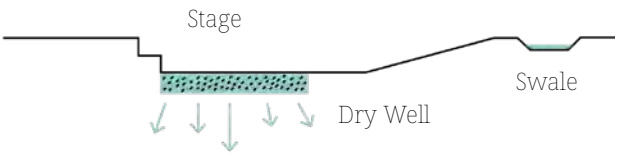
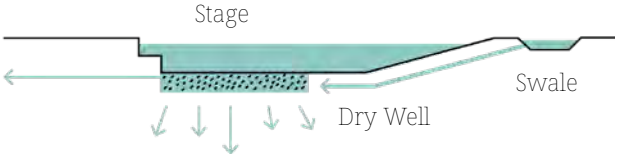


PHOTO BY ALANNA MATTESON

After the Rain



DIAGRAMS BY ALANNA MATTESON

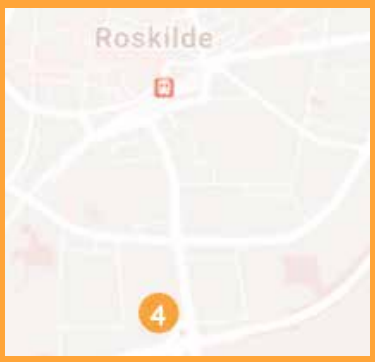
PHOTO BY FREDERIKSBERG FORSYNING

The linear park and stormwater system is a recreational oasis that celebrates the coexistence of the water flow and human motion.

PHOTO FROM MUSICON.DK

RABALDER PARK

ZOE KASPERZYK



LOCATION Roskilde, Denmark

FIRMS SNE Architects / Nordarch / GBH Landskab/ COWI / Hoffmann A/S / Grindline

CLIENT Roskilde Municipality & Roskilde Forsyning

STATUS Completed 2012

PHOTO BY SNE ARCHITECTS

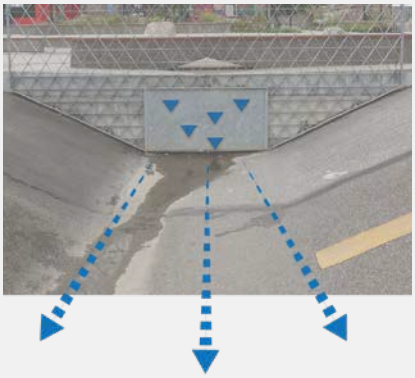
Rabalder Park is a site that reimagines stormwater infrastructure by bringing together water and recreation. As the city of Roskilde began redeveloping a former concrete factory into a creative district, they prioritized their stormwater infrastructure planning. Instead of just building a series of pipes, canals, and water basins to be used during infrequent storm events, they wanted to invite people to enjoy the space when it is not being used for stormwater purposes.

Since the project is a drainage system first, the recreational activity would have to fit within the design parameters of the water infrastructure. Skateboarding has always been about experimenting within the built environment and pushing the boundaries of where someone can skate. Ditches, pools, and spillways are popular spots to skateboard, but Rabalder Park is the first project where a municipality has designed their stormwater infrastructure with the intent of it being skated. It makes the park a destination for skateboarders for its innovative design as well as a successful multifunctional space for the municipality.

COLLECT

CHANNEL

STORMWATER SYSTEM



- Stormwater from the surrounding district's open canal system gets funneled to the park
- Water passes through a grate and into the ditch

DIAGRAMS BY ZOE KASPERZYK

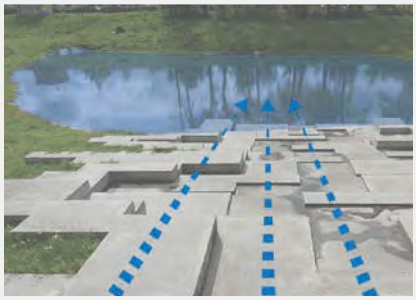
- Water is channeled through an asphalt canal or a concrete skateable drainage ditch
- The stormwater is

RABALDER PARK PLAN

1 *Drainage Grates*
2 *Asphalt Ditch*
3 *Concrete Ditch*
4 *Lake Basin*
5 *Water Basin 2*
6 *Water Basin 3*
7 *Recreational Area*
8 *Slide*

PLAN BY NORDARCH

DETAIN



directed to one of three water basins

- The drainage canals are between 60 and 90cm deep

- Stormwater fills the lake basin first followed by the skate bowl and then the field basin
- The skate bowl can detain 10 Olympic-size pools of water
- A pump empties the water into the sewage system within 24 hours

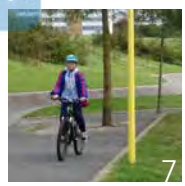
RECREATION

SLIDE, SKATE LEDGES


8


1

BIKE PATH, PLAY, PARKOUR


7

EVENTS, LAKE, HANG OUT SPOTS

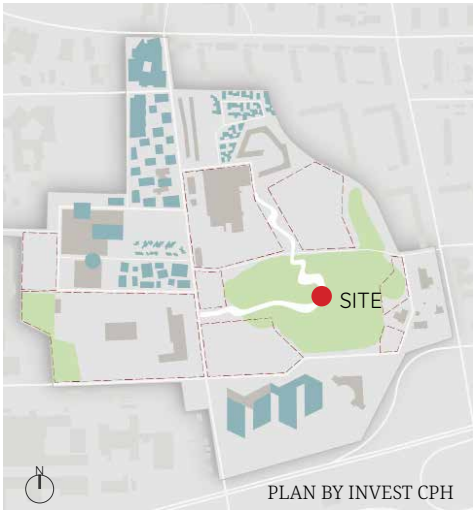

5


PHOTO BY VISITROSKILDE


4

PHOTOS BY ZOE KASPERZYK

MUSICON DISTRICT



PLAN BY INVEST CPH

- Live-work creative district focused on innovation and music
- Adaptive redevelopment of industrial area began with developing a stormwater infrastructure plan
- District centers around public space and Rabalder Park

SUND Nature Park provides a "wild" nature experience for visitors while also supporting biodiversity and stormwater management.

PHOTO BY SLA

SUND NATURE PARK

EMILIO CRADDOCK + HEATHER PARKER

LOCATION Blegdamsvej 3, DK-2200 Copenhagen

FIRMS SLA, C.F. Møller, Rambøll, Aggebo & Henriksen

CLIENT Bygningsstyrelsen and University of Copenhagen

STATUS Completed 2017

SUND Nature Park surrounds the Mærsk Tower, which is the University of Copenhagen's health sciences campus, in Copenhagen's multicultural Nørrebro neighborhood.

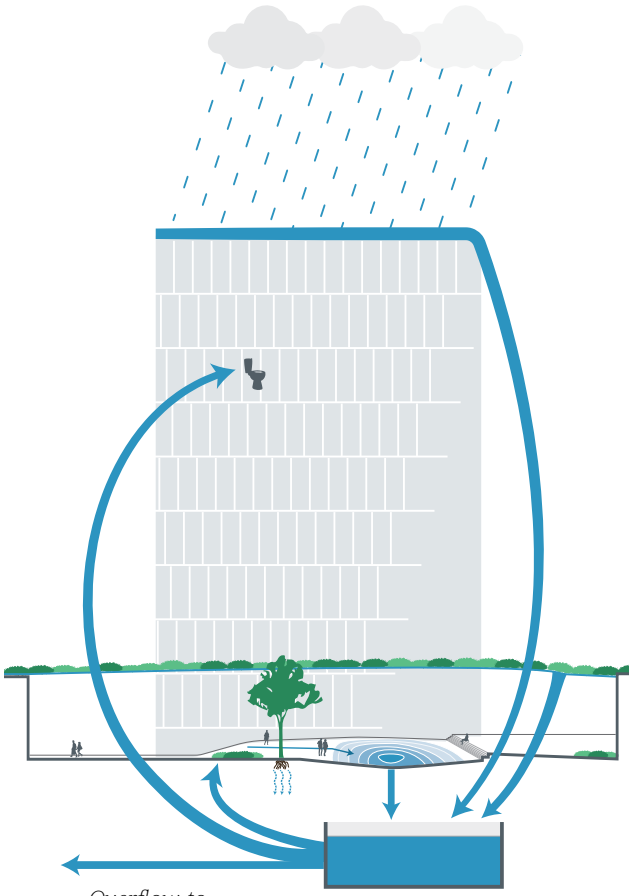
The park fuses research, study, and public life by performing integrated stormwater, ecological, and social functions. More specifically, the park aims to:

- Support climate adaptation and community resilience by managing all stormwater on-site.
- Increase biodiversity while providing a wild nature experience for visitors.
- Create a gathering space for the Nørrebro community while connecting the neighborhood to the university.

STORMWATER MANAGEMENT STRATEGY

All of the stormwater from the park, buildings, green roofs, and surrounding streets is collected and naturally cleansed on-site. The water is then stored in underground reservoirs and reused for park irrigation and for toilet flushing.

AN INTEGRATED SYSTEM OF WATER COLLECTION AND REUSE



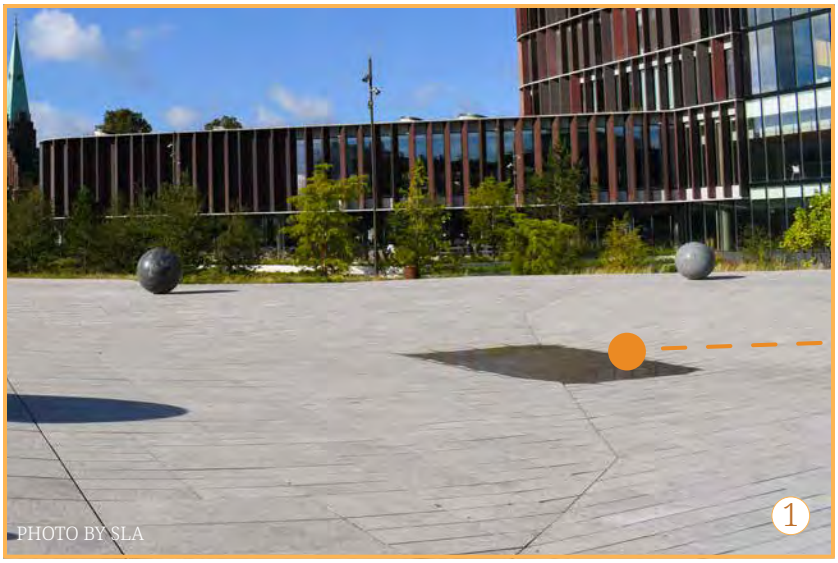


PHOTO BY SLA

1

The main public plaza in the southeast corner of the site doubles as a retention pond that gathers rainwater in a visible way.

Intensive roof gardens provide habitat for numerous species as well as opportunities for urban agriculture.


PHOTO BY CRADDOCK

2

The gardens are maintained to be accessible for people as well as create habitat for urban wildlife.

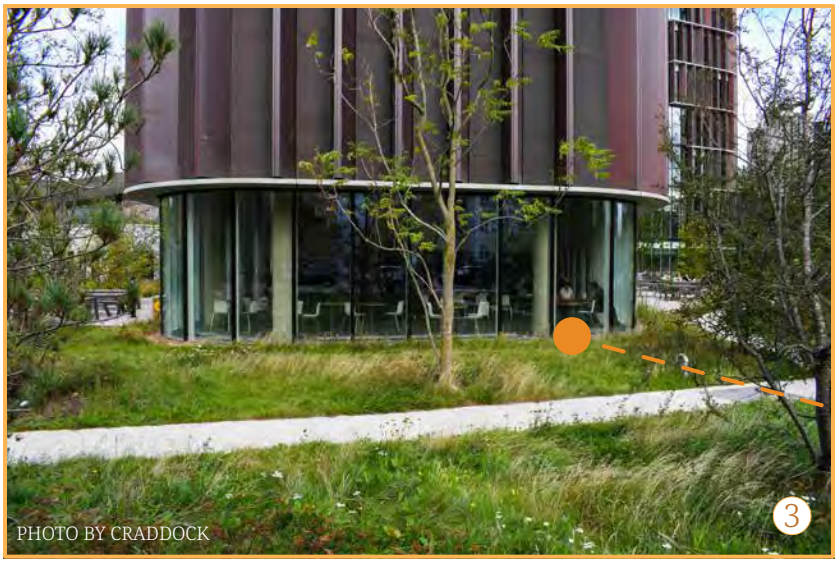


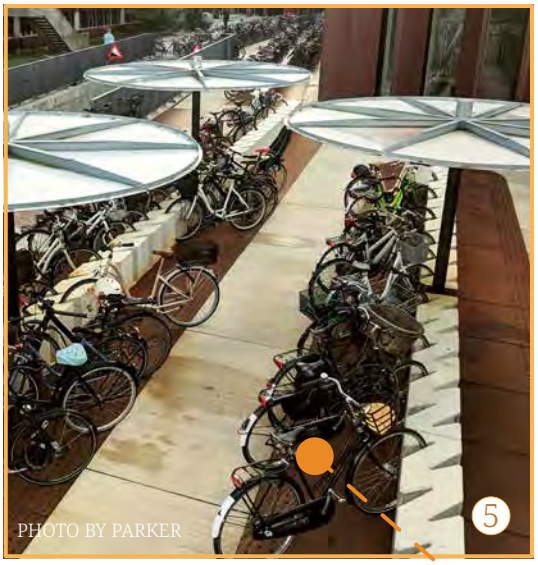
PHOTO BY CRADDOCK

3

Natural habitats surround the building, immersing users in a wild landscape not common within the city.

An elevated walkway traverses the entire site guiding people over and through numerous roof ecosystems.

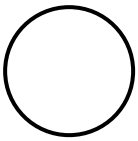
Rain garden planted with native plants retains rain water while creating habitat.



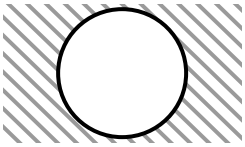
Bike parking doubles as a porous water detention system.

Seating is integrated into the terrain and visitors are encouraged to engage with the flora; many trees are labeled for educational purposes.

INTERVENTION



community



hydrology

SOURCE: SLA

SOURCE: SLA

INTERVENTION COMMUNITY

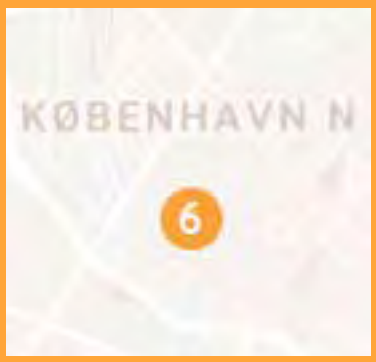
Circular platforms created as gathering places for school groups, community members and other users/uses.

INTERVENTION HYDROLOGY

Emerging out of a flooded park, these ‘island’ platforms provide further cloudburst mitigation for extreme events and smaller vegetated pockets allow for infiltration.

HANS TAVSENS PARK & KORSGADE

JAKE MINDEN + MENGTING YE



LOCATION Nørrebro, Copenhagen - Denmark

FIRMS SLA (lead consultant) Ramboll, Arki_Lab, Gadeidræt, Aydin Soei, Social Action, Saunders Architecture

CLIENT The Municipality of Copenhagen

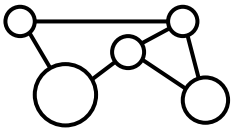
STATUS In progress

SOURCE: SLA

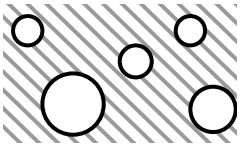
The redesign of Hans Tavsens Park and Korsgade is an upcoming project designed by SLA in the dense and diverse neighborhood of Nørrebro in Copenhagen. While the project's primary goals are to provide climate adaptation and cloudburst solutions, community life and public space are enhanced at various scales. The design creates islands of gathering space, vegetation and water bodies and generates new local places, unifies a previously patchwork park plan, and encourages connection to the larger community and nearby cultural institutions.

The intervention, site and terrain scales are observable in both social and hydrological components of the park, employing a multipurpose framework. These 'island' interventions will directly serve two adjacent school communities and are connected via path and vegetation, or in a flood event, by water. The icons represent how identical features at many scales can perform in different ways, in this case socially and hydrologically, and contribute to a multifunctional design.

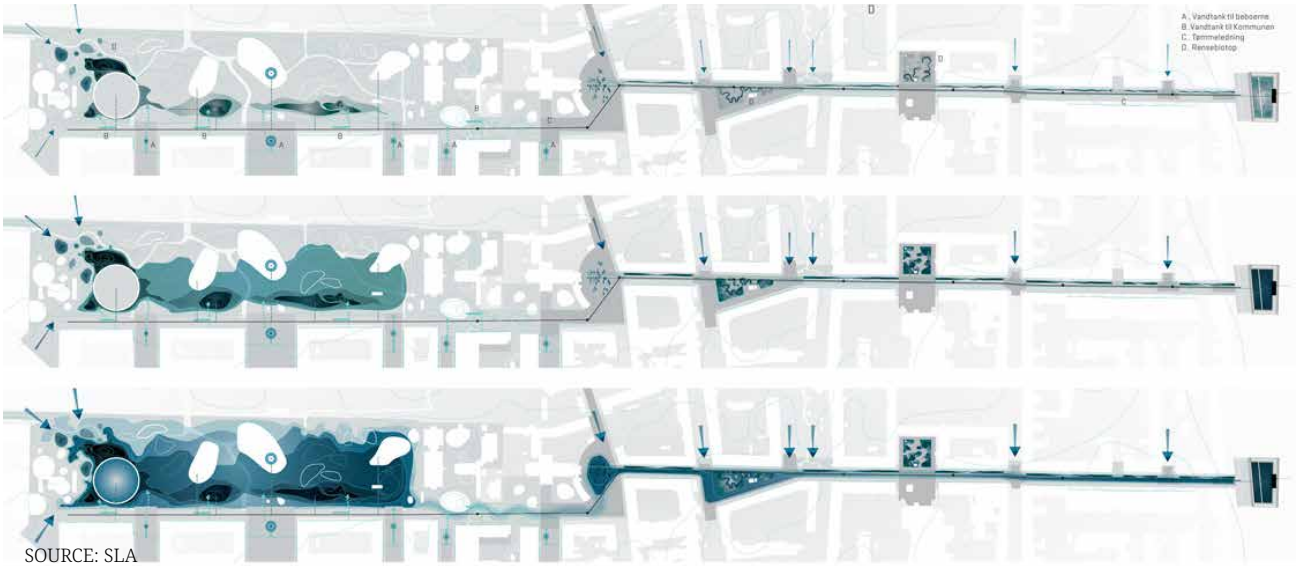
SITE



community



hydrology



SOURCE: SLA

SOURCE: SLA

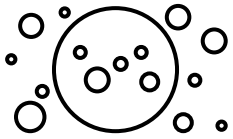
SITE COMMUNITY

Protected platforms are connected via paths and create a network of nodes that allow passage and interaction.

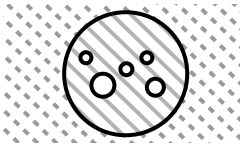
SITE HYDROLOGY

When flooded in a cloudburst event, the platforms are formally disconnected but remain unified by the water, forming an urban archipelago.

TERRAIN



community



hydrology

TERRAIN COMMUNITY

Nodes or islands extend throughout the site and beyond its boundary to engage the larger community, transit hubs, several schools groups and significant cultural institutions. There is a huge potential for using the area's institutions and schools as drivers for the entire urban development of the district.

TERRAIN HYDROLOGY

The project may need to accommodate 18,000 m^3 of rain water during extreme rainfall events. The FABLAB for City nature can use rainwater for the irrigation of plants. Rainwater can also be used to irrigate city nature biotopes, not only in urban spaces and in Hans Tavsens Park, but also on private balconies and in the backyards of buildings.

Karen Blixen Plads by COBE

PHOTO RETRIEVED FROM HTTPS://WWW.APMOLLERFONDE.DK/PROJEKTER/KOEBENHAVNS-UNIVERSITET-AMAGER/

KAREN BLIXEN PLADS & ØRESTAD

DYLAN MARCUS + HEXIANG WANG

LOCATION Ørestad Neighborhood

FIRM COBE

CLIENT University of Copenhagen

STATUS Completed 2019

PHOTO BY HEXIANG WANG

Karen Blixen Plads is located at the northern end of the Ørestad neighborhood, on the University of Copenhagen campus. The layout is designed in a way that echoes Nørreport Station in that it is largely based off of pedestrian and cyclist circulation patterns. It is successful in designing for stormwater management, unique aesthetics, and for the flow of people - unlike many other areas of Ørestad utilizing similar core features.

PHOTO BY DYLAN MARCUS

Circular planting areas provide filtration, greenery, and a smooth transition to denser plantings to the south

Uncovered bike parking provides extra detention and seating

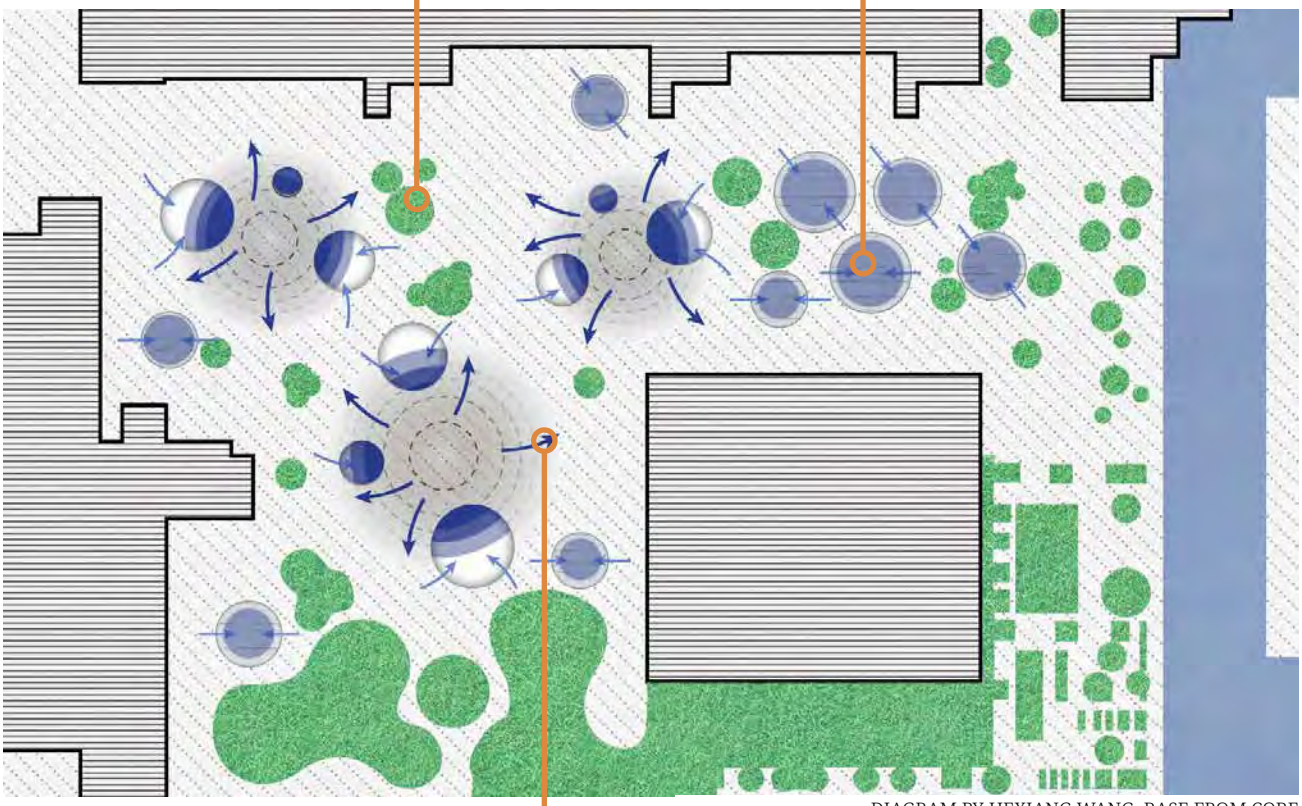


DIAGRAM BY HEXIANG WANG; BASE FROM COBE

Mounds created by covered bike parking dictate topography, water flow, and division of spaces for relaxing/congregating/movement/performance

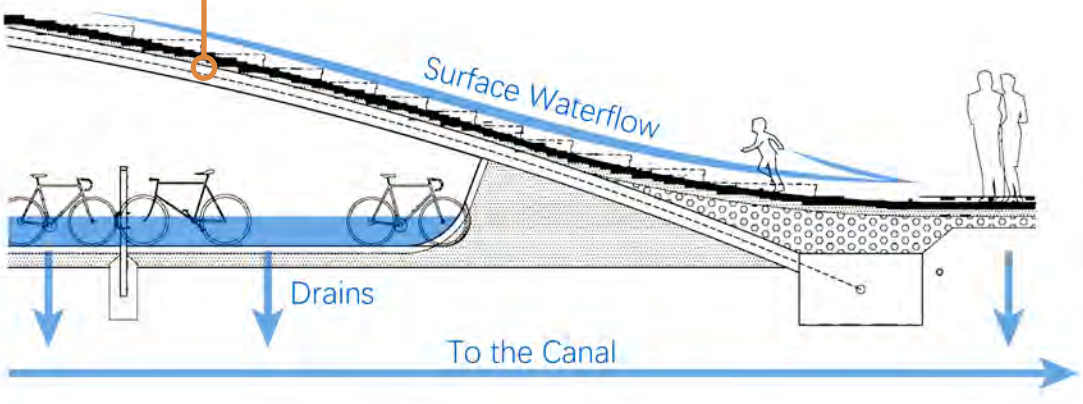


DIAGRAM BY COBE WITH EDITS FROM HEXIANG WANG

PHOTO BY HEXIANG WANG

Ørestad's water management scheme is defined by a number of detention areas, which typically take the form of canals.

OVERLAY BY DYLAN MARCUS; BASEMAP BY GOOGLEMAPS

Karen Blixen Plads appears to drain into 1-2 canals at the northen end of Ørestad. The curvilinear canal appears to be more of a reservoir, having high points at either end and a low point towards the middle. The two canals appear to drain underground to the north from their low points.

PHOTO BY DYLAN MARCUS

A large wetland with boardwalk and trail system allow for infiltration and filtration, as well as recreation.

PHOTO BY DYLAN MARCUS

OVERLAY BY DYLAN MARCUS; BASEMAP BY GOOGLEMAPS

Ørestad was conceptualized as a "6th finger" in that its development was heavily influenced by a new metro line, which runs North-South.

PHOTO BY DYLAN MARCUS

PHOTO BY DYLAN MARCUS

PHOTO BY HEXIANG WANG

While the University of Copenhagen campus technically comprises the northern section of Ørestad, the presence of multiple busy roads running East-West divide the North-South oriented neighborhood. The wetland and greenspace—part of Amager Fælled—further separates the Campus from th rrest of the neighborhood.

The central and southern sections of Ørestad have seen a large amount of development, but extremely low rates of renters living in the neighborhood. This has exacerbated the vehicle-centric feel of those areas.

PHOTO BY HEXIANG WANG

Left: Recent apartment development in the central section of Ørestad

Below: Cloudburst canal running through new apartment complex in the central section of Ørestad

PHOTO BY DYLAN MARCUS

The disconnect is perpetuated in the cloudburst system: although canals are a constant, northern Ørestad appears to drain to the north; the middle section to the west; and the southern section to the south.

Left: Underutilized public space along the canal in the southern section of Ørestad

PHOTO BY SLA

THE CITY DUNE / SEB BANK

JIM DITTO + DANIELLE DOLBOW

LOCATION Bernstorffs Plads, Copenhagen, Denmark

FIRMS SLA, Rambøll, Lundgaard & Tranberg

CLIENT SEB Bank and Pension

STATUS Completed 2010

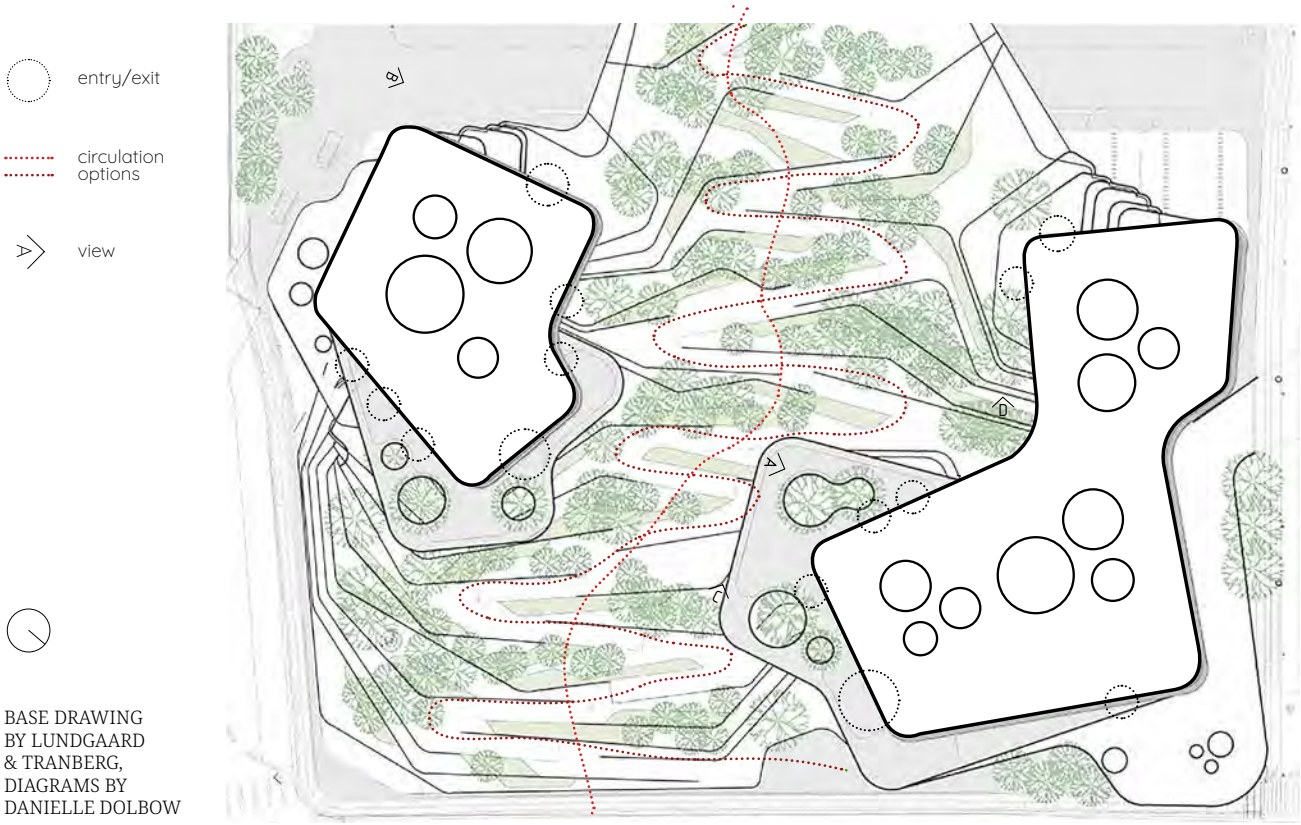
TRACES OF WATER

What was envisioned as a Swedish hillside embedded into the urban fabric of downtown Copenhagen, Bymilen is commonly called The City Dune. The public space spans the gap between the rippling facades of SEB Bank's two curvilinear towers. Their mirrored finish reflects sky blue and an algal green, an etching of trunks and limbs staggering their way up some of the buildings' windows. Breaking up the glass into horizontal levels, striations of brown rise overhead, recalling the layers of ash and dust layered in ice caves and glaciers.

Between the buildings, the landscape also spells out and speaks the language of water. Islands of soil and vegetation dot and divide the flow of ramped concrete walkways and platforms, turning the flow of city life this way and that or allowing it to pour over and ripple down towards the rush of Copenhagen traffic below. On a stormy day the water runs and slips into clever cracks and discrete drains. On dry days, it is suggested in all of the detailing.

The amenities may lack to draw a crowd, but with the canopied concrete dappled and dazzling bright in the sun, the Dune abides.

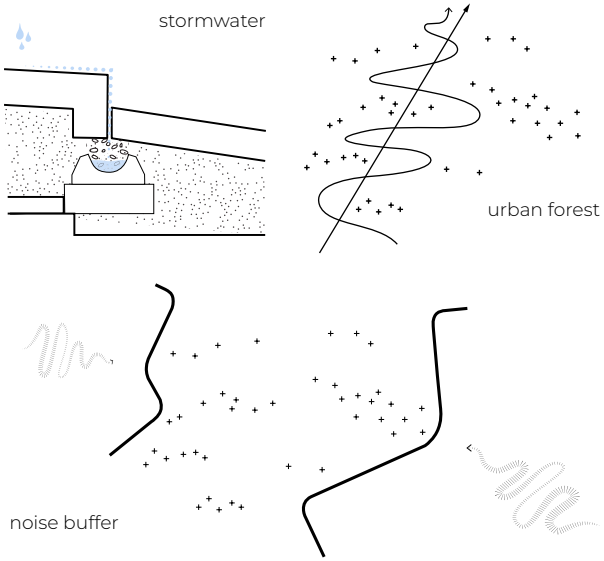
IMAGE FROM GOOGLE



BASE DRAWING BY LUNDGAARD & TRANBERG, DIAGRAMS BY DANIELLE DOLBOW

FLOW

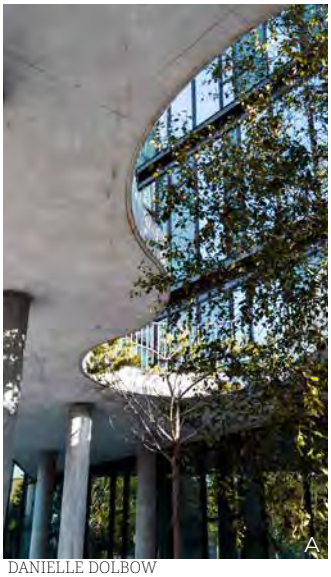
Allowing ones eyes to follow the dotted lines above reveals a meandering flow, good for dissipating speed and allowing ample opportunity for diverting water into the planters and towards the drainage system.



Those who traverse the park do so like water, gliding gracefully down ramps or trickling down and over the stepped descent. It should be no surprise that this is a place loved by skateboarders most of all.

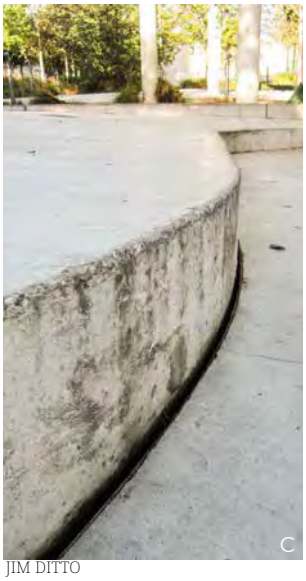
RESERVOIRS, DOGS

The building's parking garage rests beneath the terraced, concrete landscape. Cars pool below ground removed from the pedestrian realm. Similarly, cisterns hold rainwater which is recycled into the planter beds. 9 years after their installation, only five have died off and the rest have filled in beautifully. The Dune now feels like a wooded ravine or gorge, the flow of water a rainstorm away. The common absence of people provides a similar sense of isolation. A man and his dog filled the whole space in the morning, tourists and skateboarders sparsely occupied it in the evening.



DANIELLE DOLBOW

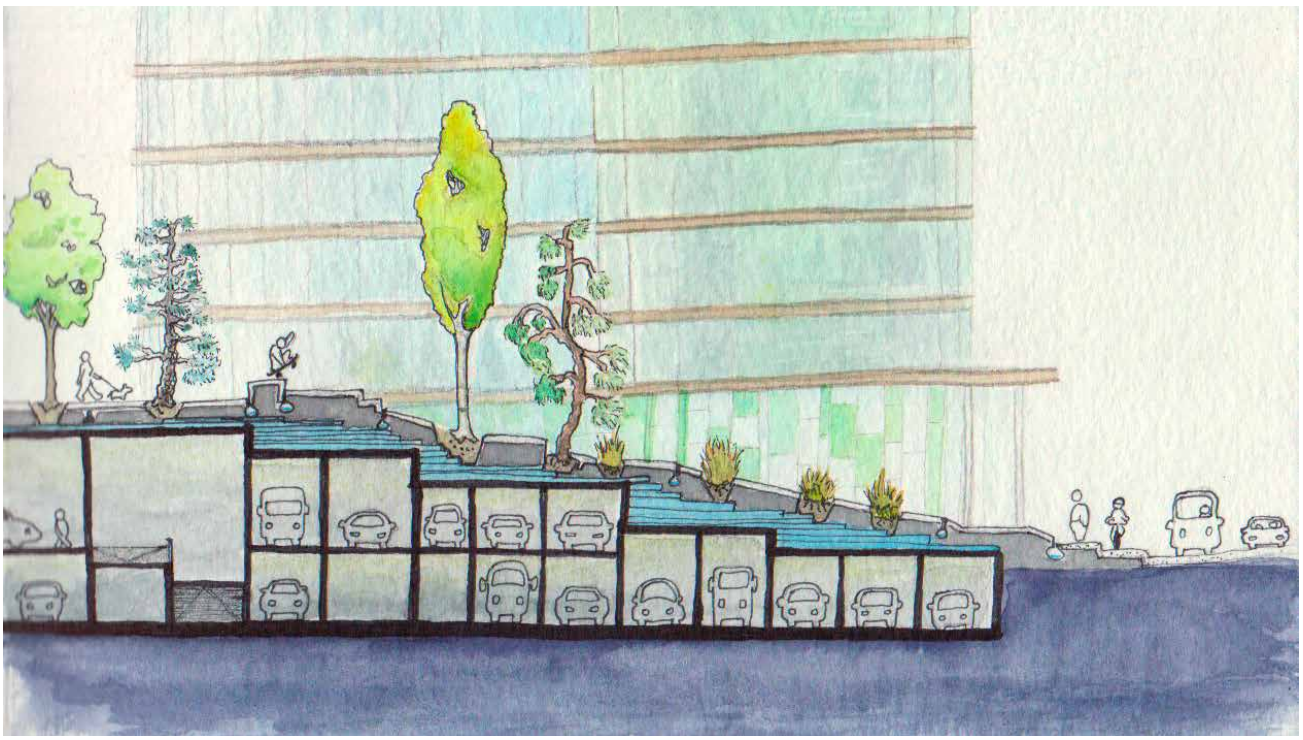
DANIELLE DOLBOW



JIM DITTO

JIM DITTO

The site was visited at 8am, 12pm, and 9pm on a Thursday. During the first site visit, two gardeners or landscapers were handling the minimal maintenance required for the low level of diversity of the plantings. The trees were well pruned and fire was used in place of weeding, leaving bare soil around many of them. This appears to be an aesthetic choice. These unplanted areas may reduce the absorbance of stormwater, as the tree alone provides roots to drink it up. It was unclear if the lack of complimentary or competitive plants in the surrounding soils were affecting the health or longevity of the plants.

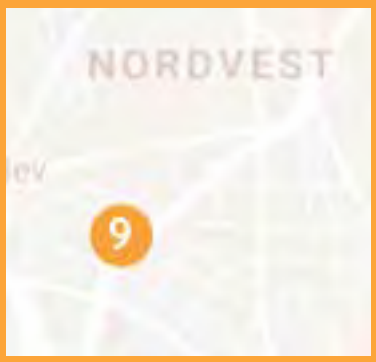


SECTION BY JIM DITTO

South edge of plaza
PHOTO BY KELSEY MCKAY

BIBLIOTEKET / PLAZA

KELSEY MCKAY



LOCATION Copenhagen's Northwest Quarter

FIRMS COBE, Schønherr

CLIENT Municipality of Copenhagen

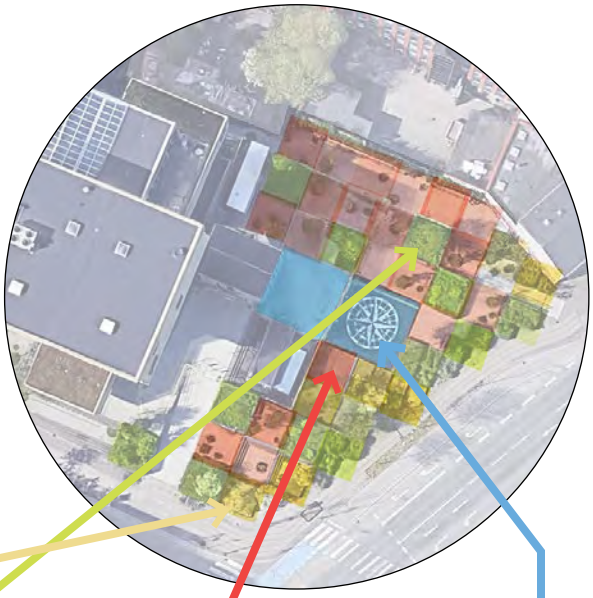
STATUS Completed 2014

- Urban plaza in front of the library and culture house.
- Won Danish Landscape Architecture Award in 2017.
- Building and landscape were designed as a coherent whole, with a high exchange between the interior and exterior.
- Design was impacted heavily by community engagement.
- "Front yard" suited for the array of programs in the golden library and culture house, as well as the neighborhood's mix of movement and activity.
- Storm water retention through the gridded landscape and grade change.


PHOTOS FROM GOOGLE EARTH

INTERVENTION

- Terraced grid of 5x5 meters.
- Two 10x10 meter hardscape for play.
- Multi-functional usability.
- Small grid and lush landscape allow groups as well as individuals to stay and enjoy the space year round.



GRAPHIC BY
KELSEY MCKAY

JENS LINDHE

SCHØNHERR

KELSEY MCKAY

SCHØNHERR

SITE

- The plaza was built where a petrol tank was previously located, and is now a landmark for the community in the Northwest Quarter.
- The grid creates a variety of spaces that offer visibility, security, and accessibility.
- Lush landscaping is a permeable screen from the heavy traffic at the adjacent intersection.

PHOTO BY KELSEY MCKAY

TERRAIN

- The plaza was built where a petrol tank was previously located.
- 2 meter grade change from the library to the intersection at the corner of the lot.
- 16,000 cubic meters of storm water is annually delayed by the terraced landscaping beds.
- Each 5x5 meter bed has a drain, surplus water is diverted to the sinking stairwell.
- LAR facility.

PHOTOS BY WLA, GOLDEN LIBRARY
BEFORE PLAZA INTERVENTION

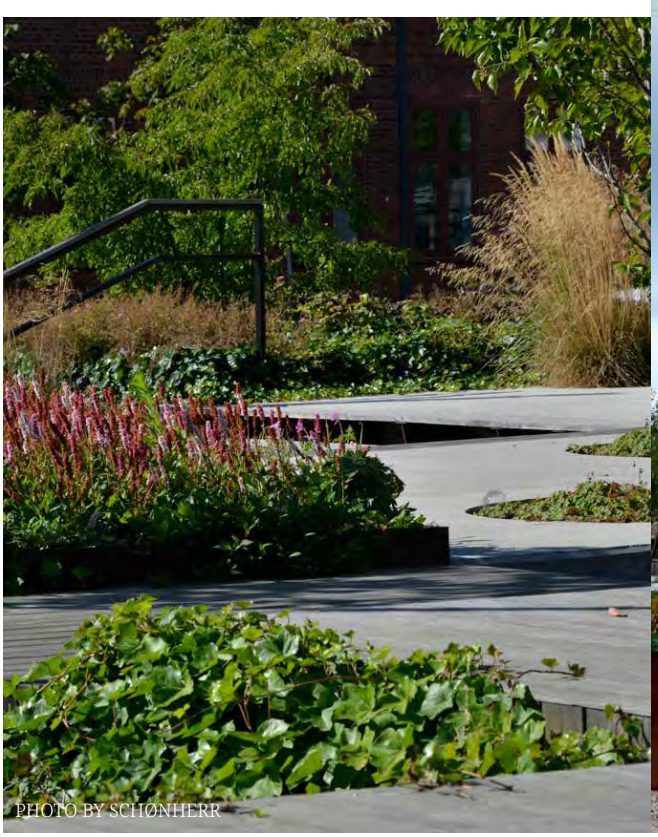


PHOTO BY SCHØNHERR

PHOTO BY SCHØNHERR

Outline of study area in Seattle, WA

DISTRICT & SITE ANALYSES

We defined the district area based upon the Capitol Hill EcoDistrict and their Public Realm Planning, the 2030 District, and the basin boundaries that drive municipal decisions about stormwater management. Students conducted the analyses to understand the study area's environmental, social and cultural qualities and patterns; to become familiar with the current plans, guidelines and imminent urban design actions; to identify sites/public realm areas with the highest potential to achieve public space and water management goals; and to ground our knowledge of the district in human use, desires and behaviors. A combination of on-the-ground reconnaissance and archival investigation uncovered the underlying qualities of the district; its current forms, flows, and processes; and future predicted conditions and plans.

ECOLOGY, URBAN GREEN & WATER

PHYSICAL & BUILT ENVIRONMENT

WHO, WHAT, WHERE

STREETS & MOBILITY

ZONING & LAND USE

DESIGN DRIVERS

SITE INVENTORY

ECOLOGY, URBAN GREEN & WATER

Jim Ditto, Heather Parker, Yuchen Wang

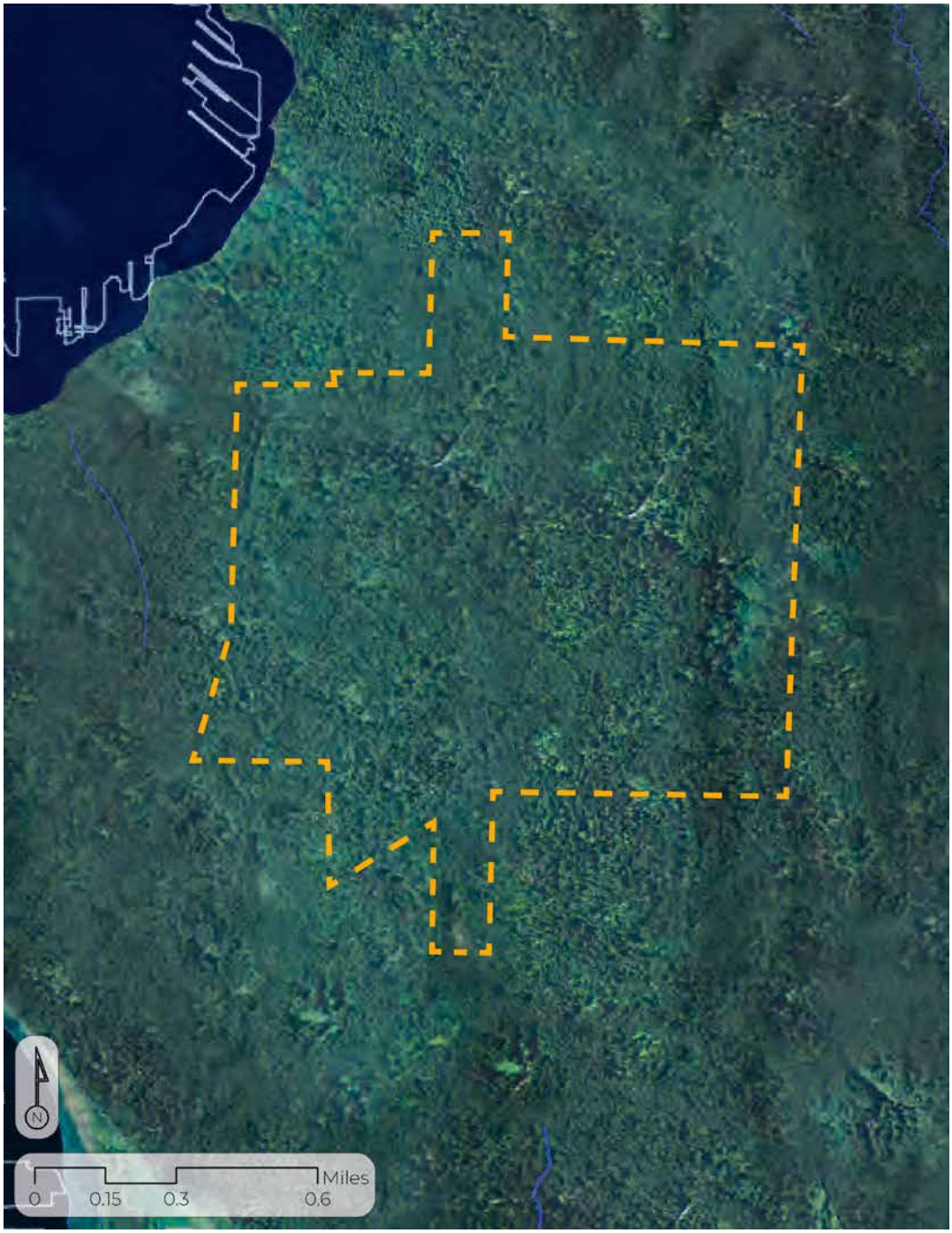
Aerial photo of N. Capitol Hill, 1937. Fully forested for thousands of years, the area was denuded of trees by the turn of the century.

Volunteer Park Conservatory, 1914. Situated at the top of the hill, the tree canopy is noticably absent from the area due to clear cutting.

Bobby Morris playfield in Cal Anderson Park, 1911. One block from Broadway, the absence of mature trees is visible.

PHOTOS FROM UNIVERSITY OF WASHINGTON LIBRARIES, SPECIAL COLLECTIONS, UW6955.

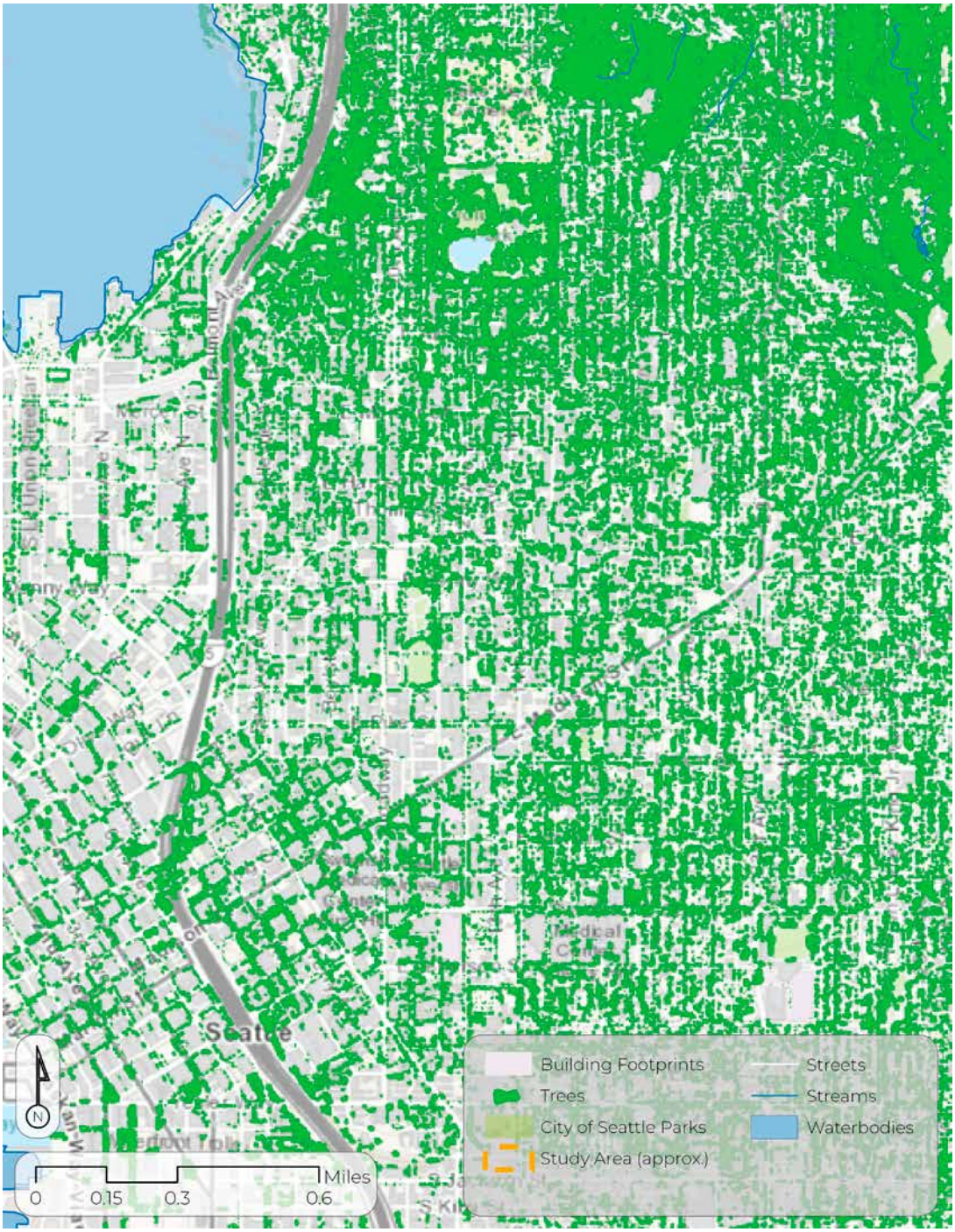
RENDERING FROM THE WATERLINES PROJECT BY THE BURKE MUSEUM



MAP BY JIM DITTO & DYLAN MARCUS

ANCIENT AGROFORESTRY

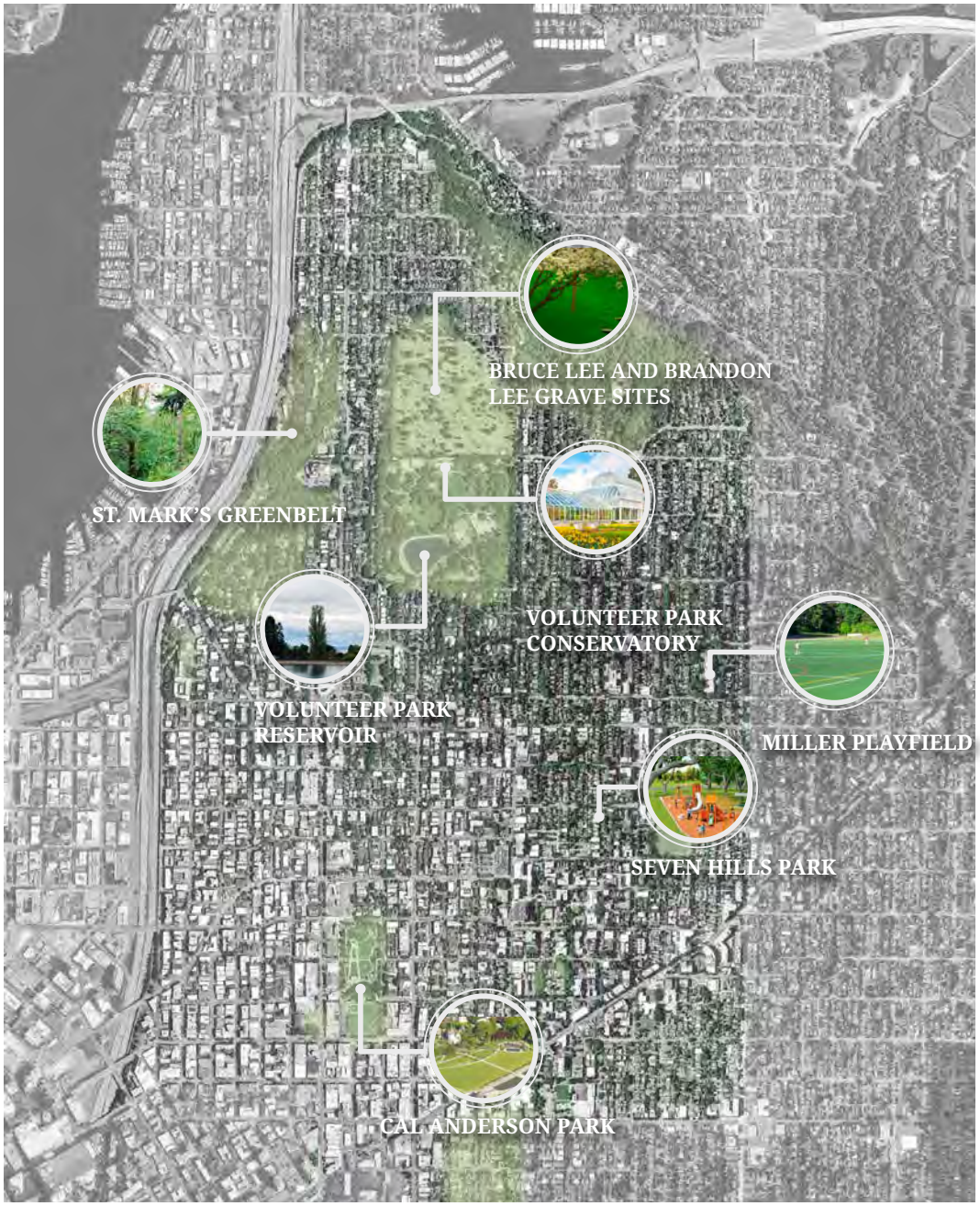
Carved out and pressed down by glaciers during the last ice age, the Salish Sea became home to a dense forest of towering trees and abundant wildlife. Stewarded for centuries by the Coast Salish peoples, what was a thriving ecosystem is currently struggling to exist among rampant development and poorly designed stormwater infrastructure.



MAP BY JIM DITTO & DYLAN MARCUS

CURRENT CANOPY

GIS data allows improved understanding of the current state of the environment, infrastructure, and the potential impacts of development. The map above does not show the age nor species of trees, rather an overall look at green cover on Capitol Hill and beyond. None of the street trees, parks, and forested areas contain trees that predate the Denny Party.



MAP BY YUCHEN WANG

HABITATS + ECOLOGICAL CORRIDORS

The most common habitats in Capitol Hill are grassland, woods, and lakes. With the exception of those on the Seattle University Campus, there are much more robust habitats in north Capitol Hill than in the southern part of district, in large part due to the greater amount of vegetation and green space in the northern part. These habitats are fragmented, and Capitol Hill currently lacks many ecological corridors to connect them. There is significant opportunity to create ecological corridors to better connect these habitats, especially between Seattle University and Volunteer Park.

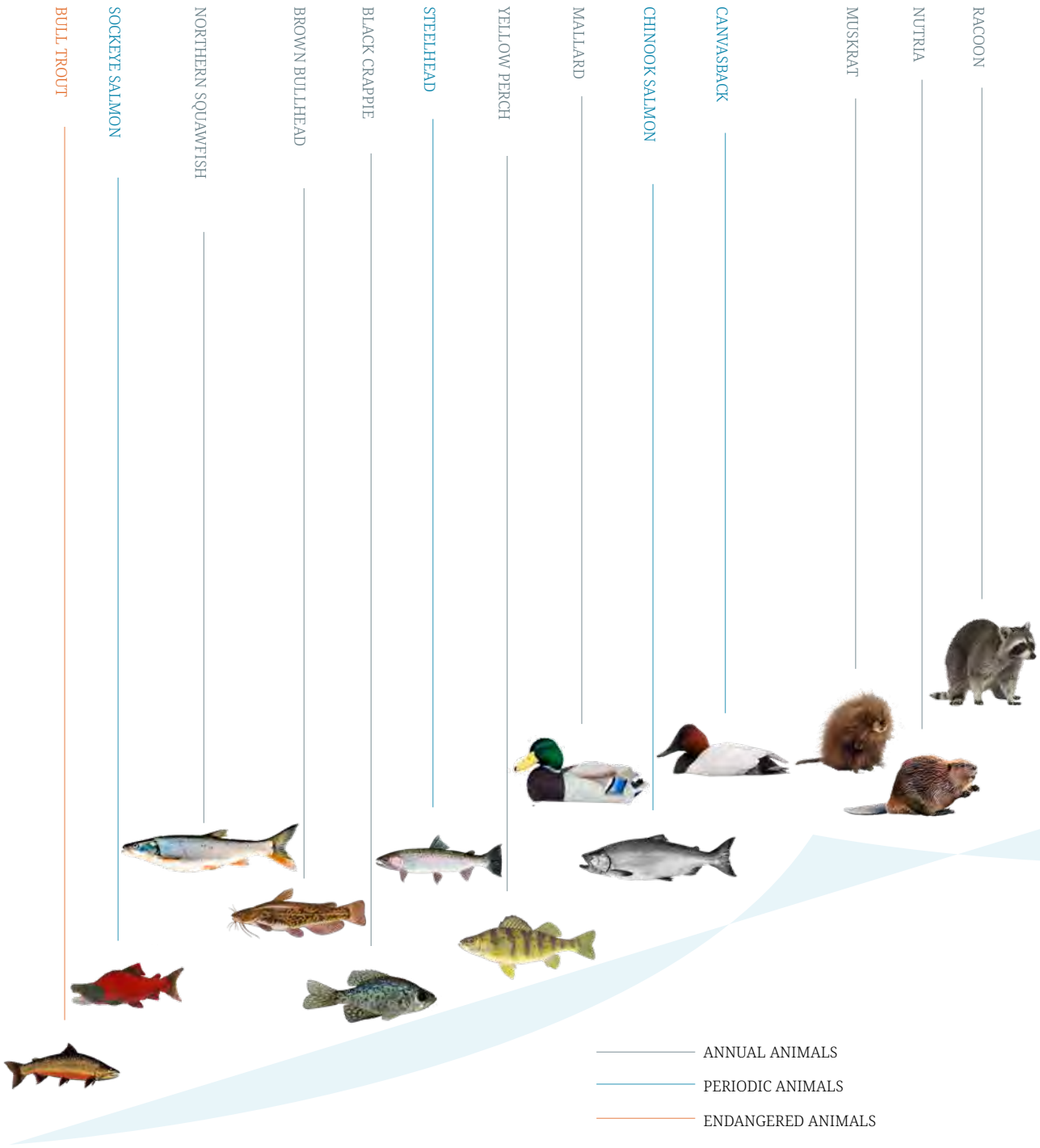
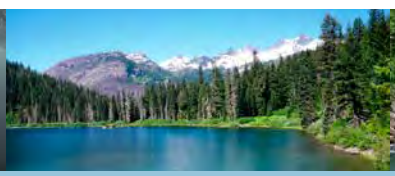
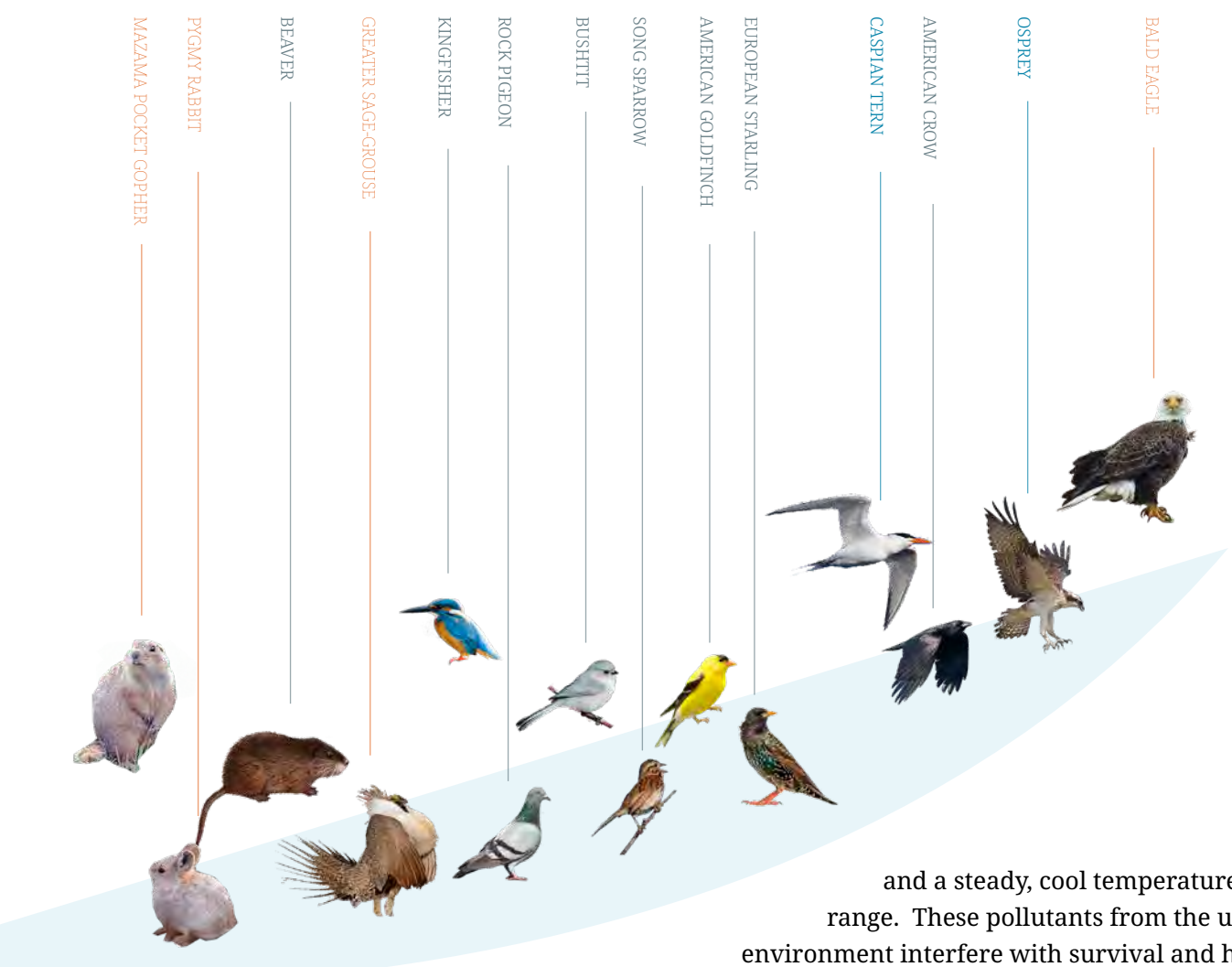


DIAGRAM BY YUCHEN WANG



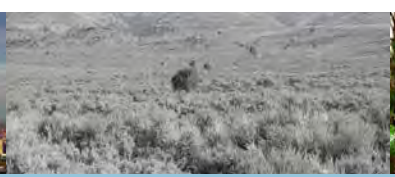
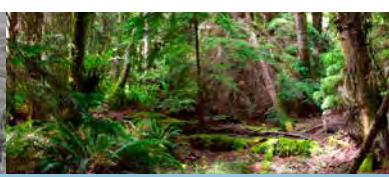
SPECIES DIVERSITY

The greatest threat to the animals in Washington state is the loss, fragmentation, and degradation of suitable habitat. In urban areas, forests have been reduced to less than 20% of their original cover, preventing the evapotranspiration and infiltration of stormwater runoff. Polluted, high-temperature stormwater runoff flows into the surrounding lakes where fish such as salmon and bull trout require stable stream channels and a steady, cool temperature range. These pollutants from the urban environment interfere with survival and health of resident and migrating species in Lake Union and Lake Washington.

Additionally, continuous forest cover that avian and other species rely on is interrupted where there are gaps in the canopy.

It is worth noting that animals such as amphibians, water-dependent birds and beavers need wetland habitat. Currently, there is a lack of wetland habitat in the Capitol Hill Ecodistrict. It is therefore our opportunity and challenge to make and save these habitats for these creatures.



EXISTING GREEN STORMWATER INFRASTRUCTURE

Though there are currently a number of existing green stormwater infrastructure projects in Capitol Hill, they still make up a small portion of the neighborhood's stormwater system, and they are not well connected. There is significant opportunity to create better drainage networks and ecocorridors by implementing more GSI.

Location of existing green stormwater projects in Capitol Hill.
MAP BY YUCHEN WANG

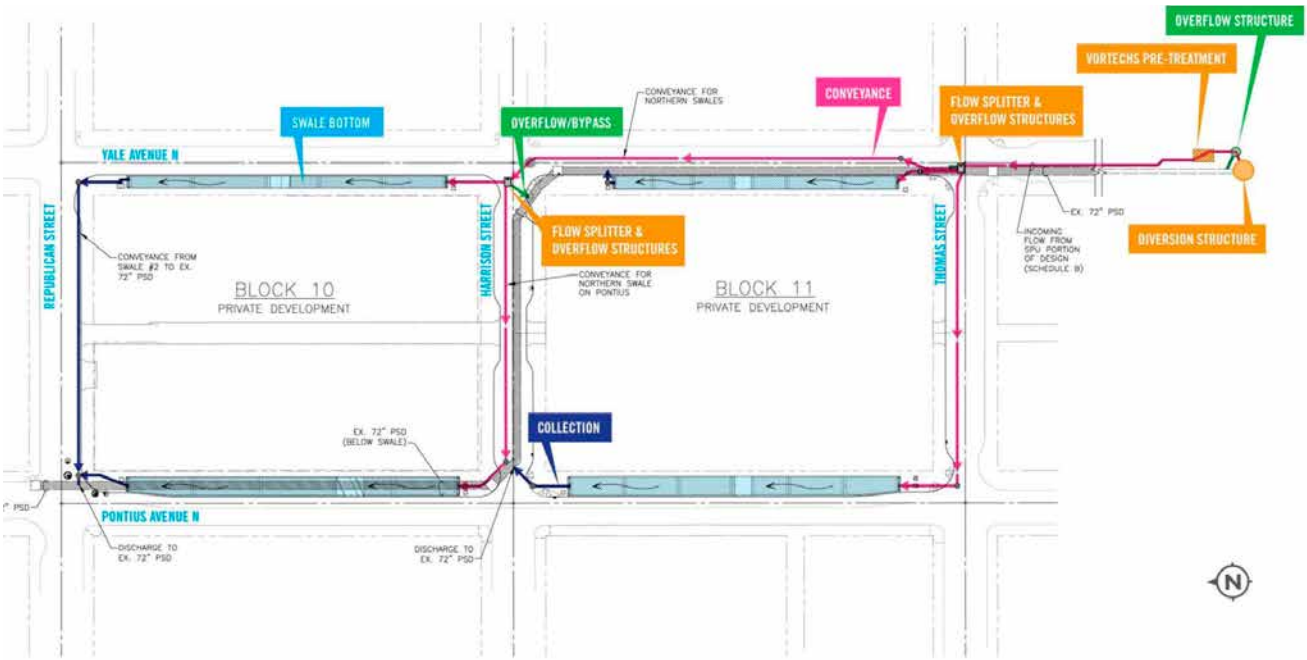
SWALE ON YALE

The Swale on Yale is located on the 300 and 400 blocks of Yale Ave N and Pontius Ave in South Lake Union and plays an important role in cleaning runoff before it enters Lake Union. The project is made up of four bioswales that, together, manage an average of 190 million gallons of stormwater that flows down from 435 acres of Capitol Hill streets and sidewalks every year.

Before entering the swales, the stormwater flow is split, and low flow is diverted to “diversion tanks,” which remove debris. This water is then released in controlled amounts into the swales, where it flows slowly through the vegetation, and drains through a discharge pipe into Lake Union.

The project forms a green corridor that is a social and ecological amenity.

PHOTO BY KPG DESIGN



Stormwater flow is split and sent through two of the four swales before being released into the lake.

DIAGRAM BY WASHINGTON STORMWATER CENTER

BASIN BOUNDARIES

Water from Capitol Hill flows into three basins: Lake Union, Lake Washington, and Elliot Bay. These basin boundaries are based on the area's terrain and account for the direction of runoff flow.

LEGEND

- Water flows to Lake Union
- Water flows to Elliott Bay
- Water flows to Lake Washington

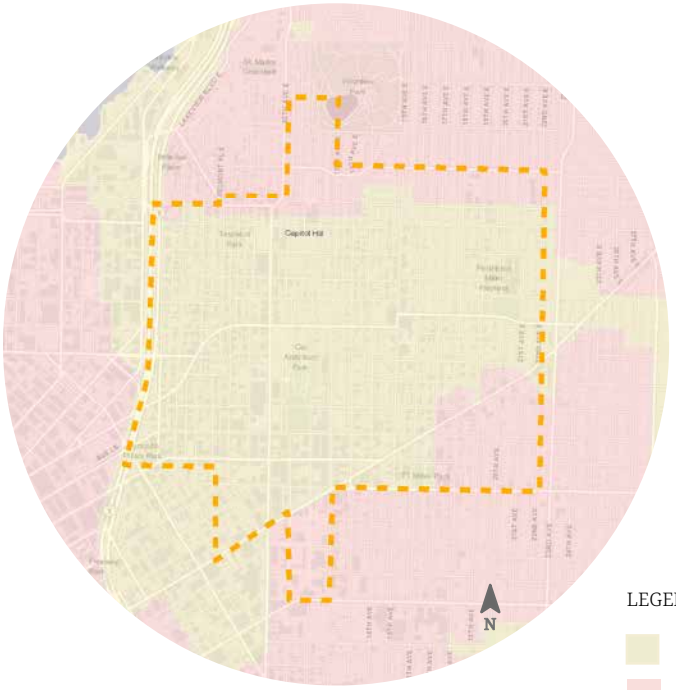
SEWER + CSO OUTFALLS

The majority of the sewer lines in the study area are under SPU's jurisdiction. Many of these lines ultimately flow to King County trunk lines that bring wastewater to the West Point Treatment Plant; however, during large storms wastewater in the combined sewer system sometimes overflows into water bodies at CSO outfalls.

LEGEND

- SPU Sewer and Drainage Line
- King County Sewer Line
- CSO Outfall

MAPS BY HEATHER PARKER



SEWER CLASSIFICATION

Most of the sewer system in the study area is a separated system in which sanitary and roof runoff are sent to the wastewater treatment plant, while street runoff drains into water bodies. The northern and southern ends of the site area utilize a combined sewer system.

LEGEND

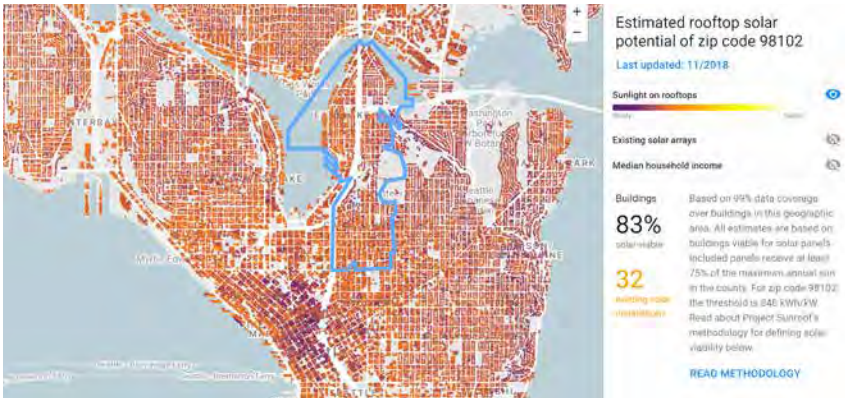
- Partially Separated Sewer System
- Combined Sewer System

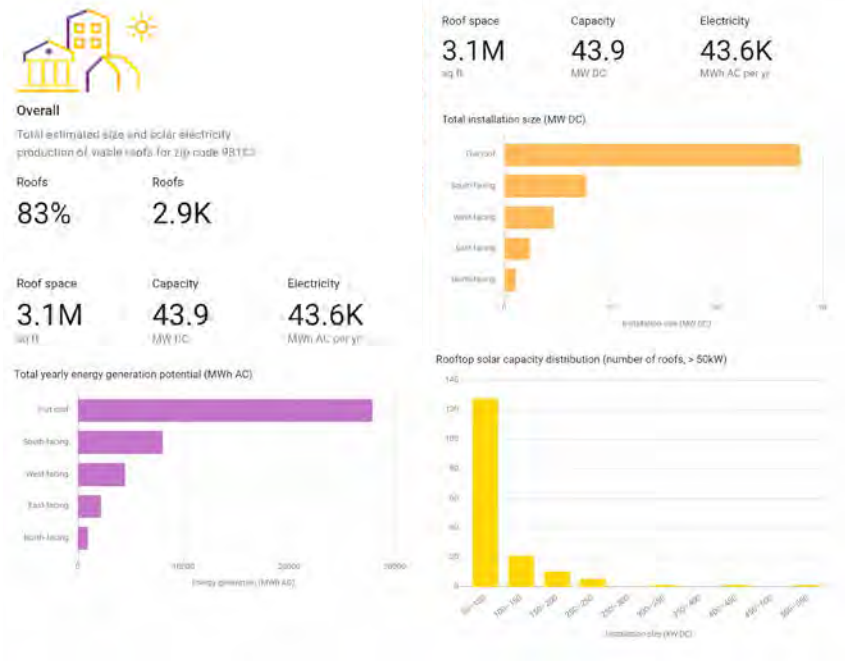
CONSTRAINED CAPACITY DRAINAGE SYSTEM

Some portions of the drainage system in the southern part of the study area have been identified as capacity constrained, which means that they cannot handle expected stormwater loads. In these areas development is required to limit the peak discharges of stormwater.

LEGEND

- Constrained Capacity Drainage System





DATA FROM GOOGLE SUNROOF PROJECT

SOLAR POWER

Despite a reputation for rain and gray skies, Seattle has excellent potential for photovoltaics. Tools such as Google's Project Sunroof (left) and Global Solar Atlas from The World Bank Group (https://globalsolaratlas.info) aid in data visulization. The data of solar capacity of Project Sunroof eases some challenges in conveying these potentials to homeowners. Several companies exist in the area that specialize in installation and maintenance.

Seattle City Light has four community solar projects in place, including in the Capitol Hill Eco District. One array is located at the Holiday Apartments one block north of Cal Anderson Park on E. John St., seen in darker yellow in the center of the map. Real time data is available on the Seattle City Light website, as seen below.

DATA FROM SEATTLE CITY LIGHT

MAP BY JIM DITTO & DYLAN MARCUS; MAP DATA FROM PUGET SOUND SOLAR, GOOGLE SOLAR ROOF PROJECT, SEATTLE CITY LIGHT, CAPITOL HILL ECO DISTRICT

PHYSICAL & BUILT ENVIRONMENT

MENGTING YE + SHIHUI LIU

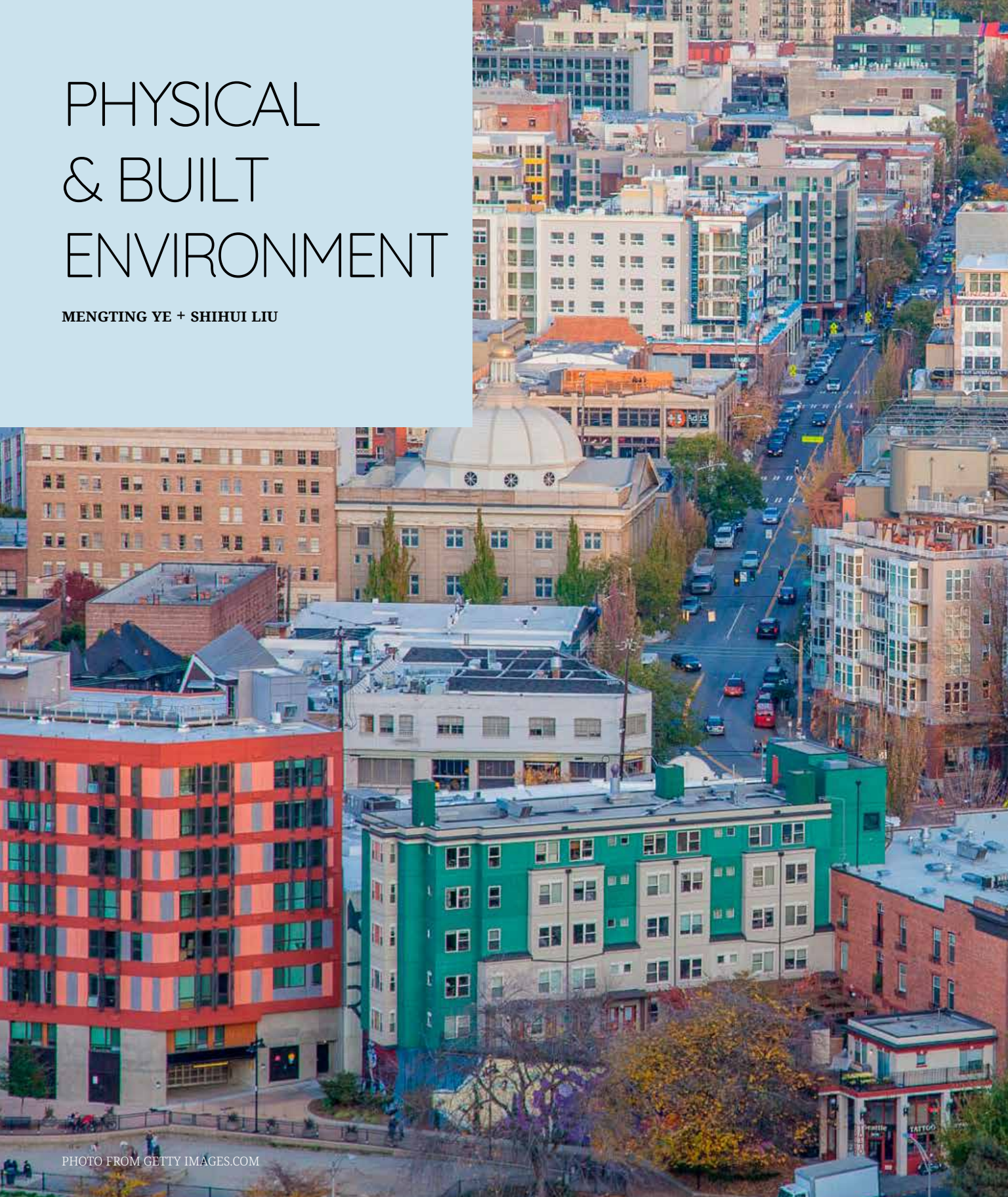
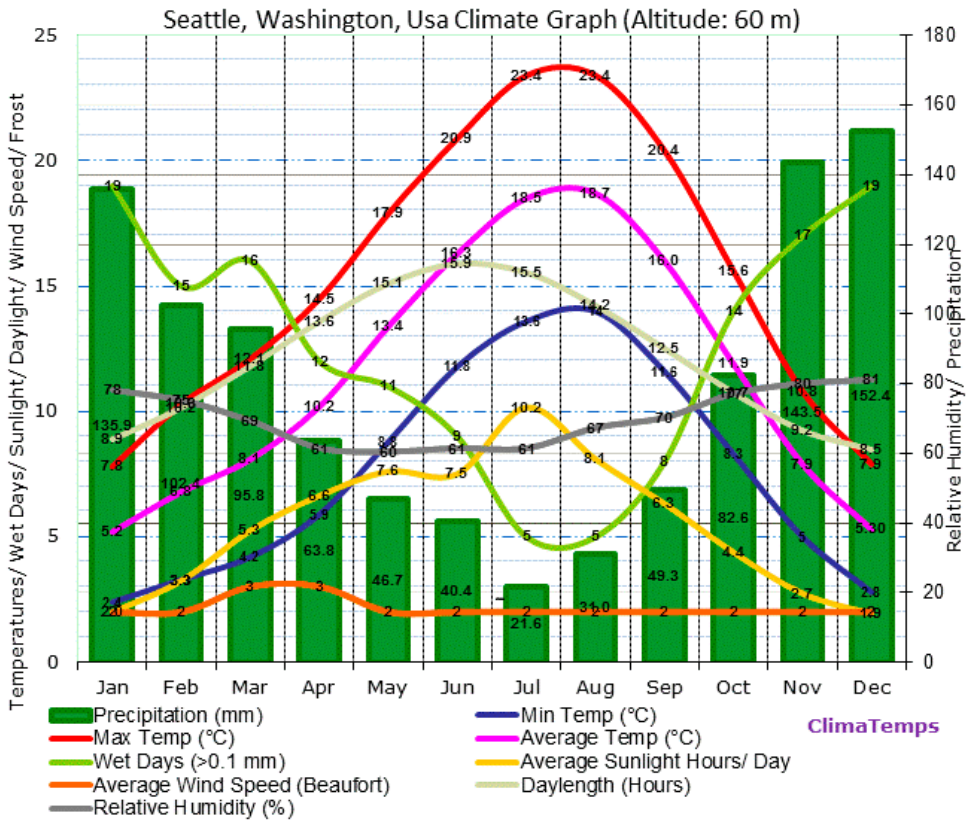


PHOTO FROM GETTY IMAGES.COM

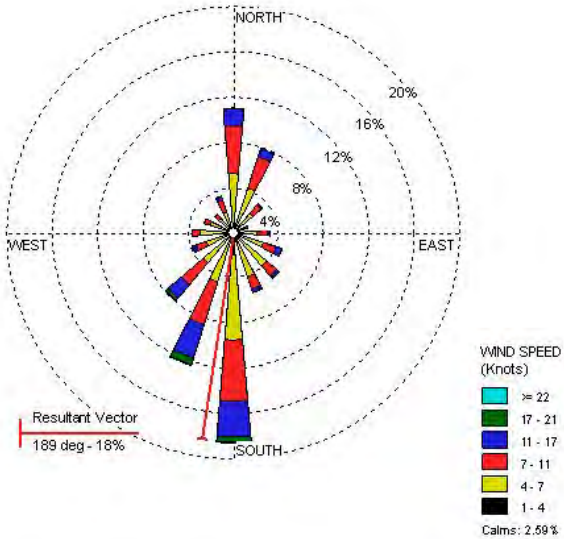
PHYSICAL ENVIRONMENT

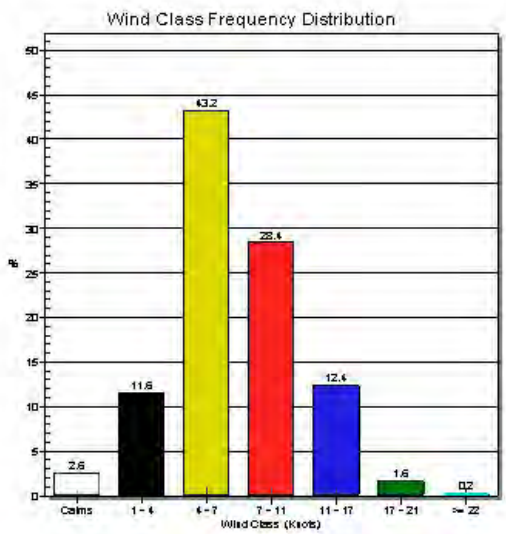
CLIMATE



DATA FROM SEATTLE. CLIMATEMPS.COM

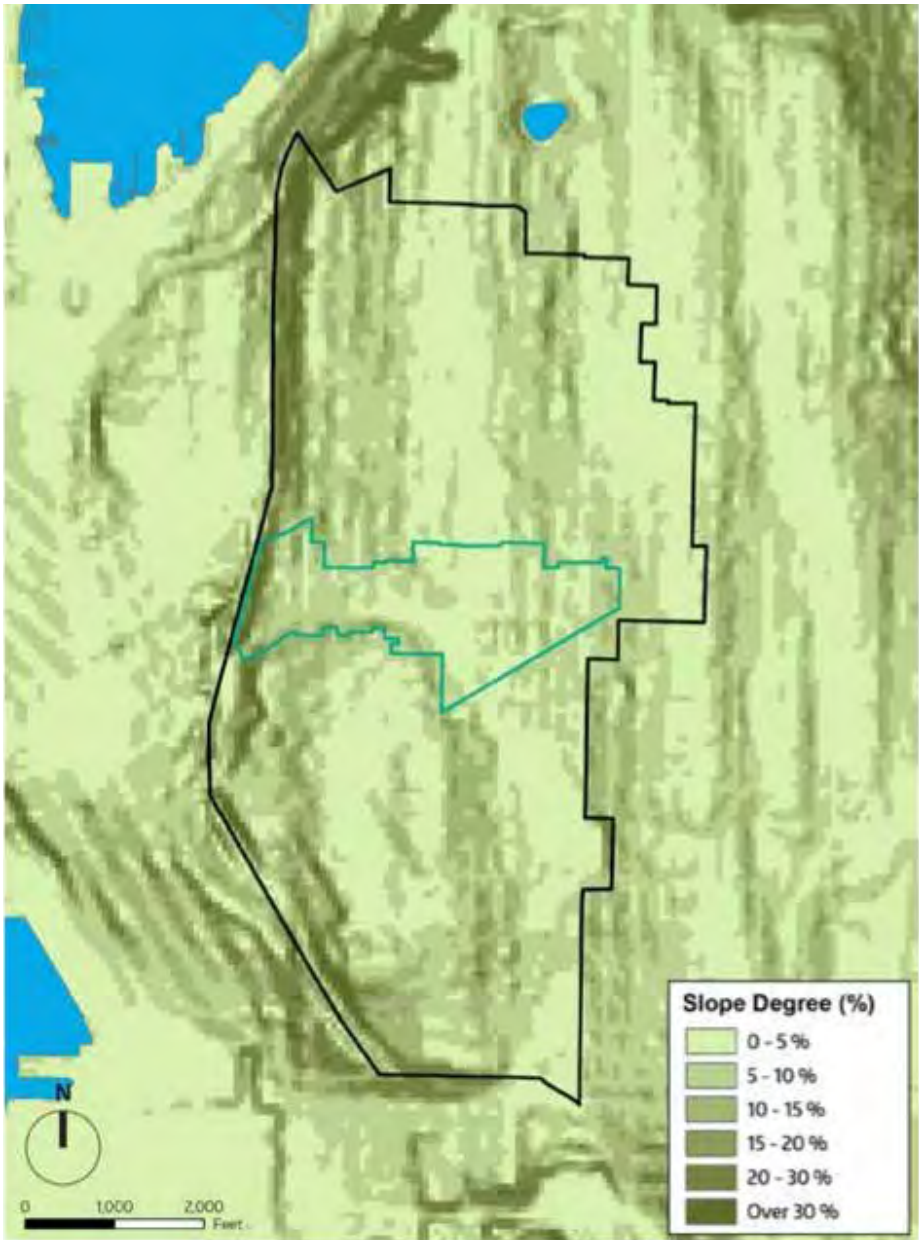
WIND CONDITION



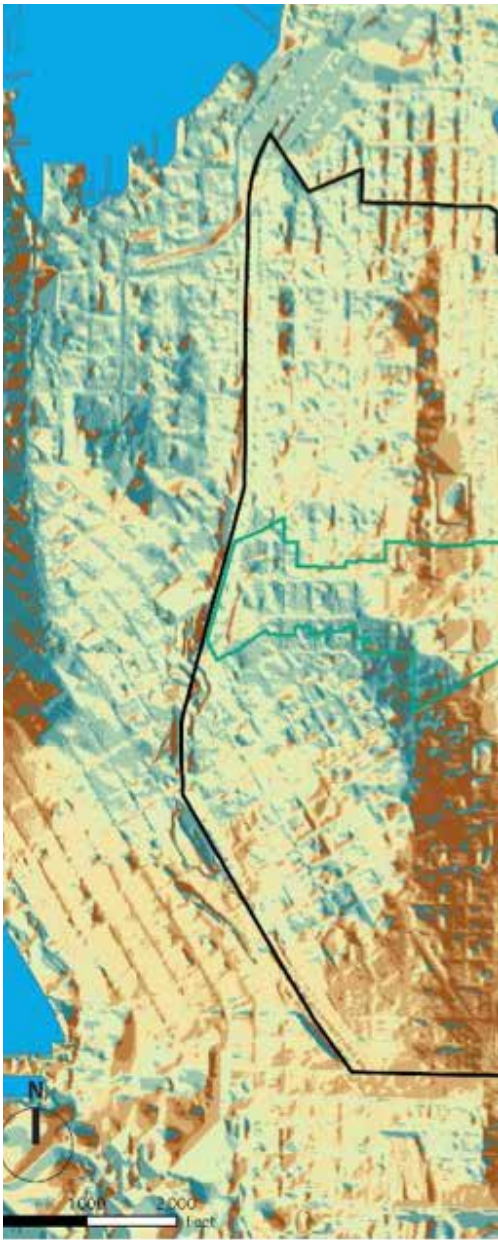


DATA FROM OFFICE OF THE WASHINGTON STATE CLIMATOLOGIST

SLOPE DEGREE

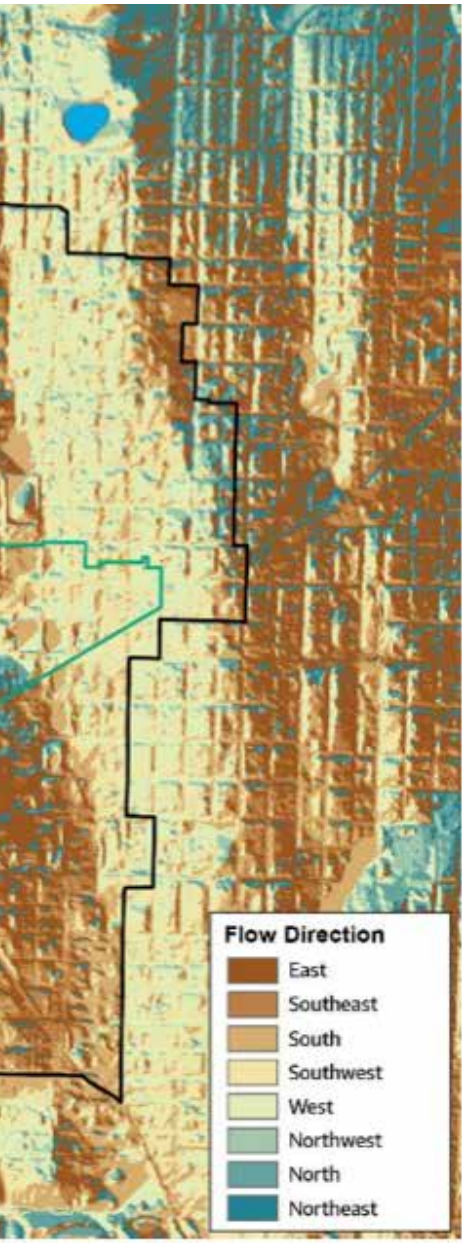


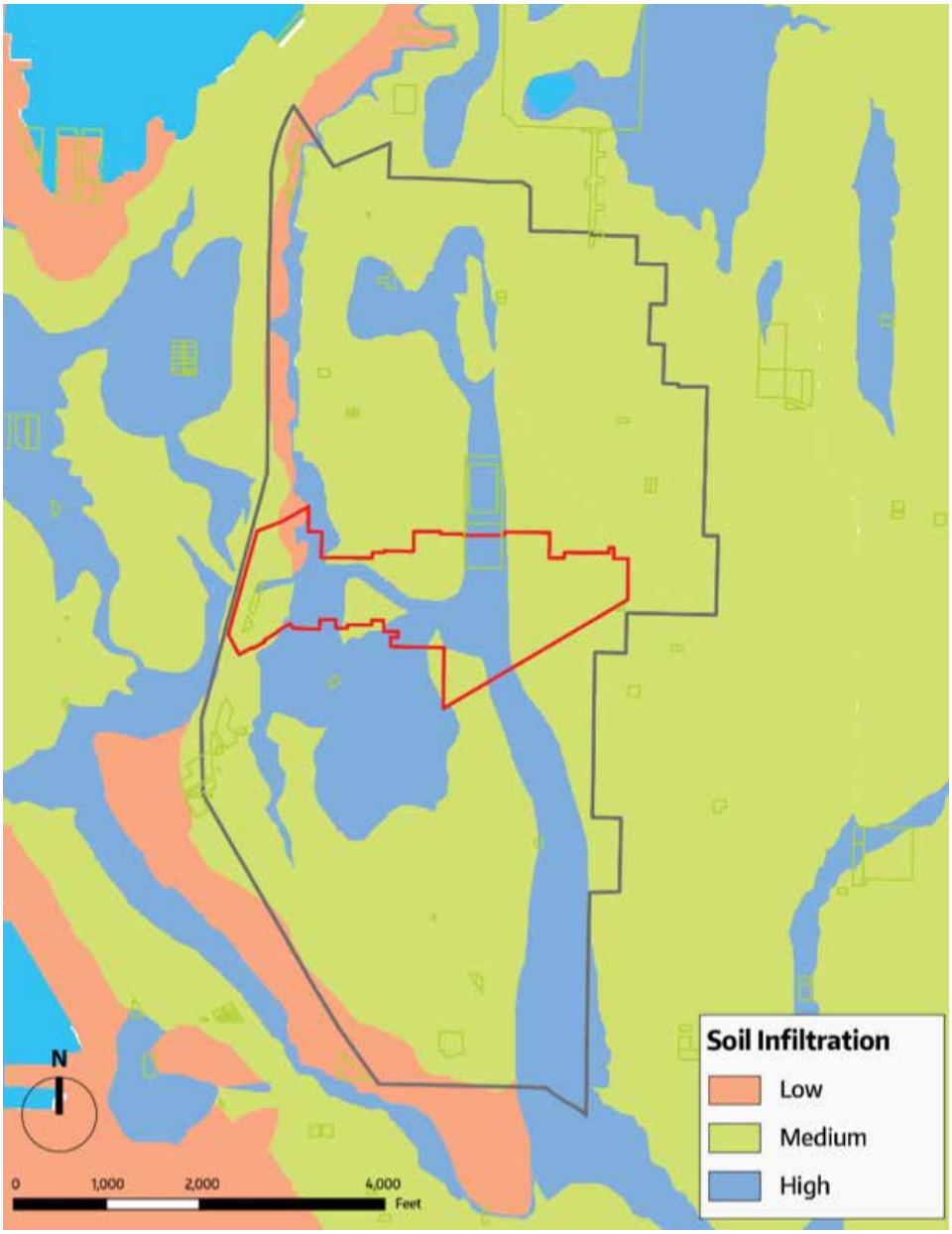
FLOW DIRECTION



DATA FROM YOONSHIN KWAK,GIS-BASE SUITABILITY ANALYSIS AND PLANNING OF GREEN INFRASTRUCTURE: A CASE OF THE PPCOD, CAPITOL HILL

SOIL INFILTRATION



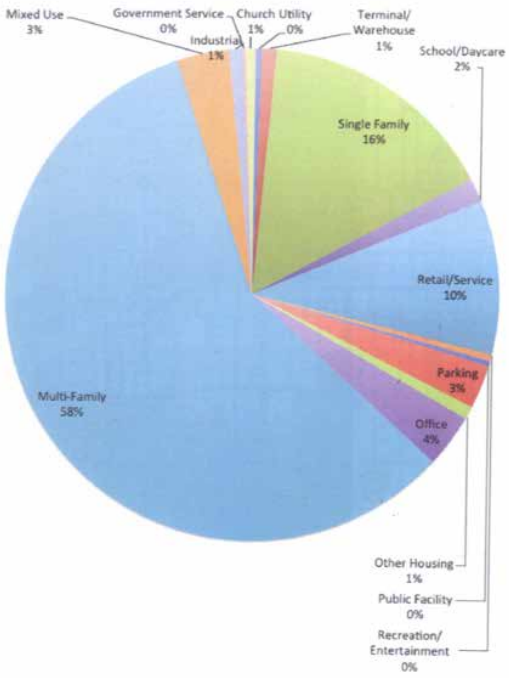


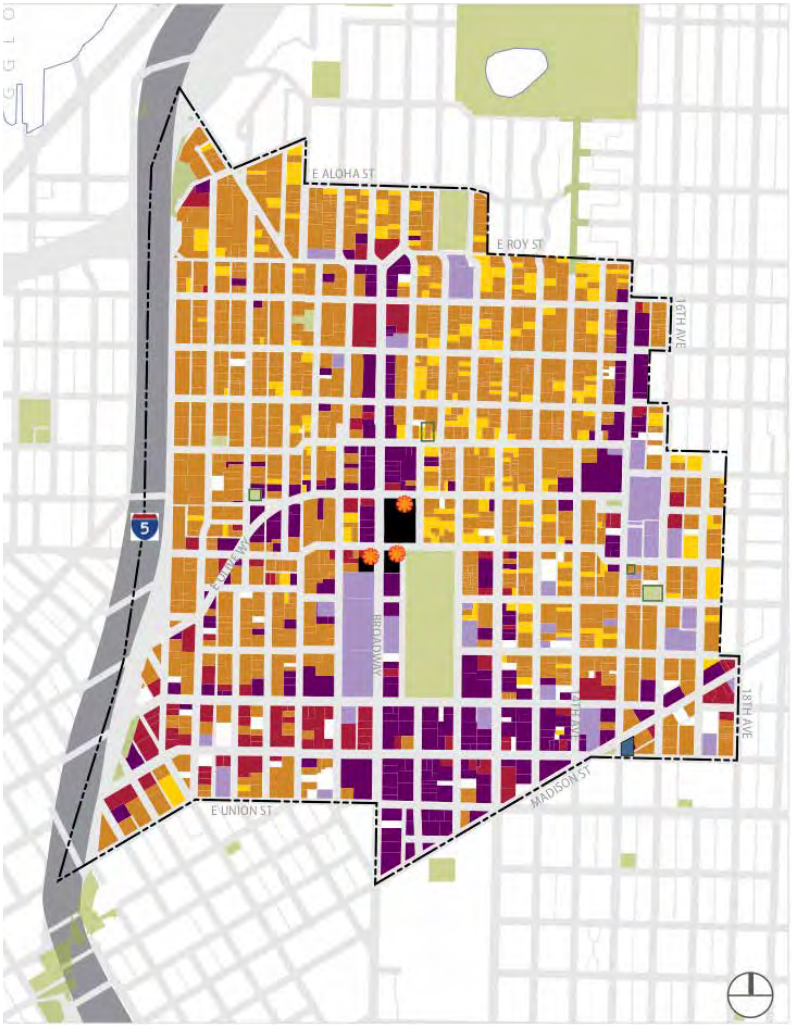
BUILT ENVIRONMENT

FIGURE GROUND

DIAGRAM BY MENGTING YE

LAND USE





SOURCE: CAPITOL HILL ECODISTRICT (2012). CAPITOL HILL HOUSING. PREPARED BY GGLO

LANDMARKS, NODES & EDGE CONDITIONS

Capitol Hill is situated on a steep hill just east of the city's downtown central business district. The eastern area is high density residential.

1

11

10

9

8

DIAGRAM BY MENGTING YE

2

3

4

5

6

7

SUN / SHADE

By setting the date and time in 3D models of four main streets to mimic the winter and summer solstices, we were able to illustrate the annual maximum and minimum amounts of sun and shade along these streets.

STREET + SIDEWALK + BUILDING SECTIONS

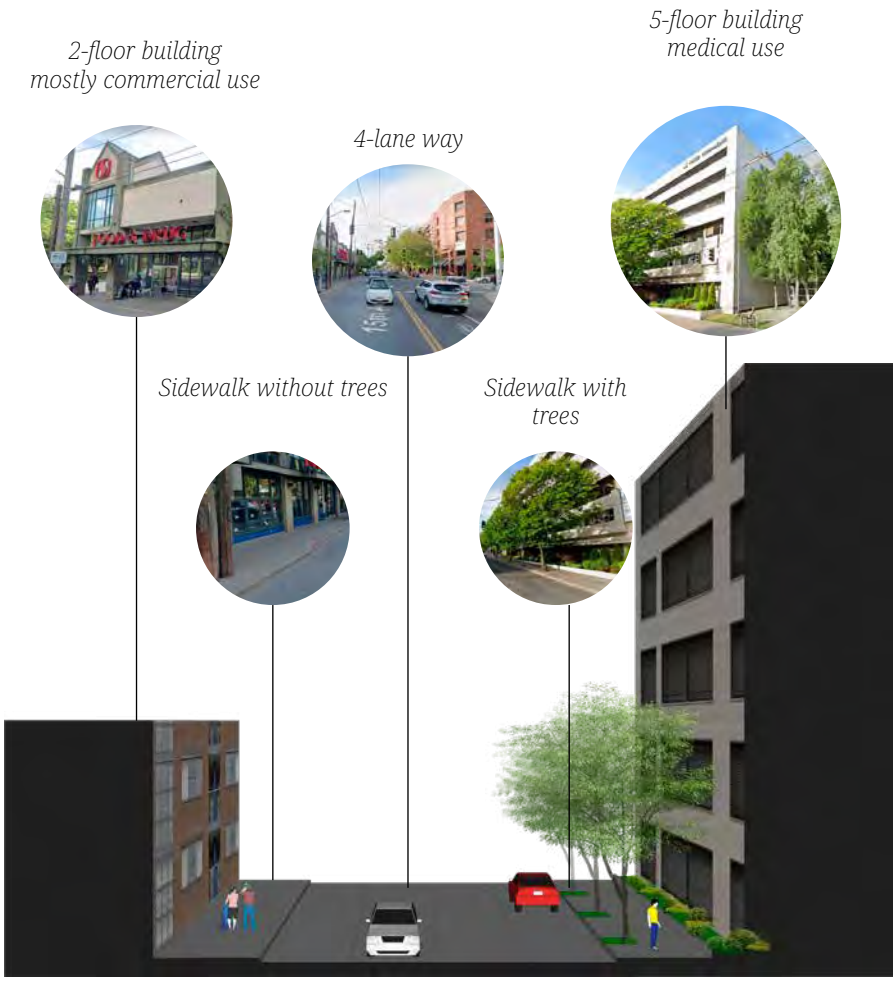
Streets in Capitol Hill include various usage: for pedestrians, sidewalks are of different widths, sometimes with trees and shrubs; for commuters, bus lanes and rails can take them to anywhere in the city; for bicyclists, bicycle lanes, although only a few, separate them from car flows; for drivers, different classes of streets make them free to choose their optimal speed.

In addition, buildings in this neighborhood are not very high, creating a comfortable human scale for the users.

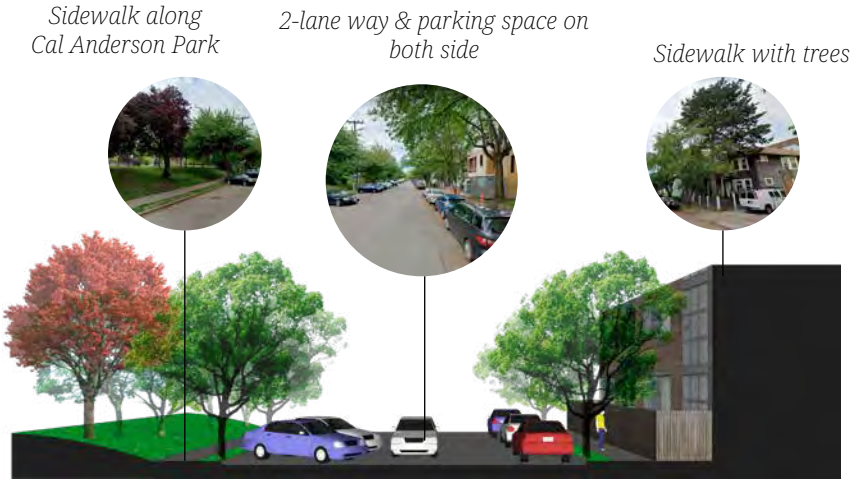
WINTER SOLSTICE
DECEMBER 22ND

SUMMER SOLSTICE
JUNE 22ND

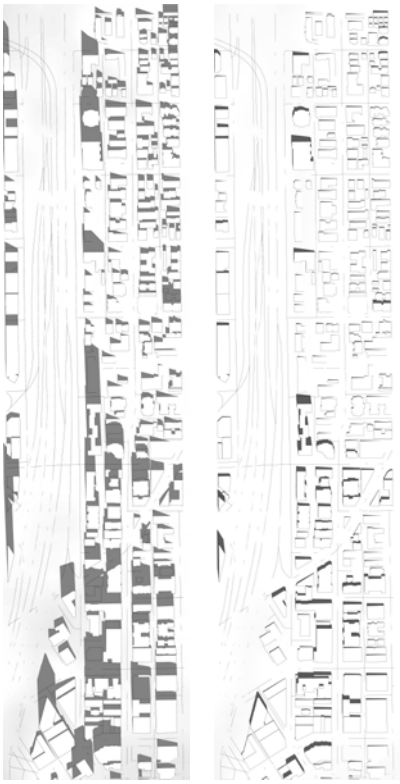
15TH AVE



BROADWAY & 11TH AVE



MELROSE AVE



DIAGRAMS BY SHIHUI LIU

SITE ASSETS

STATION ENTRY

STATION AREA SITES

ECODISTRICT STUDY AREA BOUNDARY
itol Hill Urban Center Village + Pike/Pine Urban Center Village)

BULLITT CENTER

PARK

WATER BODY

STREETS & ALLEY GRID

CAPITOL HILL HOUSING PROPERTY

SEATTLE HOUSING AUTHORITY PROPERTY

OTHER AFFORDABLE & SENIOR HOUSING

WALK RADIUS

BROADWAY BUSINESS IMPROVEMENT AREA

GROCERY STORE

URBAN AGRICULTURE: P-PATCHES & FARMS

FARMERS MARKET

HEALTH &/OR REHAB CENTER

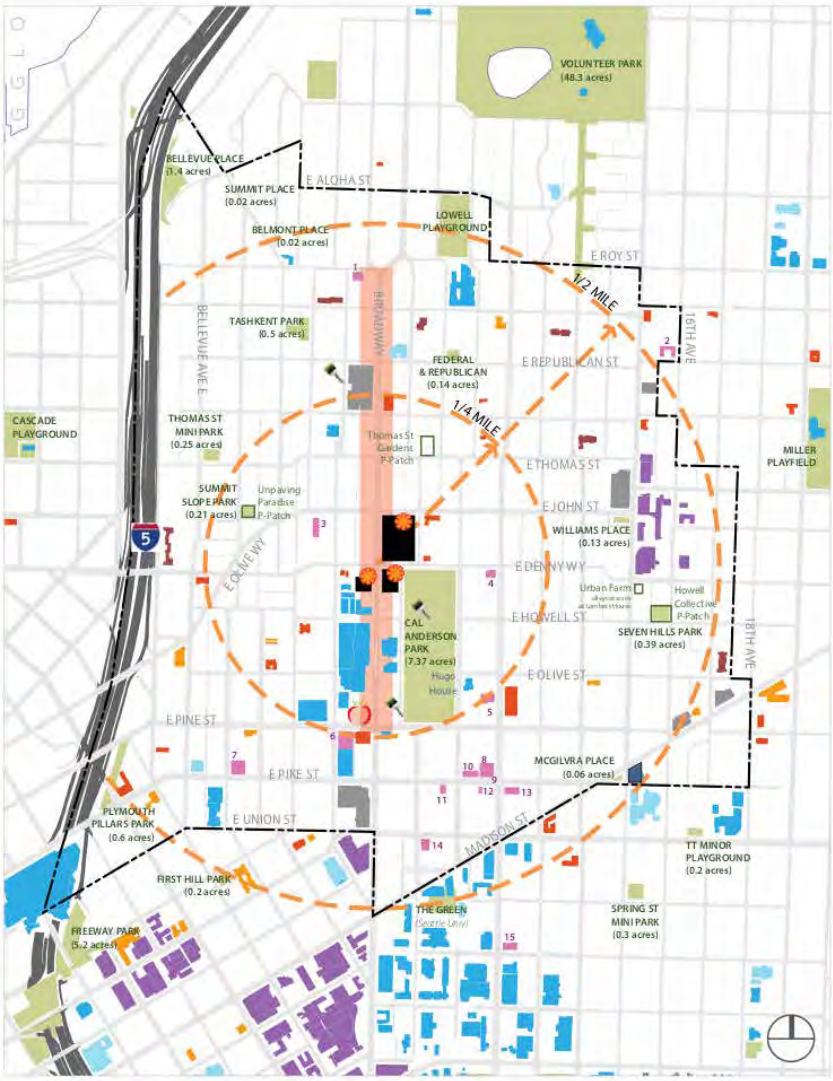
LEARNING CENTER OR CIVIC INSTITUTION

RELIGIOUS INSTITUTION

PUBLIC ART
"Waterworks" by Douglas Hollis (Cal Anderson Park)
Jimmy Hendrix Statue (Broadway & Pine)
"Contour" by Iole Alessandrini (Capitol Hill Branch Library)

ARTS VENUE

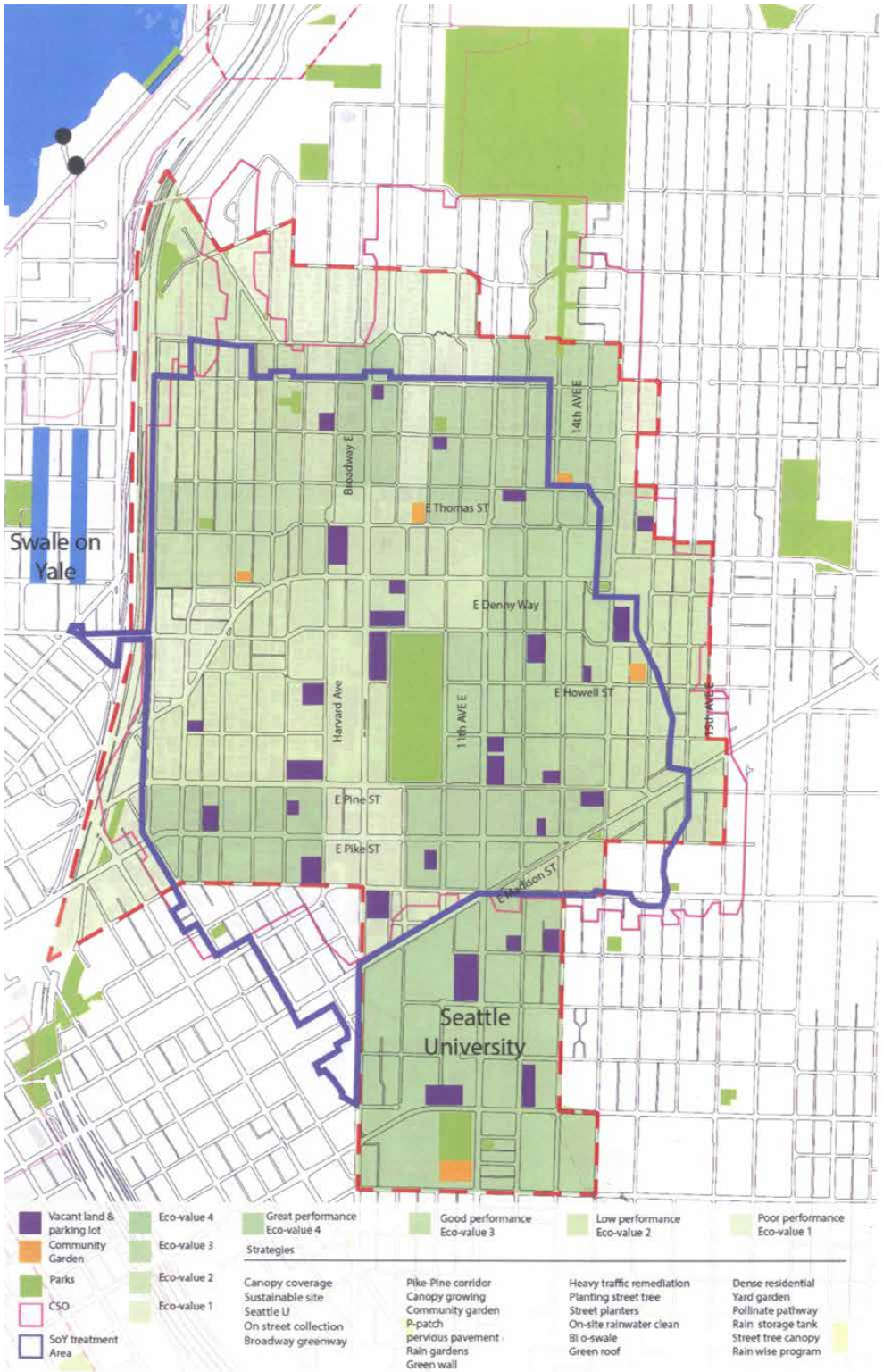
1. Harvard Exit
2. Launch Dance Theater
3. Artattack Theater
4. Artist Trust
5. Velocity Dance Center
6. The Egyptian
7. Theater Schmeater
8. NW Film Forum
9. Repertory Actors Theare
10. Annex Theatre
11. Printer's Devil Theatre
12. Balagan Theatre
13. Vox Box
14. Odd Duck Studio
15. Photographic Center Northwest



EcoDistrict Community Site Context & Assets Map Diagram
This map shows how well served the EcoDistrict study area is from a density, connectivity, and diversity of services perspective. There are many community services like parks, grocery stores, arts and civic institutions within walking distance of the Station Area Sites.
(Image Credit: GGLO)

DATA FROM CAPITOL HILL ECODISTRICT (2012). CAPITOL HILL HOUSING. PREPARED BY GGLO

OPPORTUNITY ANALYSIS: HABITAT/ WATER/ FOOD



DATA FROM LIVING INFRASTRUCTURE FOR THE CAPITOL HILL ECODISTRCT, 2015 UW MLA CAPSTONE STUDIO

WHO WHAT WHERE

COMMUNITY, CULTURE AND PUBLIC SPACE TYPOLOGIES

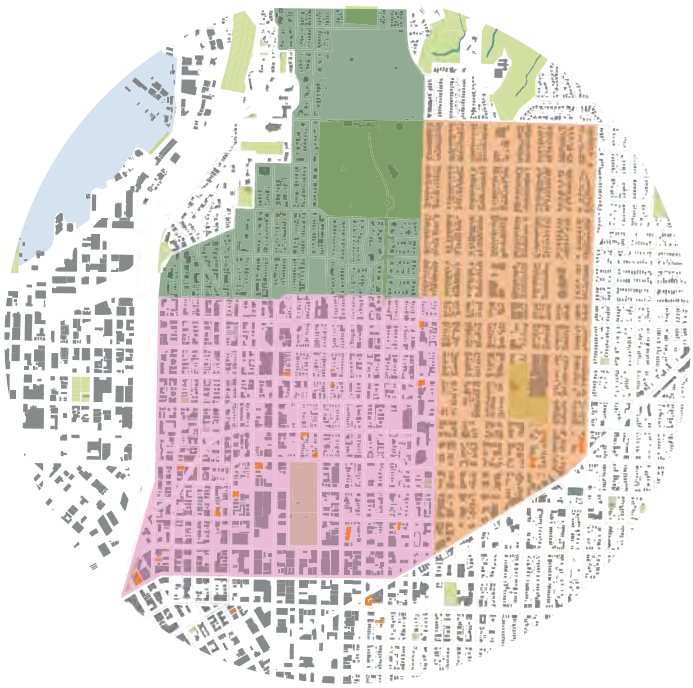
Danielle Dolbow, Kelsey McKay, Jake Minden

The Capitol Hill urban center district is what most locals and residents refer to as “Capitol Hill”. This area is characterized by mostly mixed-use buildings and is therefore the densest subdivision. North Capitol Hill and Miller Park are primarily filled with multi-family or single-family homes.

Capitol Hill Housing owns properties across all subdivisions providing affordable housing to all in order to foster more vibrant and diverse neighborhoods.

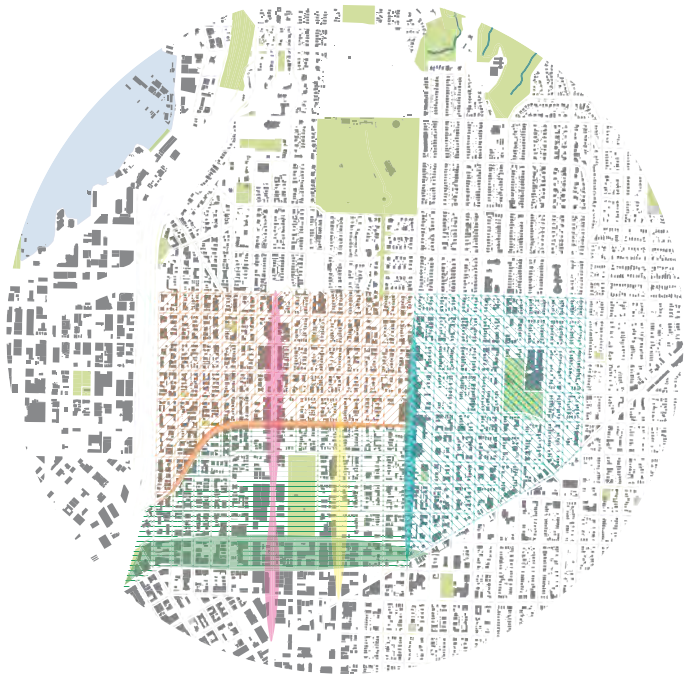
CAPITOL HILL CHARACTERISTICS

- Neighborhood with significant LGBTQ community and presence
- Capitol Hill Urban Center Village is among most densely populated areas in Washington
- Cultural center of Seattle with rich history of arts and entertainment
- Lowest rate of car ownership in city
- High level of community engagement
- Several business districts provide economic base
- Business districts represent eclectic mix of shops, restaurants, and services
- Center of Seattle Deaf Community



Subdivisions

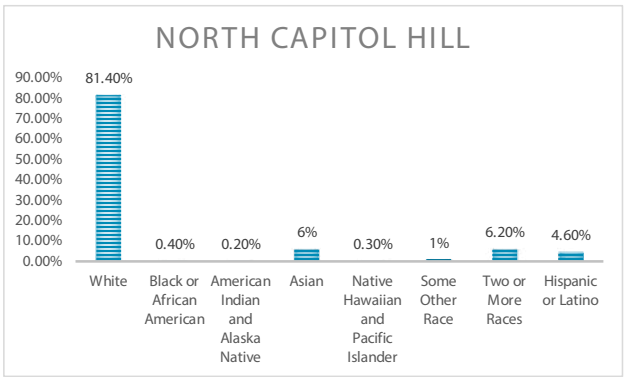
DIAGRAM BY DANI DOLBOW

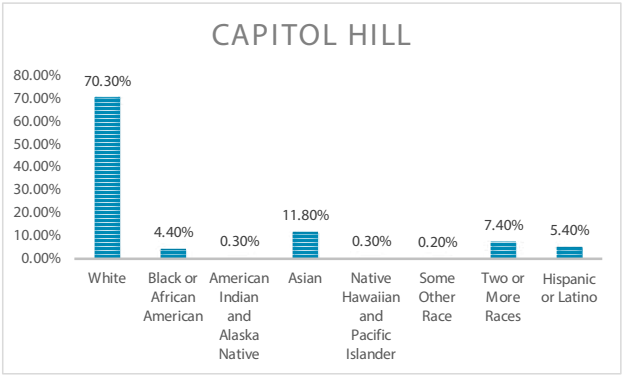


Residential/Commercial

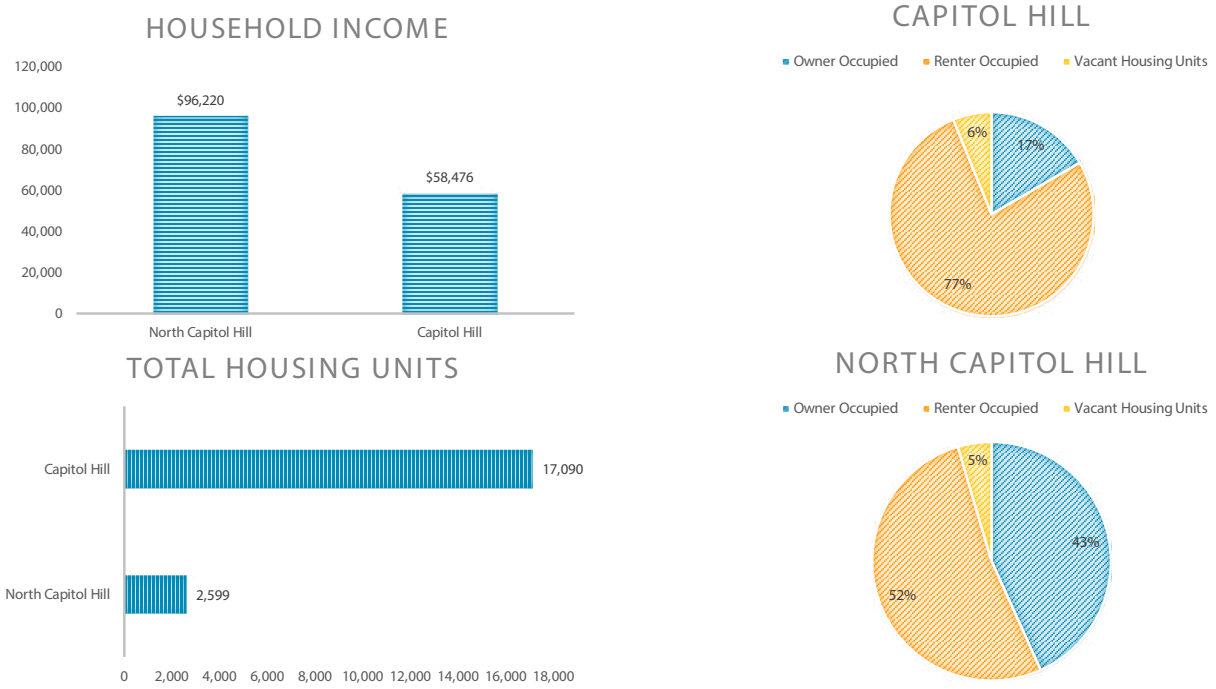
DIAGRAM BY DANI DOLBOW

CAPITOL HILL DEMOGRAPHICS:





Capitol Hill is made up of a diverse group of people with highly diverse needs. Among the many varying community needs represented in the neighborhood, housing and food insecurity are atop the list. As a result, this need is reflected in a density of services provided to residents and visitors. This density is visually represented in the map below, which illustrates the location of housing services, food banks and other food related services, and P-Patches or community supported urban agriculture projects. Services and recreation spaces specifically created with the LGBTQ community in mind are highlighted. This map is not representative of all the services offered within the neighborhood but begins to show a spatial relationship to where higher need areas are and how those needs are addressed. The southern end of the district and the Pike/Pine economic corridor has the largest cluster of services and safe spaces for the LGBTQ community.

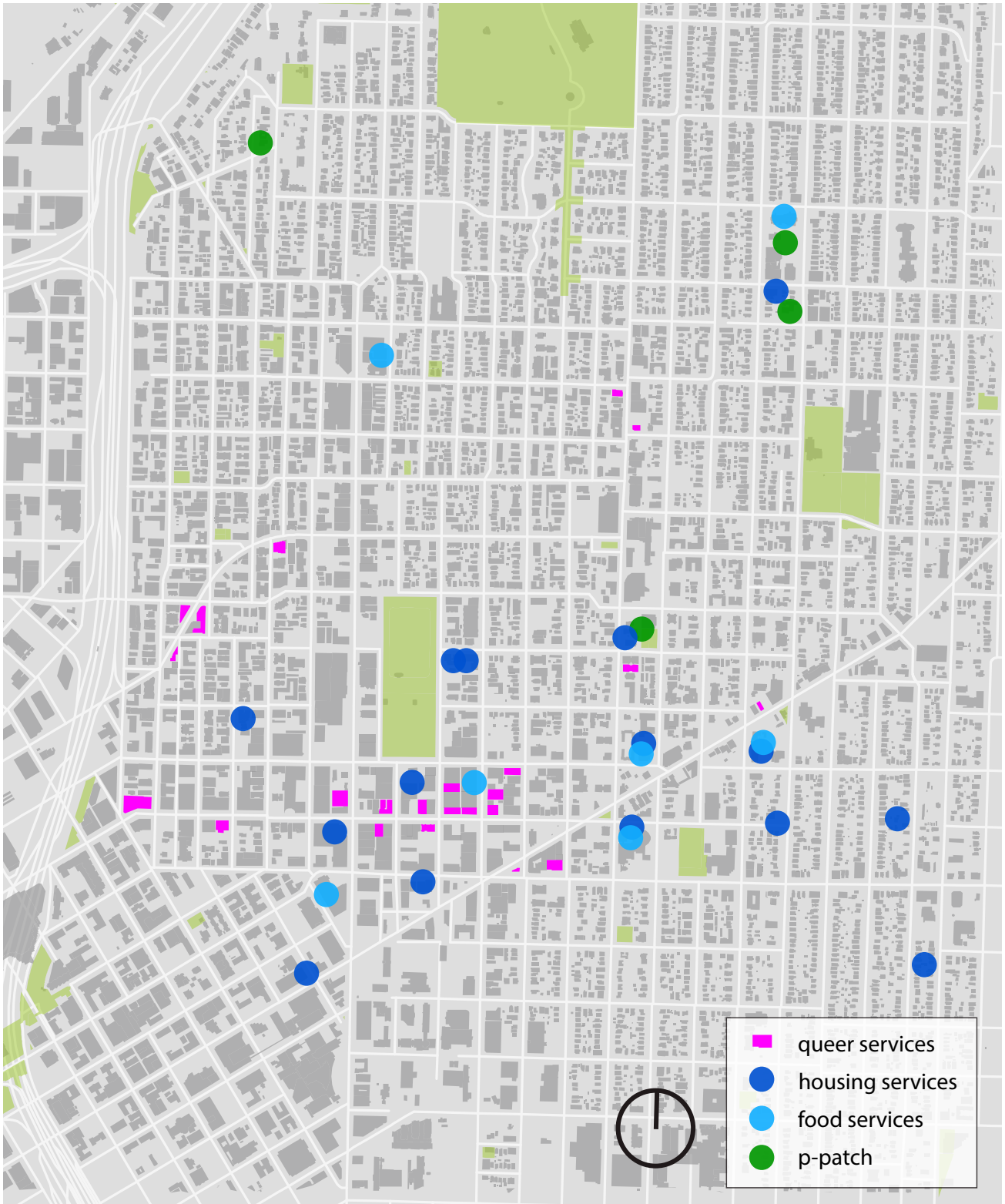


Housing demographics, North Capitol Hill vs. Capitol Hill. Illustrates differences in density, owners vs. renters, and income.

INFOGRAPHICS BY KELSEY MCKAY

Capitol Hill streetscape

PHOTO BY DANIELLE DOLBOW



Services Map
GRAPHIC BY JAKE MINDEN

Seattle's LGBTQ community was originally centered in Pioneer Square. As the community gained visibility and confidence, there was a spatial shift of queer cultural institutions form Pioneer Square to the artistic and increasingly bohemian Capitol Hill. Capitol Hill's identity has always been quite mixed, at one time or another comprised of auto industrial sites, furniture stores, growing business districts, mixed residential landscapes and art galleries. In the years leading up to Queer Liberation, Capitol Hill became a destination for LGBTQ nightlife and recreational spaces.

'Not One More' peaceful protest held during Pride weekend 2015 on Capitol Hill.
PHOTO BY THE SEATTLE TIMES

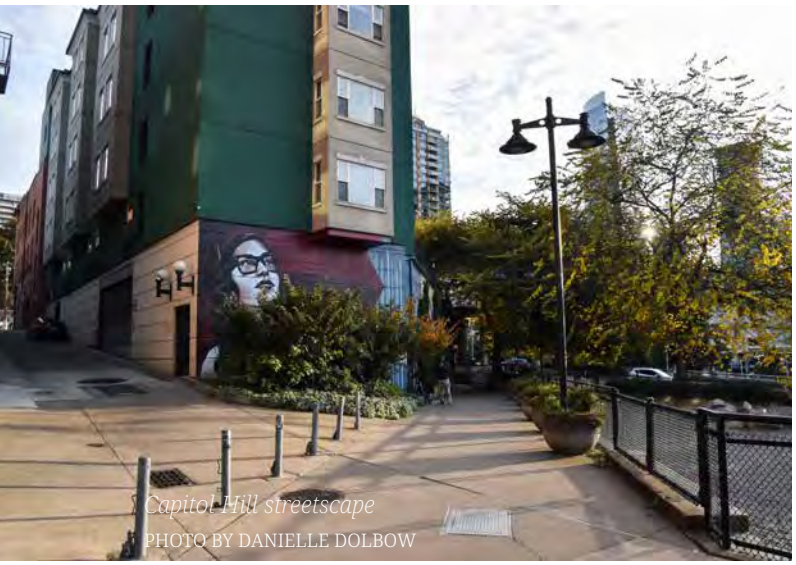
PHOTO BY THE SEATTLE TIMES

Queer Bar, 11th Ave, Capitol Hill
PHOTO BY QUEER BAR

Capitol Hill streetscape
PHOTO BY DANIELLE DOLBOW

Neumos music venue on Pike St.
PHOTO BY THE SEATTLE TIMES

Capitol Hill streetscape
PHOTO BY DANIELLE DOLBOW

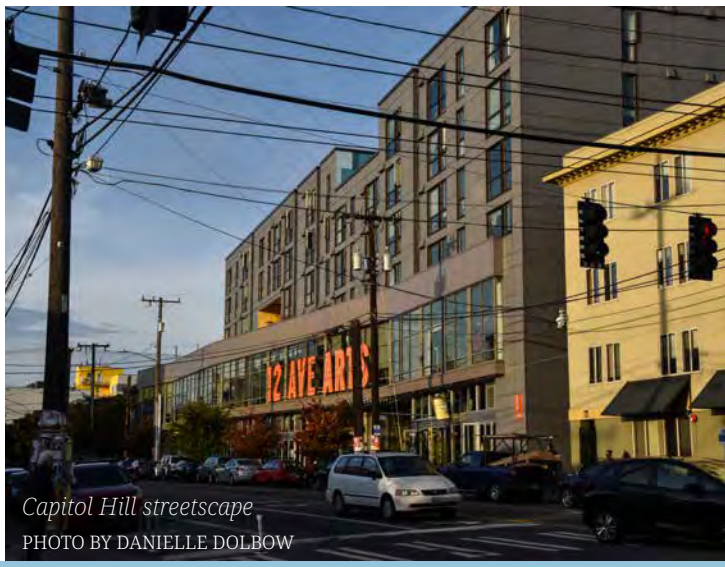


Capitol Hill streetscape
PHOTO BY DANIELLE DOLBOW

As more LGBTQ people moved to Capitol Hill in the late 1960's and 1970's, the services and businesses serving queer people followed. This included health and support services, new restaurants and bars, and community gathering spaces. These trends have continued since the 1980's and Capitol Hill's identity remains diverse. The LGBTQ community is one among many others who call Capitol Hill home.

SOURCE: HTTPS://WWW.SEATTLEPI.COM/SEATTLENEWS/ARTICLE/HOW-DID-SEATTLE-S-CAPITOL-HILL-COME-OUT-9223667.PHP

Capitol Hill Block Party, held annually in Pike/ Pine corridor
PHOTO BY THE SEATTLE TIMES



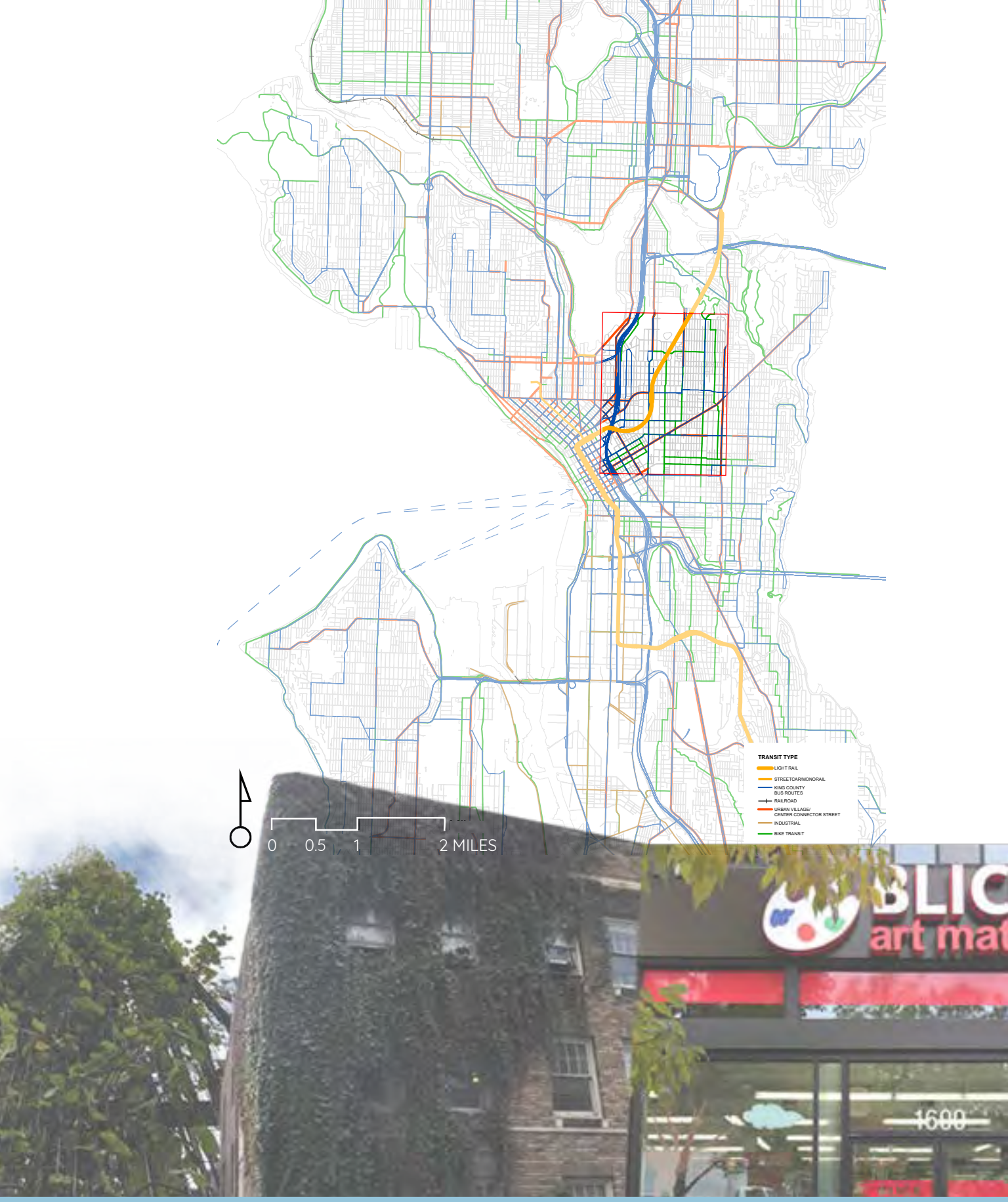
Capitol Hill streetscape
PHOTO BY DANIELLE DOLBOW

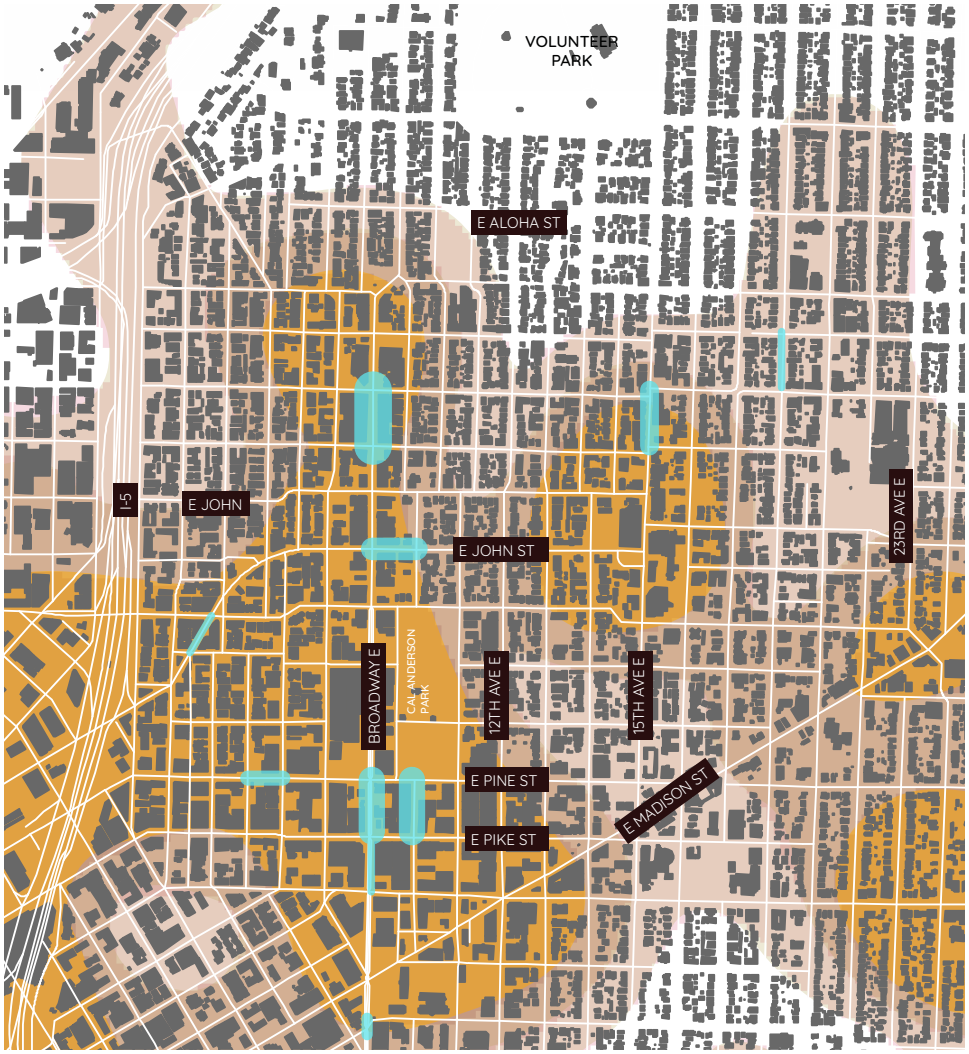
STREETS & MOBILITY

SARAH BARTOSH + LAUREN IVERSEN

The connectors that run through the Capitol Hill neighborhood, whether they are bus, bike, pedestrian or auto, show that there is a clear north/south connection throughout the district. With the exception of the Pike/Pine district, These north-south corridors run through the destination clusters of Broadway, 12th, and 15th. One of the factors that influences the circulation and mobility network of the neighborhood is the steepness that runs east and west. How can topography be thought of as an opportunity rather than a boundary when thinking about circulation?

The quality of the pedestrian experience is defined by the varied facades and human scale of the Capitol Hill neighborhood. The varied character acts as a foundation for building public life through transit.


TRANSIT TYPE
LIGHT RAIL
STREETCAR/MONORAIL
KING COUNTY BUS ROUTES
RAILROAD
URBAN VILLAGE/ CENTER CONNECTOR STREET
INDUSTRIAL
BIKE TRANSIT
0
0.5
1
2 MILES
1600



PEDESTRIAN EXPERIENCE

Left: understanding the relationship between density of destinations and amount of people who are moving through. North Broadway has the most pedestrian traffic.

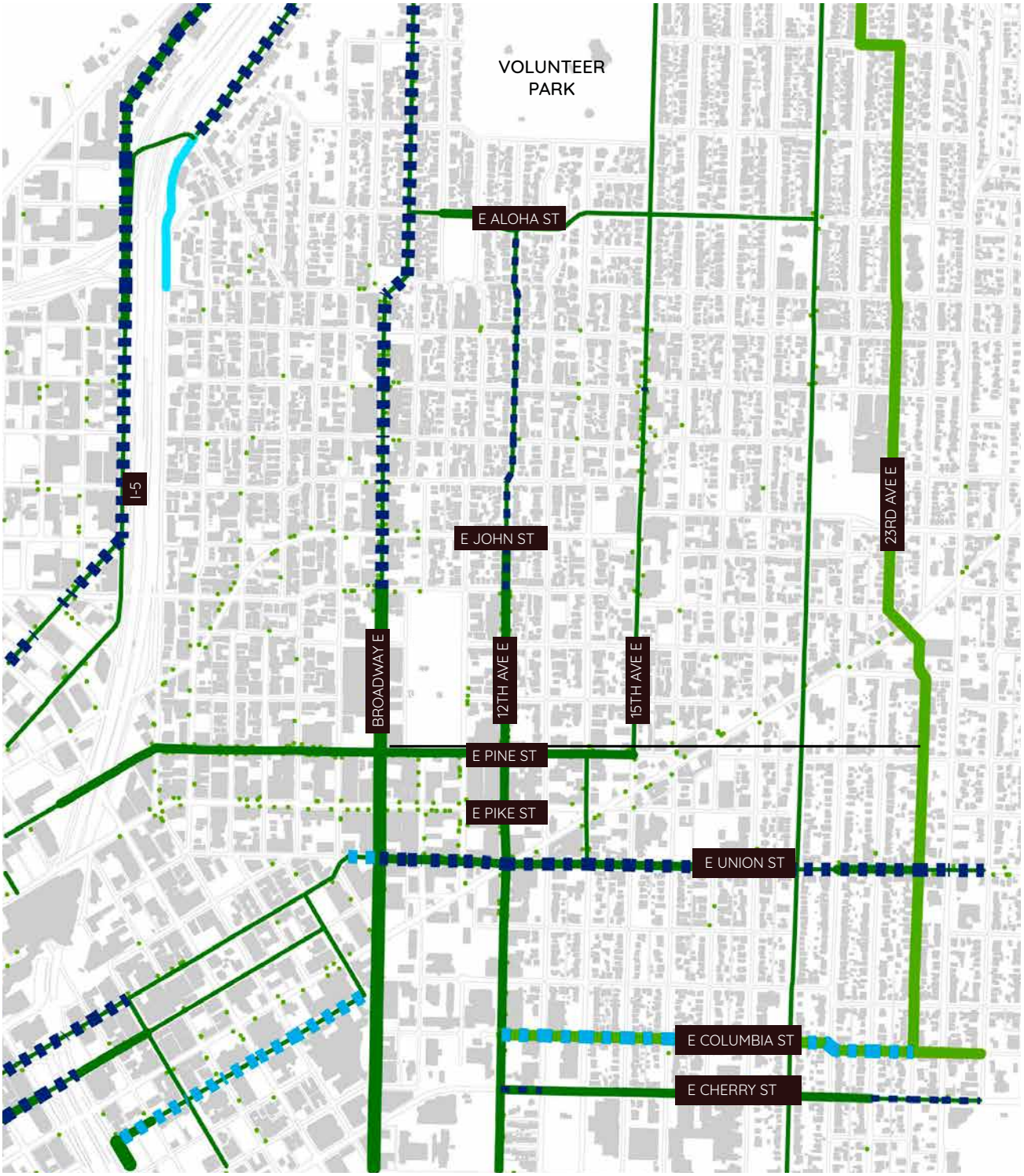
Human Scale: Showing where public space and the building that surrounds it are at human scale

Sidewalk Interruptions: how many opportunities for a car to interrupt the walking experience

DESTINATION DENSITY

PEOPLE PER HOUR

500+ 100



BIKING THROUGH CAPITOL HILL

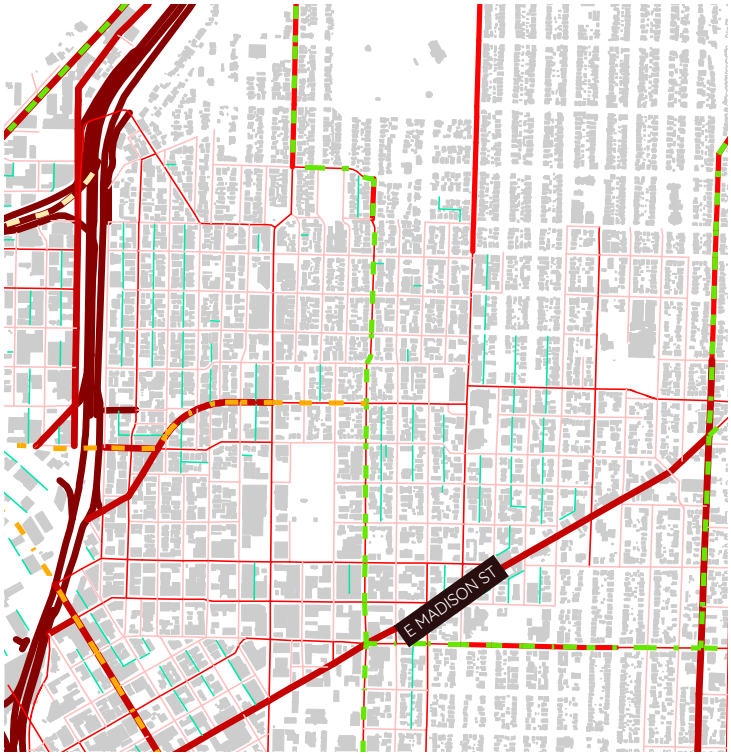
0 0.25 0.5 MILES

EXISTING INFRASTRUCTE

- In Street, Major Separation
- In Street, Minor Separation
- Multi-use Trail
- Neighborhood Greenway
- Sharrow
- BIKE RACKS

PLANNED

- In Street, Major Separation
- In Street, Minor Separation
- Neighborhood Greenway



CARS + FREIGHT

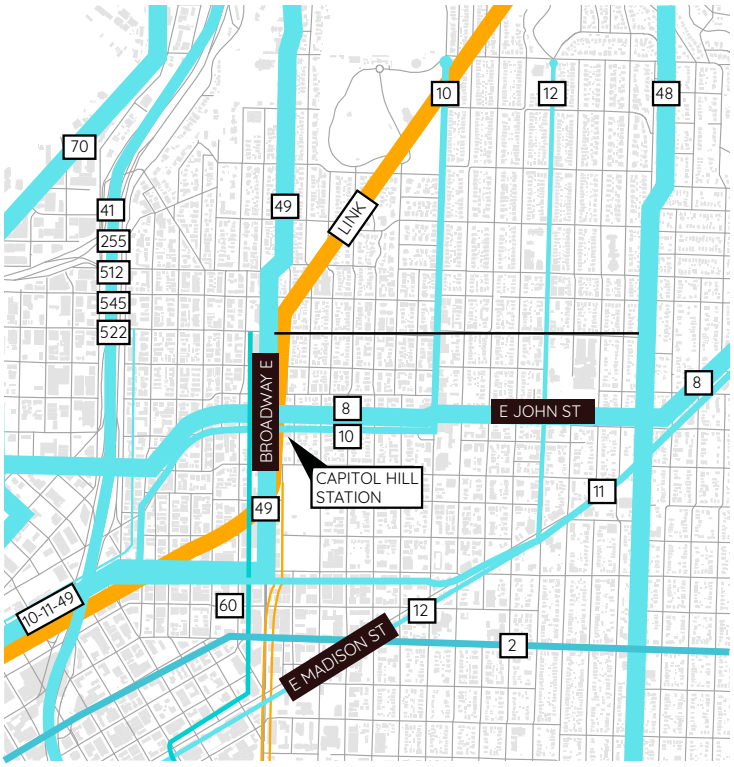
STREET TYPE

- *Interstate*
- *Urban Village Main*
- *Urban Village connector*
- *Urban Village neighborhood*
- *Urban Village Neighborhood Access*
- *Alleys*

FREIGHT

- *Major*
- *Minor*
- *Limited Access*

0 .37 .75 MILES

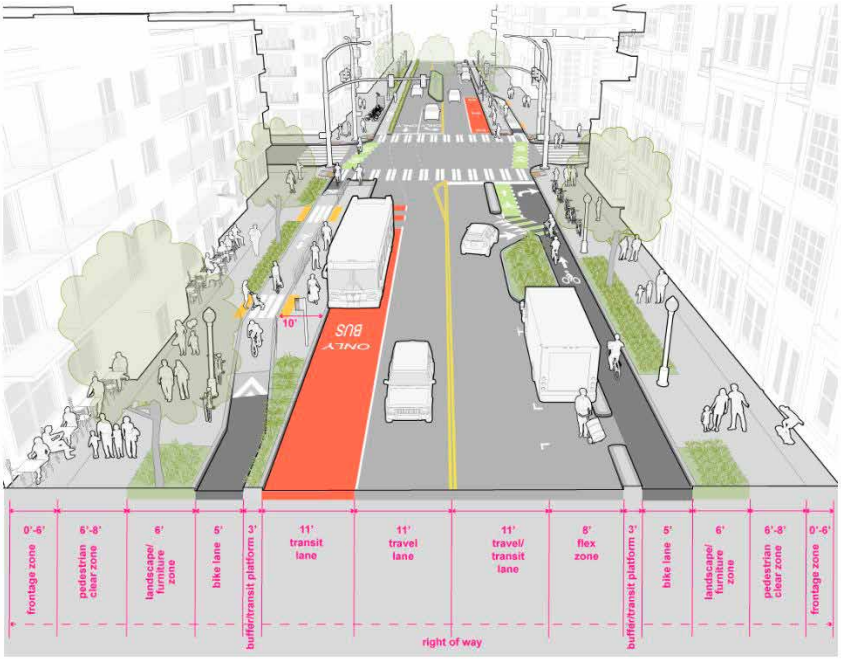


TRANSIT

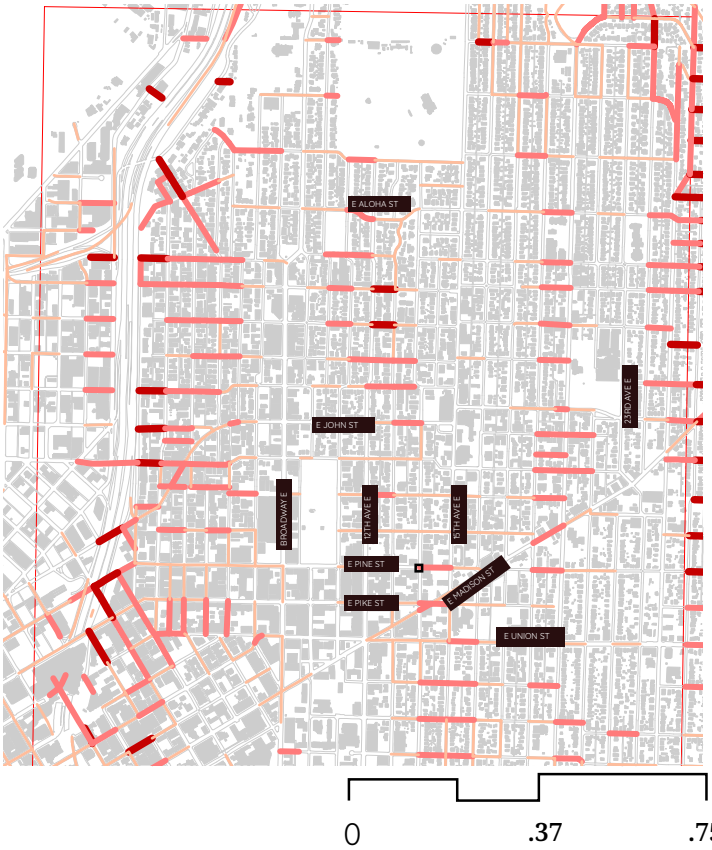
- *Bus*
- *Link light rail*
- *Street car*
- *Frequency*

0 .37 .75 MILES

URBAN VILLAGE MAIN



Urban Village Neighborhood is a designation for the majority of Capitol Hill's main arterial roads with high volumes of pedestrian and transit traffic. With Seattle's right-of-way improvements vision, these streets would see improvements in bike flow, public transportation, and pedestrian flow. Seattle's Streets Illustrated manual describes exact requirements for these improvement projects.

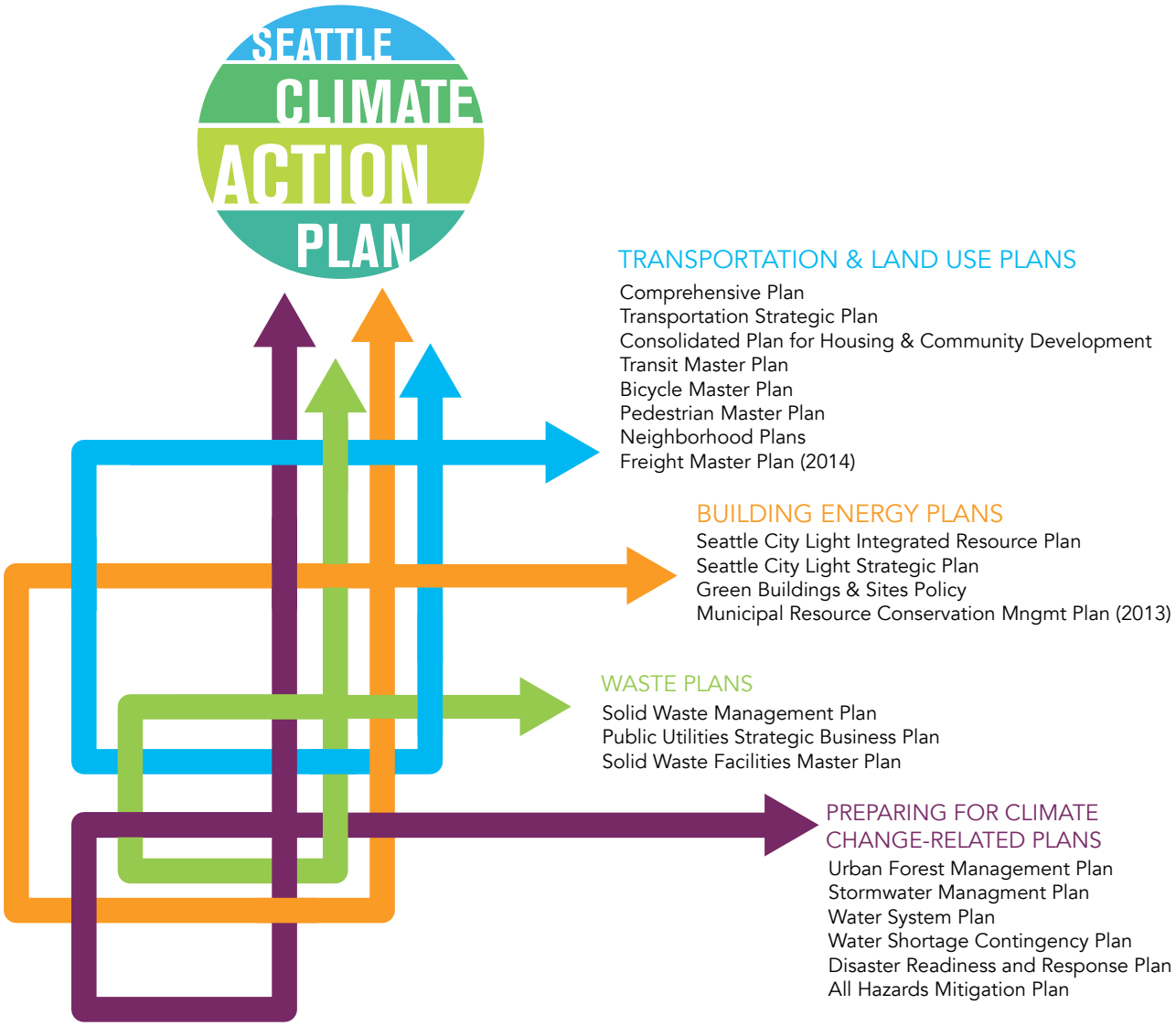


STREET SLOPES

>15% <8%

ZONING & LAND USE

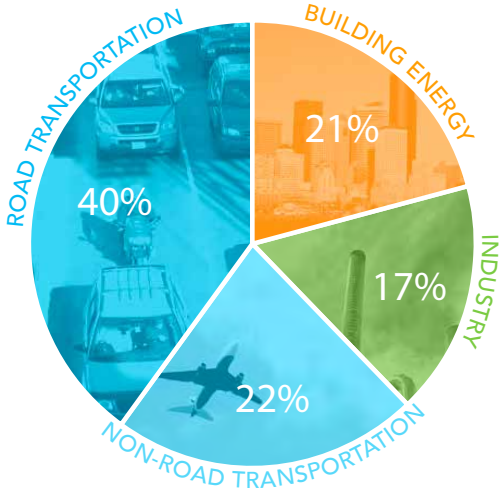
Emilio Craddock, Dylan Marcus, Hexiang Wang



"The 2013 CAP provides a coordinated strategy or action that cuts across City functions, and focuses on City actions that reduce GHG emissions while also supporting other community goals, including building vibrant neighborhoods, fostering economic prosperity, and enhancing social equity. While GHG emissions can be found in virtually every sector of our community and economy, the 2013 CAP focuses on those sectors where City action is most needed and will have the greatest impact: road transportation, building energy, and waste."

- Seattle Climate Action Plan

OPPOSITE GRAPHIC FROM CAPITOL HILL ECODISTRICT REPORT



SEATTLE CITYWIDE GREENHOUSE GAS EMISSIONS BY SECTOR

GRAPHIC FROM 2008 SEATTLE COMMUNITY GHG INVENTORY

Capitol Hill

NEIGHBORHOOD DESIGN GUIDELINES

Capitol Hill Design Guidelines define the qualities of architecture, urban design, and outdoor space that make for sGuccessful projects and communities. The guidelines illustrate how to ensure the connectivity, walk-ability, street-level interaction and active-transportation for public life, and project uses and activities and exterior elements and finishes for design concepts.

HOUSING AFFORDABILITY AND LIVABILITY AGENDA

Mandatory Housing Affordability (MHA) is a new policy to ensure growth brings affordability. MHA requires new commercial and multifamily development to include affordable homes or contribute to a City fund for affordable housing. To put MHA into effect, the city has proposed zoning changes that add development capacity and increase housing choices in urban villages designated in the Seattle 2035 Comprehensive Plan, certain urban village expansion areas near frequent transit hubs, and other areas with commercial and multifamily zoning.

CAPITOL HILL EcoDistrict

A proposal for district-scale sustainability

"A community-driven effort that promotes a socially equitable, environmentally resilient and culturally vibrant neighborhood." **The EcoDistrict**'s goals are to: build cultural and climate resilience, engage renters as neighborhood and city leaders, increase mobility and right-size parking, improve the health and safety of public spaces, inform new development with EcoDistrict priorities, and promote resource conservation.

Community **Water** **Energy** **Transportation** **Materials**

Research Outreach Vision Strategies Implementation Measurement

"Seattle's recent building boom is a reminder of how desirable Seattle is as a place to live and work. Since **The Plan** was first adopted in 1994, the City has worked to accommodate new people and businesses, while at the same time looking for ways the city can continue to be livable for future generations. Further growth will present challenges and opportunities similar to the ones we have faced in the recent past. The City has created this Plan as a guide to help it make decisions about managing growth equitably over the next twenty years."

Seattle 2035

Comprehensive Plan

Managing Growth to Become an Equitable and Sustainable City 2015–2035

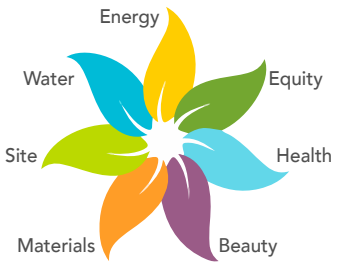
SEATTLE 2030 DISTRICT

"The **Seattle 2030 District** works to break down market barriers to building efficiency in an effort to make Seattle and the surrounding communities more sustainable, and contribute to the region's environmental resilience, livability, and affordability. We seek to develop realistic, measurable, and innovative strategies to assist district property owners, managers, and tenants in meeting aggressive goals that reduce environmental impacts of facility construction and operations."

"The **International Living Future Institute**'s mission is to lead the transformation toward a civilization that is socially just, culturally rich, and ecologically restorative. We are premised on the belief that providing a compelling vision for the future is a fundamental requirement for reconciling humanity's relationship with the natural world."

Living Buildings **Living Communities** **Living Products**

INTERNATIONAL LIVING FUTURE INSTITUTE℠



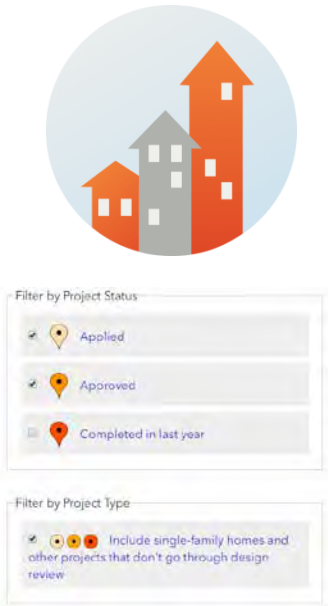
City Habitats is a cross-sector coalition that is building a movement around increasing nature in cities and towns. City Habitats plants trees, builds rain gardens, and diverts natural power to solve environmental problems. City Habitats views human nature as a whole, instead of seperate binaries. The research and projects of City Habitats are focused on Puget Sound. We can download resources from City Habitat's toolkit on their website.

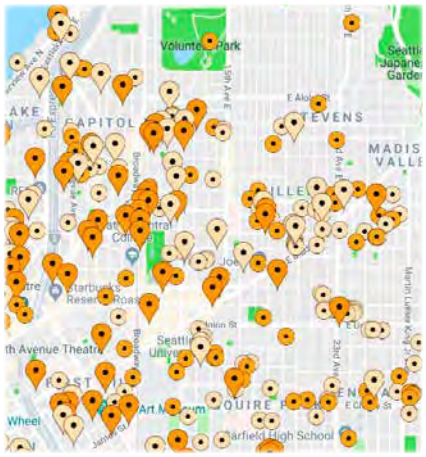
Seattle Green Factor

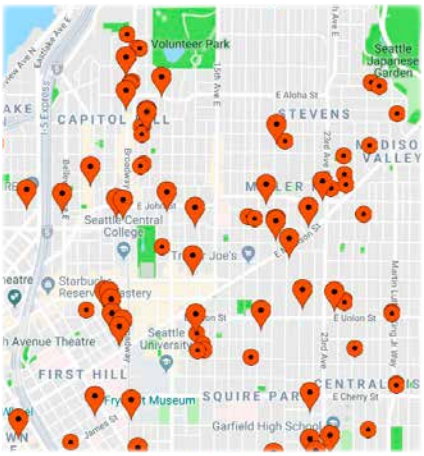
"A score-based code requirement that increases the amount of and improves the quality of landscaping in new development. Landscaping plays an important role in how new development looks and functions." The SGF aims to: improve the look and feel of a neighborhood, reduce stormwater runoff, cool cities during heat waves, provide habitat for birds and beneficial insects, and support adjacent businesses, and decrease crime.

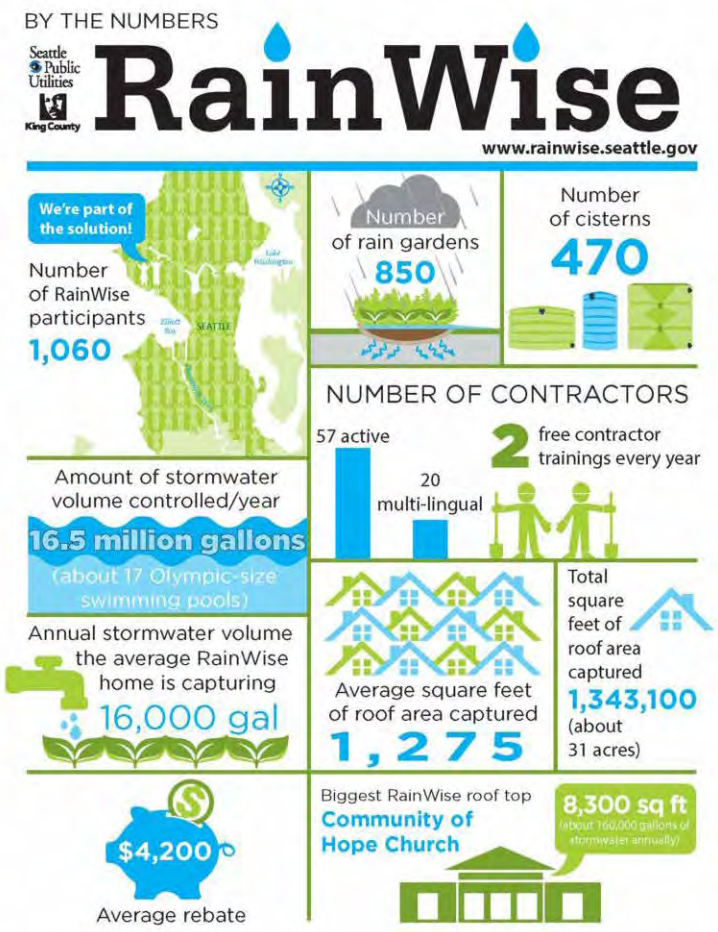
Seattle in Progress

The City of Seattle sponsors the "Shaping Seattle" website to provide information on current projects coming down the pipeline. The website "Seattle in Progress" provides the same type of data, but has some useful filtering options to distinguish between types and stage of construction for projects.









RainWise encourages a variety of CSO overflow prevention measures including:

- Cisterns
- Rain Gardens
- Compost/Mulch
- Green Roofs
- De-paving
- Porous paving
- Tree-planting

Eligible basin DOES NOT mean you are automatically eligible.

Newer homes already comply with current stormwater code, older ones may not.

Disqualifying criteria could be:

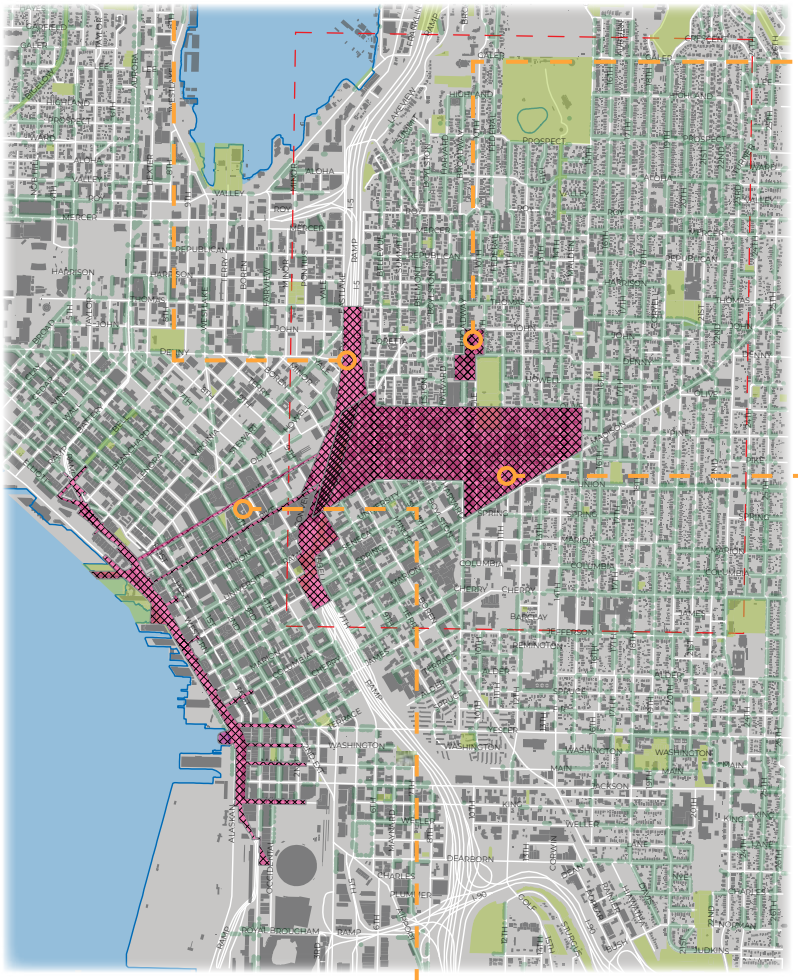
- Steep slopes
- Sufficient distance from contaminated sites, landfills, storage tanks
- Adequate drainage (see above)

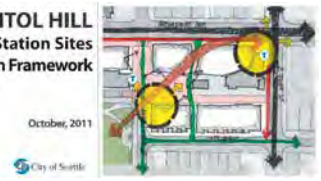
- RainWise Rebates (avg. ~$4500/home)
- RainWise Access Grants (up to $1000 for low income and non-profit home/ landowners)
- RainWise Pilot Access Loan (RPAL) (low-cost loans for contractors)
- Stormwater Facilities Credit Program (utility rate reductions)

DATA FROM 700MILLIONGALLONS.ORG

Lid I-5 is a grassroots effort run by working people who are volunteering our time. Why do we do it? We believe in building a stronger city for people and creating a more livable, equitable, and sustainable Seattle. While this is a citywide effort, we are currently focused on the challenges and opportunities in the Center City.

FROM LIDI5.ORG





An opportunity to grow the Broadway Corridor, connecting it to Cal Anderson Park and reaching south to Seattle Central Community College and the Pike Pine corridor. FROM SEATTLE OCPD

Pike/Pine

***Neighborhood* Design Guidelines**

Includes sections considering

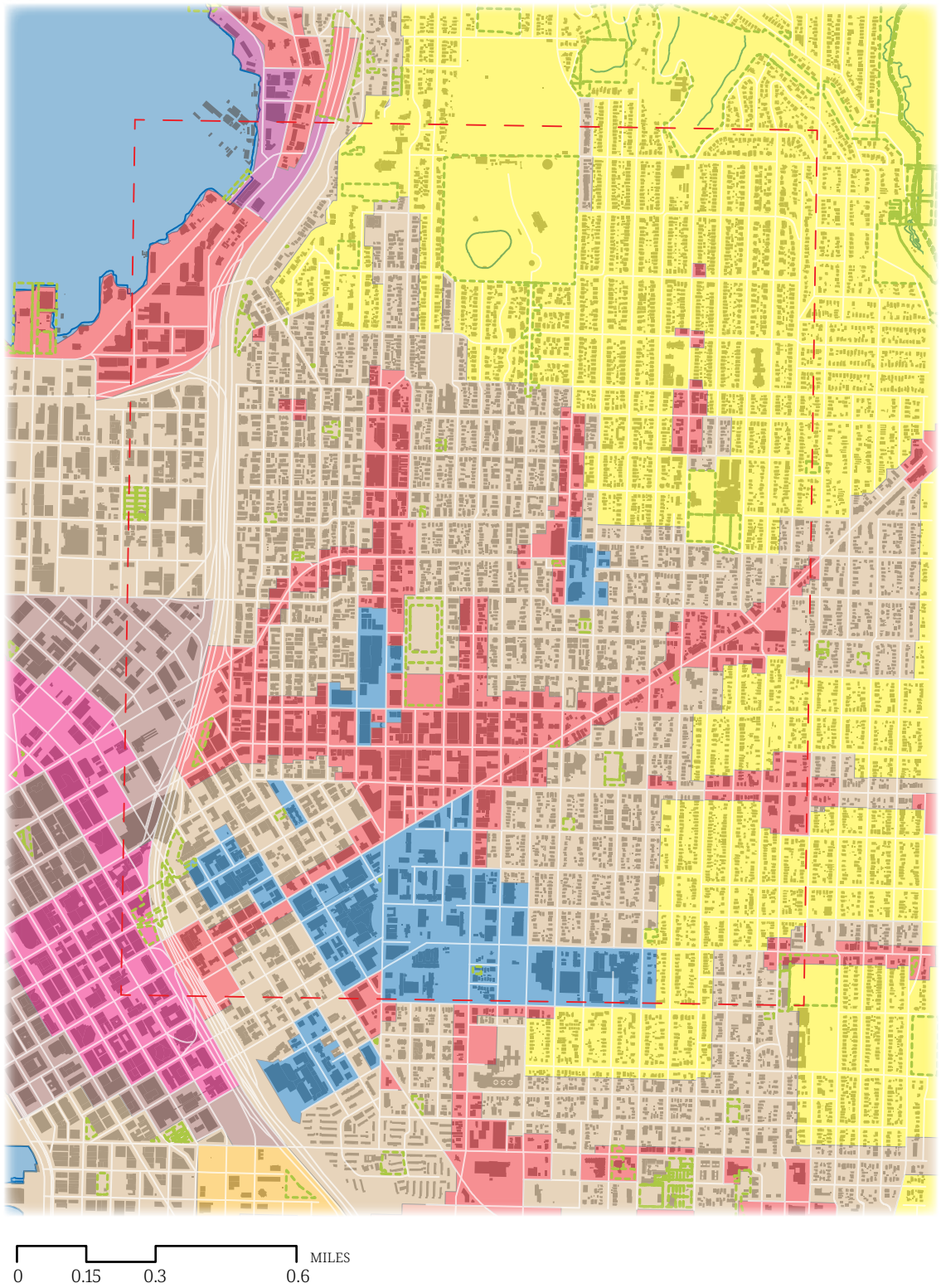
- Context and Site (Natural Systems, Urban Pattern, Architectural Context, etc.)
- Public Life (Connectivity, Walkability, Street-Level Interaction, etc.)
- Design Concept (Project Uses/ Activities, Architectural/ Open Space Concept, etc.)

Pike + Pine Renaissance

Waterfront Seattle is led by the City of Seattle's Office of the Waterfront and Civic Projects, working closely with civic leaders, stakeholders and the broader Seattle public to create a "Waterfront for All."

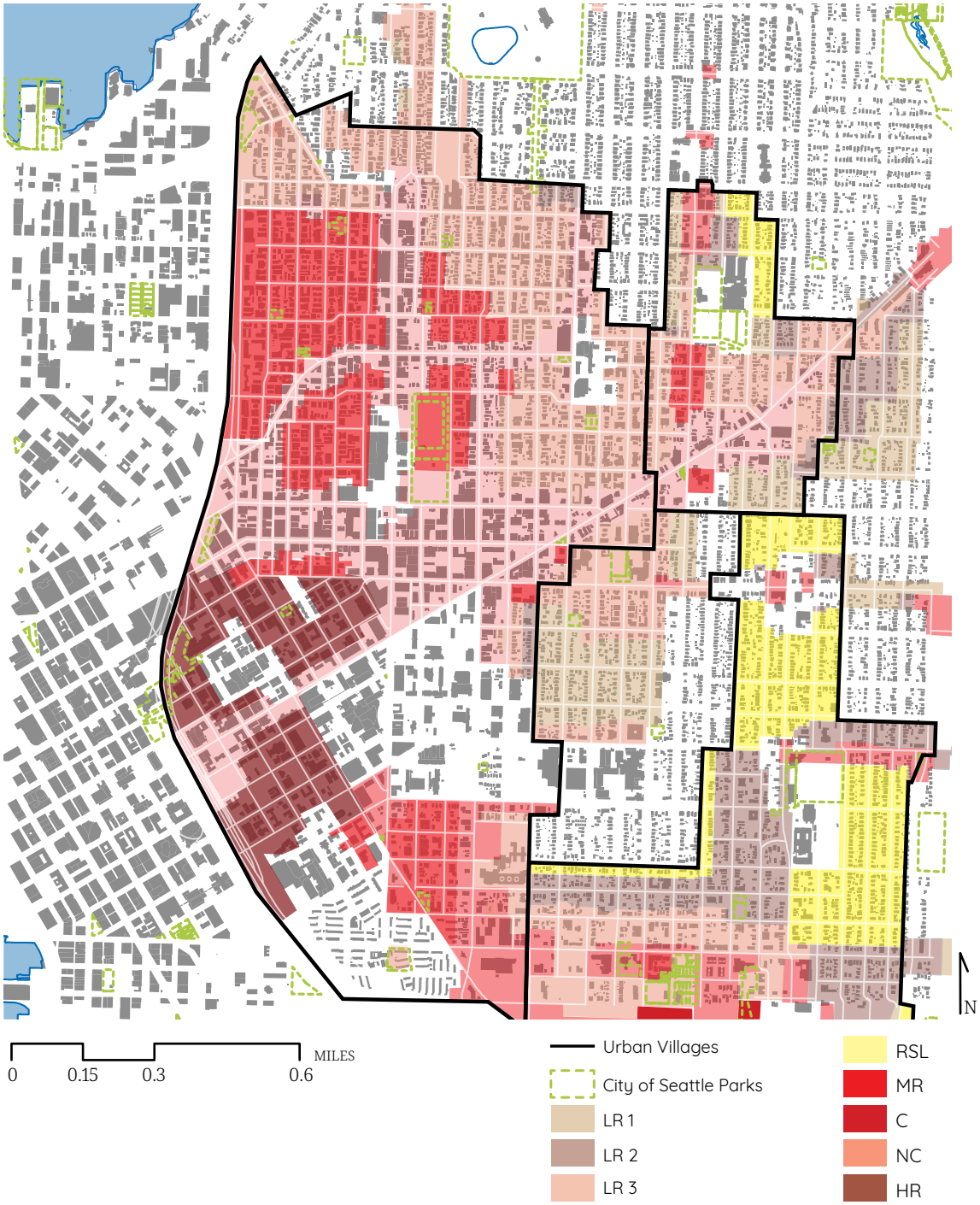
FROM WATERFRONTSEATTLE.ORG

ZONING


City of Seattle Parks
Public Use / Institutional
General Mixed Use
Commercial / Office
Commercial / Residential
Office / Business Park
Industrial
Site Boundary
Commercial
Single-Family Residential
Multi-Family Residential
N
0
0.15
0.3
0.6
MILES

MHA ZONING

Mandatory Housing Affordability is a zoning policy adopted by the City of Seattle in March 2019. The policy requires new commercial or multifamily construction to either include a set number of rent-controlled units specifically for low-income tenants; or to pay a substantial fee if such units are not included in the new development.



ZONING			DENSITY LIMIT		HEIGHT LIMIT	
Existing	Proposed	Housing Type	Existing	Proposed	Existing	Proposed
Residential Small Lot (RSL, RSL/T, RSL/C)	Residential Small Lot (RSL)	**RSL** **Tandem RSL/T** **Cottage RSL/C**	*1 / 2,500 ft^2* *1 / 2,500 ft^2* *1 / 1,600 ft^2*	*1 / 2,000 ft^2 (all housing types)*	*25'* *18'* *18'*	*30' (all housing types)*
Lowrise 1 (LR1)	Lowrise 1 (LR1)	**Cottage Housing** **Townhouse** **Rowhouse** **Apartment**	*1 Unit / 1,600 ft^2* *1 Unit / 1,600 ft^2* *1 Unit / 1,600 ft^2* *1 Unit / 2,000 ft^2*	*No limit* *1 Unit / 1,350 ft^2* *1 Unit / 1,350 ft^2* *No Limit*	*18' + 7' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof*	*22'+ 5' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof*
Lowrise 2 (LR2)	Lowrise 2 (LR2)	**Cottage Housing** **Townhouse** **Rowhouse** **Apartment**	*1 Unit / 1,600 ft^2* *No Limit* *No Limit* *No Limit*	*No Limit* *No Limit* *No Limit* *No Limit*	*18'+ 7' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof*	*22'+ 5' pitched roof* *40' + 5' pitched roof* *40' + 5' pitched roof* *40' + 5' pitched roof*
Lowrise 3 (LR3) *Outside of urban village, center, or station areas*	Lowrise 3 (LR3) *Outside of urban village, center, or station areas*	**Cottage Housing** **Townhouse** **Rowhouse** **Apartment**	*1 Unit / 1,600 ft^2* *No Limit* *No Limit* *No Limit*	*No Limit* *No Limit* *No Limit* *No Limit*	*18' + 7' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof*	*22'+ 5' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof* *30' + 5' pitched roof*
Lowrise 3 (LR3) *Inside of urban village, center, or station areas*	Lowrise 3 (LR3) *Inside of urban village, center, or station areas*	**Cottage Housing** **Townhouse** **Rowhouse** **Apartment**	*1 Unit / 1,600 ft^2* *No Limit* *No Limit* *No Limit*	*No Limit* *No Limit* *No Limit* *No Limit*	*18' + 7' pitched roof* *40' + 5' pitched roof* *40' + 5' pitched roof* *40' + 5' pitched roof*	*22'+ 5' pitched roof* *50' + 5' pitched roof* *50' + 5' pitched roof* *50' + 5' pitched roof*
Midrise (MR)	Midrise (MR)				*60' base* *75' bonus*	*80' (no base or bonus)*
Highrise (HR)	Highrise (HR)				*300'*	*440'*
NC-40 C-40	NC-55 C-55				*40'* *+ 4' or 7' for ground floor commercial space features*	*55'*
NC-65 C-65	NC-75 C-75				*65'*	*75'*

FIGURE BY HEXIANG WANG, DRAWING FROM THE MHA DIRECTOR'S REPORT PRODUCED BY THE CITY OF SEATTLE

DESIGN DRIVERS:

DEEP CONTEXT, SENSORY QUALITIES

Zoe Kasperzyk, Alanna Matteson, Asya Snejnevski

Opposite Page: Richmark Label Building
PHOTO FROM SEATTLE MET

Describe Capitol Hill...
DIAGRAM BY ZOE KASPERZYK

TOPOGRAPHY

QUIET TO LIVELY

Volunteer Park

Broadway

15th Ave E

Cal Anderson Park

Seattle Central College

Pike and Pine

Seattle University

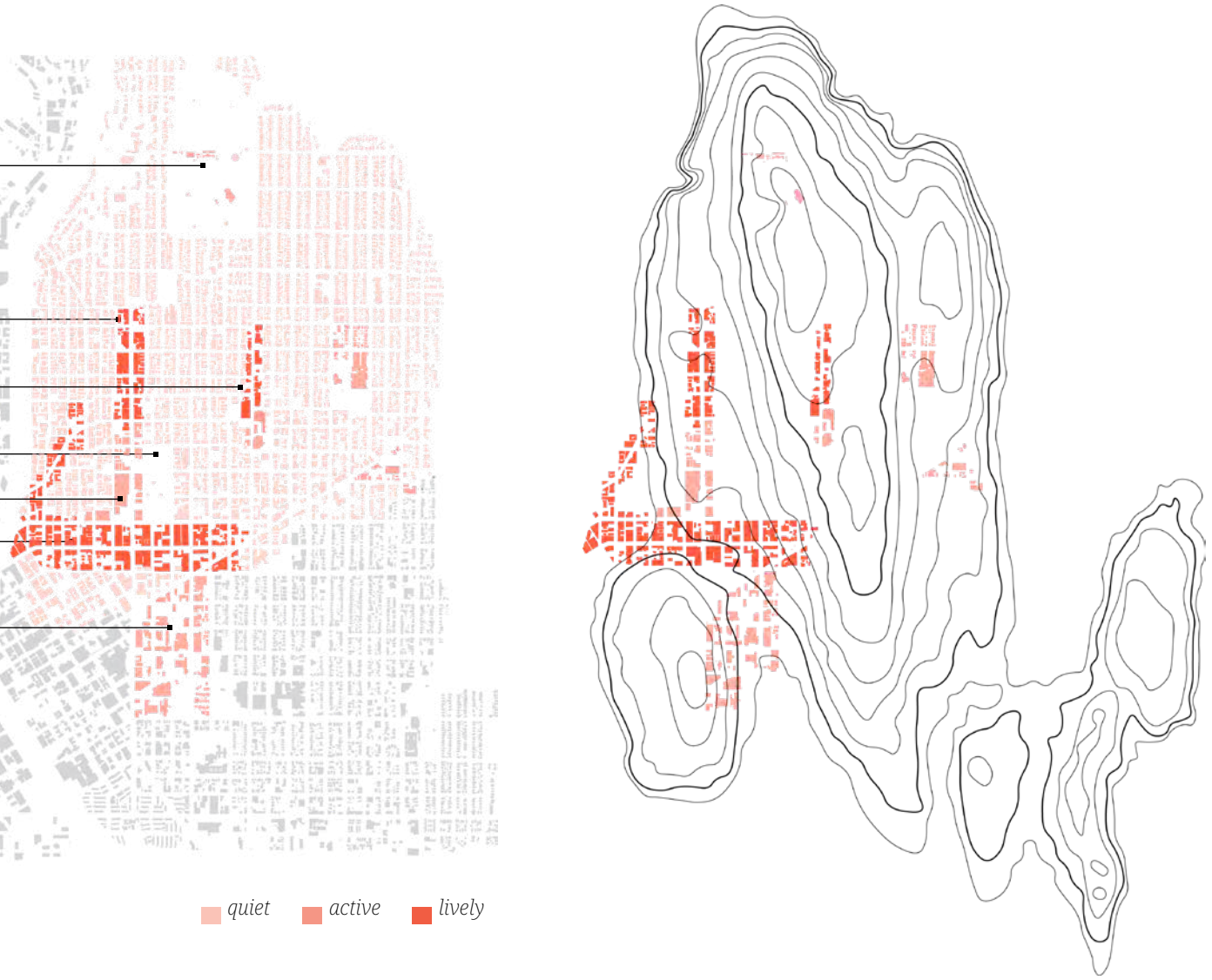
An exploration of the relationship between topography and activity levels in the neighborhood

DIAGRAM BY ALANNA MATTESON

LIVELY

MAPPING LIVELINESS + ACTIVITY ON CAPITOL HILL

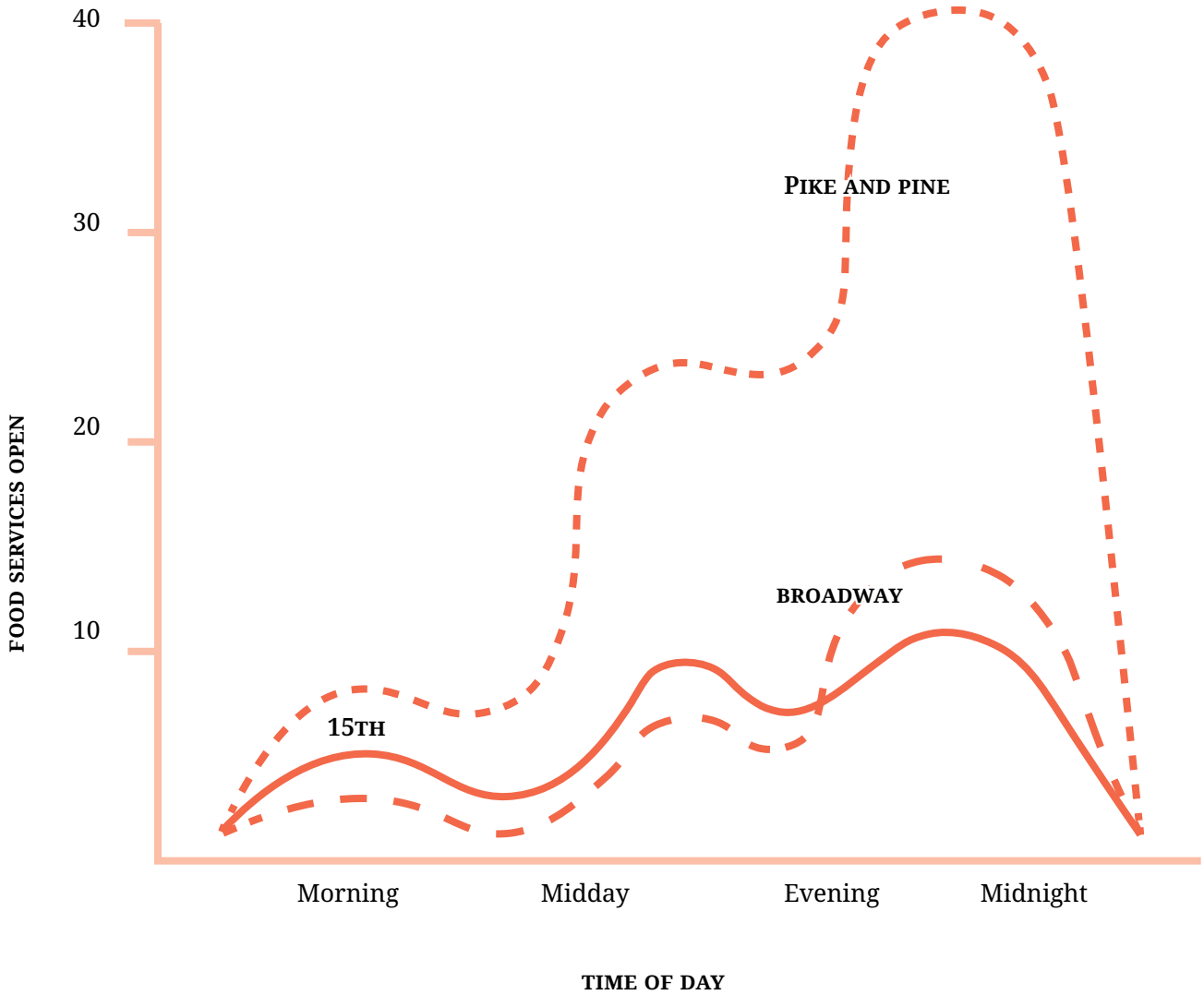
LIVELINESS + TOPOGRAPHY



DATA FROM
https://www.pickatrail.com/topo-map/s/7.5x7.5/seattle-south-wa.html
https://www.pickatrail.com/topo-map/s/7.5x7.5/seattle-north-wa.html
https://www.google.com/maps/place/Capitol+Hill,+Seattle,+WA

FROM DAY TO NIGHT

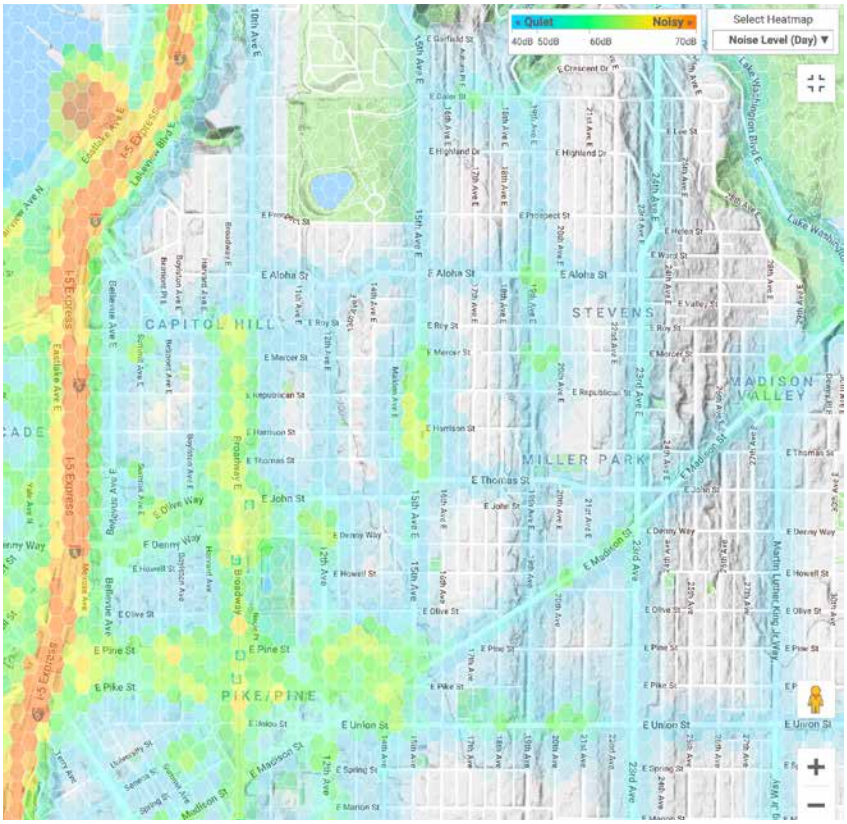
ACTIVITY IN THE COMMERCIAL CORRIDOR



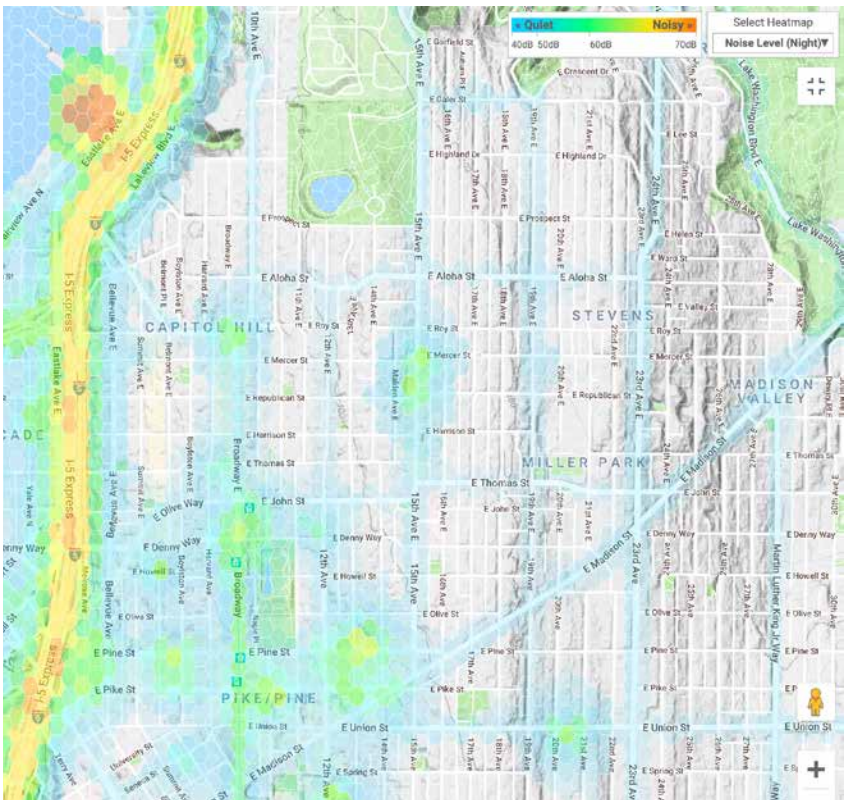
An exploration of activity level trends throughout the day in the three major commercial districts on Capitol Hill. The graph is based on Google maps data that shows when bars and restaurants are open and busiest.

DIAGRAM BY ALANNA MATTESON

DATA FROM HTTPS://WWW.GOOGLE.COM/MAPS/SEARCH/CAPITOL+HILL+RESTAURANTS



RentLingo's Noise Level Index: Day Time



RentLingo's Noise Level Index: Night Time

MAPS FROM RENTLINGO.COM/NOISE-INDEX

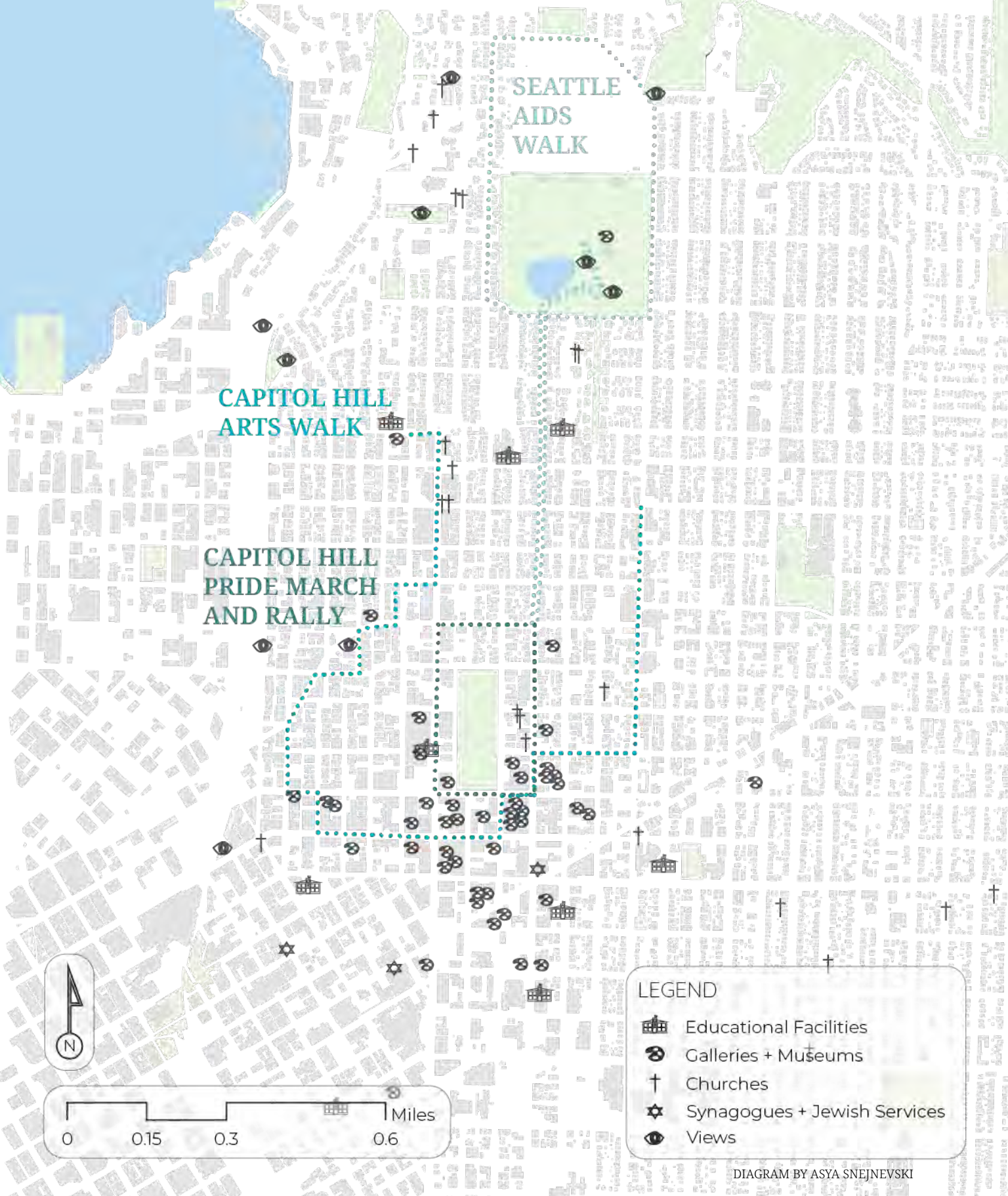


DIAGRAM BY ASYA SNEJNEVSKI

DIVERSE + ARTSY

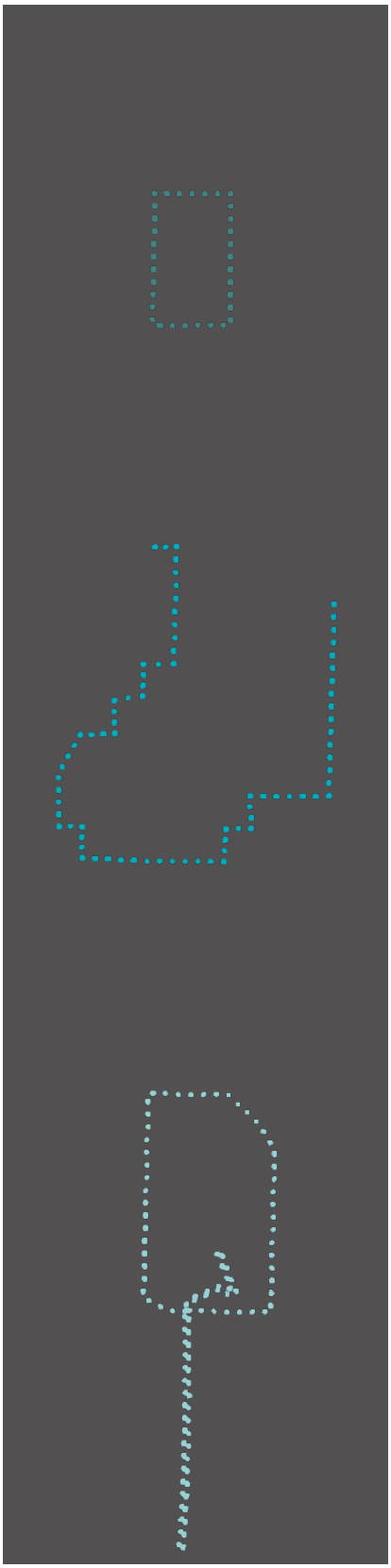
AN EXPLORATION INTO CAPITOL HILL'S CULTURAL INSTITUTIONS

The Capitol Hill Arts District was the first designated arts district in Seattle, named in 2014 as a part of the city's Arts & Cultural Districts initiative. It is one of the most dense arts neighborhoods in Washington State.

The coalition is made up of Capitol Hill Housing, the Capitol Hill Chamber of Commerce, the City of Seattle and many of the Capitol Hill neighborhood arts organizations and artists.

Capitol Hill Arts District Coalition Members

- 12th Avenue Arts
- Annex Theatre
- Artist Trust
- Blick Art Materials
- Broadway Performance Hall
- Capitol Hill Block Party
- Cassandria Blackmore Studio
- Century Ballroom
- Chop Suey
- ContactCreate
- Crybaby Studios
- Eclectic Theater
- The Egyptian Theater
- Elliott Bay Book Company
- The Erickson Theater
- Everyday Music
- Frame Central
- High Voltage Music Store
- Hugo House
- Kinsey Gallery
- KXSU SeattleLee Center for the Arts / Hedreen Gallery
- Longhouse Media
- Ltd. Art Gallery
- M Rosetta Hunter Art Gallery
- Neumos
- New Century Theater Company
- Northwest Film Forum
- The Northwest School
- Photo Center Northwest
- Pound Arts
- The Project Room
- Rare Medium
- Seattle Academy of Arts and Sciences
- Strawberry Theater WorkshopStudio Current
- Three Dollar Bill Cinema
- True Love Art Gallery
- Vachon Gallery
- Velocity Dance Center
- Vermillion Art Gallery
- Washington Ensemble Theater



M Rosetta Hunter Art Gallery
Broadway Performance Hall
Cal Anderson Park
12th Avenue Arts + Theatres
Artist Trust
Capitol Hill Light Rail Station
Seattle Central College
330'
360'

CAPITOL HILL PRIDE MARCH AND RALLY

Bodhiheart Sangha Buddhist Meditation Center
All Pilgrims Christian Church
Consulado de México en Seattle
Capitol Hill Branch Library
Harvard Avenue School
Fred Wildlife Refuge
Ghost Gallery
Ltd. Art Gallery
True Love Art Gallery
Theater Shmeater
339'
220'

CAPITOL HILL ARTS WALK

Volunteer Park
Parkside School
Mercer Court
450'
360'

SEATTLE AIDS WALK

MAPPING CAPITOL HILL WALK ROUTE ELEVATIONS & CULTURAL INSTITUTIONS

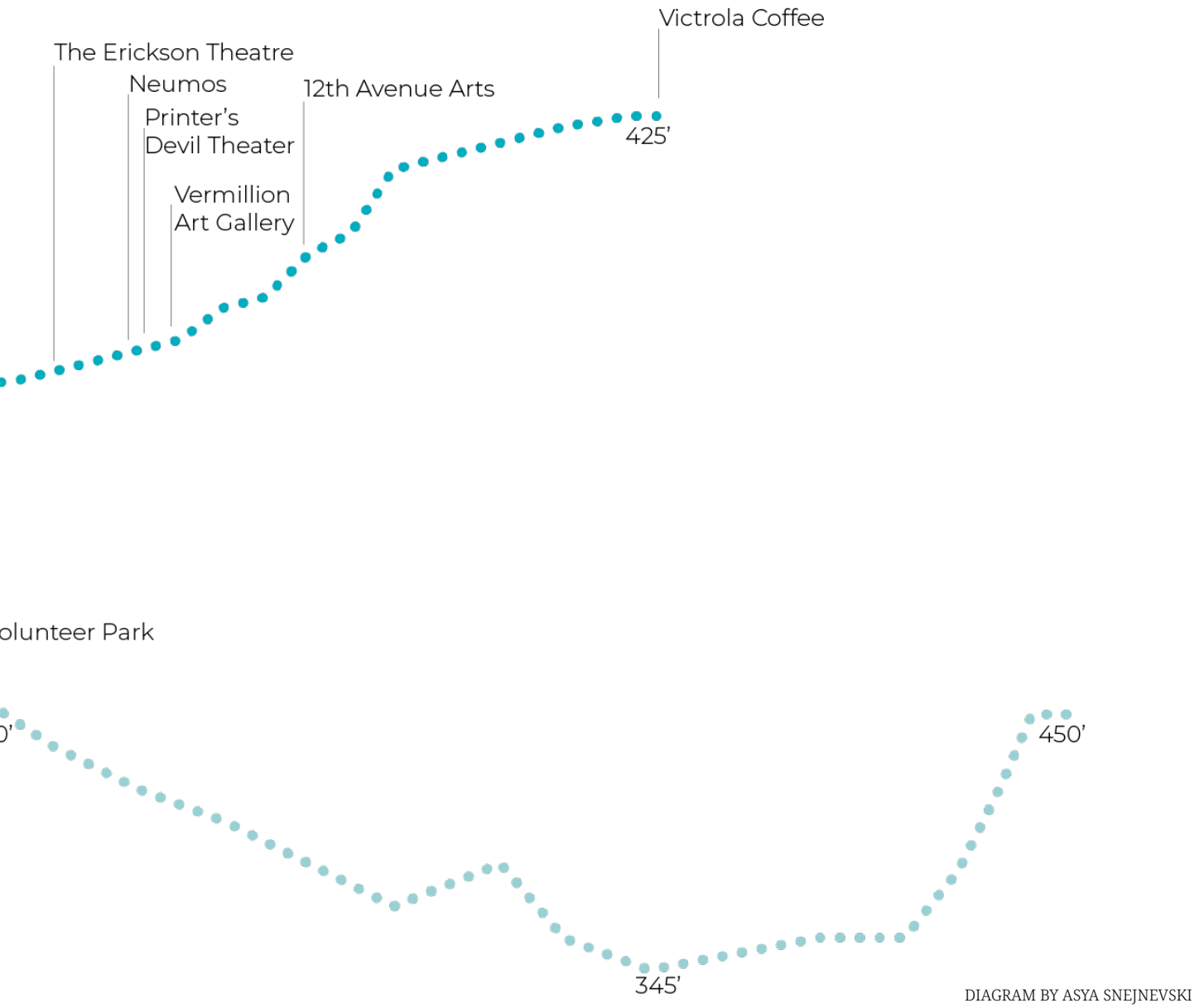


DIAGRAM BY ASYA SNEJNEVSKI

DIAGRAM BY ZOE KASPERZYK

HISTORIC VARIETY

STORIES FROM THE HISTORIC + COMMERCIAL STREETSCAPE

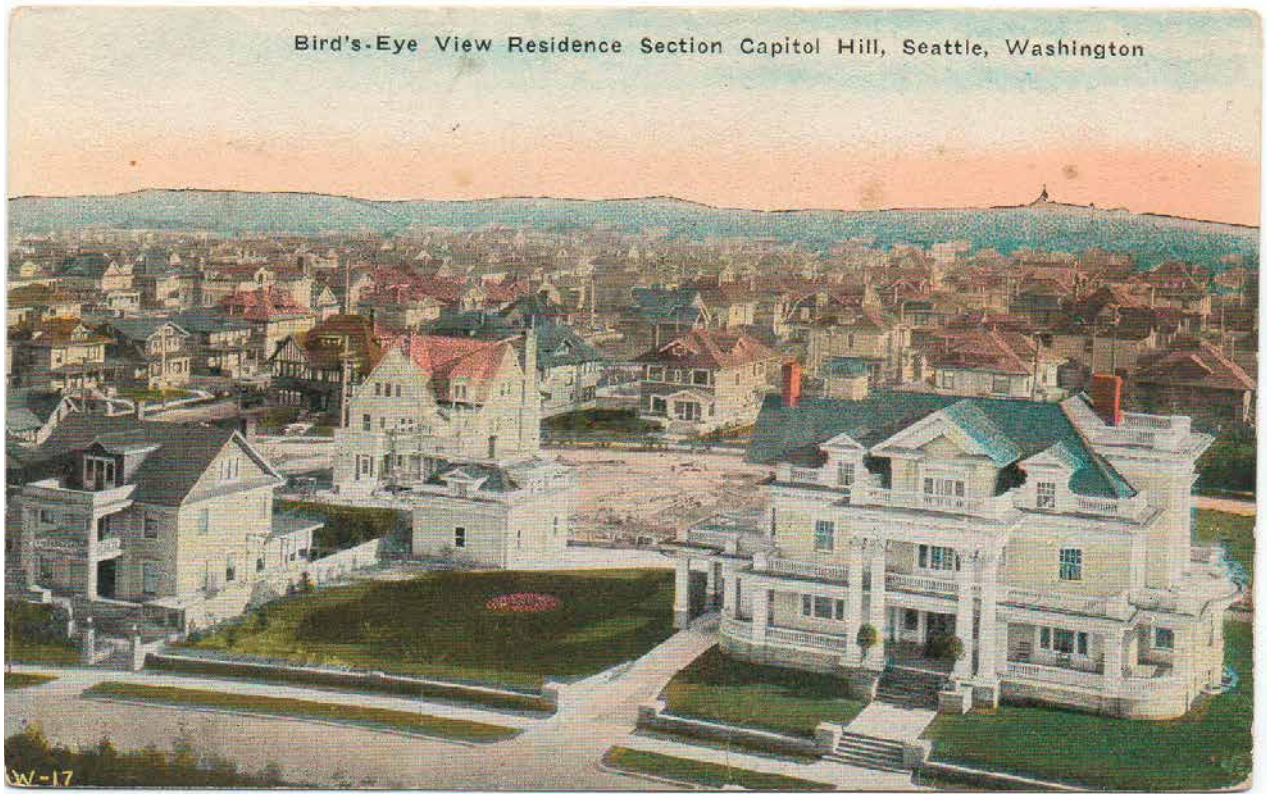
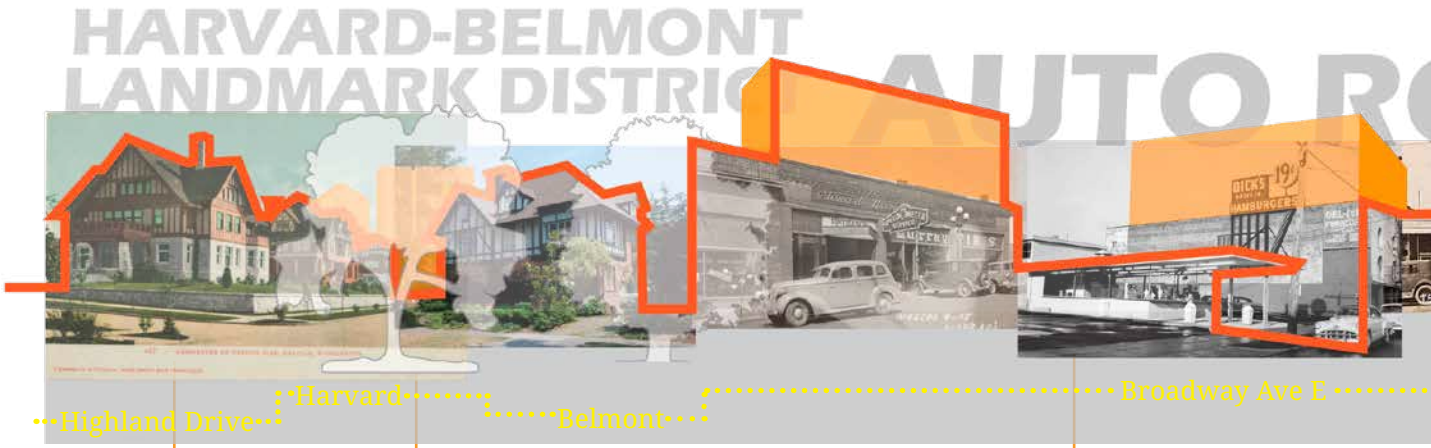


IMAGE FROM: HTTPS://WWW.EBAY.COM/ITM/1915-POSTCARD-SHOWING-RESIDENCE-SECTION-W-MANSIONS-CAPITOL-HILL-SEATTLE-WA-/400797552235



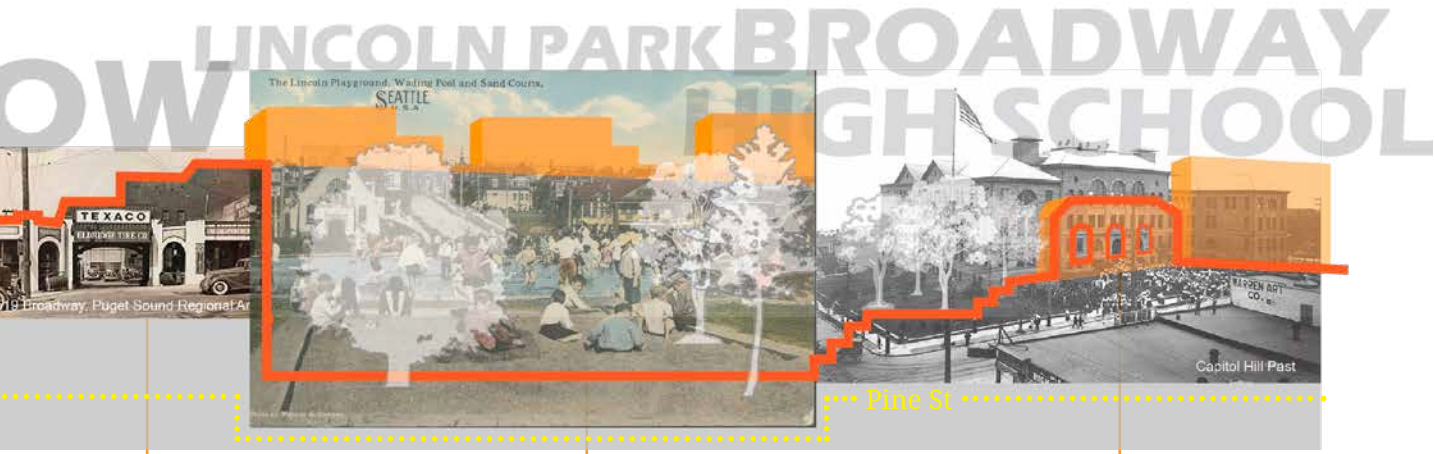
Harvard-Belmont Landmark District

The well-preserved residential neighborhood was settled in the early 20th century by the city's wealthiest investors and industrialists. Tree lined boulevards and grand estates line this district on the western slope of Capitol Hill.

Garry Oak, *Quercus garryana*, is Washington's lone native oak. The tree at the intersection of Belmont Ave and Belmont Place is a rare find this far north and is estimated to be over 100 years old.

Dick's Hamburgers

The second Dick's Drive-In opened in 1955 along Auto Row on Broadway. The menu and drive-in has changed little over time and still has many customers who drive in; however, the walkability of the neighborhood brings more customers on foot.



Auto Row

In 1911 along Broadway and Pike St there were 31 car dealers. Many other businesses on the strip also catered to the emerging class of motorists. The one story businesses retain some indications of the auto past, but by the 1950's the auto industry followed the middle-class consumers to the suburbs.

Cal Anderson Park

Cal Anderson sits on top of the Lincoln Reservoir that was built in response to the Great Seattle fire of 1889. The Olmsted Brothers designed the park for active recreation. While the area has undergone some changes, the playfields and kid-oriented facilities still exist.

Seattle Central College

In 1902, Broadway High School opened, where Seattle Central College sits today. The high school was extremely large, but one year after it opened it was fully enrolled. 44 years later, the School Board announced they were going to convert it to an all-veterans training center in response to declining enrollment due to the war and Japanese Internment. The center offered evening adult classes to fulfill requirements of the G.I. Bill. Seattle Community College was founded in 1966. Today, the College's Performing Art Center is a fraction of the size of the former high school, but was re-purposed using the stone walls. A green plaza was also added on the south side of the building.

Volunteer Park

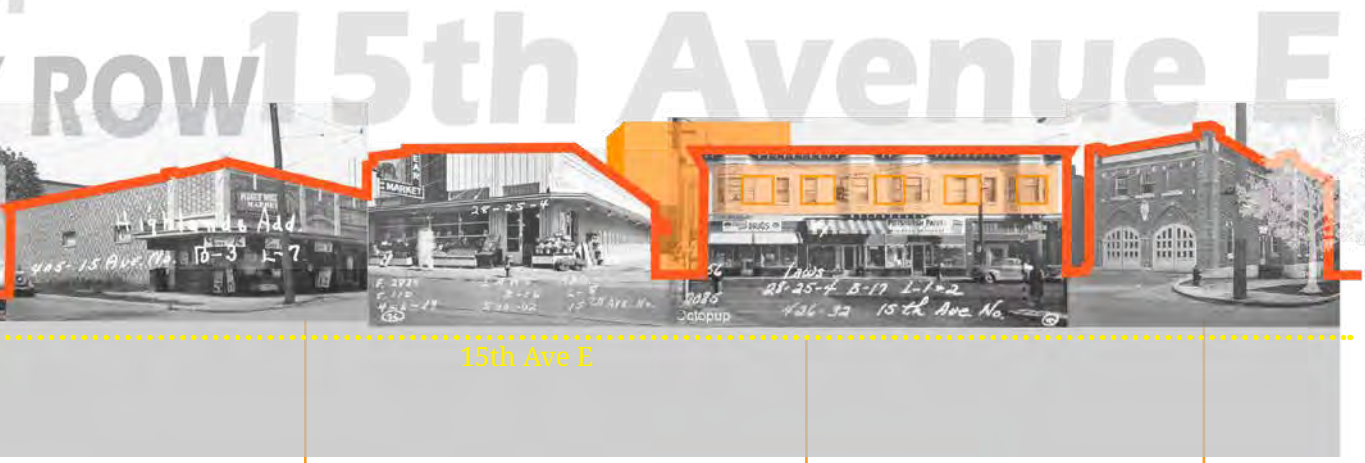
Beginning as a municipal cemetery in 1876, the graves were removed and the park was renamed multiple times until the city settled upon Volunteer in 1901, the same year the reservoir was built. Volunteer Park is the best preserved Olmsted Brother's park in Seattle. Today, the naturalistic, pastoral style park is a well-loved destination for residents and tourists who also enjoy the Seattle Asian Art Museum and the Conservatory.

Water Tower Observation Deck

Built in 1906, the brick water tower holds 883,000 gallons of water on a high point in the neighborhood. The 360 degree vista showcases the mountains, sound, and city, along with the diverse tree canopy of the park and neighborhood.

Millionaire's Row

Some of Seattle's fanciest early-20th-century homes were built along 14th Avenue E, just south of Volunteer Park. While the wood, granite, sandstone, and brick homes have largely retained their character, the streetscape has changed as the trees and city have grown and the transportation needs have changed.



15th Ave E Business District

While the businesses have changed with time, the scale of this commercial district has largely stayed single-story, even as some of the facades have simplified. It makes it easier to imagine the street car running along the corridor beginning in 1901. Supermarket and pharmacy chains have replaced family-run businesses, but the corridor is still lined with neighborhood-oriented restaurants and cafes.

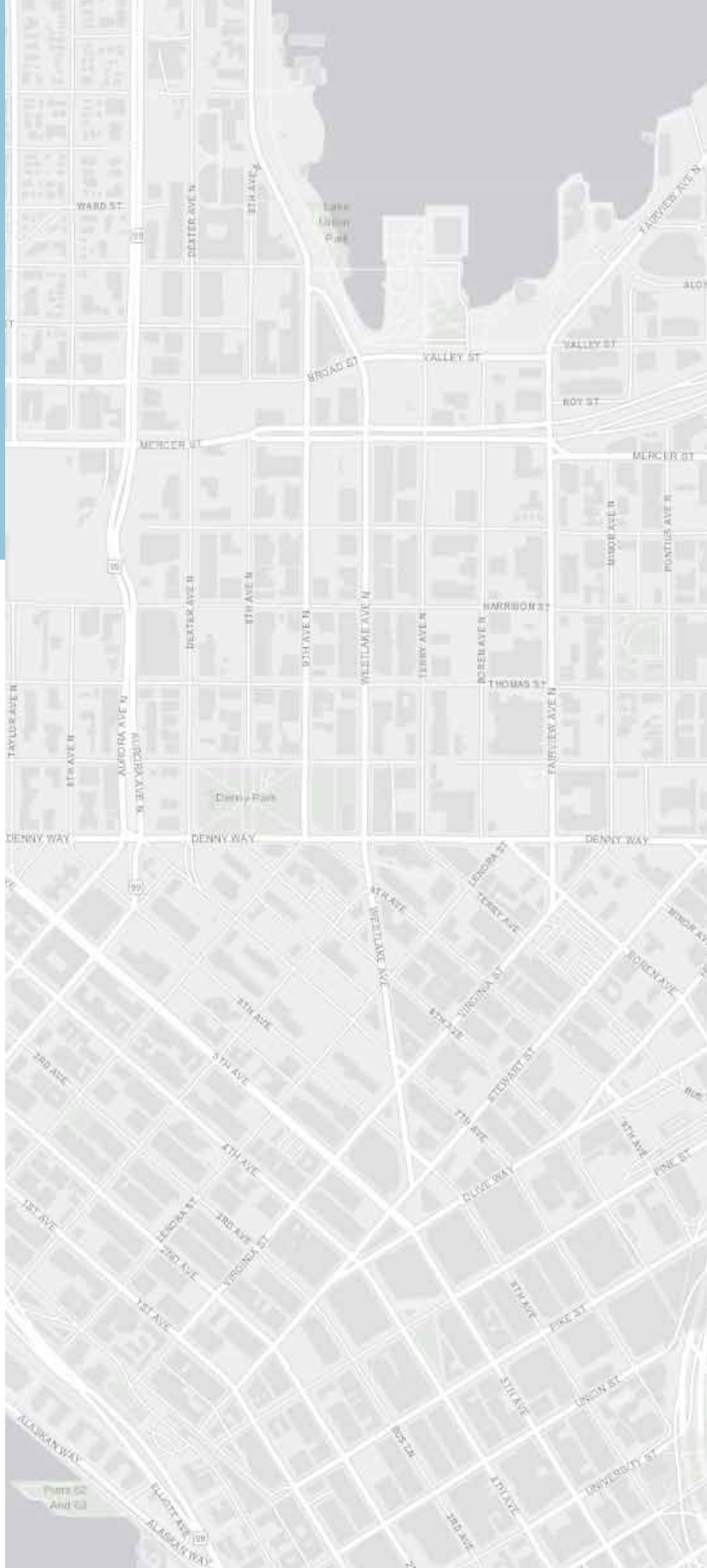
This building, built in 1902, was modernized in the 1960's and the second story bay windows were removed. A range of shops have occupied the first floor including Capitol Hill Market in the 20's, Oxford Meat Market in the 30's, Jamieson Drugs in the 50's, a hardware shop, a paint shop, hair salon, and bookstore. Today, you can find ShopRite, Rudy's Barbershop, and Take2 Recycled Clothing.

Fire House

The Fire Station was in operation from 1920 until 1970. The station was redeveloped and the doors were replaced in 1987. Previously a video store and now a boutique occupies the space.

SITE INVENTORY

As a studio, students collected data about opportunities to enhance the public realm and stormwater management. Scores were used to locate areas with high potential to inform site selection.



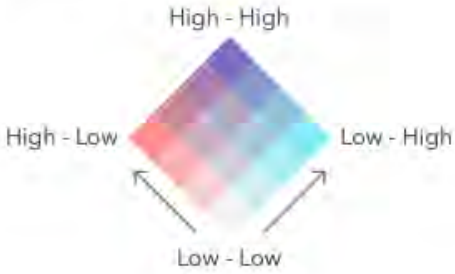
Legend

Combined opportunity score

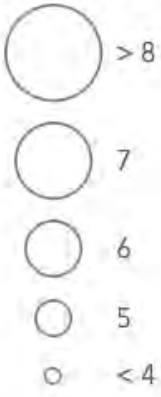
Relationship

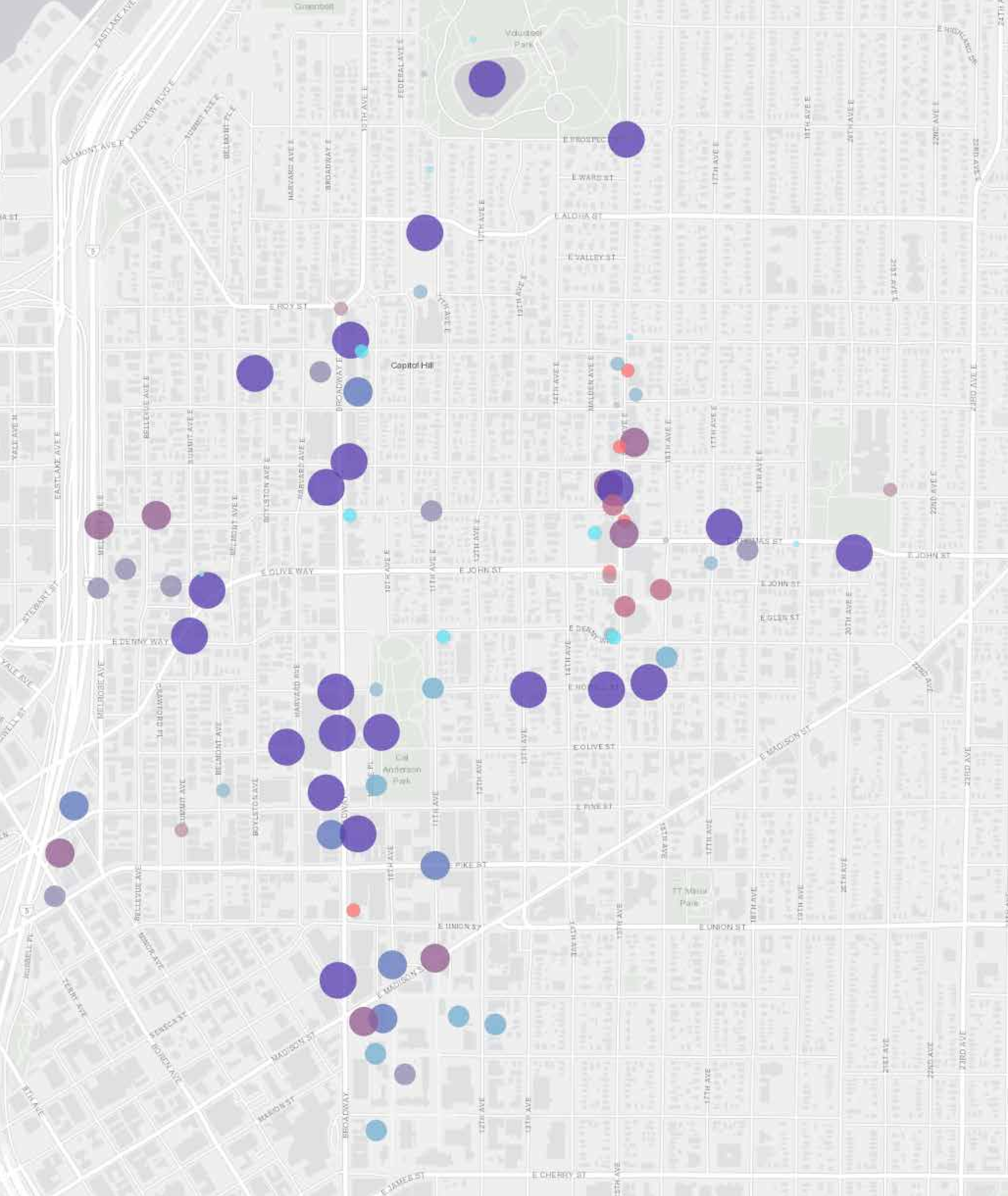
↖ Public Space Opportunity

↗ Water Opportunities



Opportunity Score





Volunteer Park
E PROSPECT ST
E WARD ST
E ALOHA ST
E VALLEY ST
E ROY ST
Capitol Hill
BROADWAY E
10TH AVE E
FEDERAL AVE E
HARVARD AVE E
BELMONT AVE E
EASTLAKE AVE E
E OLIVE WAY
E JOHN ST
E THOMAS ST
E GLEN ST
E DENNY WAY
MELROSE AVE
E OLIVE ST
E PINE ST
Cal Anderson Park
E PIKE ST
E UNION ST
E MADISON ST
MADISON ST
BROADWAY
12TH AVE
13TH AVE
E CHERRY ST
E JAMES ST

TASHKENT PARK

Residential park located in the northwest area of Broadway. Comfortable scale, interesting topography with a lot of opportunity for social and ecological functions.

NORTH BROADWAY

The most pedestrian trafficked area of Capitol Hill. A lot ofnwell established and varied commercial opportunities. Hard to walk comfortably.

SEATTLE CENTRAL COLLEGE

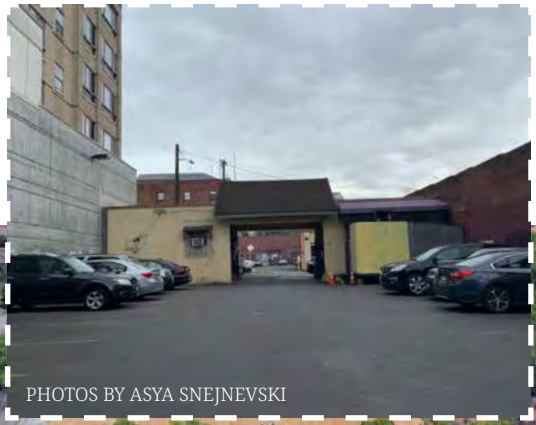
This large space could be a great stormwater treatment area. The slope and terracing could be adapted for water, keeping the existing topography.

PHOTOS BY ASYA SNEJNEVSKI

IMAGE FROM GOOGLE EARTH

1519 & 1532 BROADWAY

These two parking lots have a lot of public access and could collect stormwater from adjacent buildings. The east parking lot is on two lots and the west parking lot has an archway that you must go through to enter.



PHOTOS BY ASYA SNEJNEVSKI

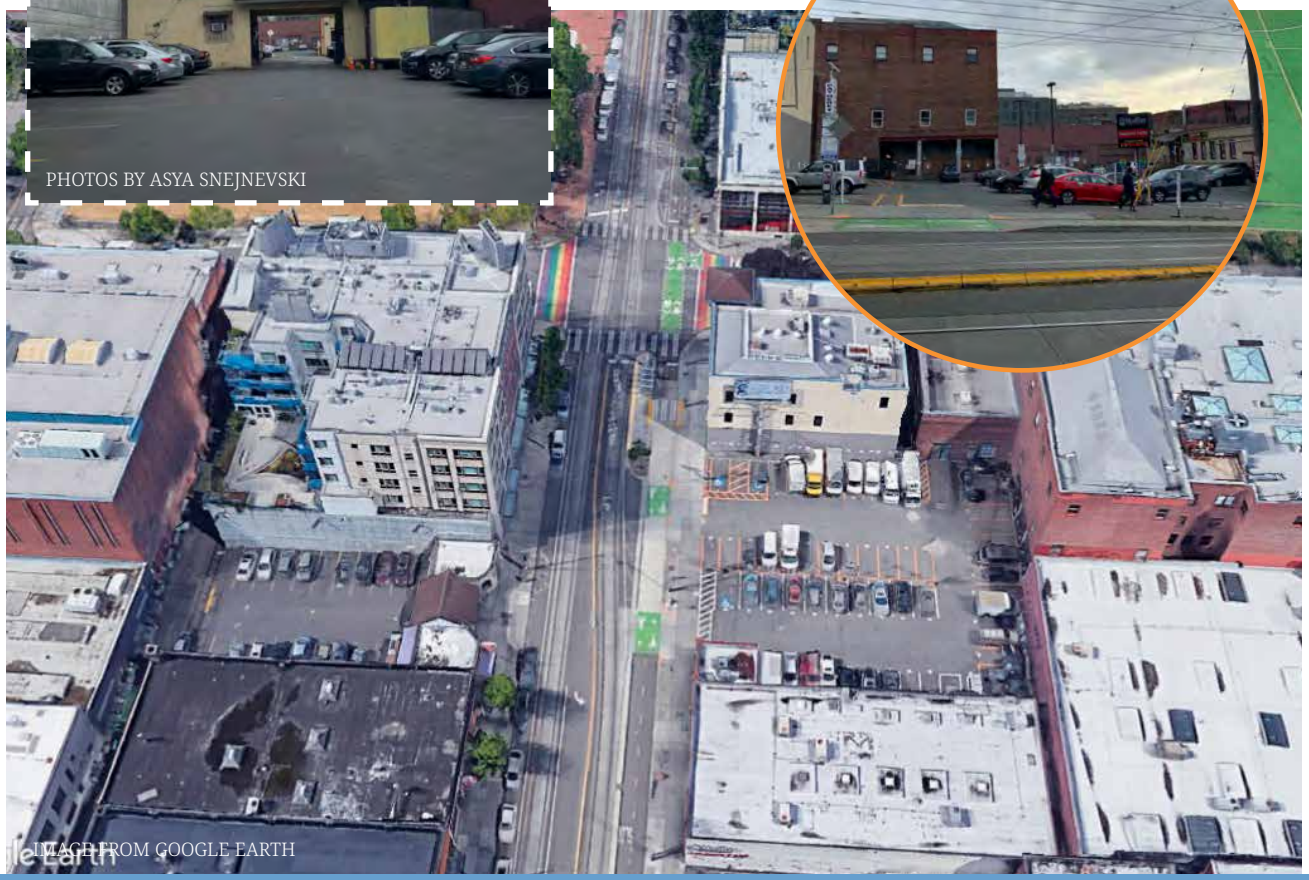


IMAGE FROM GOOGLE EARTH

VOLUNTEER PARK

The reservoir at the park is no longer used for drinking water and has potential for stormwater retention. The adjacent stage area offers opportunities for enhancement as a public gathering space that incorporates stormwater management.

PHOTOS BY ZOE KASPERZYK AND ALLTRAILS

11TH AVE & E UNION ST

This car-centric area features a significant amount of impervious surface. There is enormous potential for stormwater detention from roofs and roadways. A pedestrian-focused reorganization of the space is needed, as it is adjacent to Seattle University.

PHOTOS BY ZOE KASPERZYK AND GOOGLE

CAL ANDERSON PARK

Possibilities seem endless for people and stormwater here. High activity in the park could be capitalized on by re-orienting and redesigning certain areas such as the basketball/ skateboard courts and the side adjacent to Nagle.

PHOTOS BY ZOE KASPERZYK

11TH AVE & E PIKE ST

This intersection is at the heart of the night-life in Capitol Hill. It also has an overabundance of impervious parking surfaces. There are numerous opportunities for de-paving and rain-water storage/slowing around the intersection and surrounding streets.

PHOTOS BY ZOE KASPERZYK

MELROSE OVERLOOK

Bordering I-5, Melrose Avenue acts as the western edge of the Capitol Hill district. This strip is largely inactive, but its expansive views present an opportunity to connect to the nearby Thomas Street Mini Park and adjacent residential areas.

Photo by Danielle Dolbow

Photo by Danielle Dolbow

THOMAS STREET

I-5

Image from Google Earth

STARBUCKS PARKING LOT

Located adjacent to a popular Starbucks is a surface parking lot. Denny Way is popular for pedestrians traveling from downtown. Its pedestrian access and available surface area make it ideal for stormwater and public life benefit.

ARCADE PLAZA

Opened in May 2017, Arcade Plaza was developed as part of Seattle's Pavement to Parks initiative on a closed section of Summit Ave between Denny Way and Olive Way. This park is located in a highly trafficked area for travelers moving from downtown into Capitol Hill by car or bus.

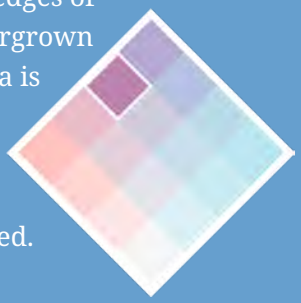
PHOTO BY DANIELLE DOLBOW

PHOTO BY JEREMY GONZALES

IMAGE FROM GOOGLE EARTH

DOG PARK

The Dog Park on Pine Street overlooks I-5 and South Lake Union. The park is enclosed with a low fence and includes benches and dog waste stations. The edges of the park are slightly overgrown and most of the play area is gravel and weeds. The lack of maintenance gives the appearance that the park is underused.

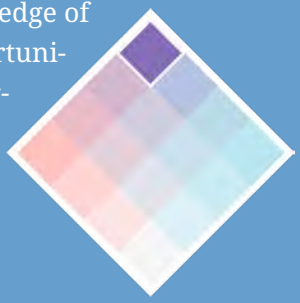


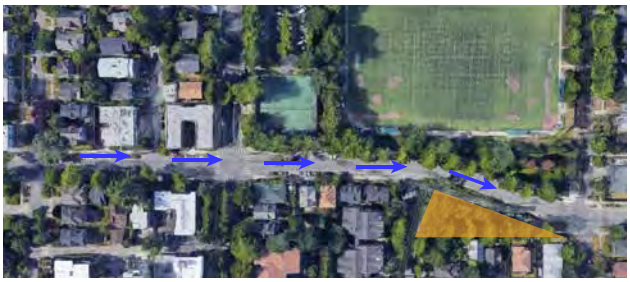
Vehicle

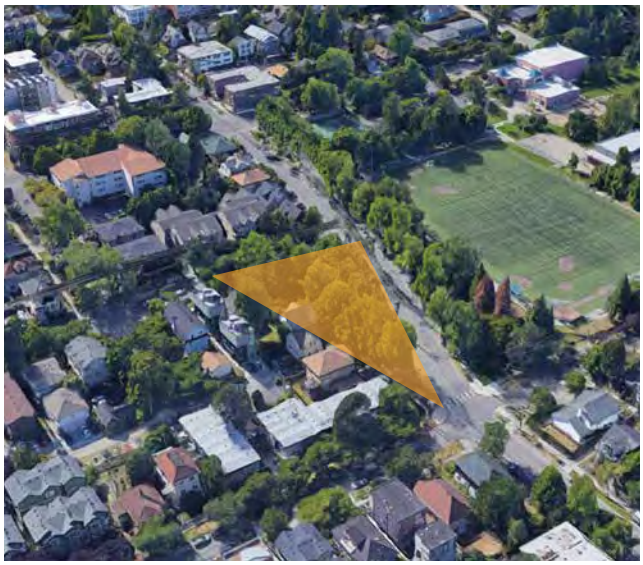
Pedestrian

MILLER TRIANGLE

Rainwater flows from west to east along E Thomas St. towards this edge of community space. Opportunities include social performance and stormwater management.







IMAGES FROM GOOGLE MAPS

15TH AVE E & E HOWELL ST.

The L-shape site is at the crossing of 15th Ave E and E Howell St, merging flows from four directions. Its slight slope makes it an ideal place for linear rain-water gardens. Public facilities can be added to attract more users.

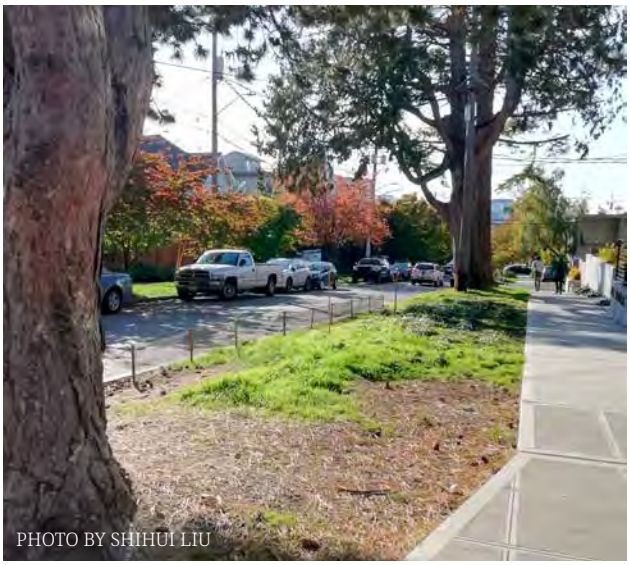


PHOTO BY SHIHUI LIU

PHOTO BY SHIHUI LIU

IMAGE FROM GOOGLE MAPS

15TH AVE E & E THOMAS ST.

E Thomas St. meets 15th Ave E in two places. The western intersection has wonderful views of the Space Needle and the north side of the eastern intersection has large sloping sidewalks that invite gathering under ample tree canopy.

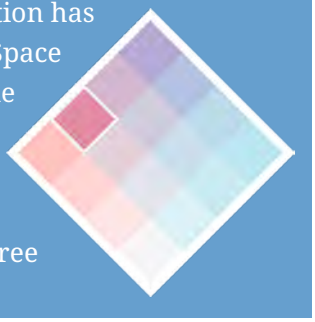


PHOTO BY JAKE MINDEN

PHOTO BY JAKE MINDEN

KAISER LOT

On the NE corner of 17th and Thomas, this parking lot occupies nearly half a block and slopes to its center. Assuming this lot will be unutilized after a Kaiser redevelopment, it would be a great space for managing stormwater and contributing to public green space.

PHOTO BY JAKE MINDEN

KEYBANK LOT

A large parking lot directly on 15th Ave E provides passage to 14th Ave. The KeyBank lot has great potential to collect and infiltrate stormwater and provide needed respite along a busy commercial street.

PHOTO BY JAKE MINDEN

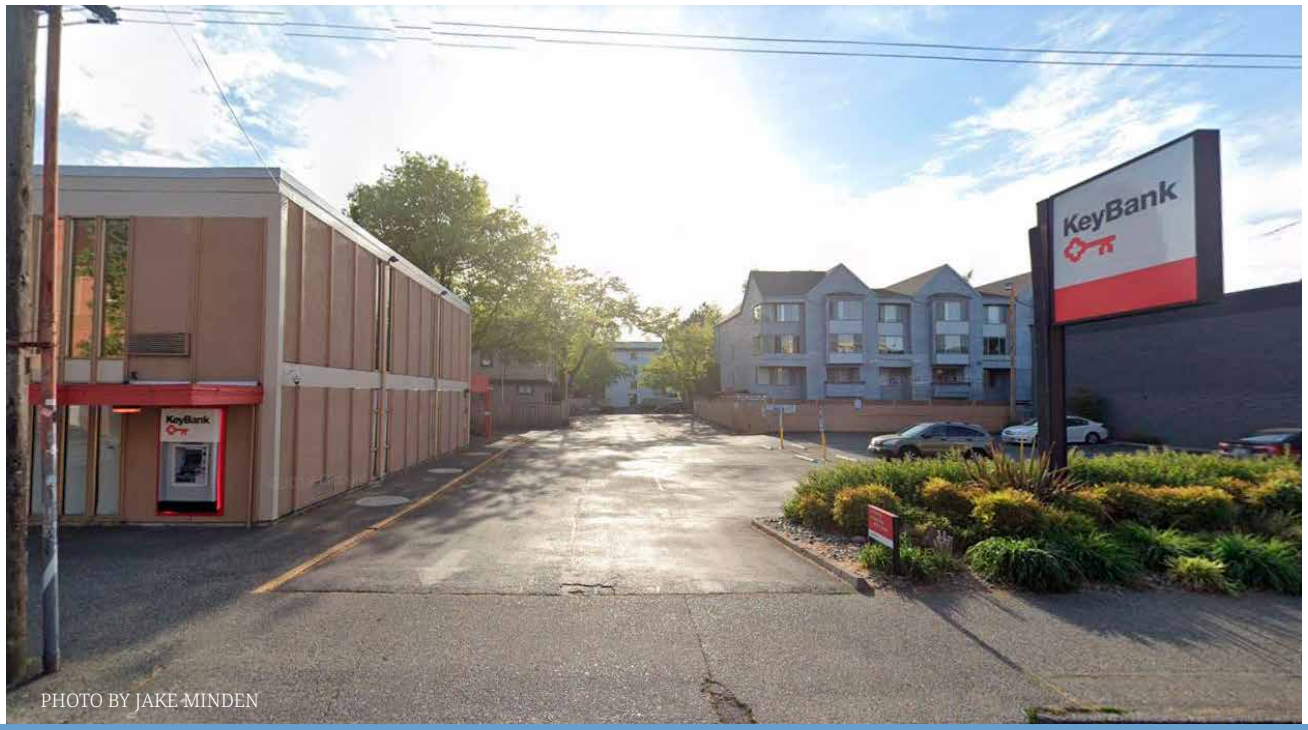


PHOTO BY JAKE MINDEN

15TH AVE E

From Volunteer Park southward, 15th Ave E sees low to moderate traffic flows, parallel parking on both sides of the street, and needs repaving. Opportunities include integration of stormwater infrastructure, bicycle paths, and smart parking.

PHOTO BY JIM DITTO

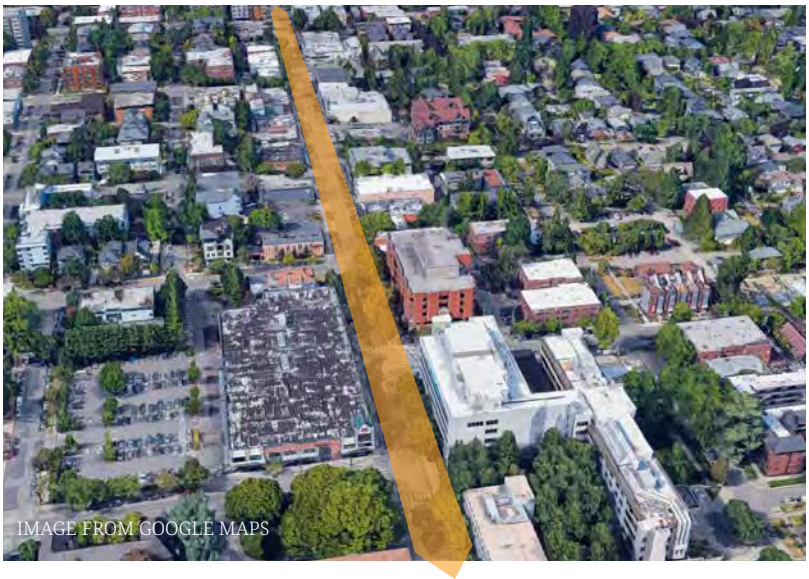


IMAGE FROM GOOGLE MAPS

PHOTO BY JIM DITTO

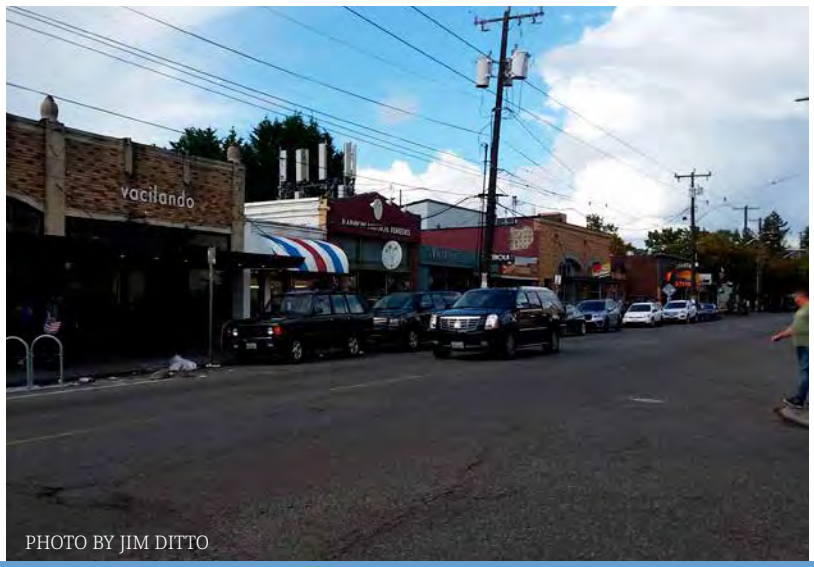


PHOTO BY JIM DITTO

HARVARD & BROADWAY

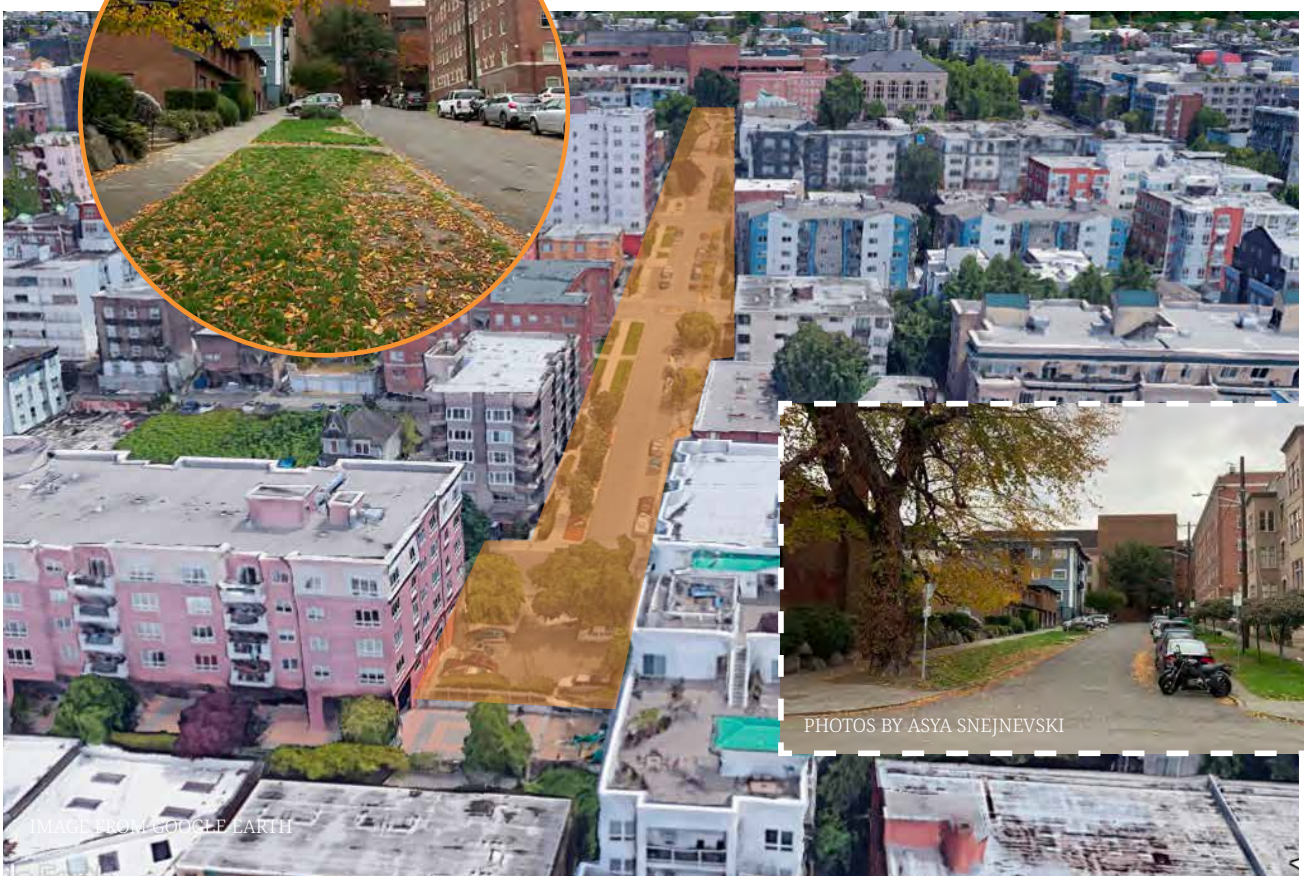
This sloped lot could provide a connection point between Harvard and Broadway and collect stormwater. Currently overgrown with an unkempt brick structure and something that appears to be a power substation.

PHOTOS BY ASYA SNEJNEVSKI

IMAGE FROM GOOGLE EARTH

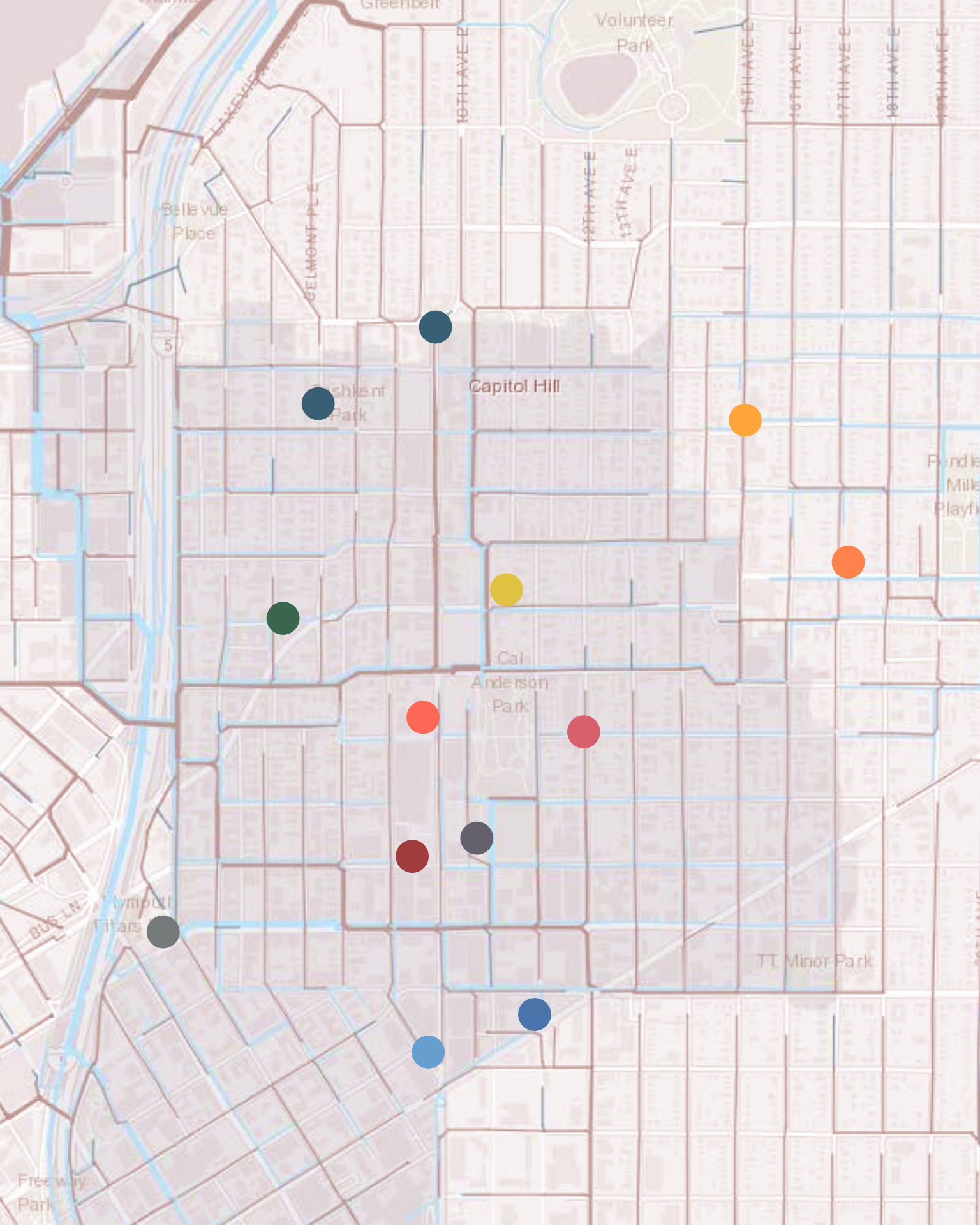
E OLIVE ST.

The 5 sloped blocks between Harvard Ave and Bellevue Ave have a ~6' sidewalk and planting strip on each side of the street, with parking on the south side. This site could collect and filter stormwater along the slope. E Olive Street meets Harvard and Bellevue at a T; adjusting the width of the street should not affect traffic.



PHOTOS BY ASYA SNEJNEVSKI

IMAGE FROM GOOGLE EARTH


Volunteer Park
Bellevue Place
Capitol Hill
Cal Anderson Park
TT Minor Park

PUBLIC SPACE DESIGNS

Based on the district analyses and site explorations, students chose sites as a group or individuals. Through a series of exercises and workshops, students explored how parts fit and flow together to express a clear set of concepts, and relate the site to its larger, urban contexts.

Master Teacher Louise Grassov spent two weeks visiting Seattle to help students refine their designs. Concepts morphed into spatial schematic design to test and develop ideas. Processes included human use observations and specific edge and water studies.

Students were challenged to tell a story through their designs that considered how to develop a robust, connected, responsive public realm while achieving water management goals. The final designs consider both site and context, at physical and temporal scales, and draw inspiration from our travels in Scandinavia.

- CONNECT WITH WATER — DYLAN MARCUS
- WOVEN ECOLOGIES — JIM DITTO
- EAST THOMAS STREET: CORRIDOR, CLINIC & GARDENS — JAKE MINDEN
- LIBRARY TO PARK — ALANNA MATTESON
- GATEWAY TO BROADWAY — EMILIO CRADDOCK & LAUREN IVERSEN
- ENVIRONMENTAL JUSTICE — YUCHEN WANG
- ACTIVATED ALLEY WAYS — KELSEY MCKAY, DANIELLE DOLBOW, HEXIANG WANG
- DEFINING EDGES: UNITING PEOPLE & WATER IN CAL ANDERSON PARK — ZOE KASPERZYK
- URBAN CONNECTOR — SHIHUI LIU
- ECO-STREET HARMONY — MENGTING YE
- INSIDE OUT — SARAH BARTOSH
- CAPITOL HILL PLANT & PLAY — ASYA SNEJNEVSKI
- THE THRESHOLD — HEATHER PARKER

CONNECT WITH WATER

Dylan Marcus

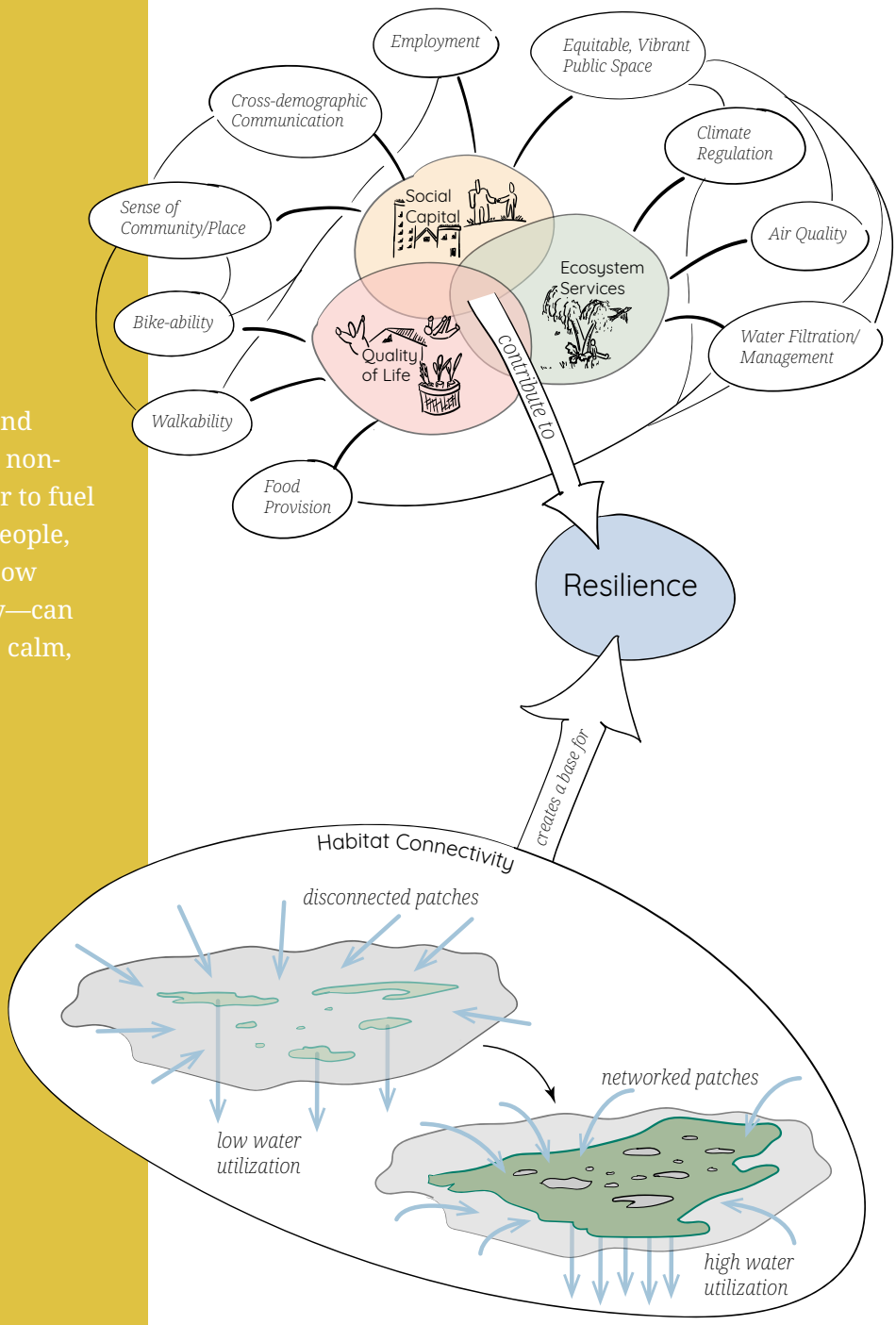
Water connects us to the landscape and to our communties, both human and non-human. This project uses stormwater to fuel public infrastructure that connects people, places, and ecology. It also looks at how in-between spaces—while less showy—can create daily moments of joy, wonder, calm, and connection.

STORMWATER

System: Combined and Partial

Strategy: Integrated

Capacity: Variable



is

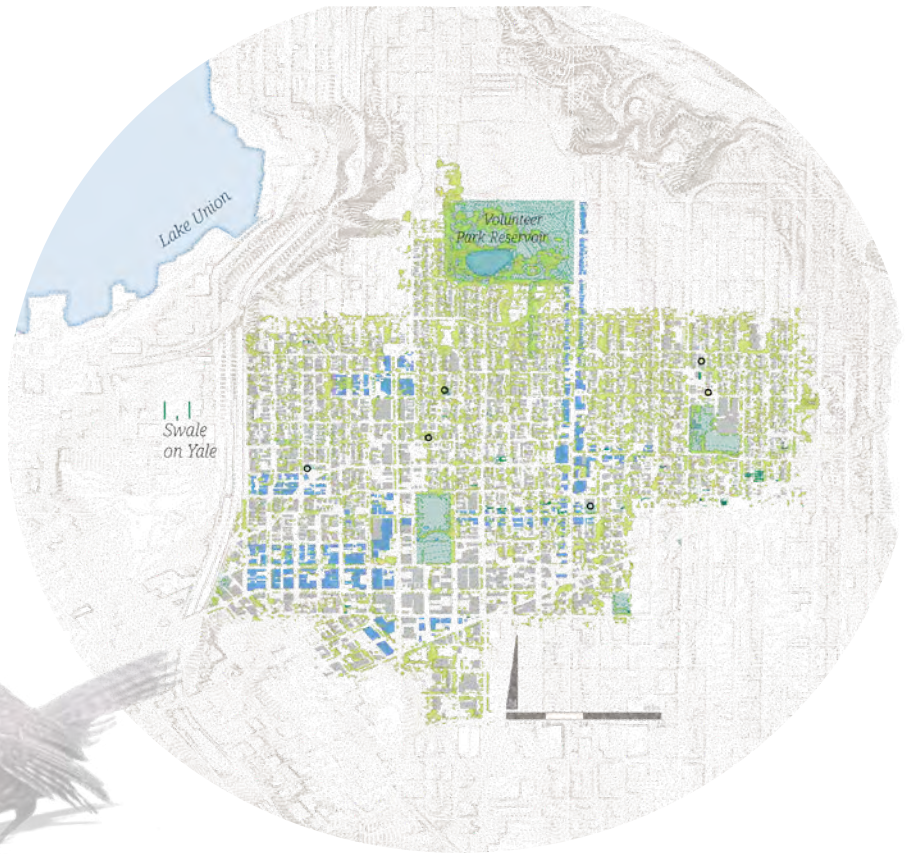
FUEL *for Capitol Hill*

PRIMARY TRANSPORTATION NETWORKS

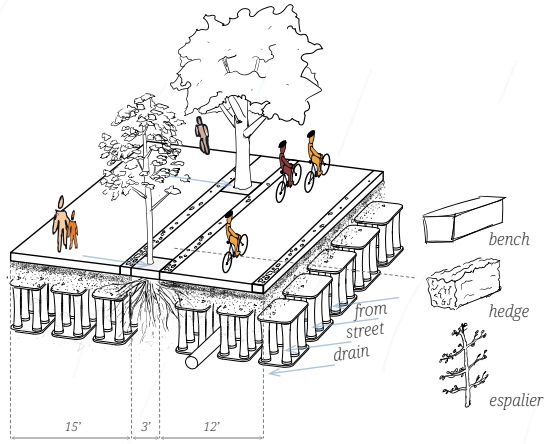
- *Link Light Rail*
- *Main Bus Routes*
- *Bike Infrastructure*
- *Student Project Sites*
- *Studio Study Area*
- *2 ft Contours*

CURRENT TREE CANOPY COVER

- *Tree Canopy*
- *P-Patch*
- *Green Stormwater Infrastructure*
- *Student Project Sites*
- *Studio Study Area*
- *2 ft Contours*



BALANCED DETENTION

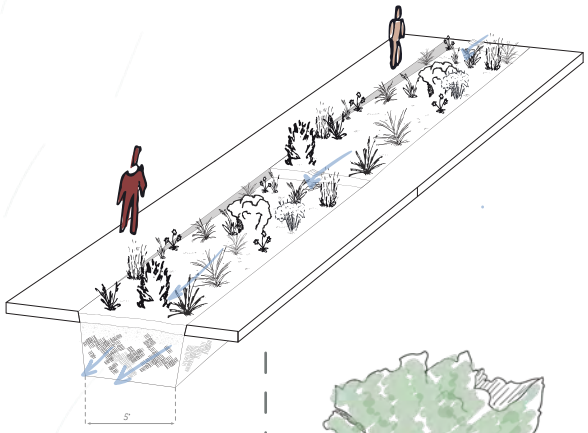


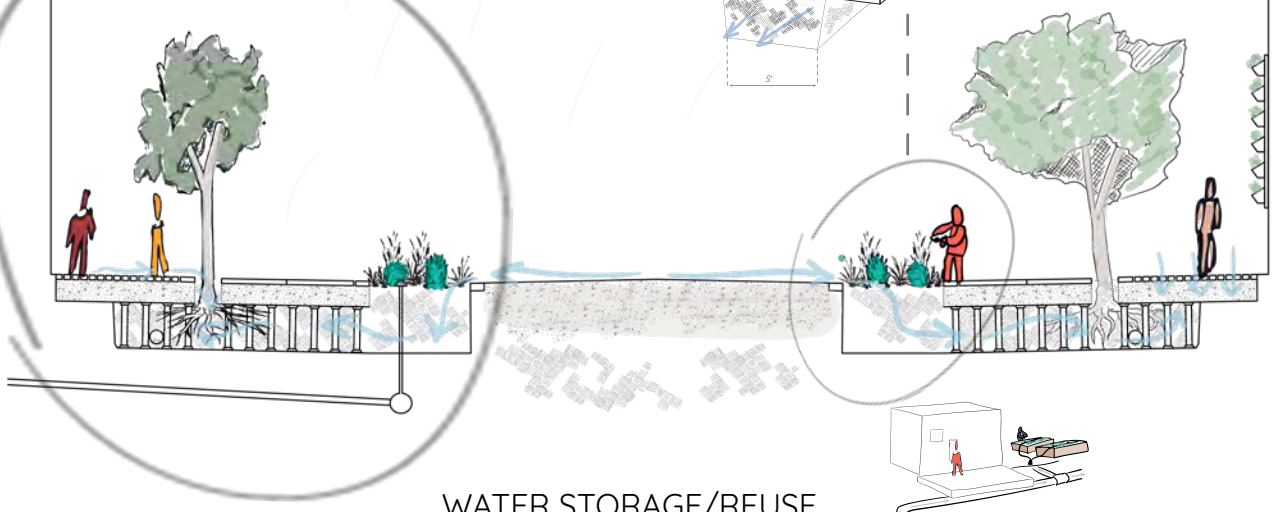
SILVACELL

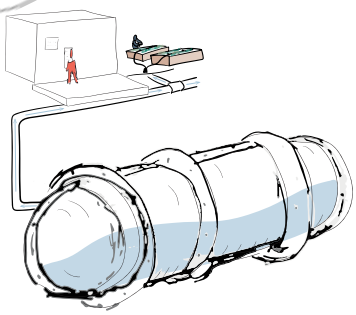
- Provide more favorable conditions for street trees in paved settings
- Bury utility lines to reduce interference with tree canopy
- Utilize varied plantings, paving, or benches to delineate uses

WATER DETENTION

- **Slow, settle, filter** and store runoff, especially from **streets**
- Create **natural break** to delineate uses







WATER STORAGE/REUSE

- Settle & filter stormwater for reuse
- Provide irrigation water for [increasingly] dry summers
- Re-circulate grey-water or black-water within a building

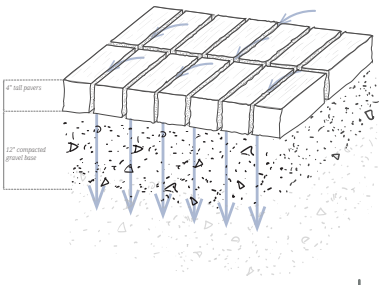
CARLESS RETENTION

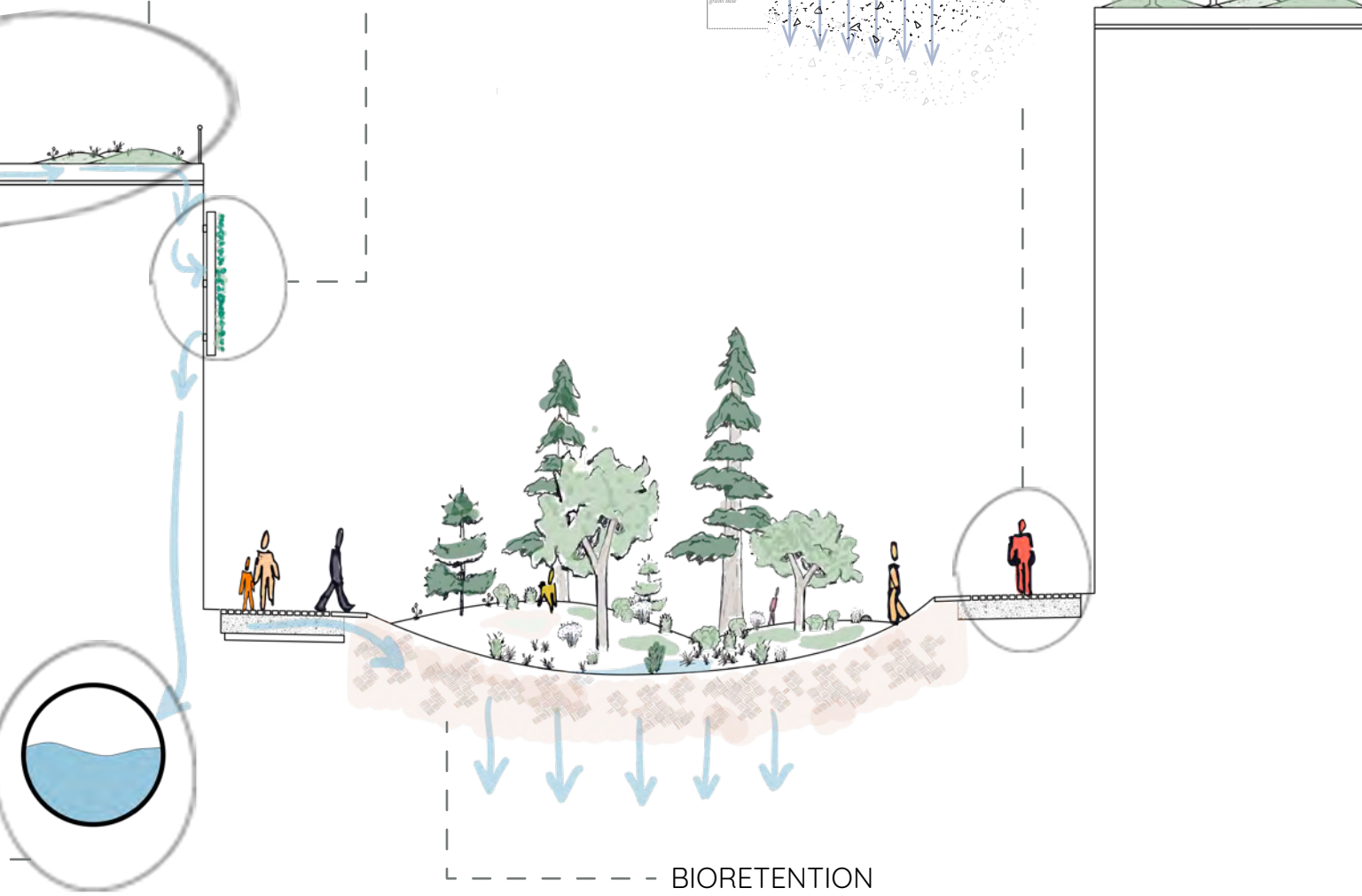
GREEN ROOFS AND GREEN WALLS

- **Reduce impervious roof surface**
- Contain and utilize [relatively] **clean roof-water**
- **Extensive or Intensive** options for **passive habitat or active use**

POROUS PAVEMENT

- Ideal for **Pedestrian Corridors**
- **Decrease impervious surface**



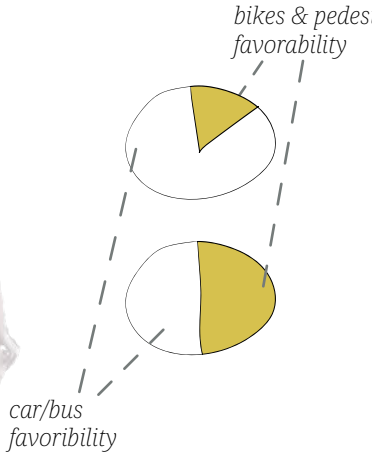


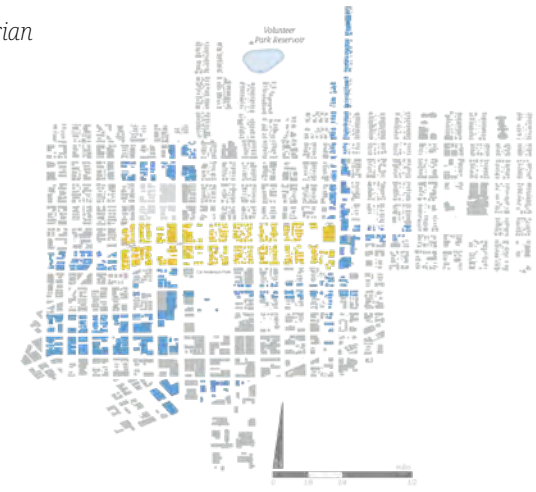
BIORETENTION

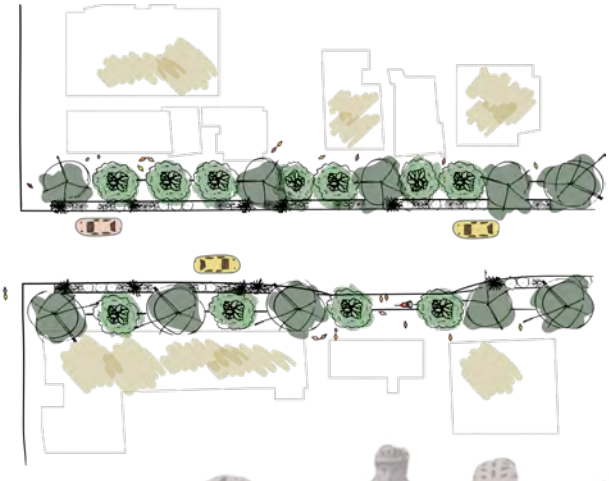
- Urban micro-wetland creation to infiltrate stormwater
- Mitigate urban flooding
- Provide larger swaths of habitat by eliminating cars from street center

BALANCED DETENTION

OLIVE-JOHN CORRIDOR

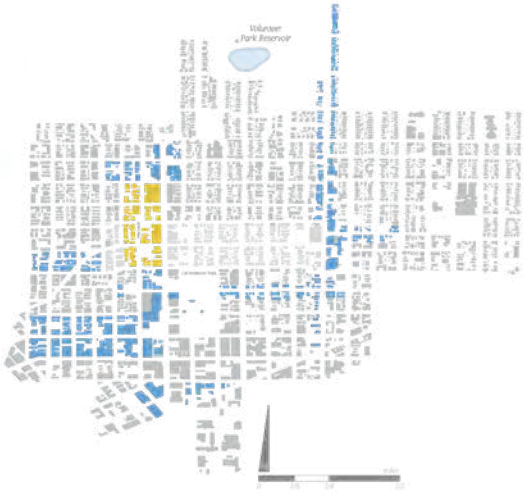


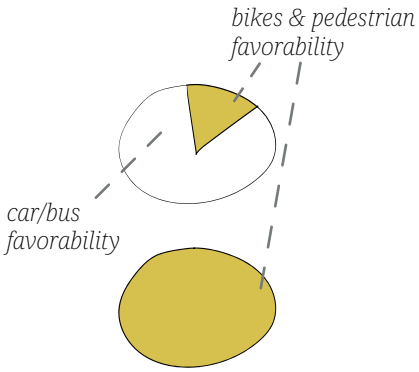




CARLESS RETENTION

HARVARD CORRIDOR





WOVEN ECOLOGIES

Jim Ditto

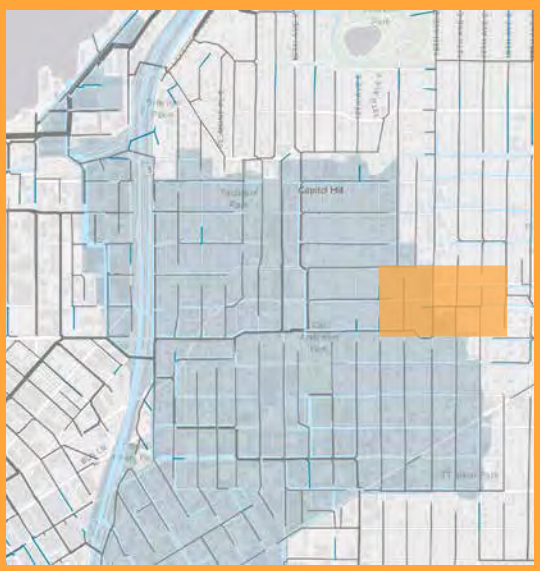
This design explores the realities of water, energy, and public space in light of climate change, development, and homelessness through the integration of stormwater diversion, remediation, retention, detention, and reduction of impermeable surfaces. Reducing automobile footprint through the implementation of Barcelona-type SuperBlocks (including below-ground parking garages and bringing back the streetcar on 15th Ave E), physically separating bicycle lanes, and developing renewable power generation and storage from solar and small system hydropower.

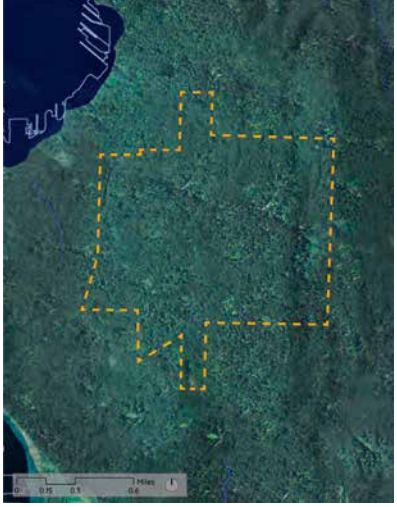
STORMWATER

System: Combined, Partially Separated

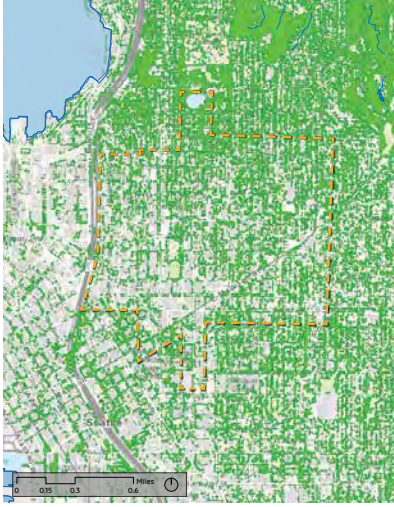
Strategy: Swale, Bioretention Cells

Capacity: 37.5+ million gallons

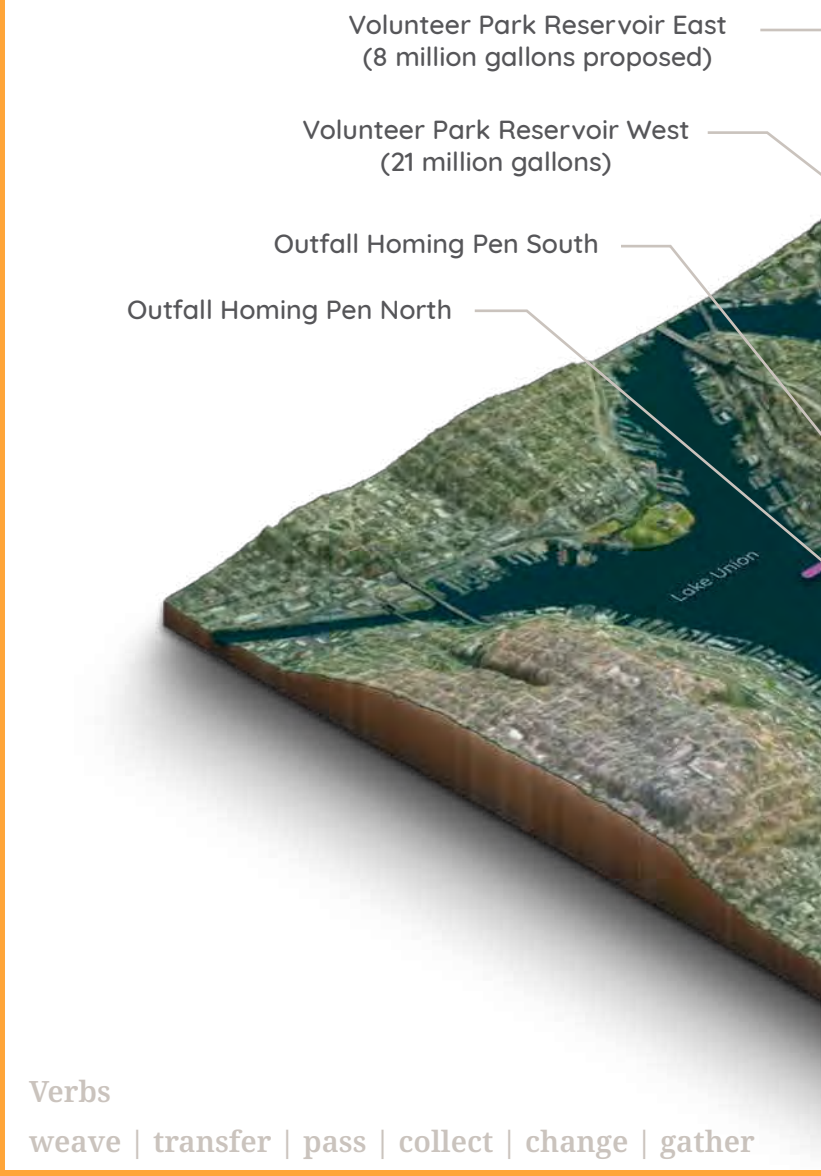




1. Canopy: Pre-1850



2. Canopy: Present Day



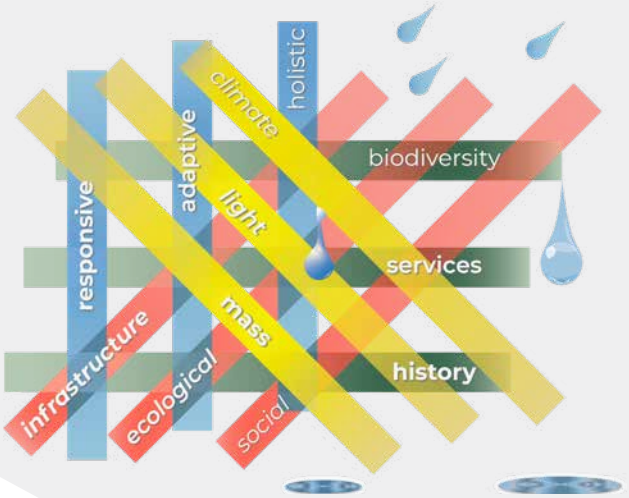
Verbs

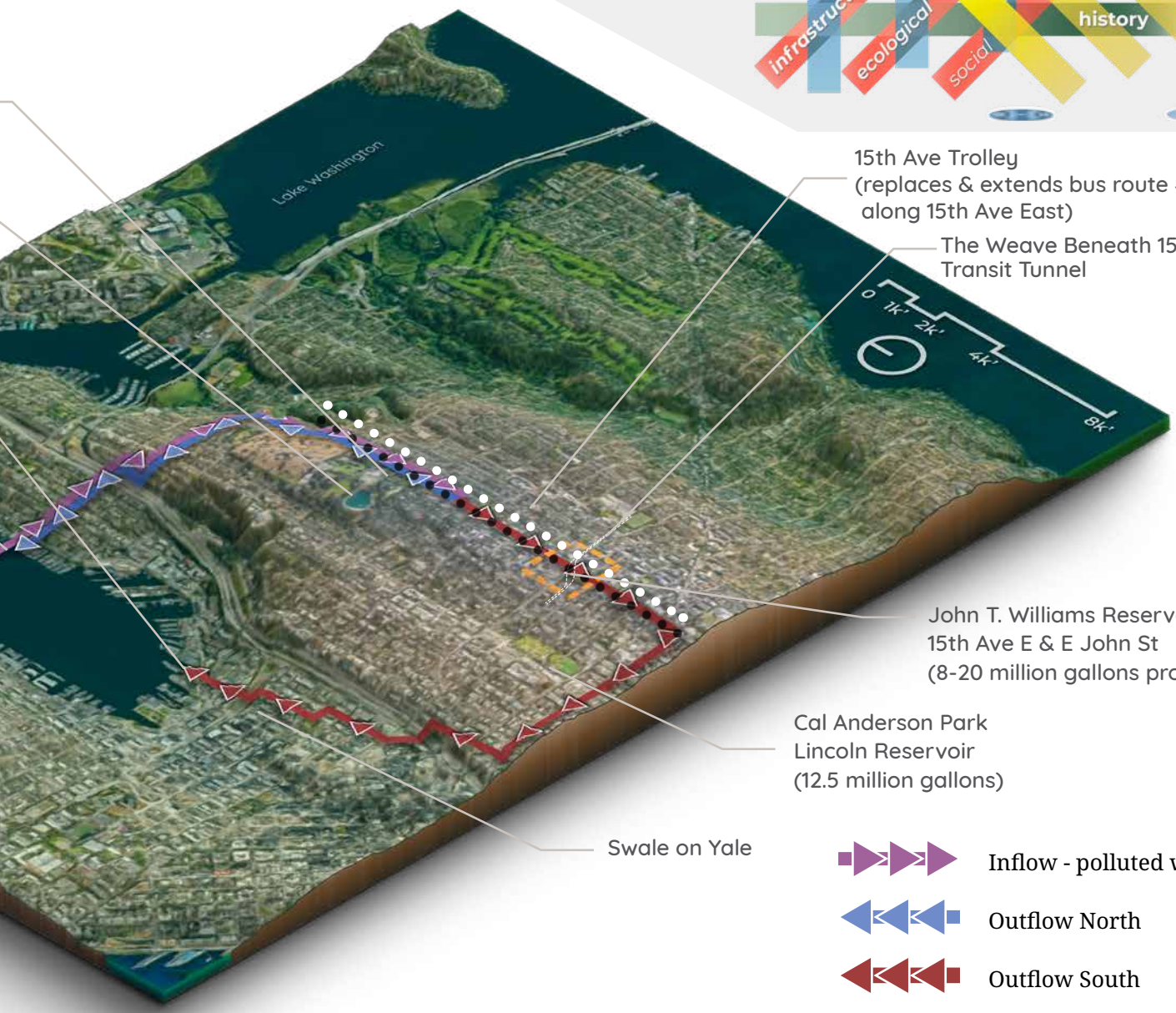
weave | transfer | pass | collect | change | gather

3. Solar Projects

Threads

Community	Resliience	Design
- biodiversity	- social	- holistic
- history	- ecological	- multifaceted
- services	- infrastructure	- systems-based





15th Ave Trolley
(replaces & extends bus route #10
along 15th Ave East)

The Weave Beneath 15th
Transit Tunnel

John T. Williams Reservoir
15th Ave E & E John St
(8-20 million gallons proposed)

Cal Anderson Park
Lincoln Reservoir
(12.5 million gallons)

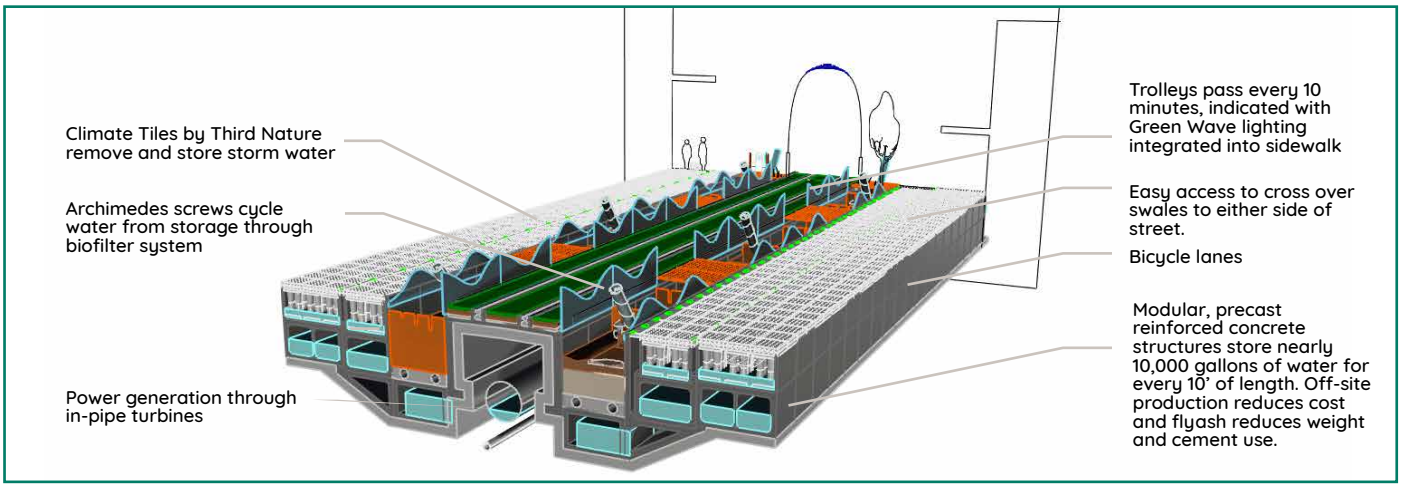
Swale on Yale

Inflow - polluted water

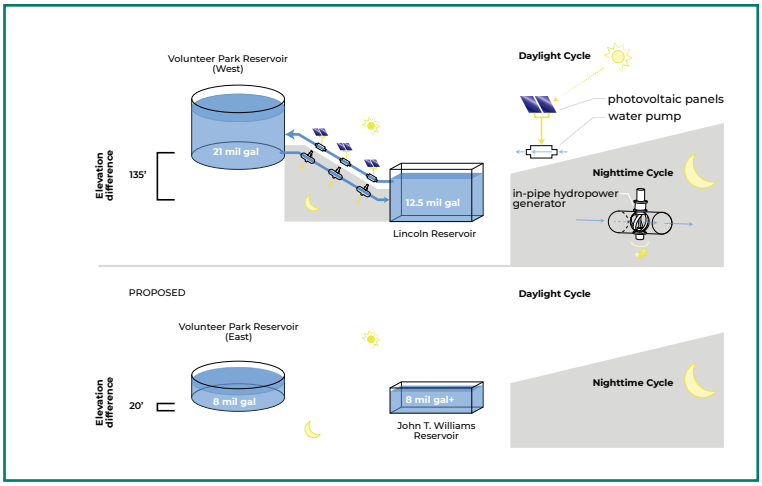
Outflow North

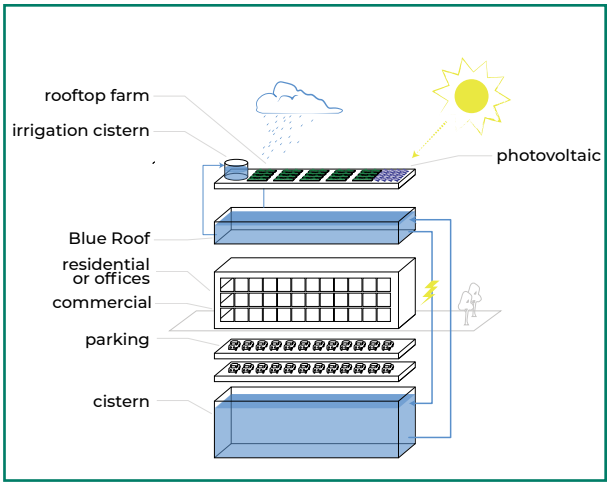
Outflow South

exchange | feed | grow | raise | shelter | relate | return | filter | cleanse | infiltrate | inform

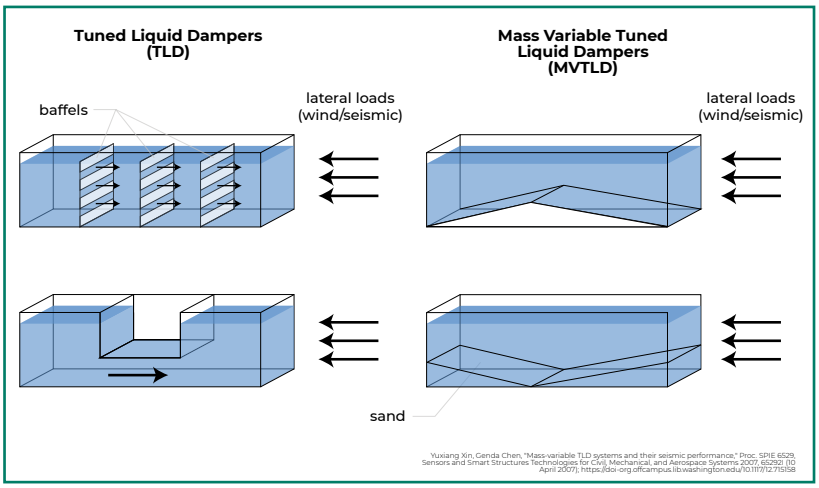


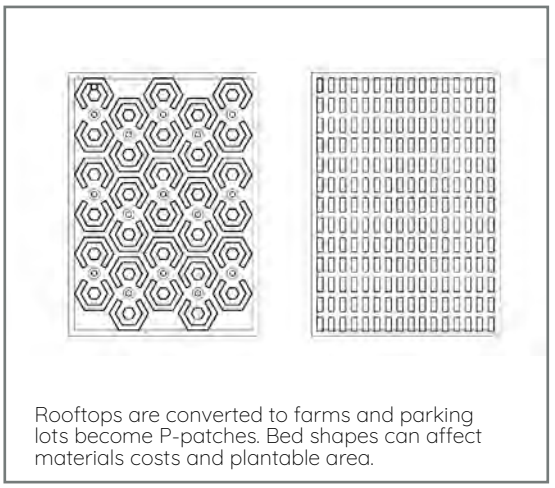
Biofilter Hill: Stormwater and Lakewater Remediation and Cooling via Biorentention Cells, Bioswales, & Stewarding Salmon on Lake Union. Water is pumped uphill during the day using solar power and cycled through cells and swales with gravity and archimedes screws.





Storing Light: Water & Energy Relationships in Sites and Buildings. Solar power moves water during the day, water movement produces electricity at night.





Rooftops are converted to farms and parking lots become P-patches. Bed shapes can affect materials costs and plantable area.

Future Forces, Double Duty: Mitigating Seismic Events With Cistern-embedded Tuned Dampers & Food Insecurity With Urban Agriculture

UNTYING THE KNOT

Weaving East John & East Thomas Streets Below 15th Avenue East

WHAT A TANGLED WEB WE WEAVE...

Topography and urban planning come together on the ridge of Capitol Hill to create a jagged network of streets tying together the eastern and western sides of 15th Ave E. The disjointed nature appears most awkward where traffic and transit flow up to East Thomas and abruptly turn left, and then to the right to continue along East John.

Weave

15th Ave E represents the height of the hill and future construction on the site currently occupied by Safeway promises dramatic change and some deep excavation. This opens up the area to a reimagining of the public space around the site.

Transit

Three buses, the 8, 10, and 43 intersect at 15th Ave E and E John Street, with the 8 and 43 continuing east along E Thomas St and the 10 heading north to its terminus at Volunteer Park. Bringing a streetcar back to 15th Ave E then allows the 10 bus to terminate at this intersection and provides an opportunity to rededicate the avenue to people over cars.

Parking

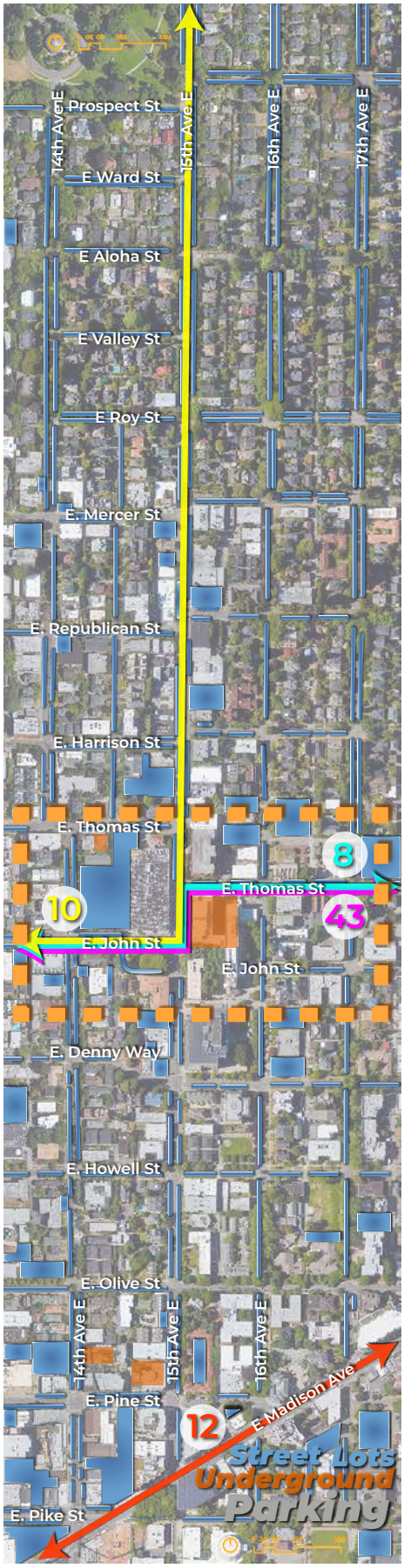
Parking represents nearly half of the Capitol Hill streetscape and surface lots currently outnumber subterranean and multilevel lots. This proposal sees an increase of multilevel parking garages, starting with a below ground garage at 15th Ave E and E John.

Water

Drawing on the **Biofilter Hill** concept, streets become a garden landscape of swales and retention cells rather than parking spaces. The Liquid Light concept then integrates large cisterns beneath each new parking garage, providing storage of clean water for energy storage and irrigation.

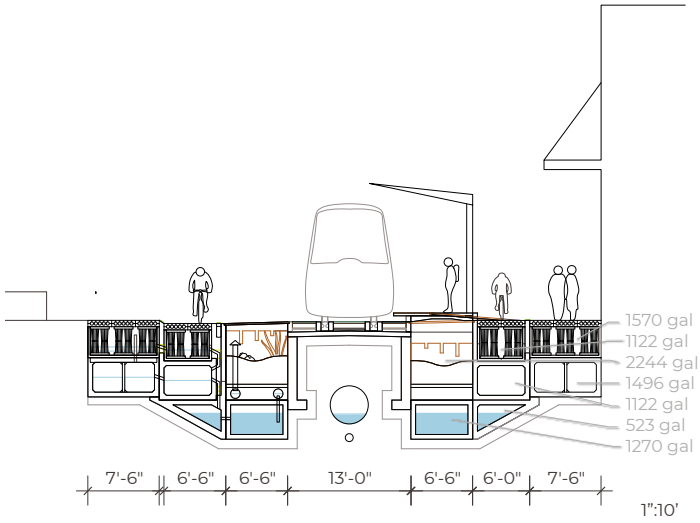
People

Reducing the presence of automobiles and buses at the ground level frees up the surface for public space. P-patches and park space can now take over where concrete currently dominates. New rooftops can be reimagined with vertical agriculture and rooftop farms. Play areas and dog parks can also find homes where cars once parked.

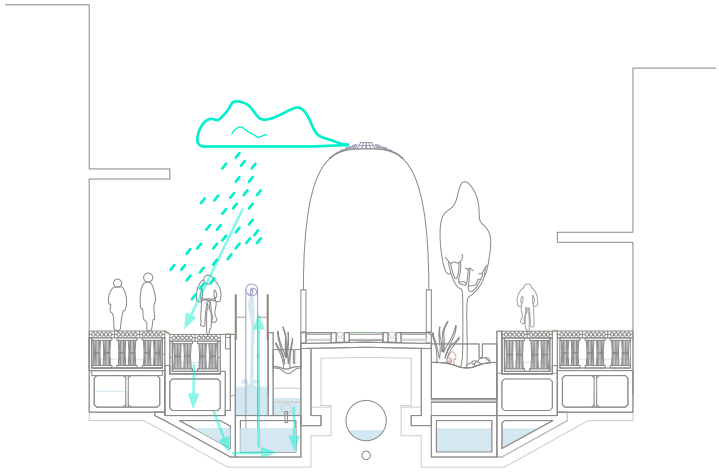


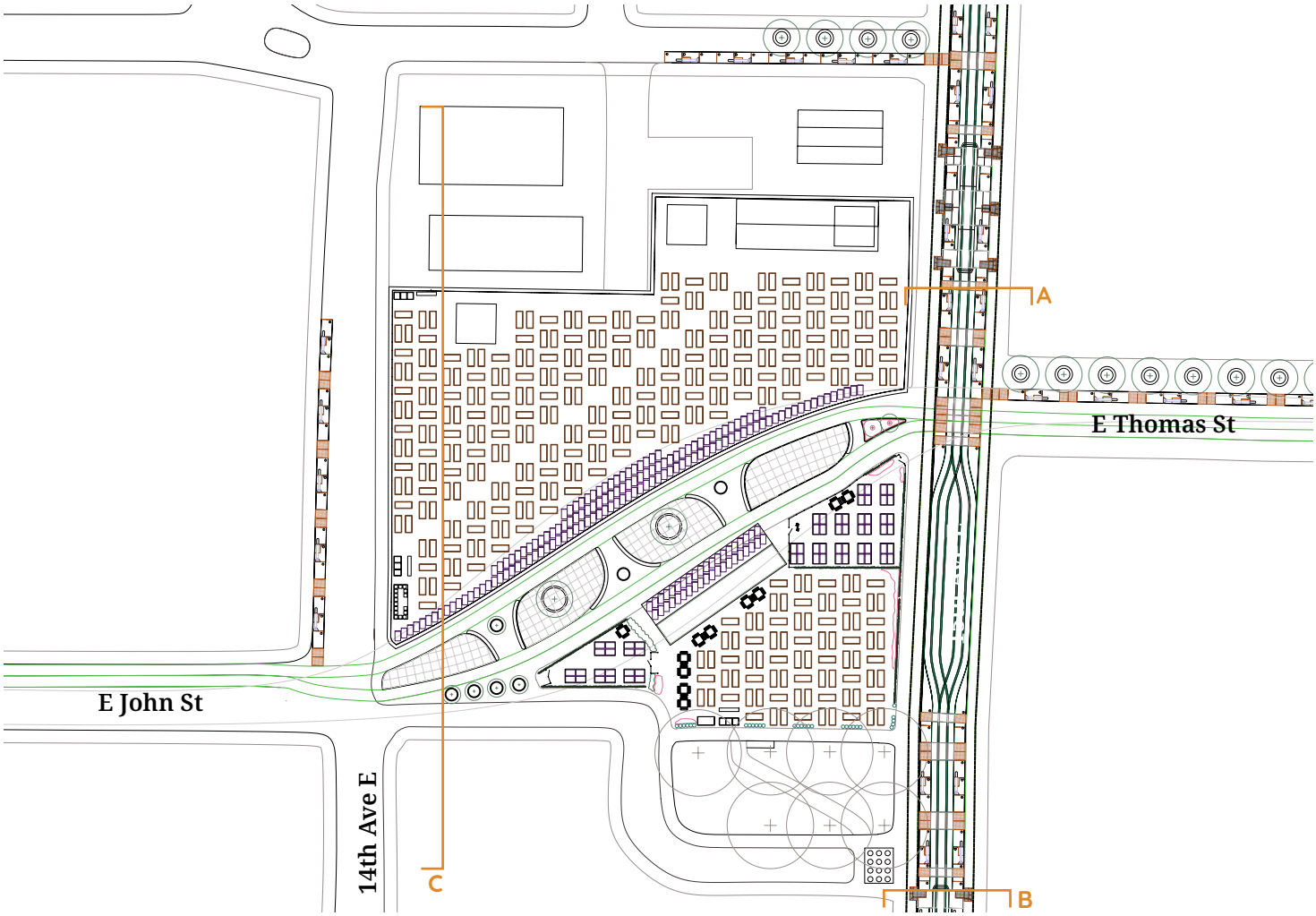
(right) Bus routes currently intersect with 15th Ave E. Blue areas represent surface parking, highlighting where potential for water capture, storage and infiltration can be improved.

A



B

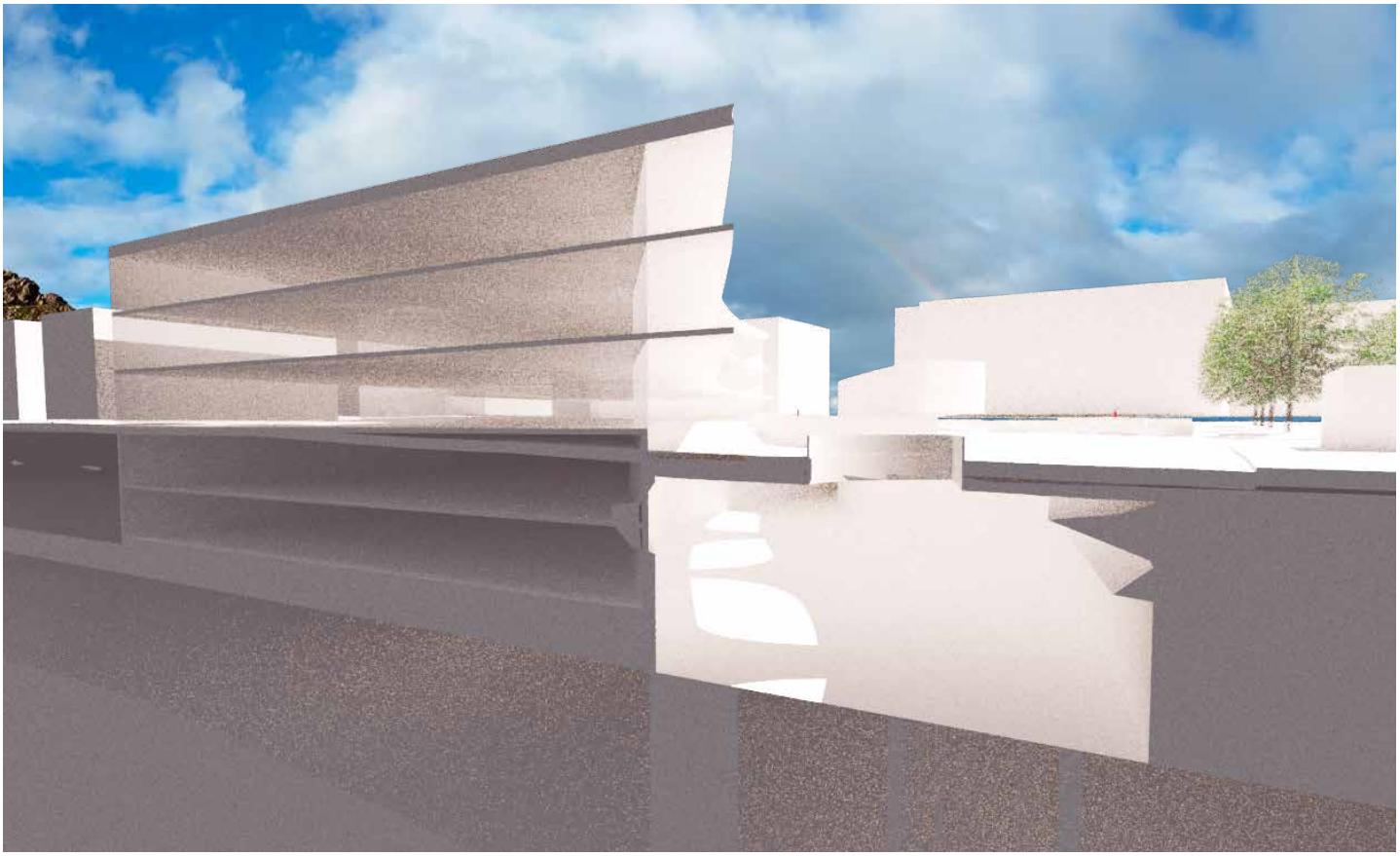




Plan view of 15th Ave E & E Thomas

Summer at 15th Ave E & E John

C



Perspective section - E Thomas St & 15th Ave E, facing NE

EAST THOMAS STREET:
CORRIDOR, CLINIC & GARDENS

Jake Minden

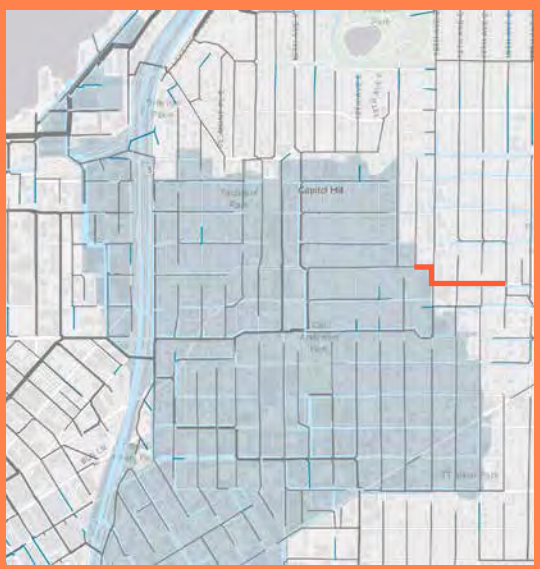
The northern section of 15th Avenue in Capitol Hill has historically been a landscape of community healthcare. This has shifted institutionally and geographically resulting in gaps in critical services provided. The design for an improved East Thomas Street proposes a green and blue corridor which connects five new or improved public spaces. The centerpiece of the site features a new Queer Health Clinic with an adjacent therapeutic and floodable garden. The concept and elements of the project create a more robust public realm, bolster hydrological resilience and provide critical health services to local communities with unmet needs.

STORMWATER

System: Combined, Partially Separated

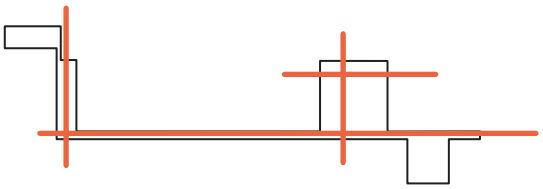
Strategy: Detention, Infiltration, Reuse

Capacity: 1,649,000 Gal/Yr managed



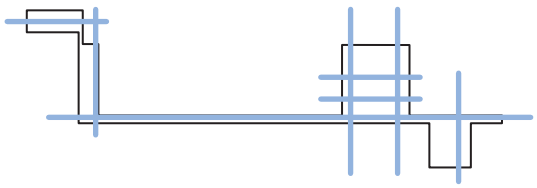

MENTAL AND EMOTIONAL HEALTH ARE ADDRESSED DIRECTLY, THROUGH ROBUST **MENTAL HEALTH SERVICES** AND CONCEPTUALLY, THROUGH PUBLIC SPACE THAT ENABLES CONNECTION AND JOY.
NEW PLANTINGS INCLUDING 20 TREES AND 6 RIPARIAN SPECIES CREATE HABITAT, MITIGATE EXTREME HEAT EVENTS, PROVIDE SHADE, FILTER STORMWATER, AND INCREASE VEGETAL HEALTH.
THE **'RIVERBANKS'** WITHIN THE THERAPUTIC GARDEN ARE **FLOODABLE** AND ARE INTEGRATED INTO A DETENTION, INFILTRATION AND STORMWATER REUSE SYSTEM ALONG EAST THOMAS STREET.

PHYSICAL HEALTH



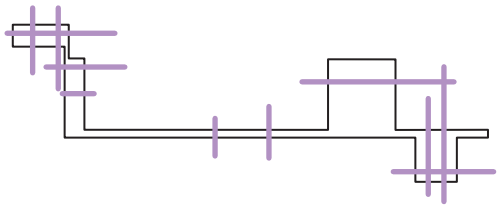
MENTAL HEALTH

ENVIRONMENTAL HEALTH

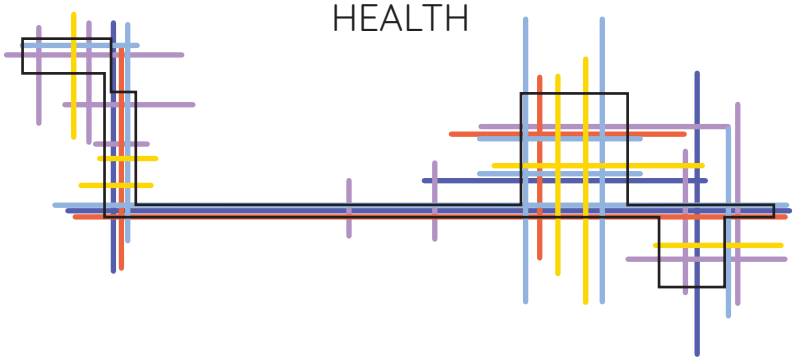


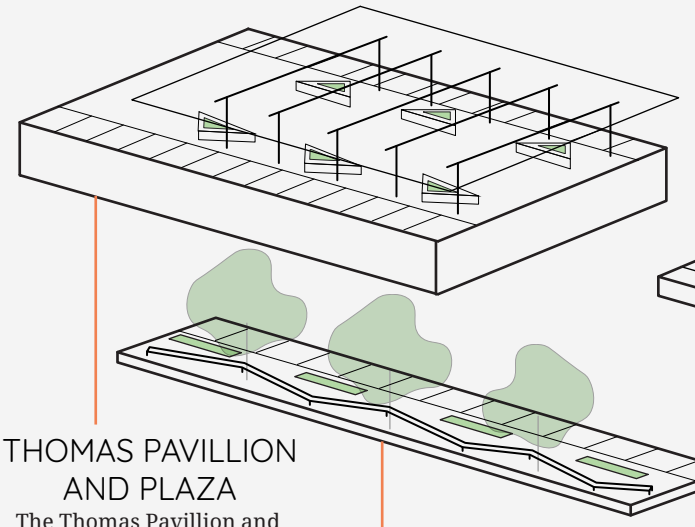
HYDROLOGICAL HEALTH

SPIRITUAL HEALTH



INTERSECTIONAL COMMUNITY HEALTH



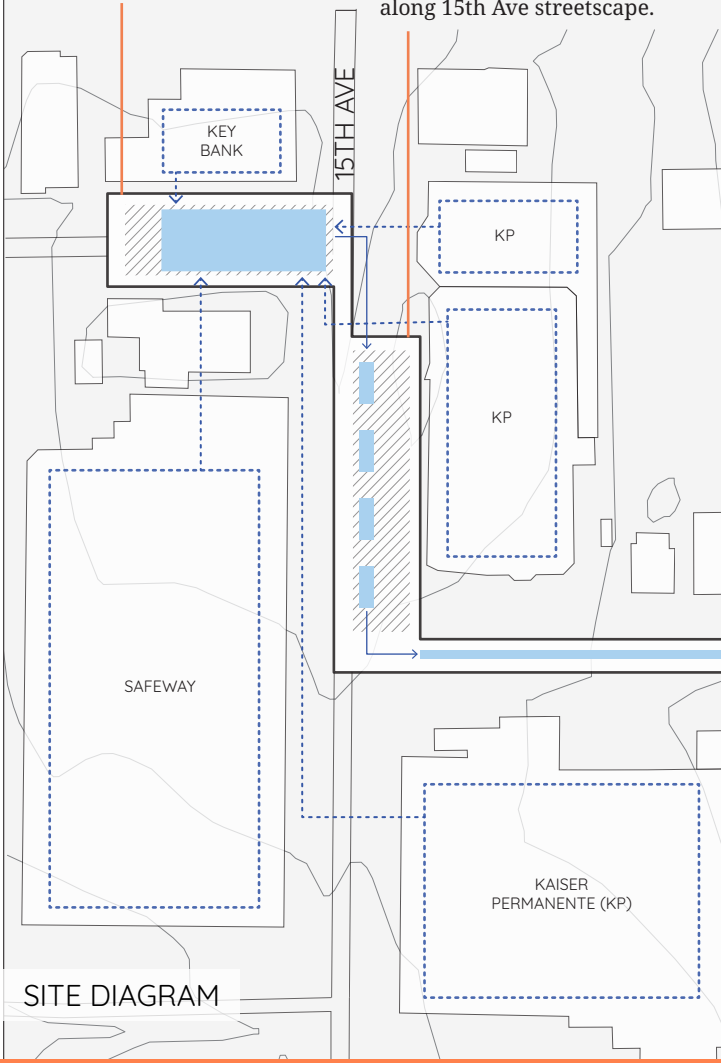


THOMAS PAVILLION AND PLAZA

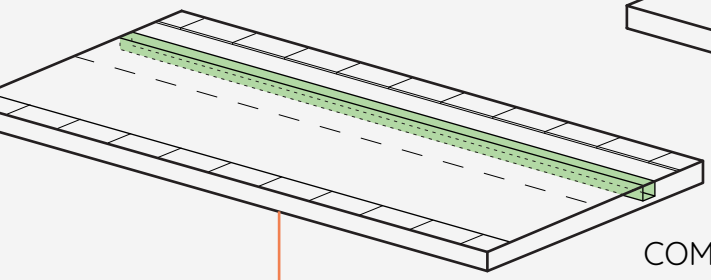
The Thomas Pavillion and Plaza will provide a semi-covered public space along 15th Ave with seating, public art opportunities, and views of the space needle and the Olympic Mountains.

KAISER PERMANENTE STREETSCAPE

New dynamic seating and planted bioswales offer new public life and floral interest along 15th Ave streetscape.

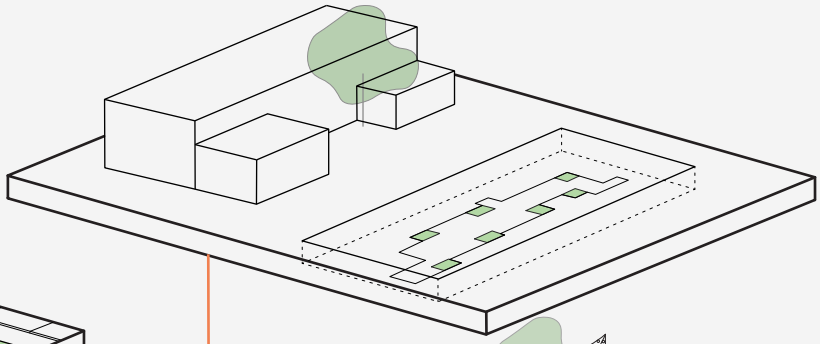


SITE DIAGRAM



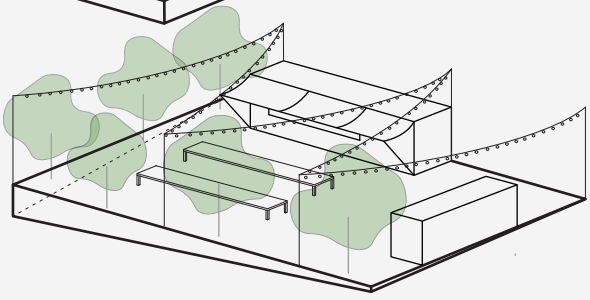
BIO-PROTECTED BIKE LANE

Removing one parking lane along East Thomas Street allows for an uphill bike lane separated from traffic by a clay-lined bioswale for stormwater filtration and conveyance.



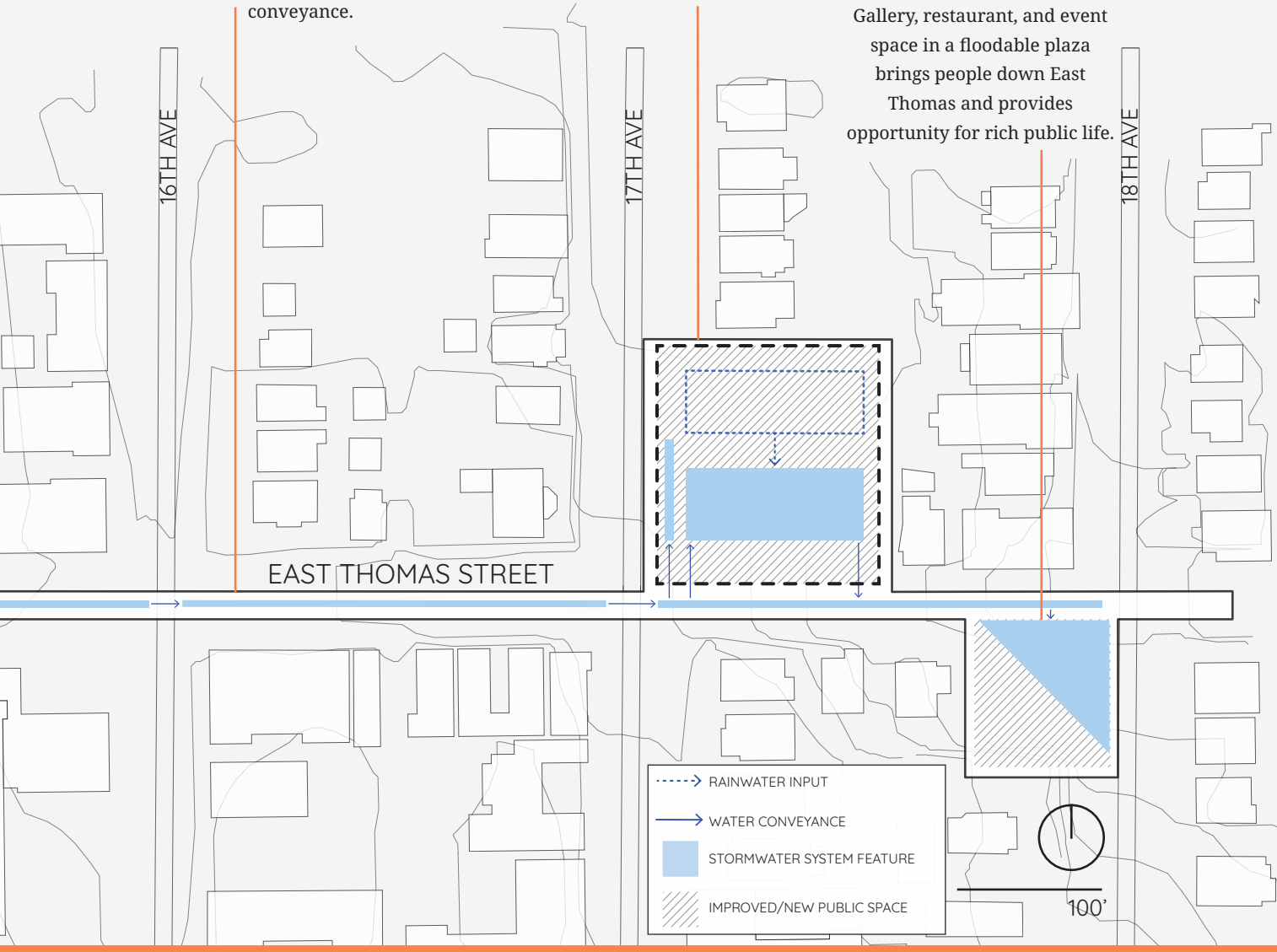
COMMUNITY CLINIC AND GARDEN

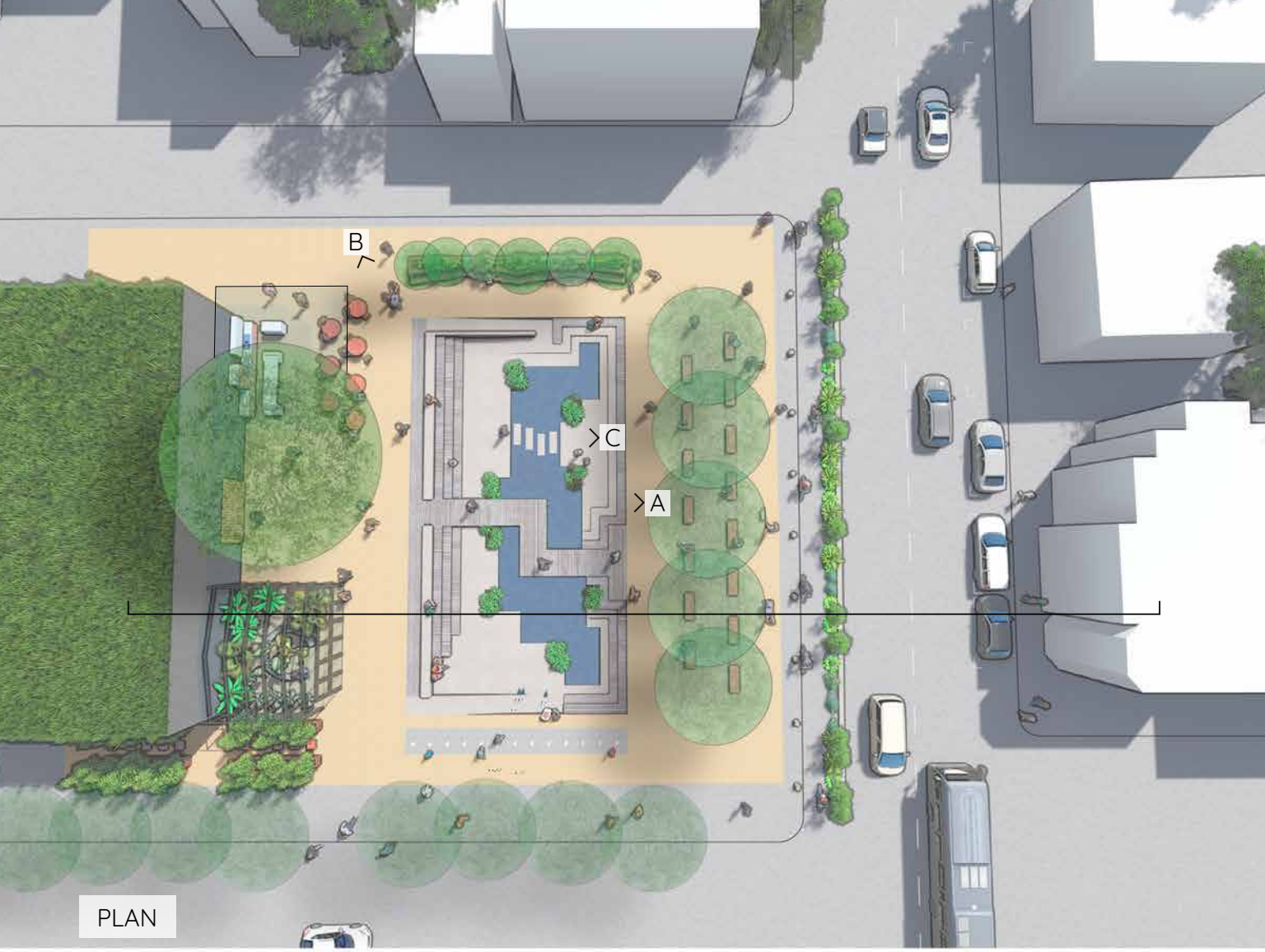
A new community center and queer health clinic set in a public park offers the community both positive health outcomes and water detention.



THOMAS STREET GALLERY

Gallery, restaurant, and event space in a floodable plaza brings people down East Thomas and provides opportunity for rich public life.





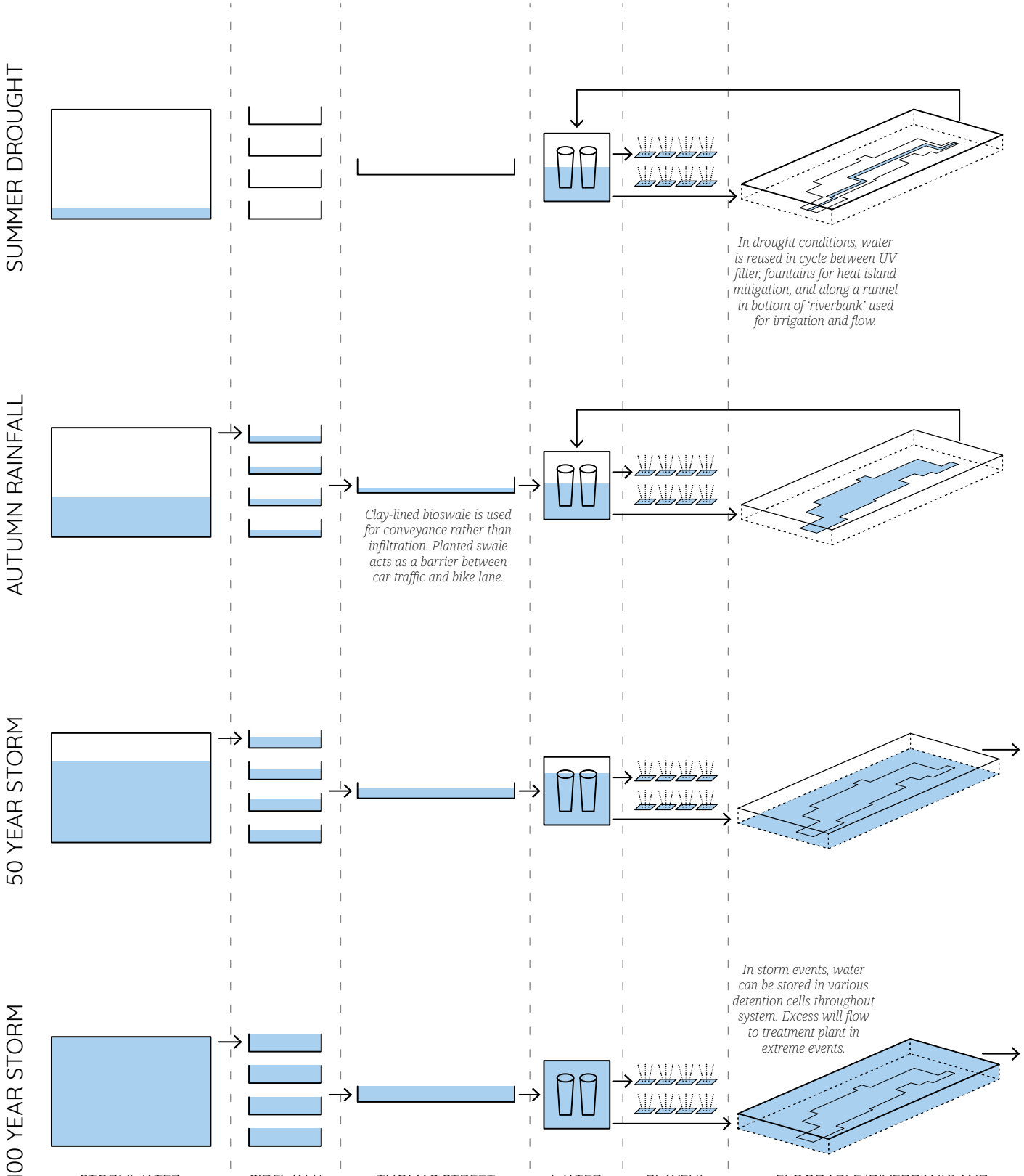
PLAN

SECTION OF CLINIC, GARDEN & CORRIDOR

A: VIEW OF HEALTH CLINIC ACROSS FLOODABLE ‘RIVERBANKS’

B: VIEW OF GARDENS, GLASSHOUSE & CAFE

C: NIGHTTIME VIEW OF CLINIC, GLASSHOUSE & CAFE



Hydrological performance diagram showing treatment of stormwater during various climatic conditions.

WINTER STORM

SUMMER DAY

LIBRARY TO PARK

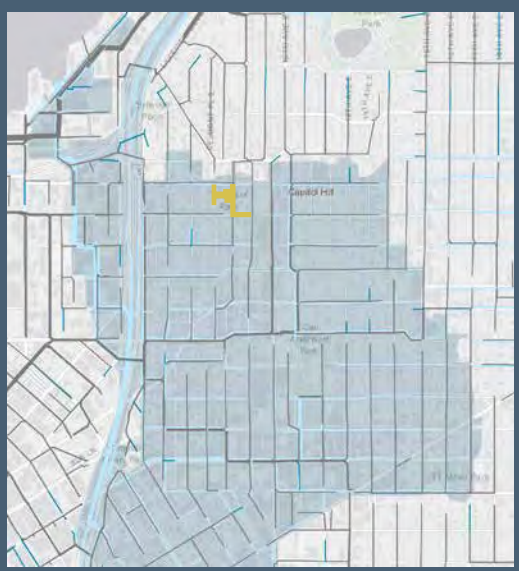
Alanna Matteson

Blue-green shared streets draw the vitality of the Capitol Hill Branch Library into neighboring Tashkent Park. A mini library anchors literary programming while an outdoor cooking area supports community life. An ADA accessible ramp weaves through terraced seating and bio-retention planters transforming an underutilized slope into a series of intimate reading nooks and gathering spaces.

STORMWATER

System: Partially Separated

Strategy: Bio-retention, Infiltration



MAKING THE CONNECTION

ACCESSIBLE

HISTORICAL

GREEN

LITERARY

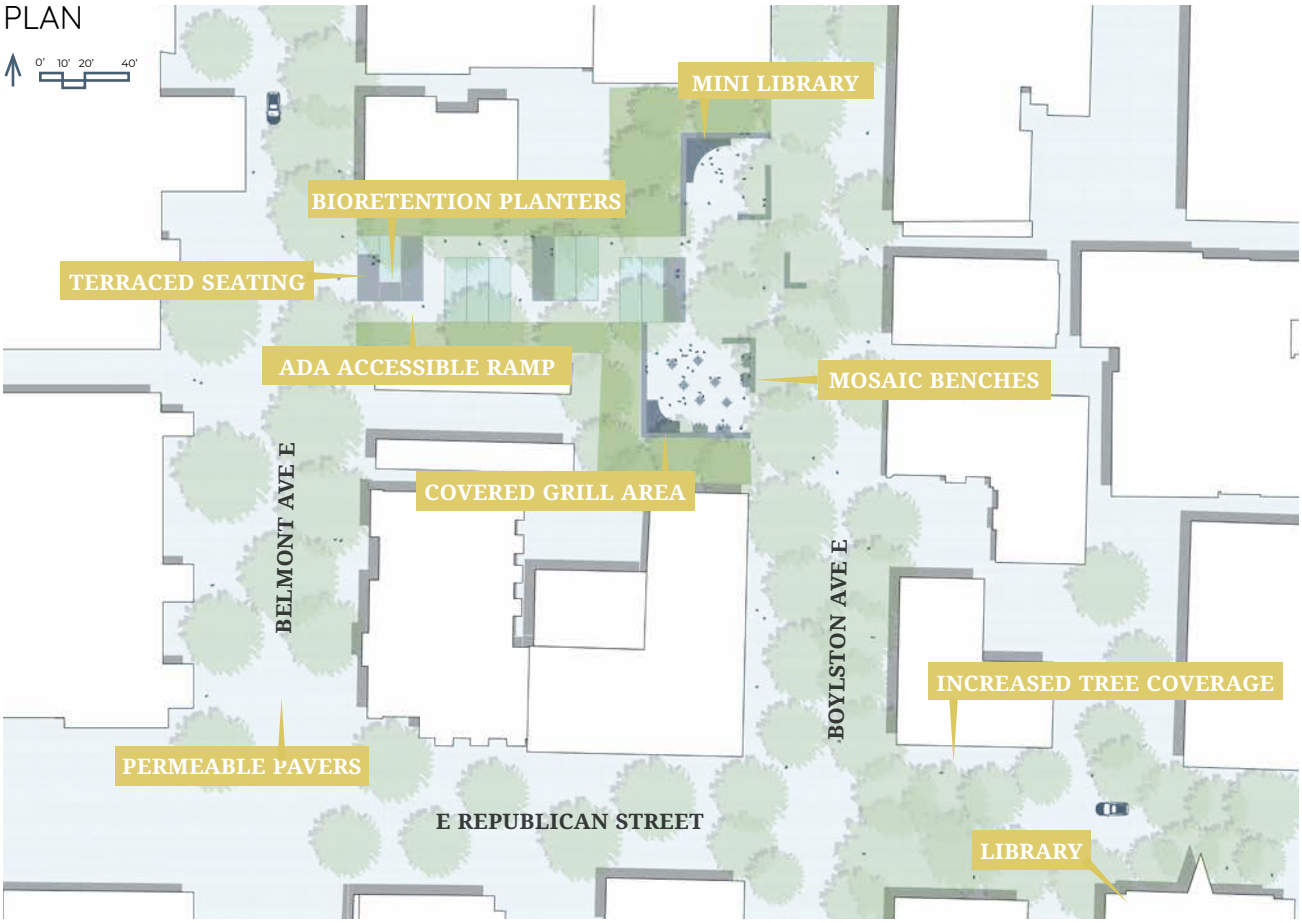
CAPITOL HILL
BRANCH LIBRARY

BROADWAY E

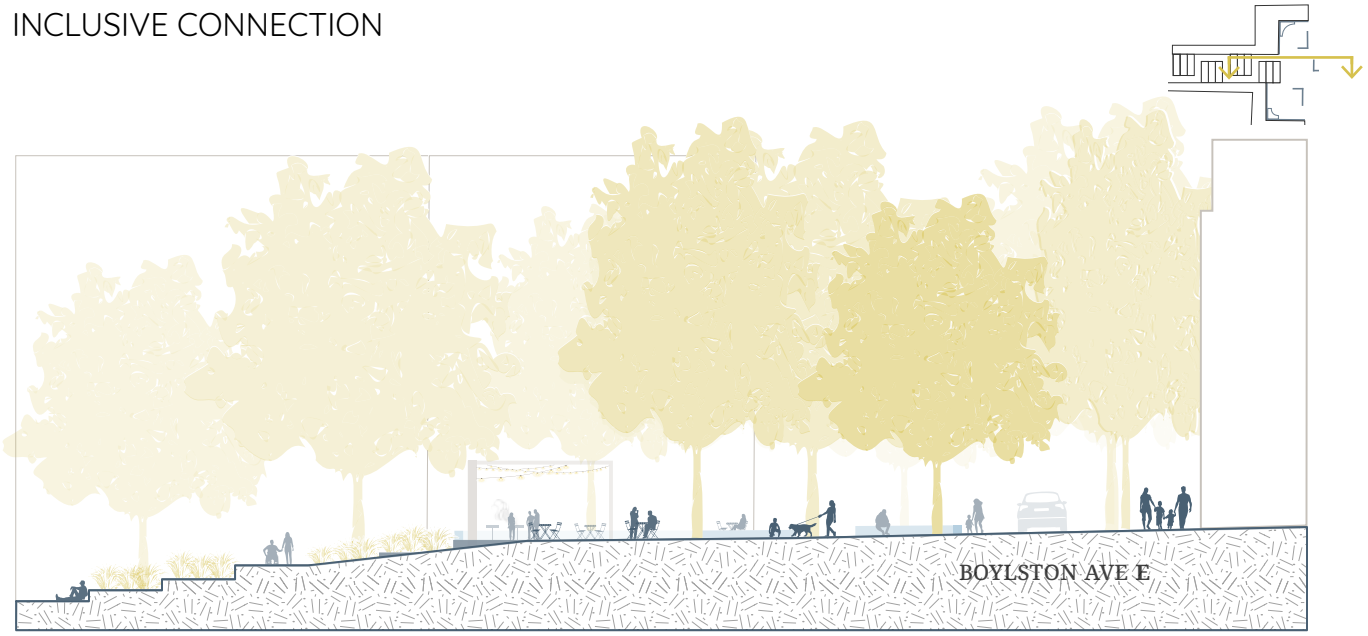
HARVARD AVE E

E REBUBLICAN ST

PLAN

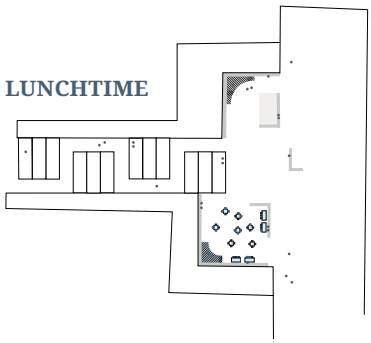


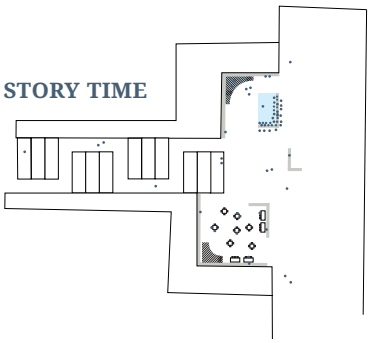
INCLUSIVE CONNECTION

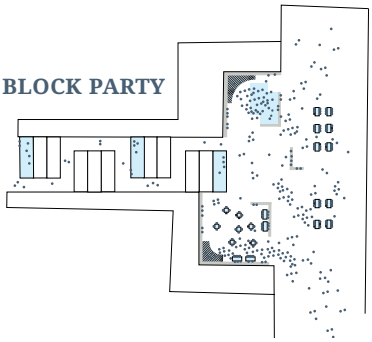


A shared street slows traffic and allows pedestrians to flow into the park. An outdoor cooking area invites community life while a variety of seating options accommodate a range of mobilities and personalities.

PROGRAM







WRITERS WORKSHOP CHALK ART DOG WALKING TILE PAINTING

TAI CHI BIRTHDAY PARTY BOOK FAIR

SING ALONG BOARD GAMES PUPPET SHOW BBQ

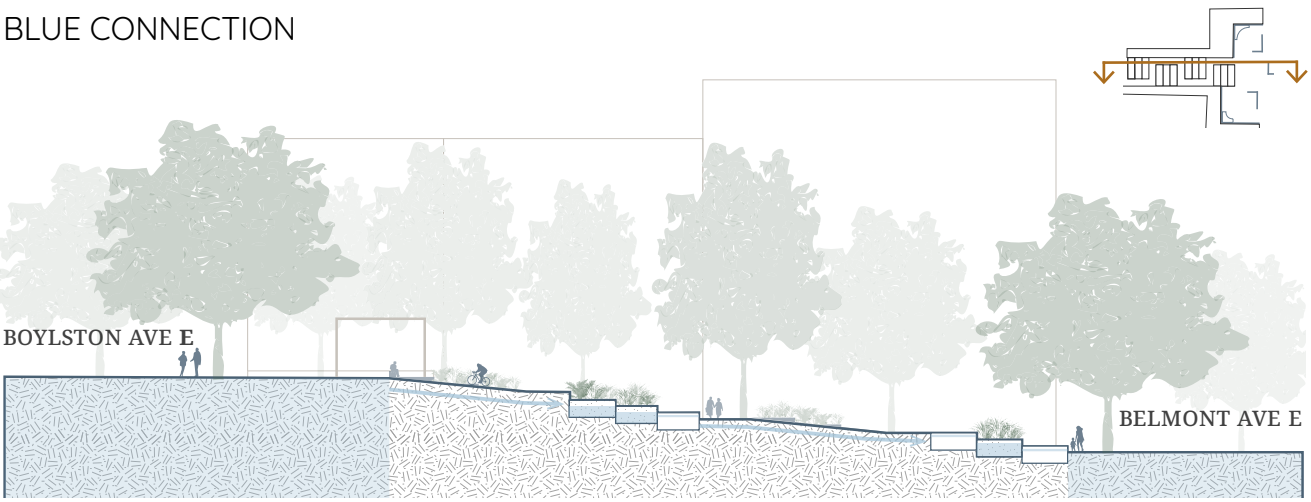
LITERARY CONNECTION

A mini library anchors literary programs such as story time, writing workshops, and book fairs. At night the sides close in to protect the books while the light inside continues to make the park feel safe and inhabited.

ACCESSIBLE CONNECTION

An ADA accessible ramp weaves through terraced seating and lush bioretention planters transforming a steep and underutilized slope into both a path and a place.

BLUE CONNECTION



Water infiltrates at street level.

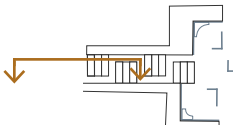
Water moves slowly down slope through bioretention planters to minimize landslide risk.

Water infiltrates at street level.

HISTORICAL CONNECTION

Taskent Park in Seattle has a sister park in Tashkent, Uzbekistan. These two parks represent the first U.S.--Soviet sister city bond to be formed following the cold war. While the parks were being constructed elementary school students and adults in Seattle painted thousands of tiles with messages of peace and hope. Most of these tiles were sent to the park in Tashkent but a dozen of so remain in the Seattle. Cracked, faded and covered in leaves they remain one of the most sacred and beautiful reminders of this unprecedented relationship. What if the Seattle-Tashkent Sister City Association was to re-establish a tile exchange? What if park benches and terraces were one day covered with these tiles?

GREEN CONNECTION



Water infiltrates at street level where it is held in the soil and absorbed by trees. Permeable pavers and a suspended pavement system minimize root compaction.

GATEWAY
TO BROADWAY

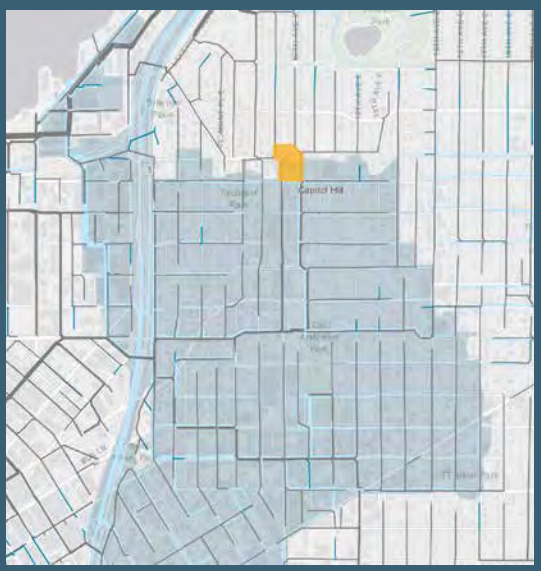
Emilio Craddock & Lauren Iversen

Nightlife and vibrant local businesses characterize the north Broadway corridor of Capitol Hill, but it lacks connectivity and investment in the street life. Highlighting the already prosperous activity and movement, public life interventions enhance the Broadway corridor through water infrastructure and social opportunity. Developing spaces based upon how people and water move, the street network can ebb and flow to function as a cohesive city ecosystem. To explore this movement, we can manage and play with water and people in three ways: **hold**, **slow**, and **flow**.

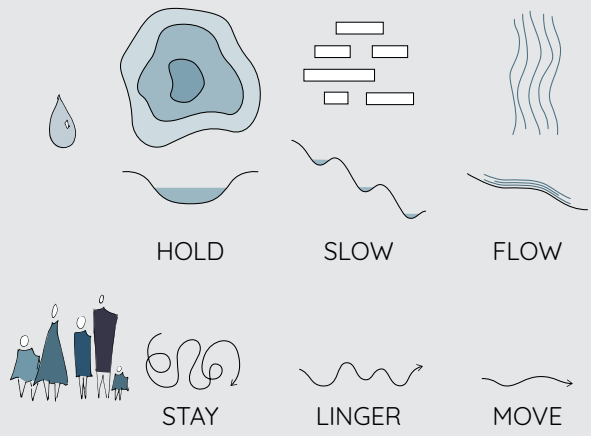
STORMWATER

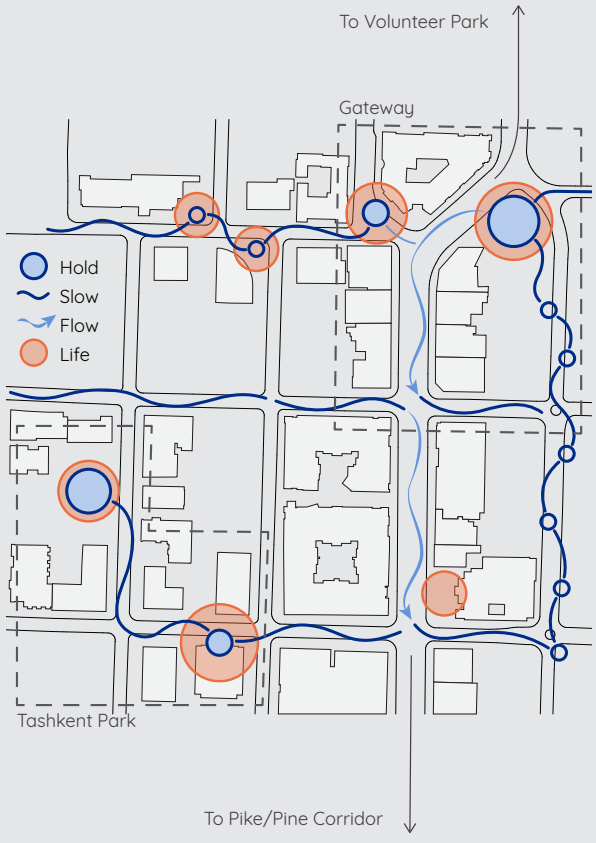
System: Combined, Partially Separated

Strategy: Bioretention, Infiltration



CONCEPT



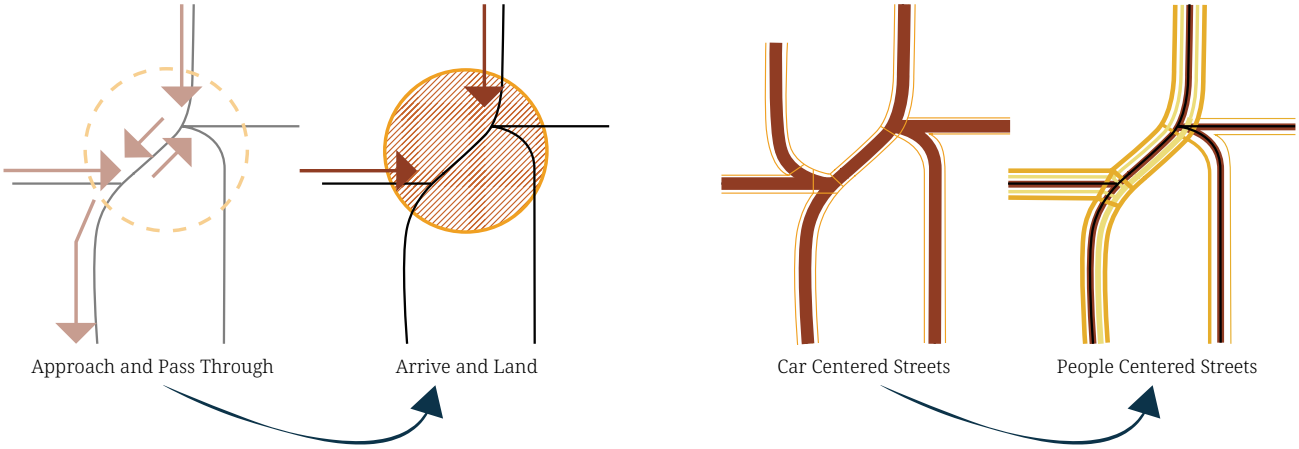


North Broadway Water & Public Life Opportunities

Gateway Plan

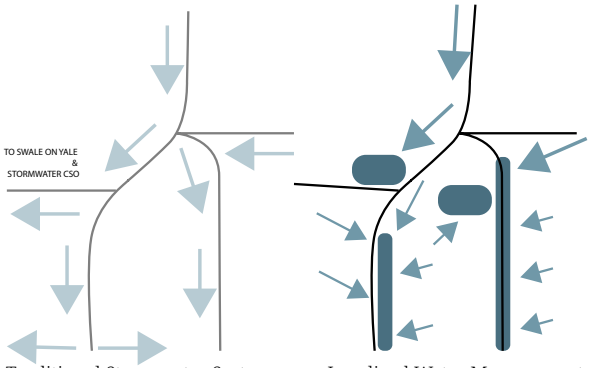
GATEWAY

Broadway Plaza on a sunny morning.



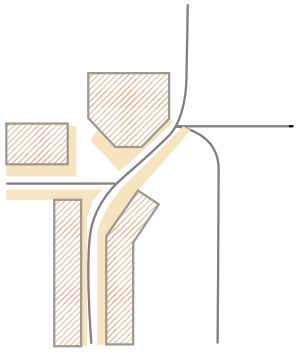
Proposed Changes on North Broadway

Broadway Plaza on a Saturday night.

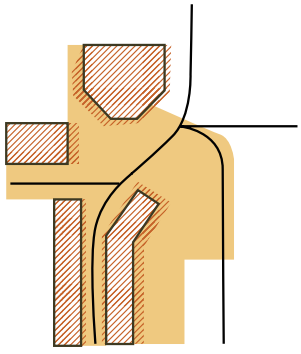


Traditional Stormwater System

Localized Water Management

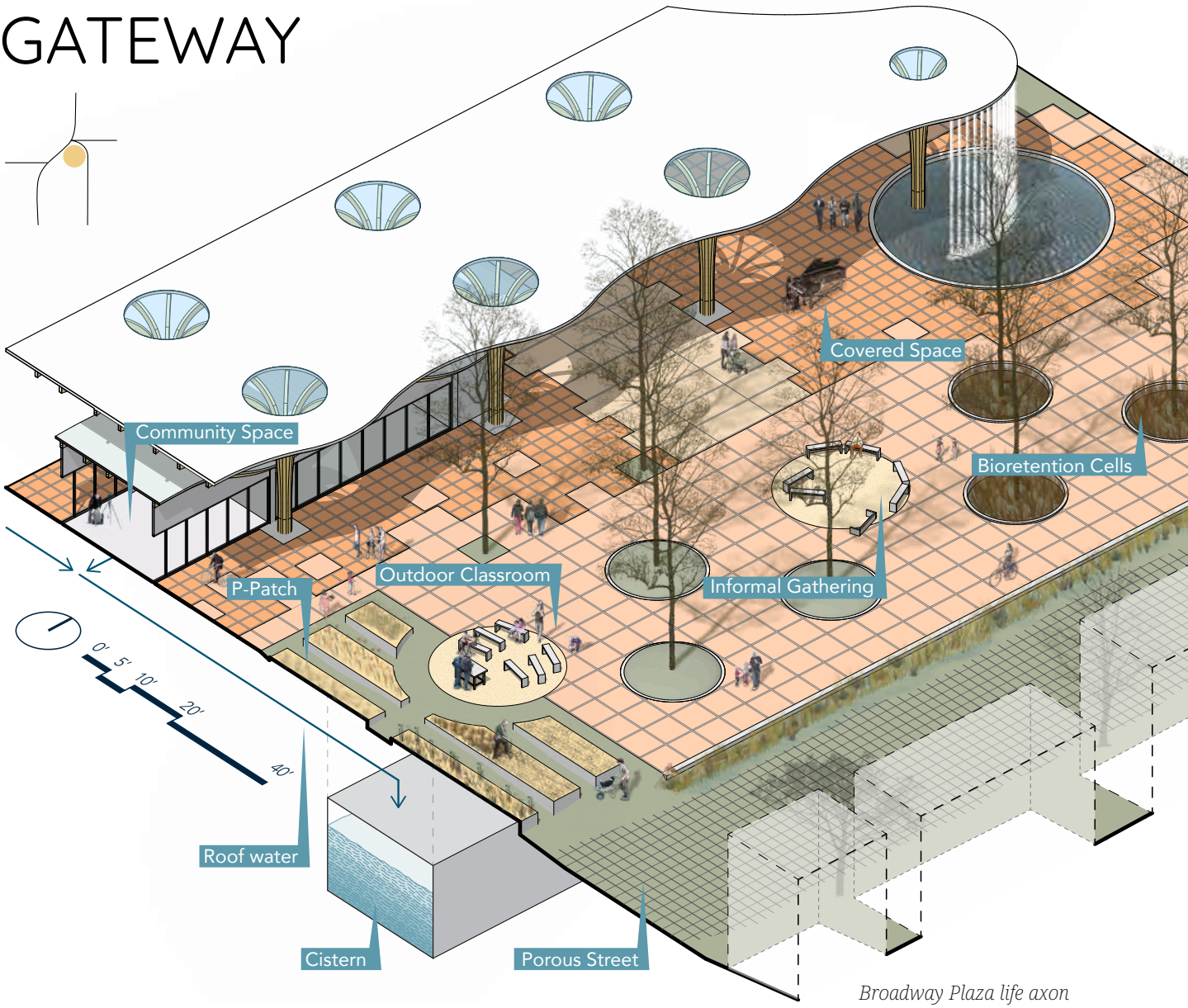


Private/Public Separated

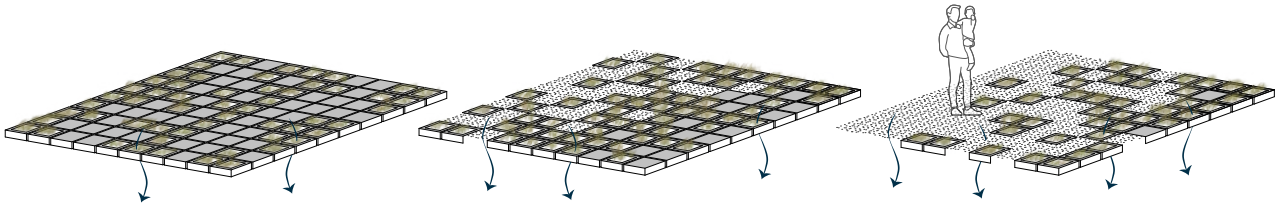


Public/Private Integrated

GATEWAY



Broadway Plaza life axon

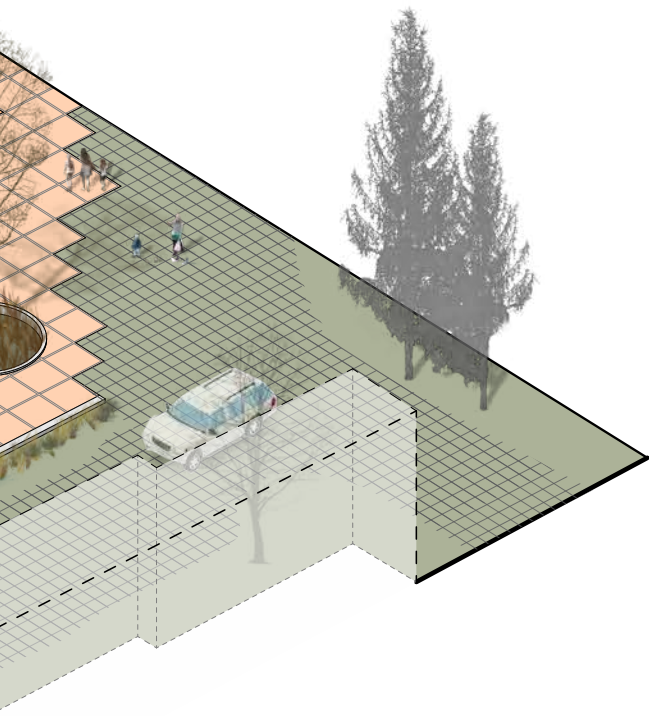


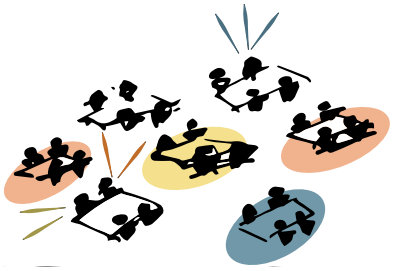
Drive
Traditional & Porous Pavers

Park
Porous Pavers & Plantings

Plant
Planting Zone & Public Space

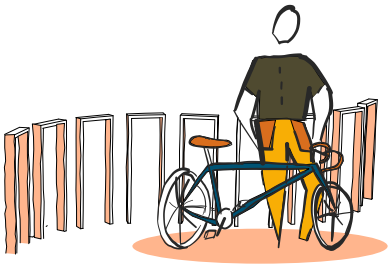
10th Avenue Paving Concept



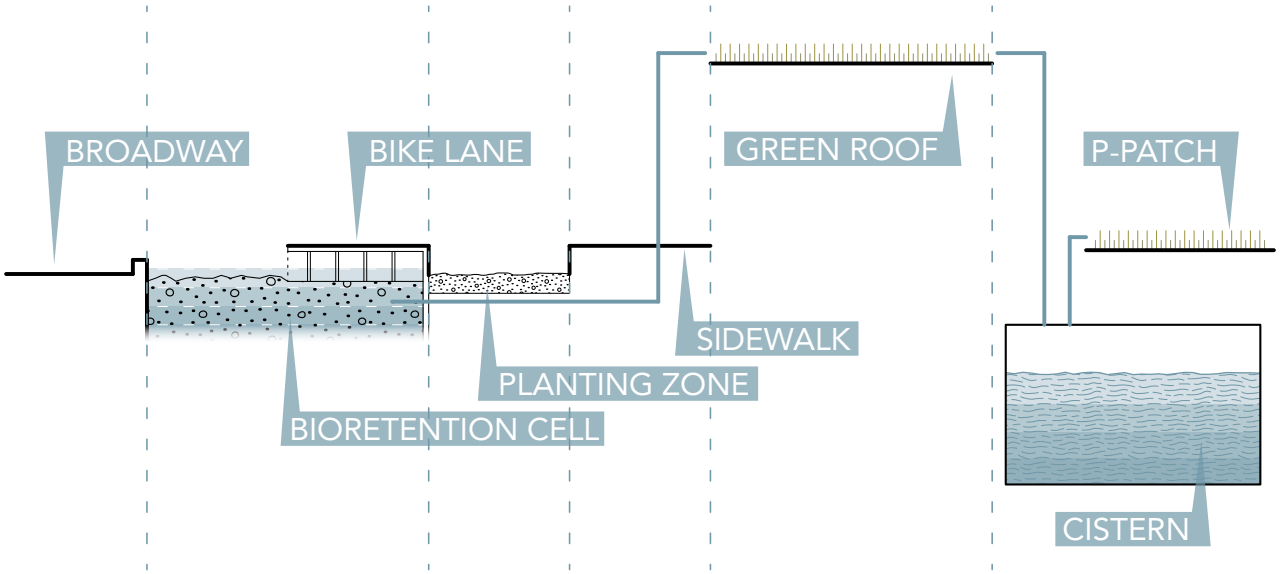


Gathering Space

Performance Space



Sculptural Bike Racks



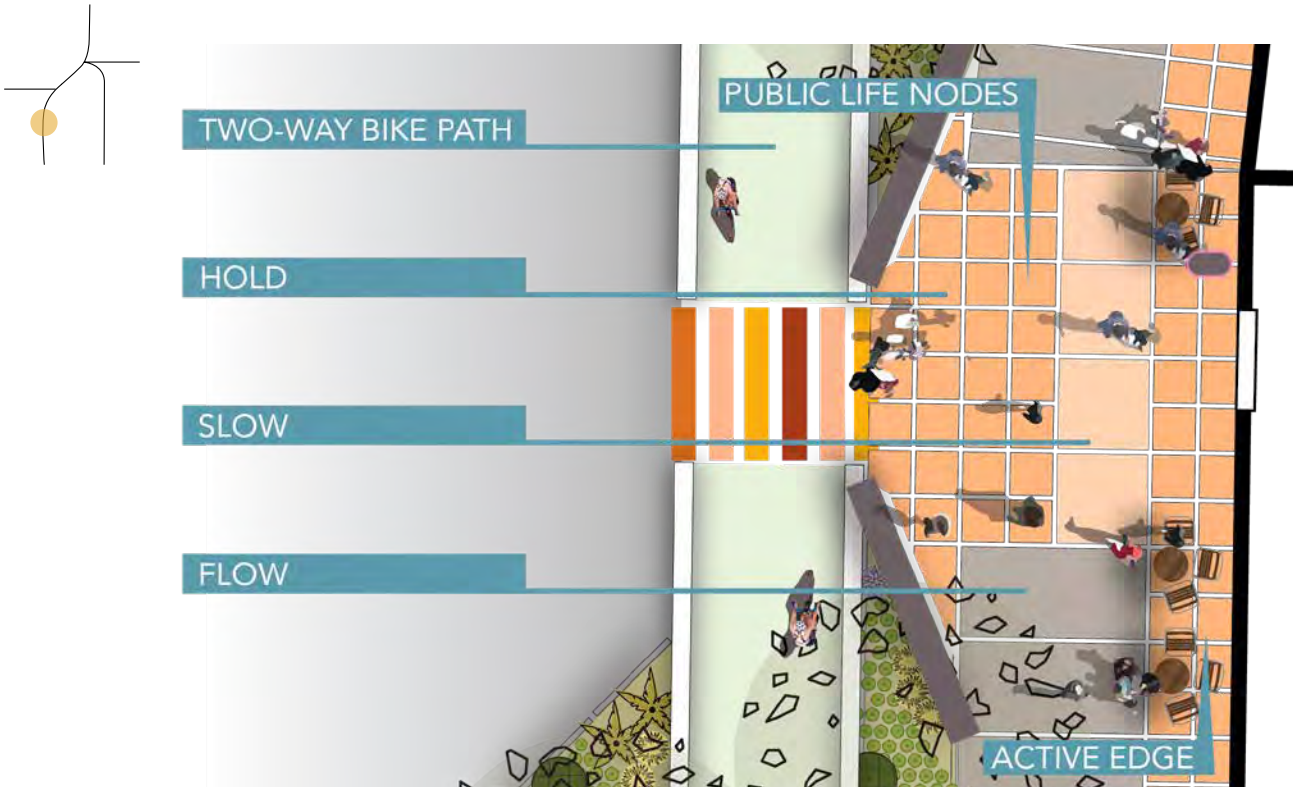
Water flow concept section (nts)

ROY STREET

Section through Roy Street Plaza

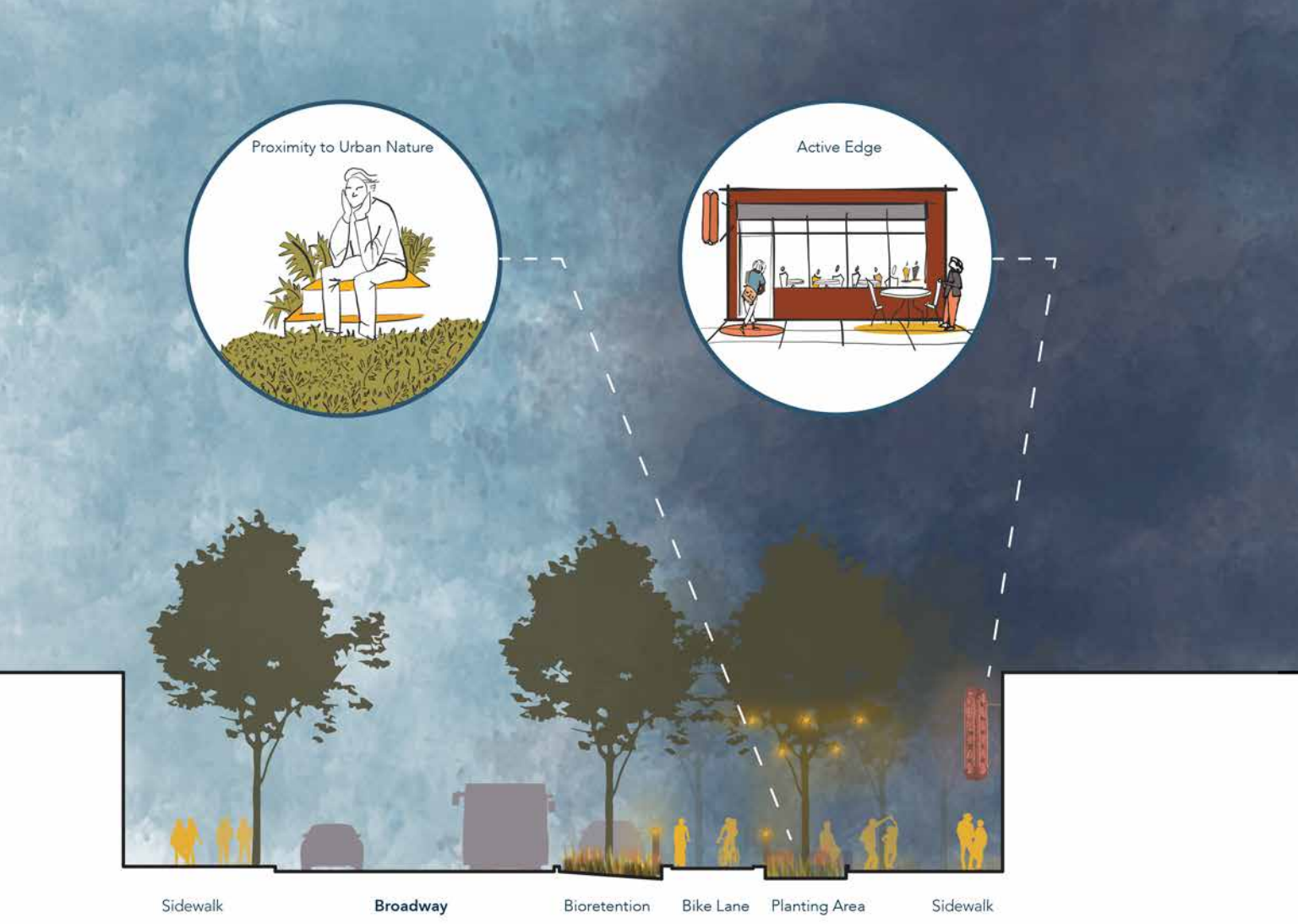
Roy Street Perspective

BROADWAY

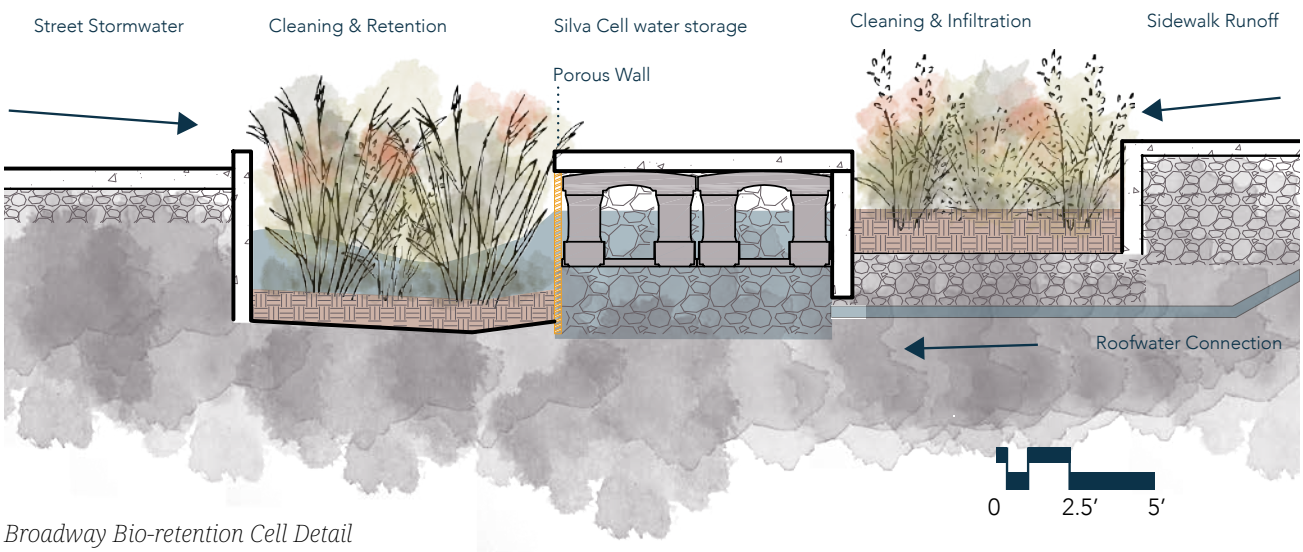


Paving Strategy Diagram

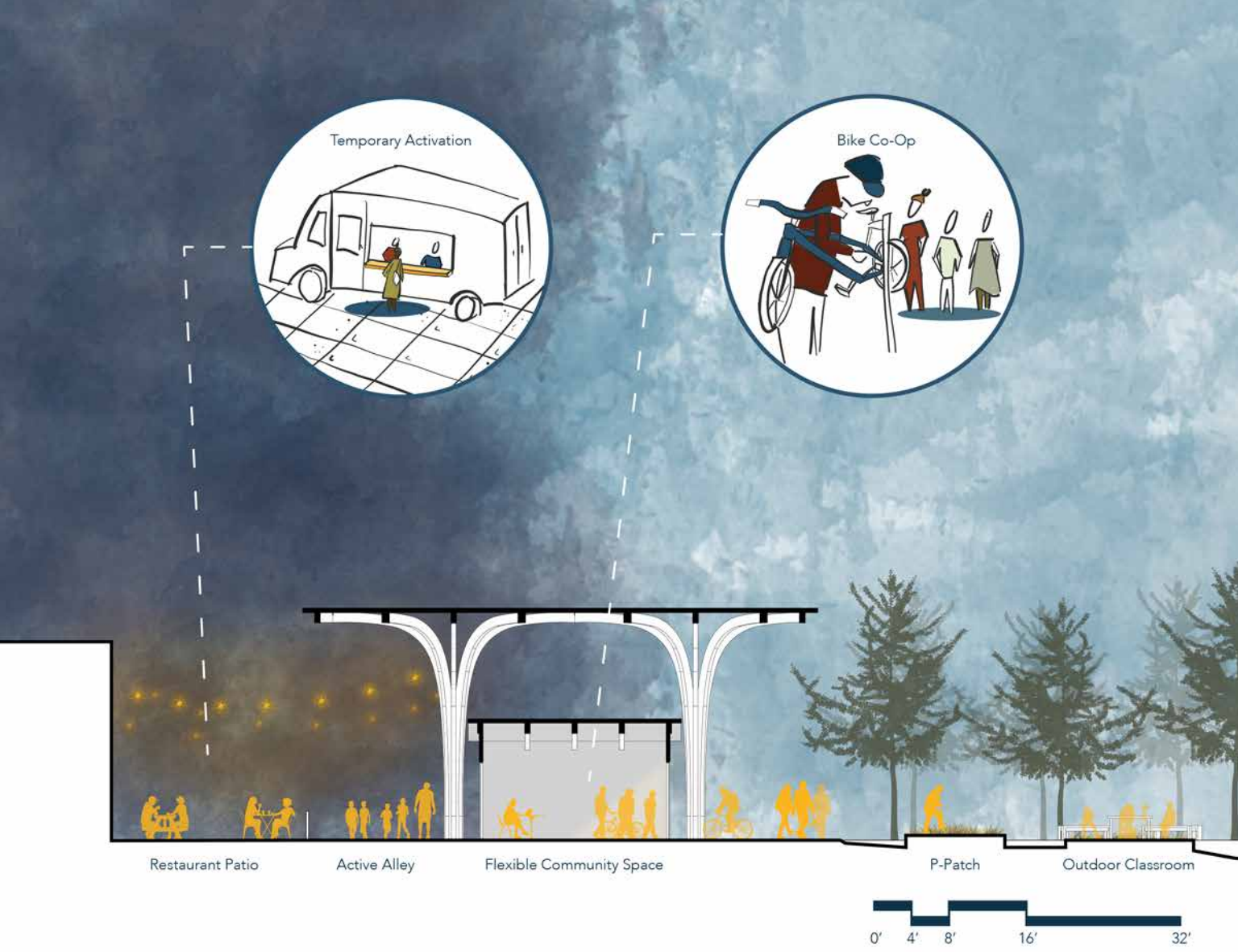
Broadway Perspective



Public Life Site Section



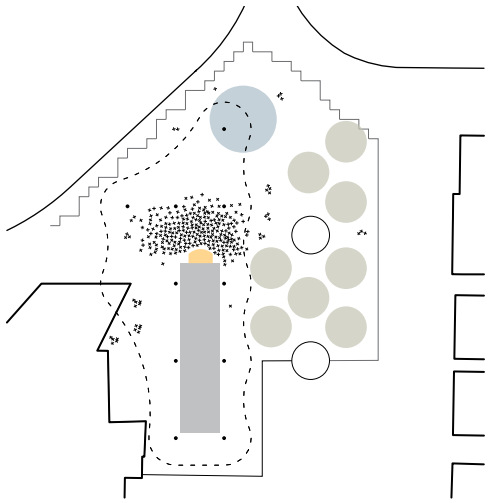
Broadway Bio-retention Cell Detail



Weekly Market

Event

Person



Concert

ENVIRONMENTAL JUSTICE

YUCHEN WANG

The project is located on Pine Street and Boren Avenue, next to Interstate-5. The site is like the corner of city and is easily ignored by people. The public space is divided into two parts by Boren Avenue, which is a main connection to downtown. The pillars are remnants of Plymouth church and represent the history and spirit of the site. The site speaks for the marginalized, to pursue justice.

I design for these as well. For dogs, for homeless, for people who can't afford public space, for environmental justice.

STORMWATER

System: Partially Separated

Strategy: Swale, Infiltration, Reuse, Retention, Detention

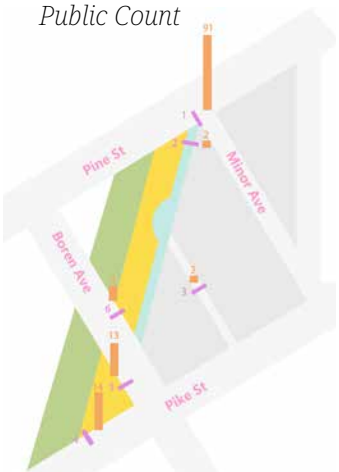
Capacity: 922 gallons

HISTORY OF SITE

SITE IMPRESSION

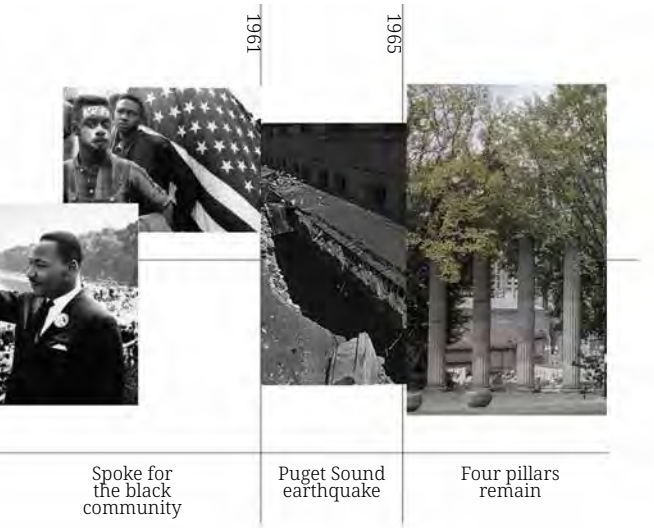
PUBLIC ACTIVITY OBSERVATION

Public Count

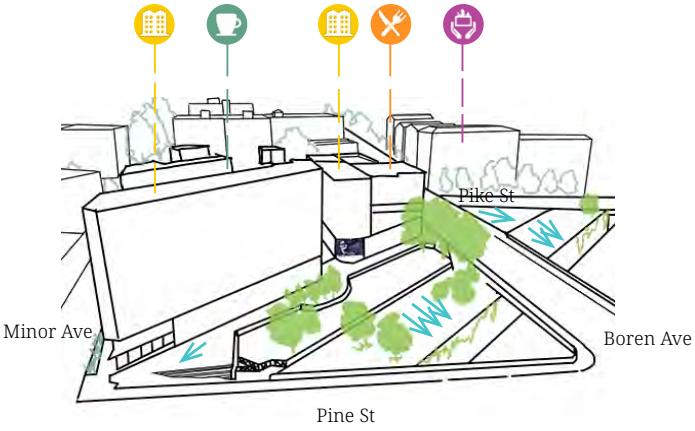


Public Count map

The people flow from Pine St is strongest. However, few people enter the site.



EXISTING CONDITION



Public Activity

Sit in sun

People like to sit in chairs and bask in the sun

Walk the dog

Dog owners like walking the dog around the space

Skateboarding

Skateboarder crosses the field

Take bicycle

Some shared bicycles are placed in the site

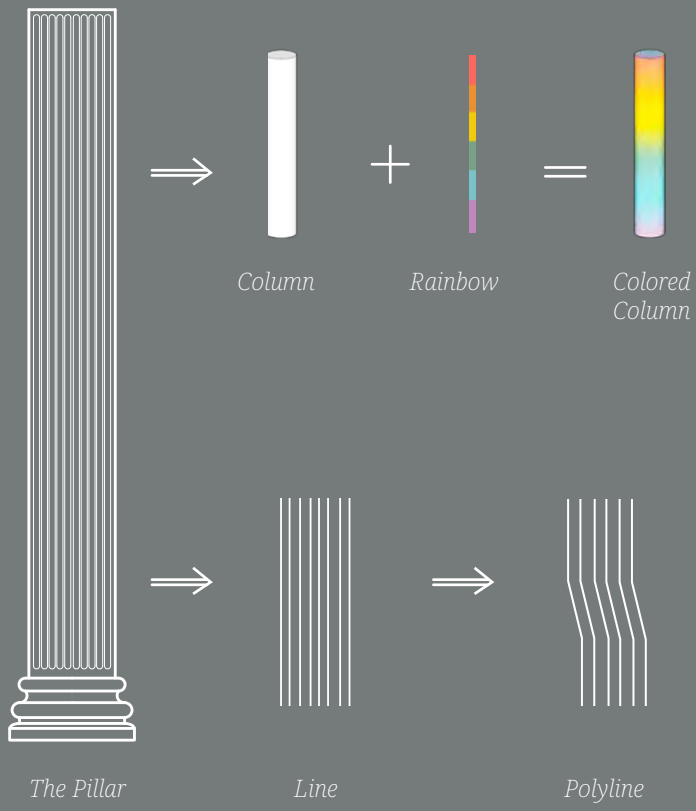
Take a picture

People are attracted by pillars and take pictures

Enjoy the scenery

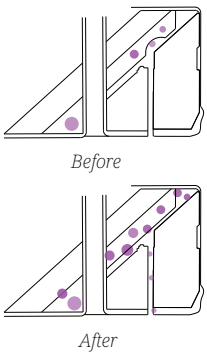
People can enjoy the birdview of Seattle

CONCEPT EVOLUTION



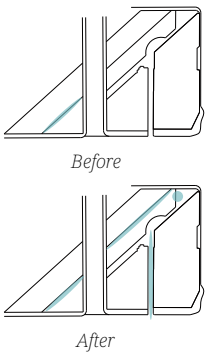
The Pillar is soul of the space. The lines on the pillars are extracted and deformed as design elements to express the spirit of the place. Meanwhile, colored columns are used to deivide the space and to express the progressive thinking of this community.

PROBLEM & STRATEGY



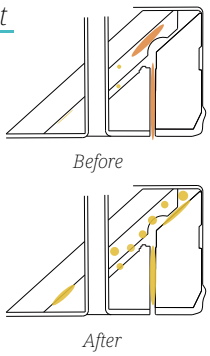
Add public space

There are not enough facilities and spaces for people. It is better to activate the edge of the site, attracting more people.



Add water management

The whole area lacks rainwater management strategies. Rainwater detention and retention could be implemented.



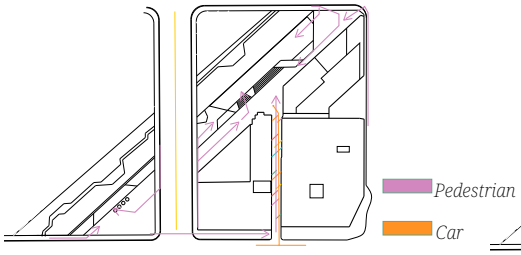
Improve security

Lack of lights and crowds are the main reasons why people feel unsafe. Attracting people can enhance public safety.

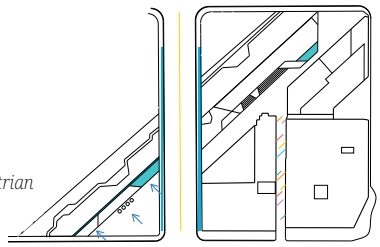
MASTER PLAN

SITE ANALYSIS

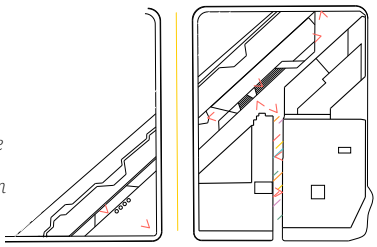
People flow



Water management

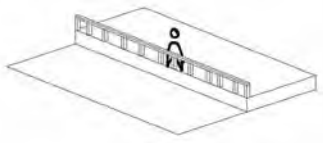


Viewsheds

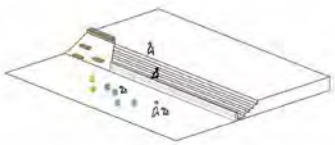


DIAGRAM

Public space

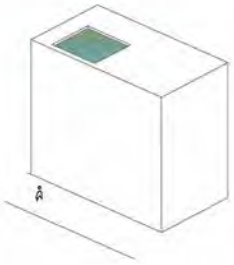


Before

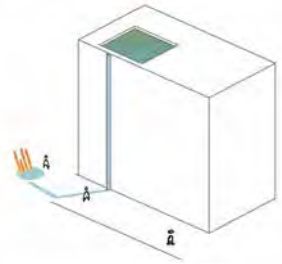


After

Water management

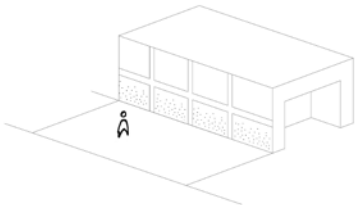


Before

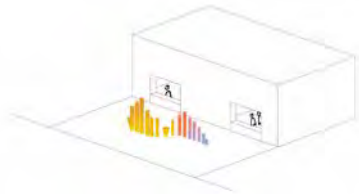


After

Security

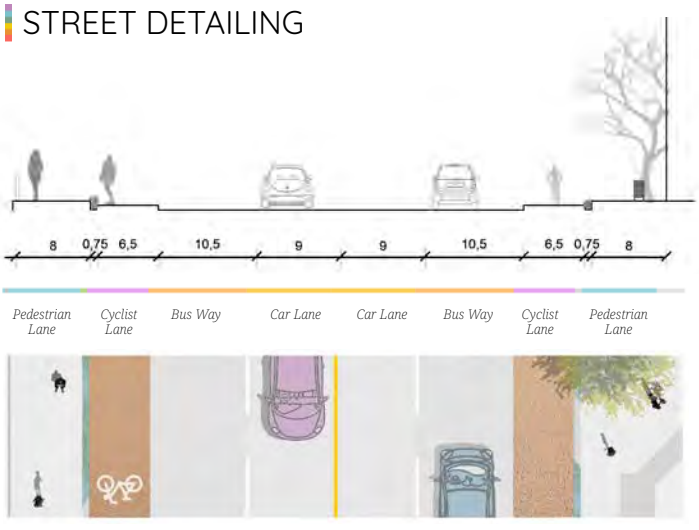


Before



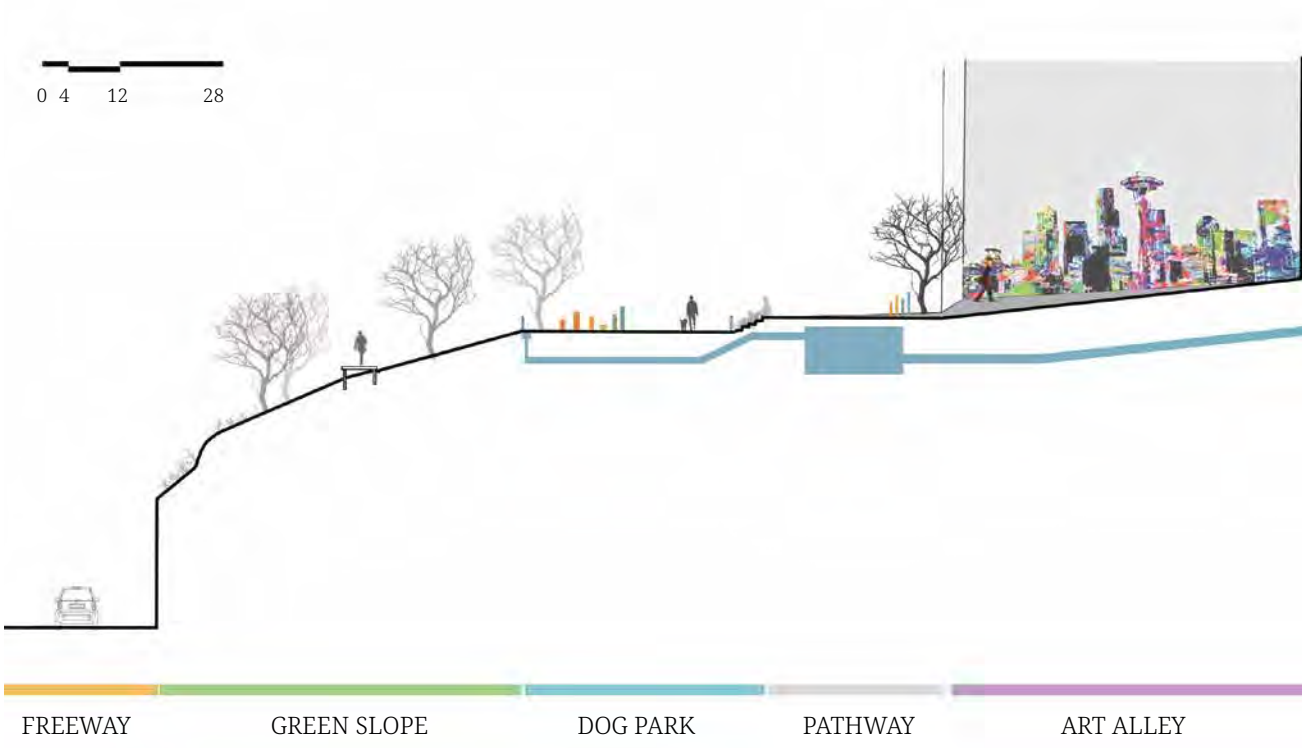
After

STREET DETAILING



Reduce the number of lanes from five to four and increase the number of bicycle lanes. Raise the ground to increase pedestrian and cyclist security.

SECTION



Use the original height difference of the site to divide the entire site into three parts. Original green slope is an ignored grey space. This part of site could be used by homeless people. The second part is the dog park and the third part is a pedestrian pathway. A big staircase is designed to connect the second part and the third part.

Pillar Park

Dog Park

ACTIVATED ALLEYWAYS

Kelsey McKay, Danielle Dolbow, Hexiang Wang

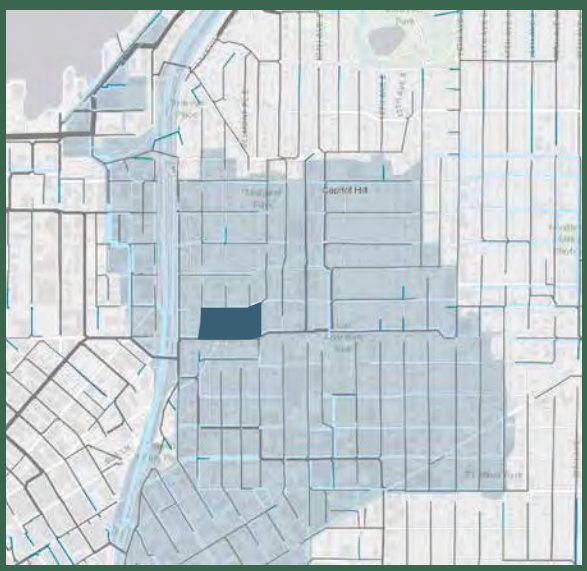
East Olive Way is a high traffic arterial street with little infrastructure for pedestrian circulation. Olive Way and the surrounding context experience a steep grade change moving west; the area lacks green space and permeable surfaces to detain stormwater.

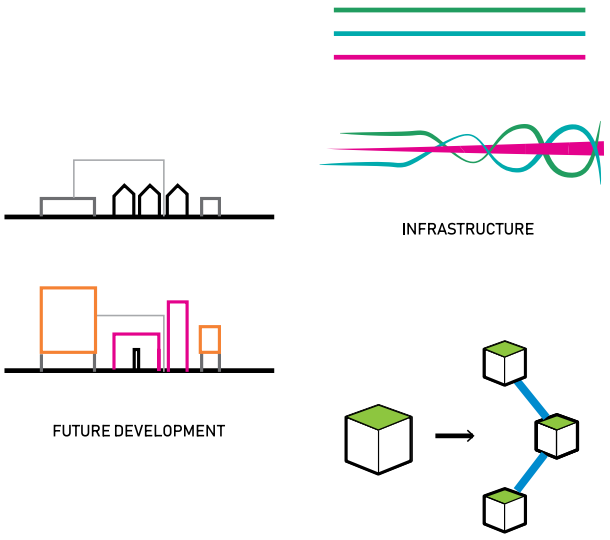
As a team, we identified three adjacent sites in the East Olive Way area, with the common goals of increasing pedestrian circulation and managing stormwater. The three sites are connected through a series of pedestrian alleyways that provide the dual function of circulation and stormwater detention.

STORMWATER

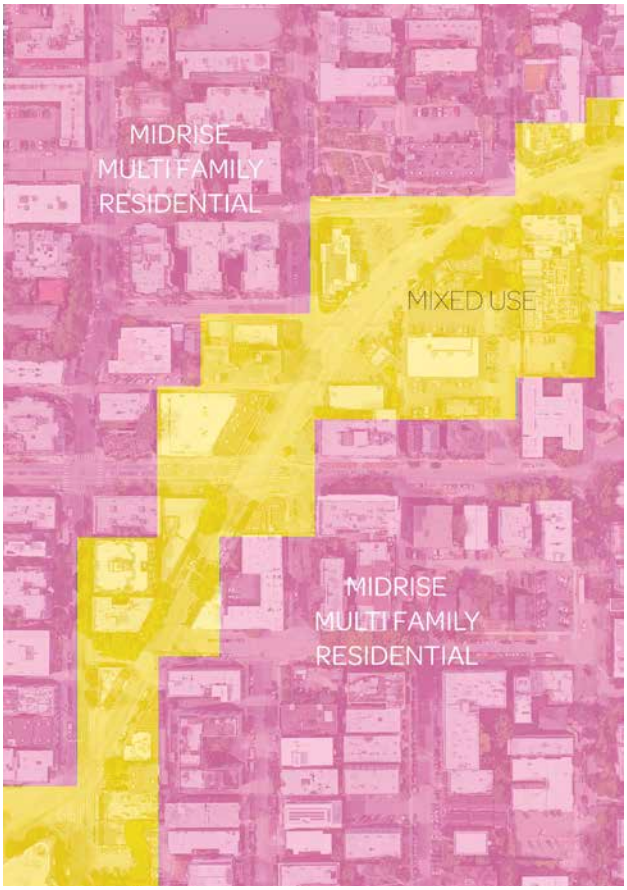
System: Partially Separated

Strategy: Rainwater Harvesting, Infiltration, Swale, Bioretention



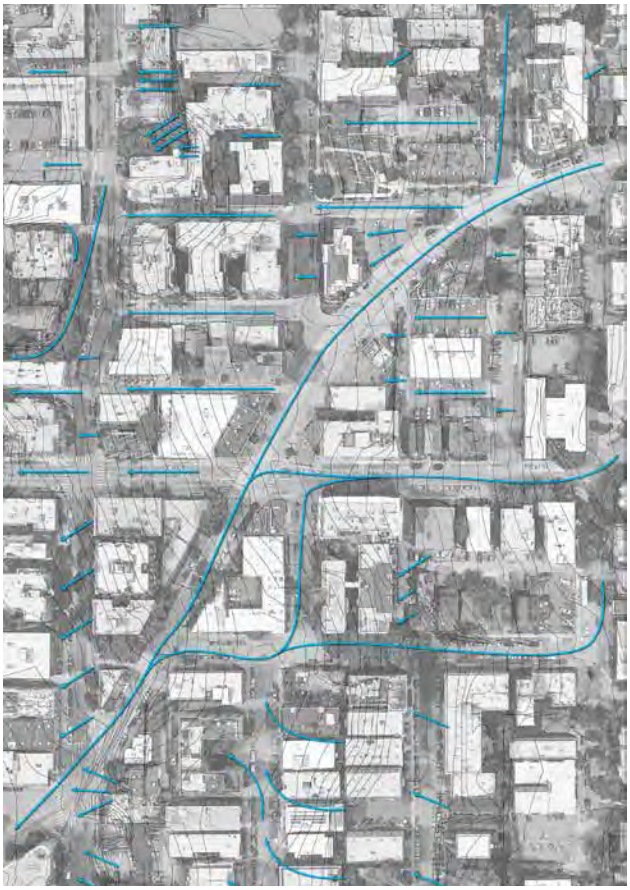


DIAGRAMS BY DANIELLE DOLBOW



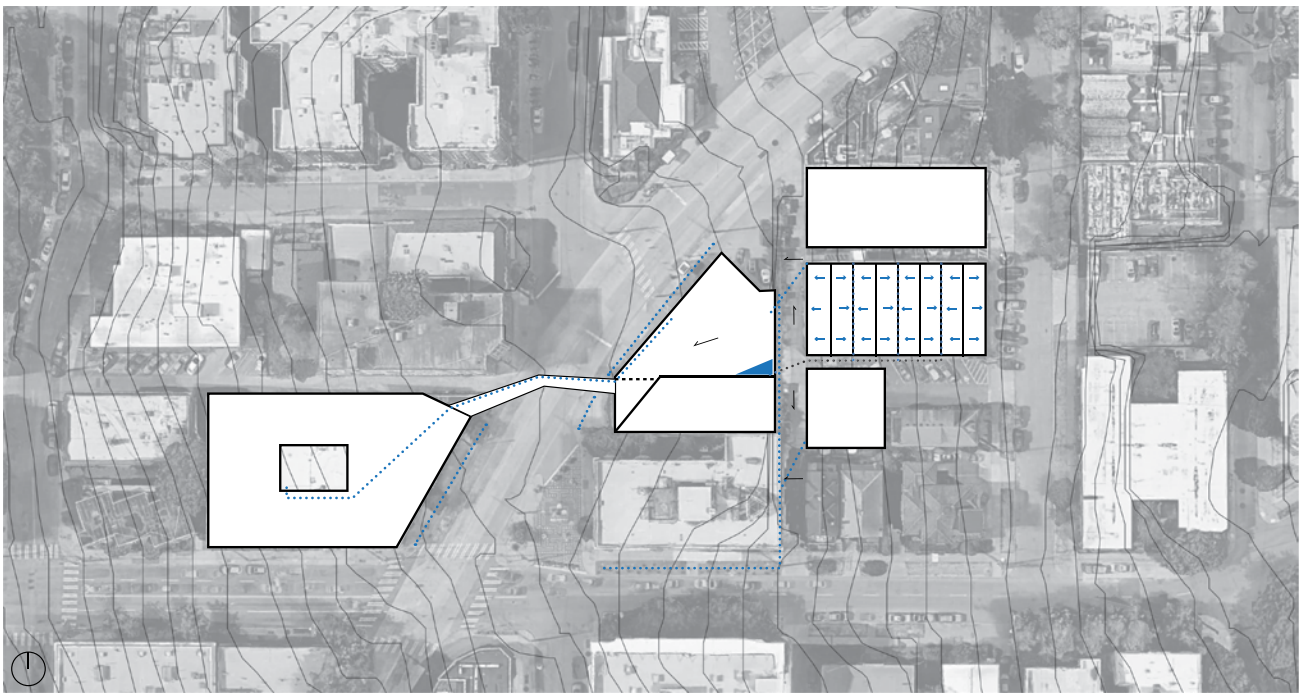
New Zoning Designations 2019

DIAGRAM BY KELSEY MCKAY



Existing Stormwater Flow

DIAGRAM BY HEXIANG WANG



Proposed Water Flow Connecting Individual Sites

DIAGRAM BY DANIELLE DOLBOW

NEW LIFE ON BELMONT AVE EAST

Kelsey McKay

Belmont Avenue East is a mixed use street adjacent to Olive Way, and is home to Goodwill, other small businesses, and low-rise, multi-family residential buildings. With its adjacency to Olive Way, this area has the potential to be an amenity for the neighborhood, increase community connectedness, and manage stormwater.

STORMWATER

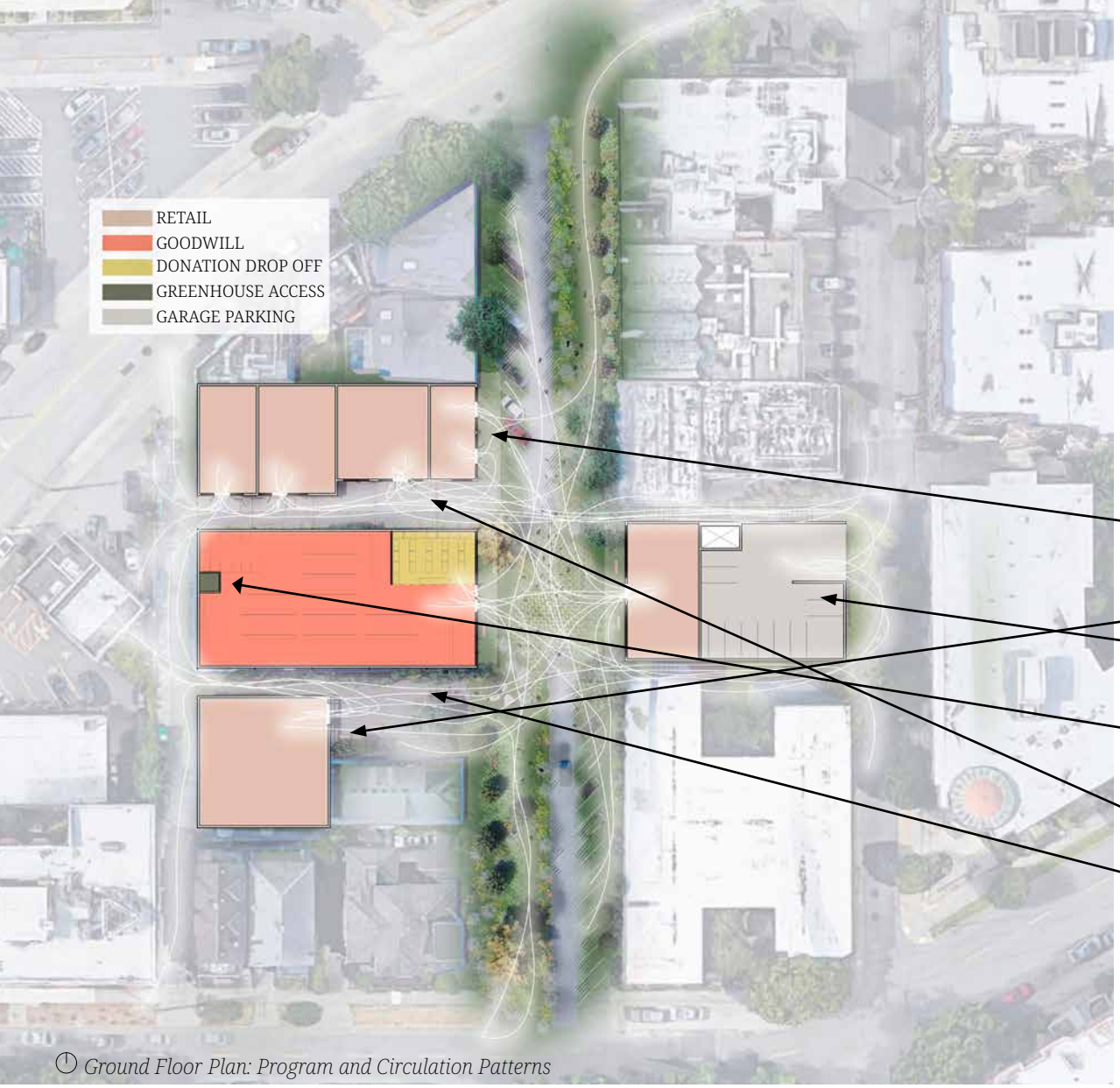
System: Partially Separated

Strategy: Permeable Pavement, Bioretention, Infiltration

Capacity: 1,571,000 Gal/Yr

Existing Site Context: Belmont Avenue East lacks street frontage and soft edges to activate the public space.

Perspective: facing north on Belmont Avenue East



Ground Floor Plan: Program and Circulation Patterns

Belmont Avenue East: West Elevation

STREET ACTIVATION AND PEDESTRIAN CIRCULATION

Belmont is an underutilized street. None of the small businesses on Belmont with the exception of Goodwill have their point of entry facing the street, so there is a lack of activation. To increase foot traffic and activate the street, these design strategies were utilized:

- Reshaping of the street- Belmont becomes a one-way vehicular traffic street, and the remainder of the street is given to pedestrians, green space and bioretention.
- Surface parking lots on either side of Goodwill redeveloped into mixed-use residential buildings with retail on the ground floor.
- Existing parking structure adaptively reused into mixed-use residential building with retail opening onto Belmont.
- On Goodwill's roof, a greenhouse will be added. Working with Goodwill's mission, the greenhouse will generate new jobs, and healthy affordable produce to be distributed to the neighborhood's restaurants and grocery stores.
- Space carved between new buildings and Goodwill transformed into pedestrian alley ways to increase circulation.

Perspective:Green Alley, Daytime Condition

Perspective: Urban Alley Way, Night Condition

Belmont Avenue East: East Elevation

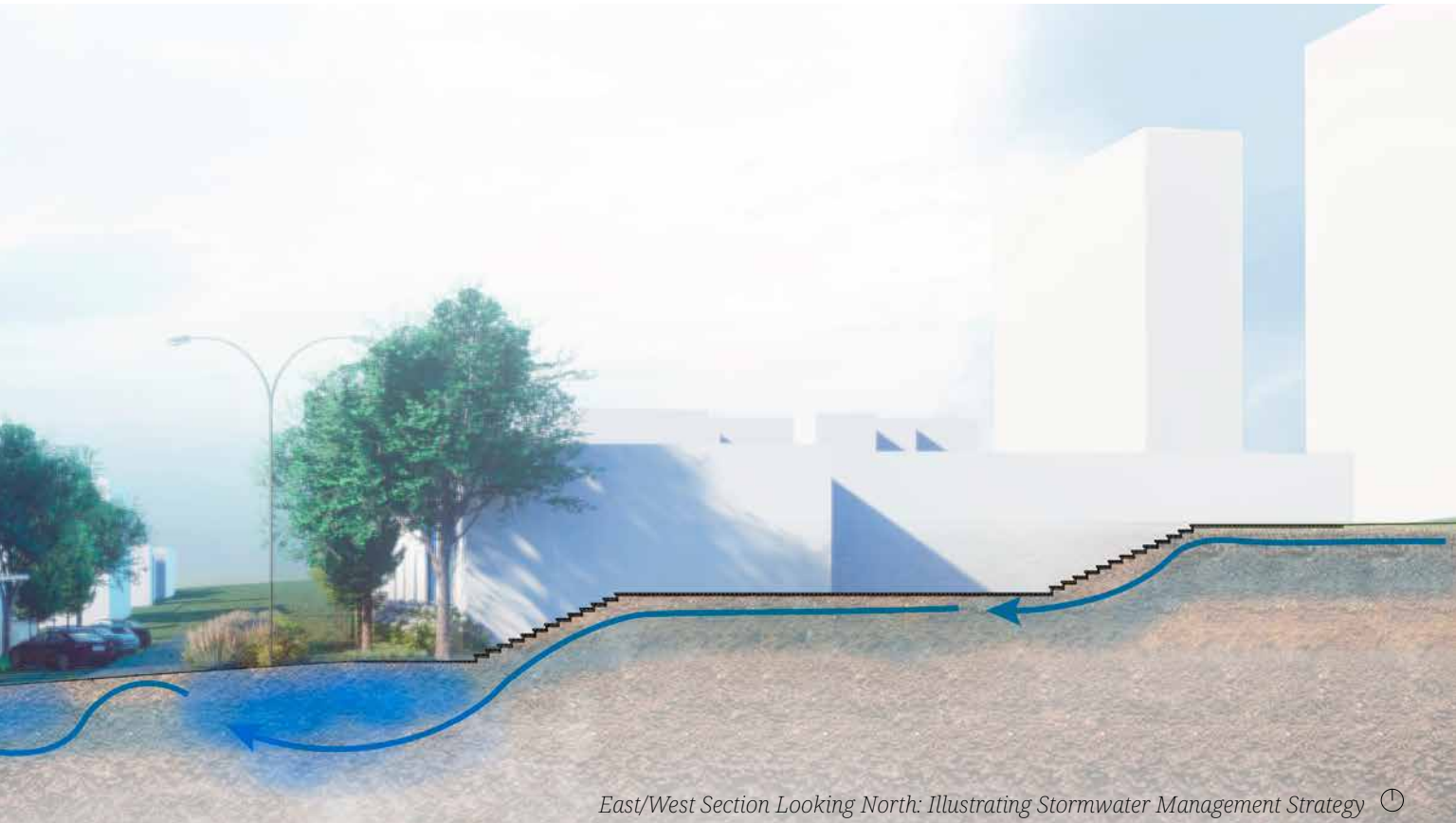
Site Plan: Illustrating Stormwater Management Strategy

GREEN SPACES AND STORMWATER MANAGEMENT

Belmont in its current condition does not have any permeable surfaces; there are 6 existing trees, and small grass patches. To manage stormwater, these strategies were utilized:

- Extensive green roof systems on all new buildings and overhangs.
- Narrowing of Belmont allows for increased green space for bioretention, and infiltration.
- Water runoff from greenhouse roof is channeled through pipes to swales that run along the new pedestrian alleys.

Perspective: Belmont Avenue East Looking North, Storm Condition



East/West Section Looking North: Illustrating Stormwater Management Strategy

NEW NETWORKS

Danielle Dolbow

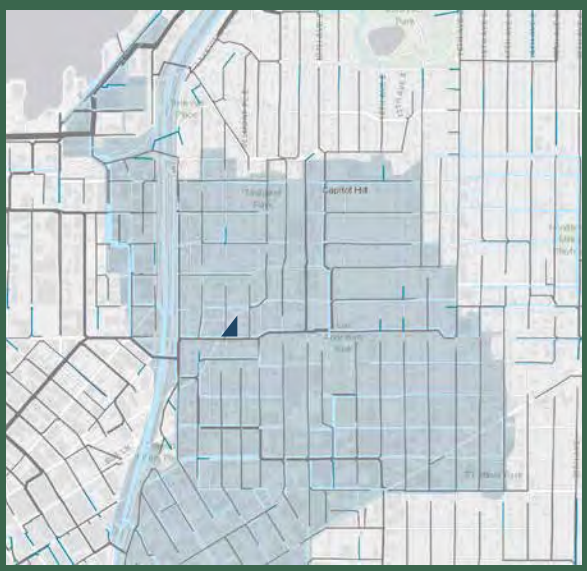
This site along Olive Way currently supports heavy car traffic and a few businesses but lacks the public life that Capitol Hill is known for. Additionally, it is comprised of mostly vacant or worn-down buildings and little public space resulting in a pedestrian experience that is heavily lacking.

My project aims to develop a space that will not only support new public life, but will also exhibit strategies to manage stormwater and soften the existing urbanscape, ultimately resulting in activation both on and above street level.

STORMWATER

System: Partially Separated

Strategy: Roof-water Harvesting, Infiltration, Bioretention, Swale



EXISTING

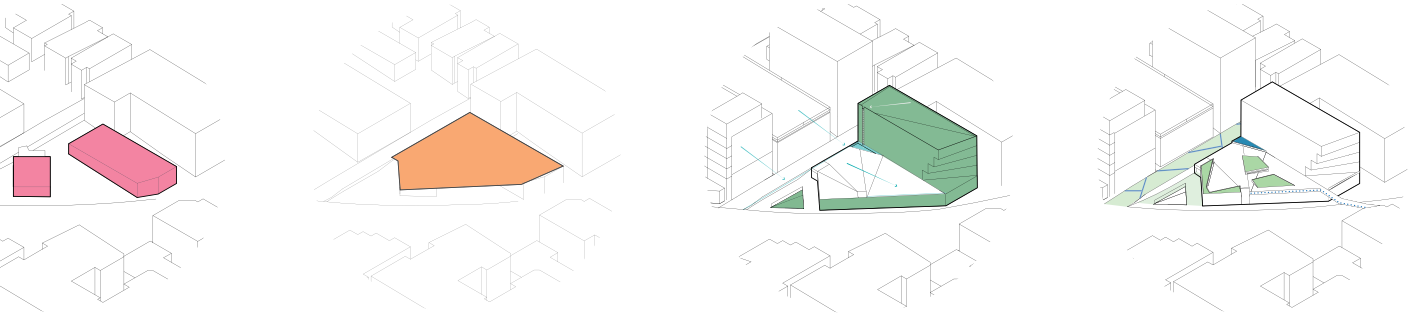
Site along Olive Way upzoned in 2019

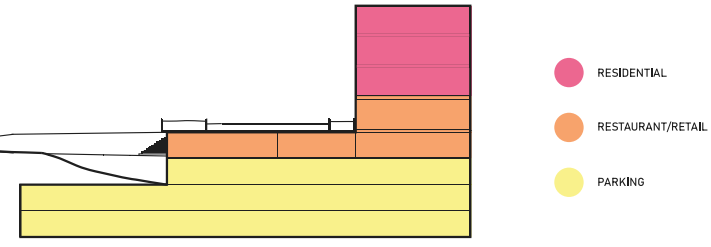
Alley currently used for goodwill drop-off

Drop in elevation from alley to adjacent lot.

Dull pedestrian experience

ENTRANCE FROM ALLEY





ABOVE: *Initial Massing Concept Diagrams*

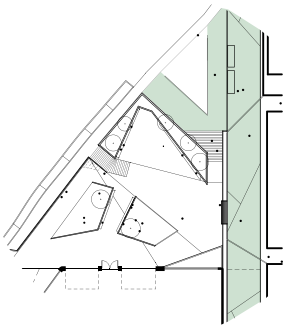
1) existing masses along Olive Way; area upzoned this past year

2) opportunity for business at street level whilst creating public space above

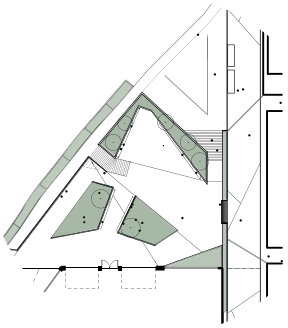
3+4) build up one of the existing masses to activate the public space and bring more commercial and residential space; use existing elevation change to inform rooftop park design

LEFT: *Programmatic Concept Section*

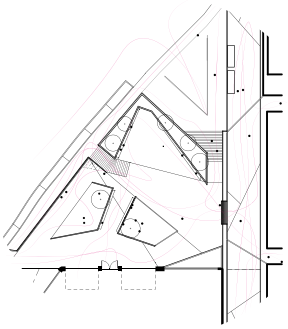
SITE PLAN



PERMEABLE PAVING



VEGETATION

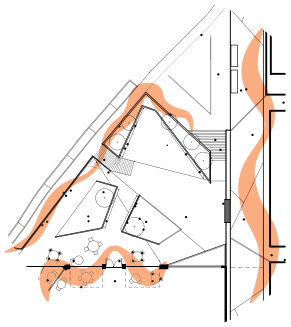


CIRCULATION

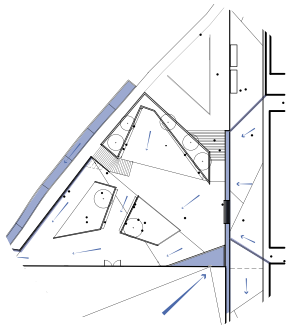
LEFT: *Temporal Section 1*

Flexible programming of the park allows it to be a place for people to hang out, have events, listen to live music, eat, etc.

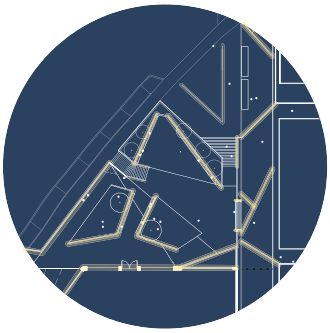
The site could also be used to house an art event, as art is an important part of Capitol Hill's identity.



ACTIVATE WITH NEW BUSINESSES



WATER NETWORK



NIGHT LIGHT

DIAGRAMMATIC PLAN: FULL SCOPE

RIGHT: *Temporal Section 2*

Light plays an important role in the project as it is used to bring life to the space and draw people in.

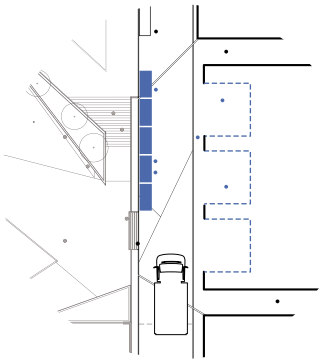
This drawing exhibits how the restaurant can open out onto the rooftop space helping to activate it. This is also demonstrating the potential for this space to support live music.

GEOMETRY

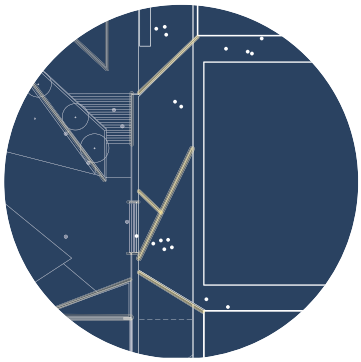
The design language used in this project was primarily influenced by the strong angular lines of the geometry in the alley, which was the first portion I designed. In thinking of ways to attract people, the use of interesting or dynamic geometry was key. From this initial concept, I developed the idea by coupling the geometry with light and, in some instances, water.

The key feature of the alley is the exposed channels that highlight the roof water collection from the adjacent site. However, when there is no water present, the forms do not disrupt the pedestrian and vehicular flow in the alley.

The diagrams to the right demonstrate that the alley is still intended to function as an alley when needed, but the pedestrian experience is improved at both day and night which is essential if the alley is to support the proposed public realm and new commercial and residential buildings.



ALLEY (DAY)



ALLEY (NIGHT)

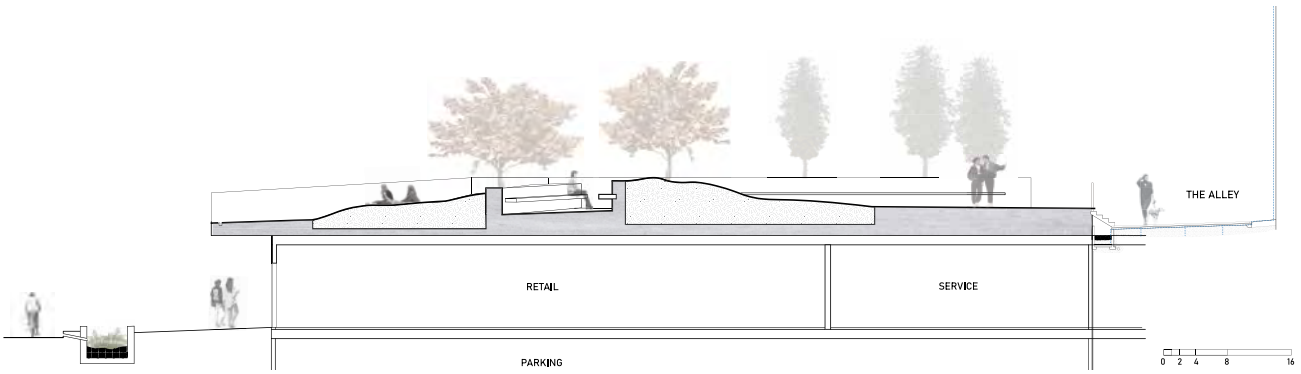
WATER

Another primary driver of my design is water. Currently the water from this site is directed to the Swale on Yale, however only around 15-20% is filtered. Therefore, it is important to filter and detain as much water as possible using a variety of stormwater manangement strategies.

The permeable paving that is in the alley and surrounding the entry to the underground parking allows for pedestrian and vehicular flow, but also softens the landscape and allows water to infiltrate into the soil beneath.

The planters in the park contain native plants such as Dogwoods, Camas, and Fescue that will be able to endure Seattle's climate of both rainy and dry days. By pushing down the edges of some of the planters, people are welcomed to occupy space on top while simultaneously providing more area for water to infiltrate.

Rainwater is also collected from the roofs and filtered by the channel that runs inbetween the park and the alleyway before allowing it to permeate the proposed swale on Denny. Lastly, bioretention strategies were incorporated into the street level plans in order to soften the edge with plant life and provide more water infrastructure.



ACTIVATED ALLEYWAYS

HEXIANG WANG

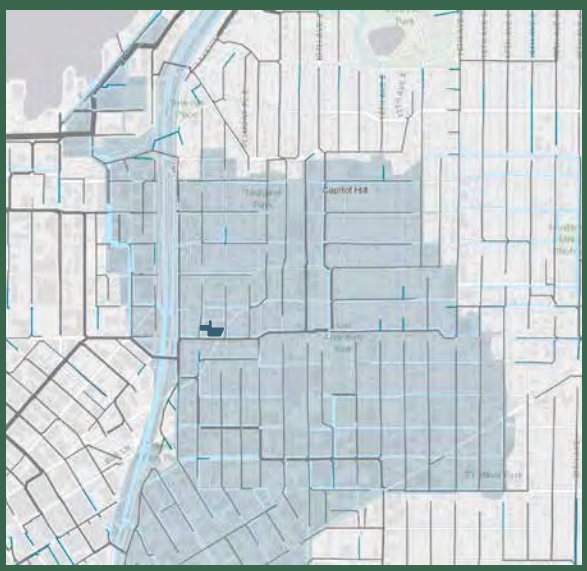
The goals of this studio project are to resolve stormwater runoff from East Olive Way to the selected site, and to create an ecological connection between the buildings and the landscape.

This studio project comprises of a new developed building with commercial space, community center and housing units, and two alleys as green corridors in an urban context.

STORMWATER

System: Partially Separated

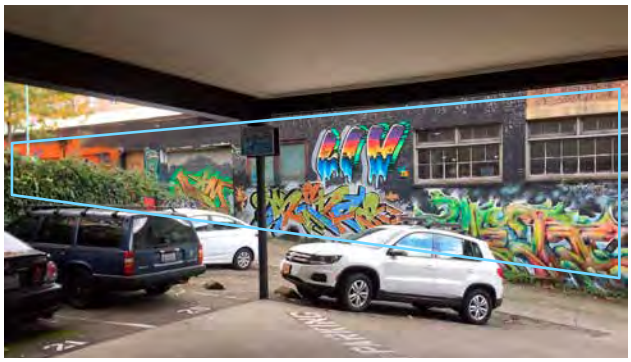
Strategy: Rainwater Harvesting, Infiltration, Bioretention, Permeable Pavement



EXISTING CONDITIONS

THE BUILDING FACADE IS DETERIORATING

THE PAVING IS NOT PERMEABLE



THE PARKING LOT LACKS ACCESSIBILITY AND LIGHTING

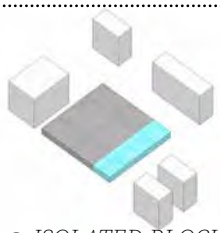
THE ALLEY LACKS SOFT EDGES

THE WATER ALLEY

COMBINED WATER FILTRATION CHANNELS RAINWATER GARDEN

MIXED USE ECOLOGICAL BUILDING AND SITE

POTENTIAL PEDESTRIAN CIRCULATION AROUND THE SITE



⓪ *ISOLATED BLOCKS AND ABANDONED SPACE*

BUILDING AND ALLEY REDEVELOPMENT

This studio project aims to redevelop a building and two alleyways in this block. This project provides commercial space on the ground and lower floors, a community centre and housing units on the upper floors.

① *MULTIFUNCTIONAL BUILDING*

② *PENETRABLE BLOCK*

③ *GREEN ROOF*

④ *VERTICAL INTERVENTIONS*

⑤ *INDOOR GREEN SPACE*

⑥ *CONNECTION TO NEIGHBOURHOOD*

PROPOSED STORMWATER MANAGEMENT STRATEGIES

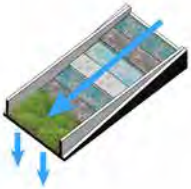
PROPOSED WATERFLOW AROUND THE SITE

BIORETENTION POOLS ALONG EAST OLIVE WAY

THE WATERFEATURE ALONG EAST OLIVE WAY

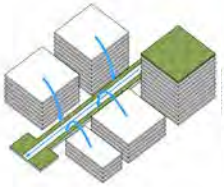
⓪ *STORMWATER RUNOFF*

① *BIORETENTION POOLS*



② *WATER FEATURE WITH PURIFIED RUNOFF*

③ *WATER DETENTION STRUCTURES*

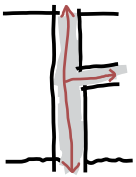


④ *ROOF WATER MANAGEMENT*

The topography in the west of Capitol Hill is relatively steep, and the site we chose has little water detention infrastructure, so there exist plenty of opportunities for stormwater runoff. This studio project has four strategies for stormwater management from the pavement, motorways and roofs. The stormwater management strategies also create opportunities for public life.

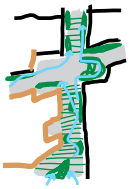
POROUS PUBLIC SPACE IN THE ALLEYS

EAST ENTRANCE OF THE ALLEY



A PASSIVE CONNECTION

SOFT EDGES (AFTER)



WATER FILTRATION (AFTER)

GREEN AND BLUE INFRASTRUCTURE AT THE CROSSROAD OF THE TWO ALLEYS

By developing a new mixed used building with the commercial space in ground and lower floors, the edge of the alleyway can be activated. The planters along the alley and the transparency of the building facade contribute to soft edges. The permeable paving in a wood texture gives people a warm feeling.

During a heavy rain, the green and blue infrastructure in the alley can channel stormwater and water from adjacent roofs to the rain gardens at the west entrance of the alley. If there is no rain, it can also be a sculptural structure for people to sit. The reduced parking spots in the alley will be placed underground in the new developed building.

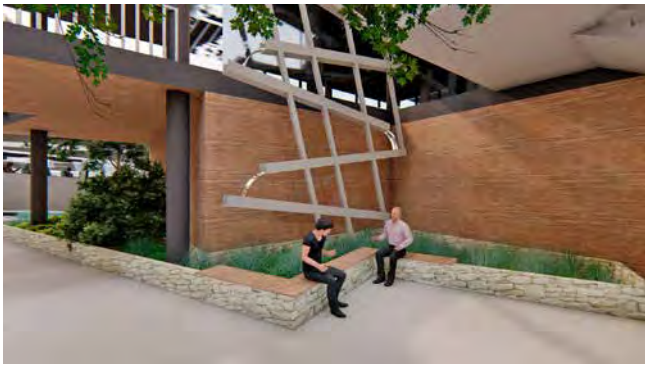
WEST ENTRANCE OF THE ALLEY

WEST PART OF THE ALLEY

PERMEABLE PAVING

INTERVENTIONS IN THE COURTYARD

WATER DETENTION STRUCTURES IN THE COURTYARD



WATER FEATURE IN THE COURTYARD

This studio project also tries to discover how landscape architectural methodologies could probably influence architectural design process. In the centre of the new building, a courtyard is designed to meet the goal.

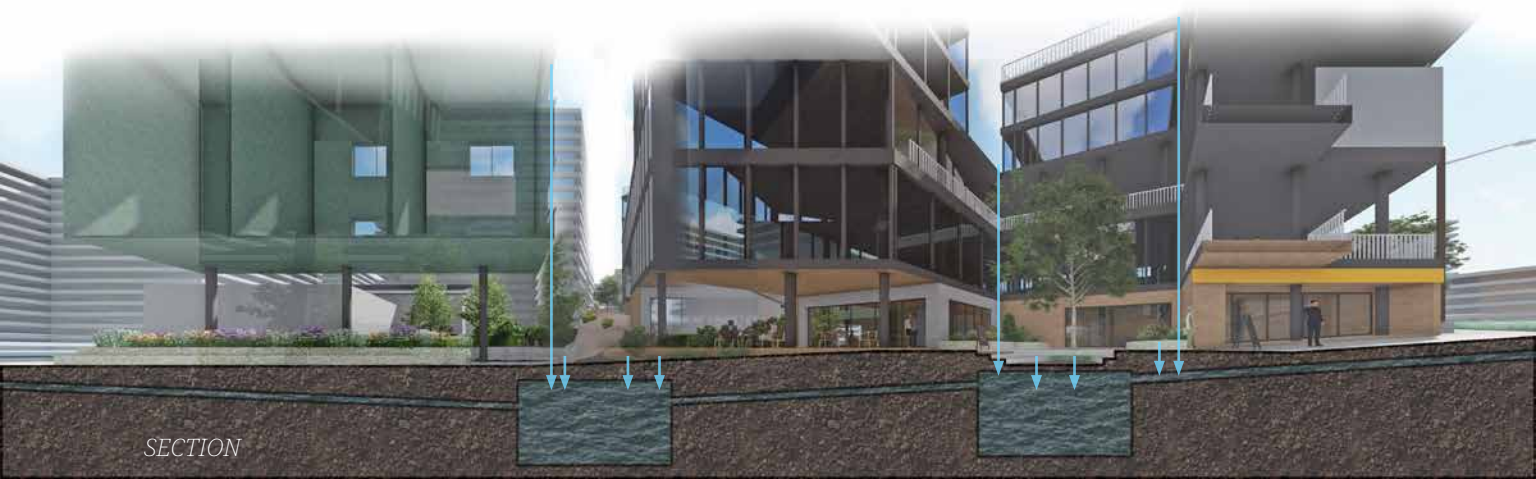
The water feature in the courtyard is a more conceptually abstract but visually perceivable way to show people our concern about water. This water feature is also a vertical element connecting the lower floor to the roof.

GREEN ROOF

ROOF GARDEN FOR PUBLIC LIFE

ROOF GARDEN FOR PUBLIC LIFE

The compact neighbourhood requires the project to vertically utilise space to create more green space. The roof top has two ping-pong tables, one badminton court, one micro-topography and raised wood decks for people to enjoy the view of downtown Seattle.



SECTION

DEFINING EDGES:

UNITING PEOPLE + WATER IN CAL ANDERSON PARK

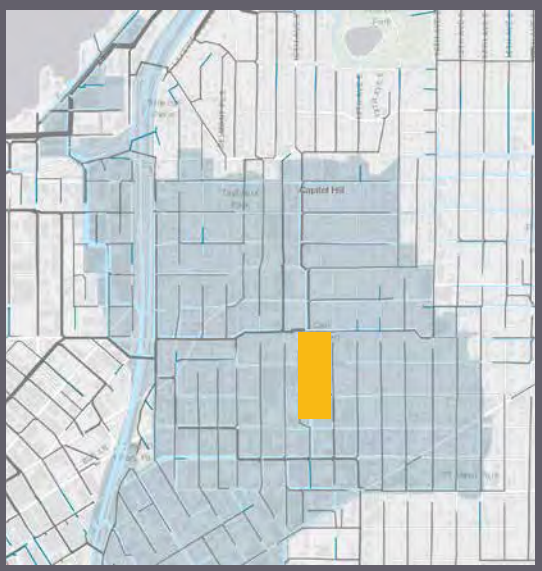
ZOE KASPERZYK

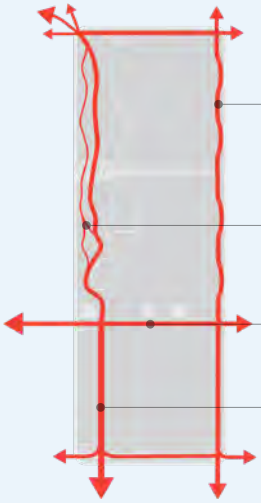
These design solutions focus on encouraging people to flow through the park while allowing stormwater to move, infiltrate, and pool, blurring the boundaries of public life and stormwater infrastructure.

STORMWATER

System: Combined

Strategy: Swale, Infiltration, Detention





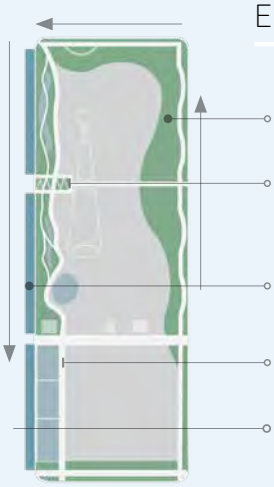
PATHS

FLOWING SIDEWALK

RAIN TRAIL

COLLEGE CONNECTION

FLOWING PATH



EDGES

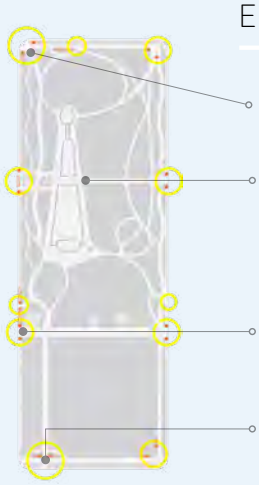
HABITAT CORRIDOR

SOFTSCAPE WATER EDGE

NAGLE PLACE SWALE

HARDSCAPE WATER EDGE

ONE WAY STREETS



ENTRANCES

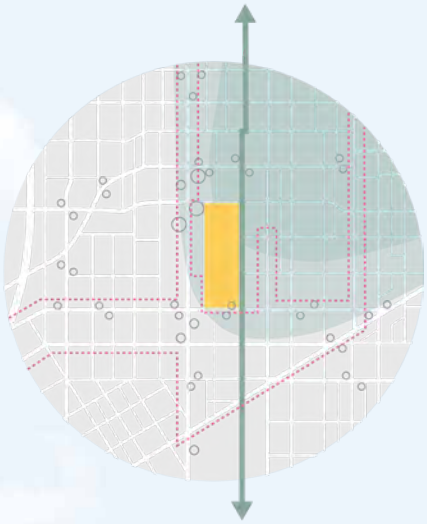
DENNY WAY ENTRANCE

OLIVE WAY CORRIDOR

COLLEGE ENTRANCE

PINE STREET ENTRANCE

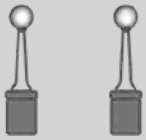
OPPORTUNITIES: STORMWATER & PUBLIC LIFE



cal anderson park
water basin
proposed habitat corridor
commercial areas
light rail station
trolley station
bus stops

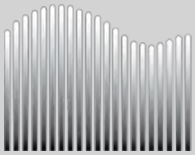
Pine St Entrance

PUBLIC LIFE STRATEGIES



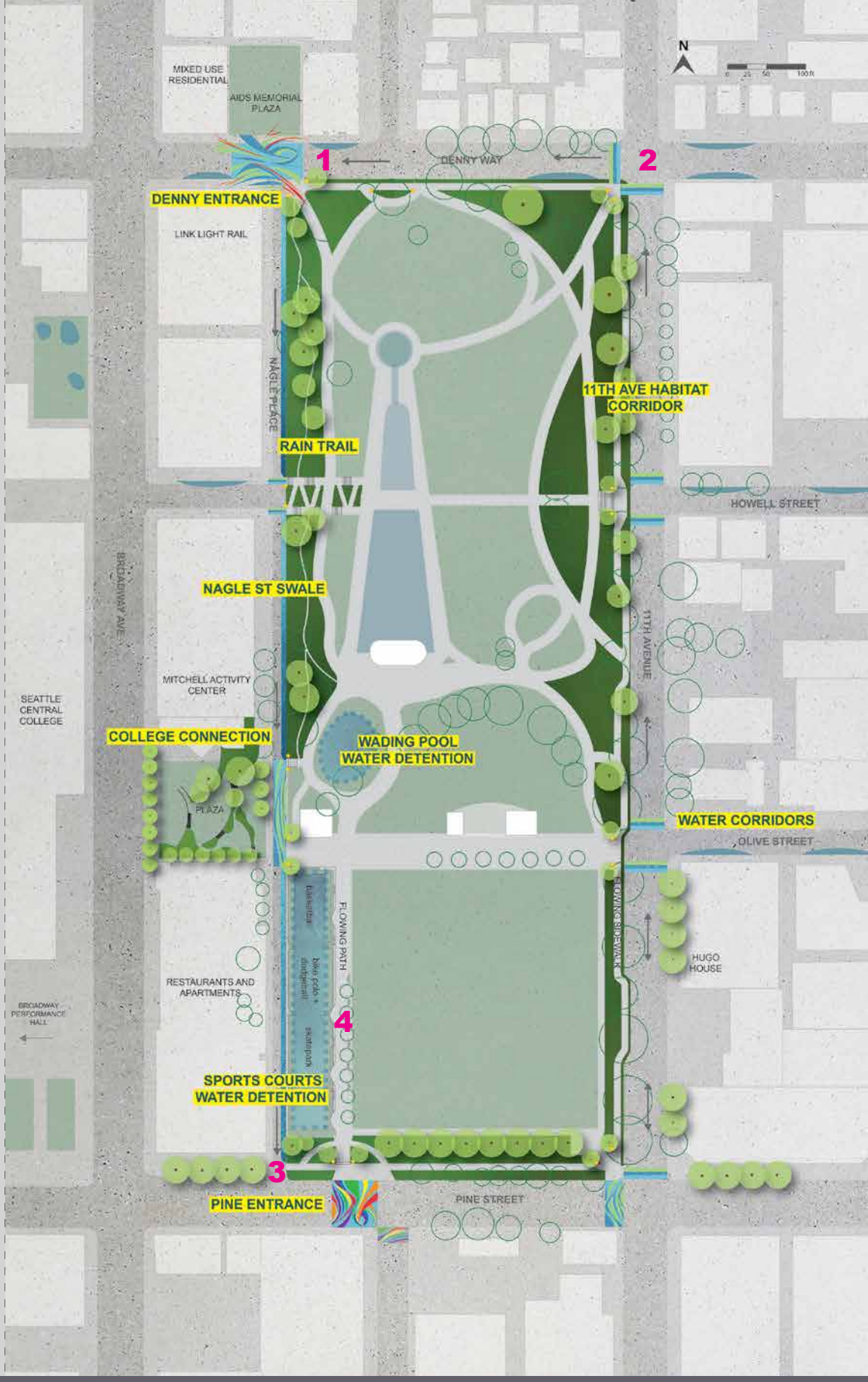
DEFINE ENTRANCES

WIDEN PATHS

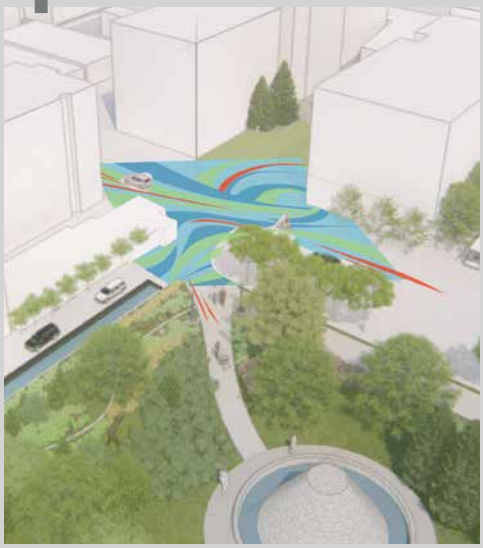


BLUR PARK EDGES

NEW WATER EXPERIENCES



1 DENNY ENTRANCE



AIDS MEMORIAL CROSSWALK

2 11TH AVE HABITAT CORRIDOR

WATER & HABITAT CROSSWALK

3 NAGLE PLACE EDGE

LGBTQ+ CROSSWALK

4 FLOWING PATH

DIVERSE PARK USERS

WATER SYSTEMS

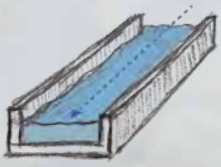
COLLECT, INFILTRATE, TREAT, HOLD → INTEGRATE, EDUCATE, ENHANCE

habitat corridor

- infiltrate water
- increase biodiversity
- improve sidewalk conditions and pedestrian experience

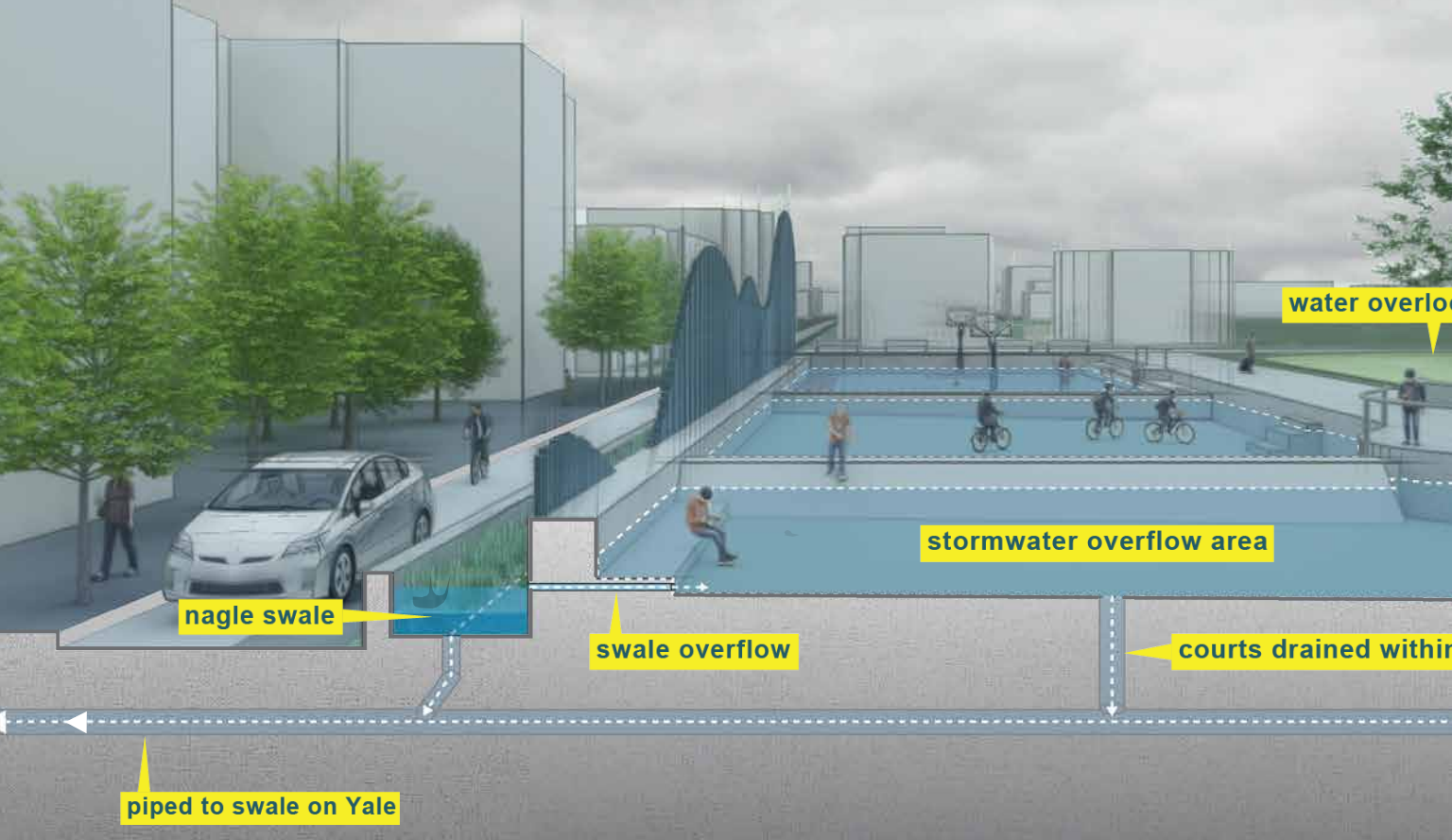
rain trail

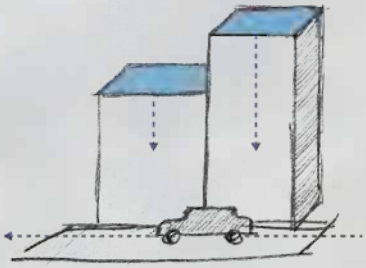
- infiltrate water into habitat edge
- provide an educational water experience and create play opportunities along path



swale to courts

- treat and slow stormwater in swale
- detain stormwater in sport courts during extreme weather events



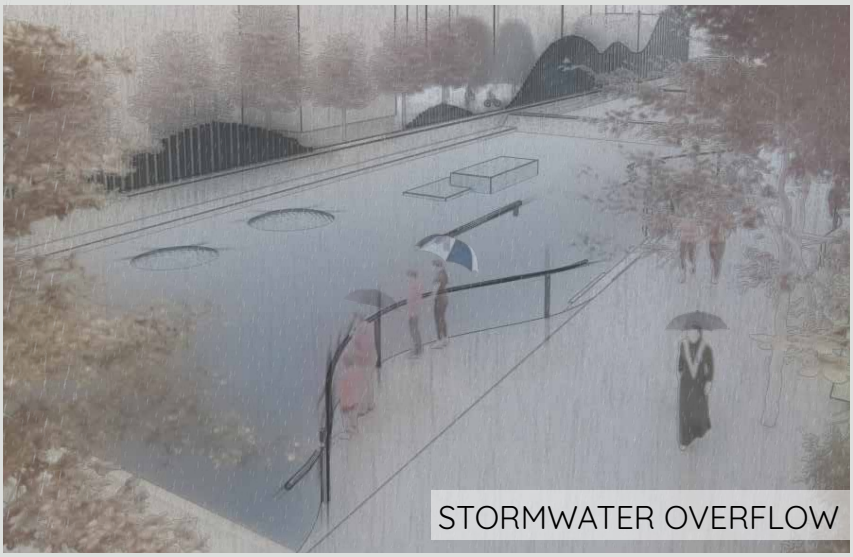


water collection

- collect water from streets and rooftops to be treated
- prevent untreated water from going into nearby bodies of water

stormwater detention courts

RAIN TRAIL



STORMWATER OVERFLOW

HABITAT CORRIDOR

URBAN CONNECTOR

Shihui Liu

The design is a reimagination of the public life along E Howell St. Aiming to diversify the users and activities by stormwater management strategies, the design is divided into two parts:

Module area (swale as the connector): turn the current sidewalk green space into linear swale for water detention and recreation.

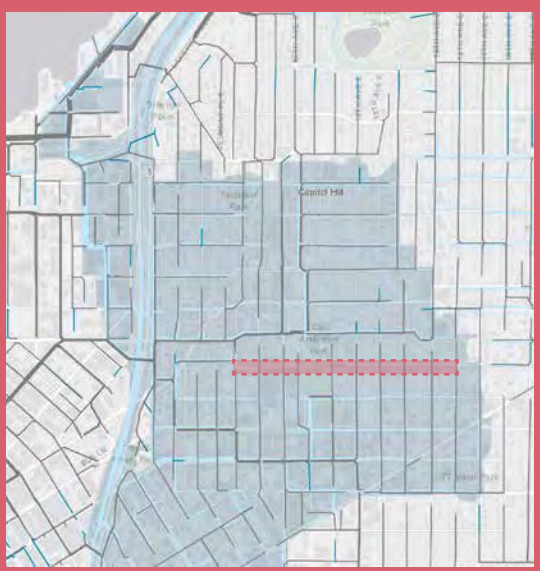
Non-module area (learning hub as the connector): enable community, including college students and residents, to learn from human and nature.

STORMWATER

System: Partially Separated

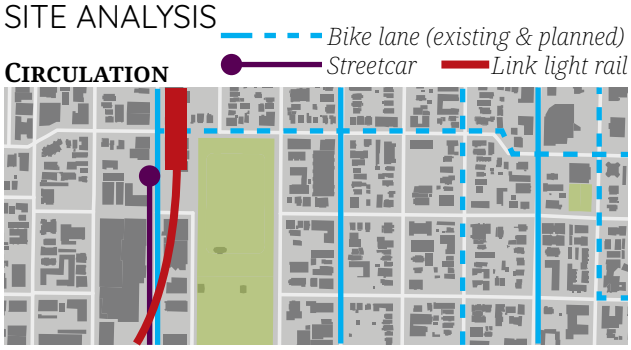
Strategy: Swale, Rain Garden, Detention

Capacity: 613,170 gallons (141,000 for module and 472,170 for non-module)

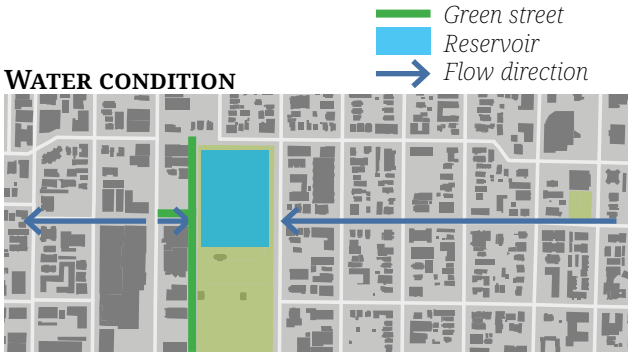


SITE ANALYSIS

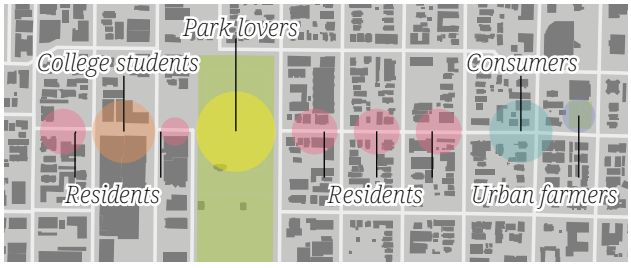
Circulation



Water condition



Users



OPPORTUNITIES

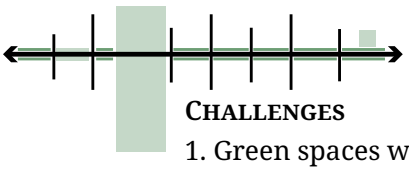
existing green space
along the sidewalk
↓
no ownership disputes

1%~2% slope
↓
naturally generated
waterflow

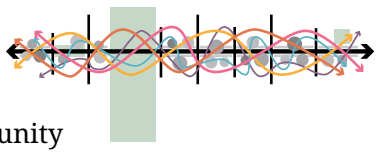
various types of
zones
↓
various types of users

connection to some
larger green space
↓
potential green corridor

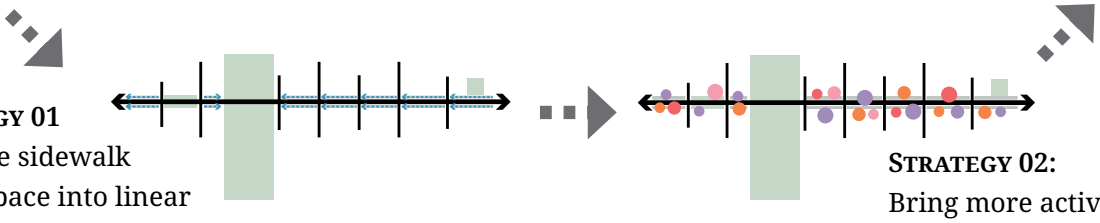
ISSUES & STRATEGIES



CHALLENGES
1. Green spaces with basic functions
2. Lack of users and interactions



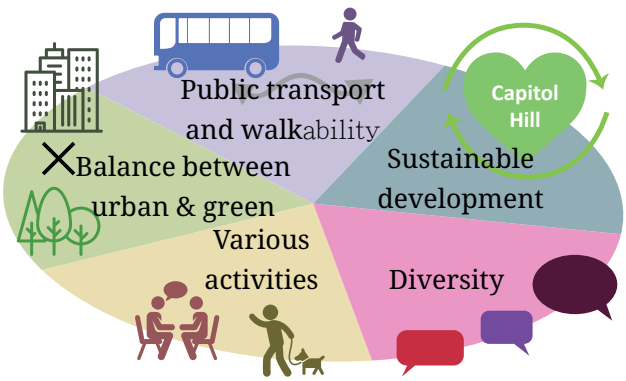
STRATEGY 03
Create a tightly-
connected community



STRATEGY 01
Turn the sidewalk
green space into linear
rain gardens

STRATEGY 02:
Bring more activities
into green spaces

GOALS & VISIONS



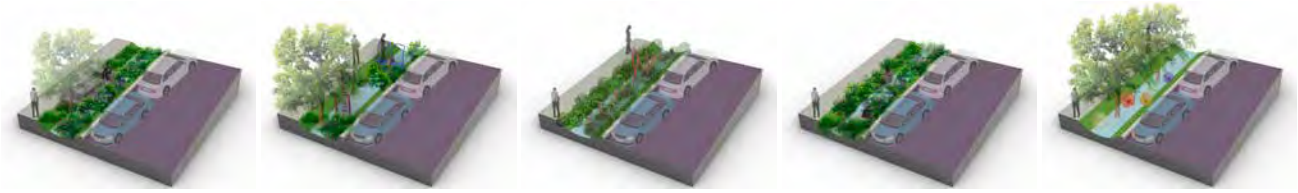
PLAN

Legend

- Non-module Area
- Module Area
- A. GatheringSpace
- B. Exercise Space
- C. Playing Space
- D. Meditation Unit
- E. Exhibition Unit

MODULE AREA

NORMAL DAYS



PARK(ING) DAYS

A
Gathering Space
platform & seating

B
Exercise Space
workout equipment

C
Playing Space
kids' recreation

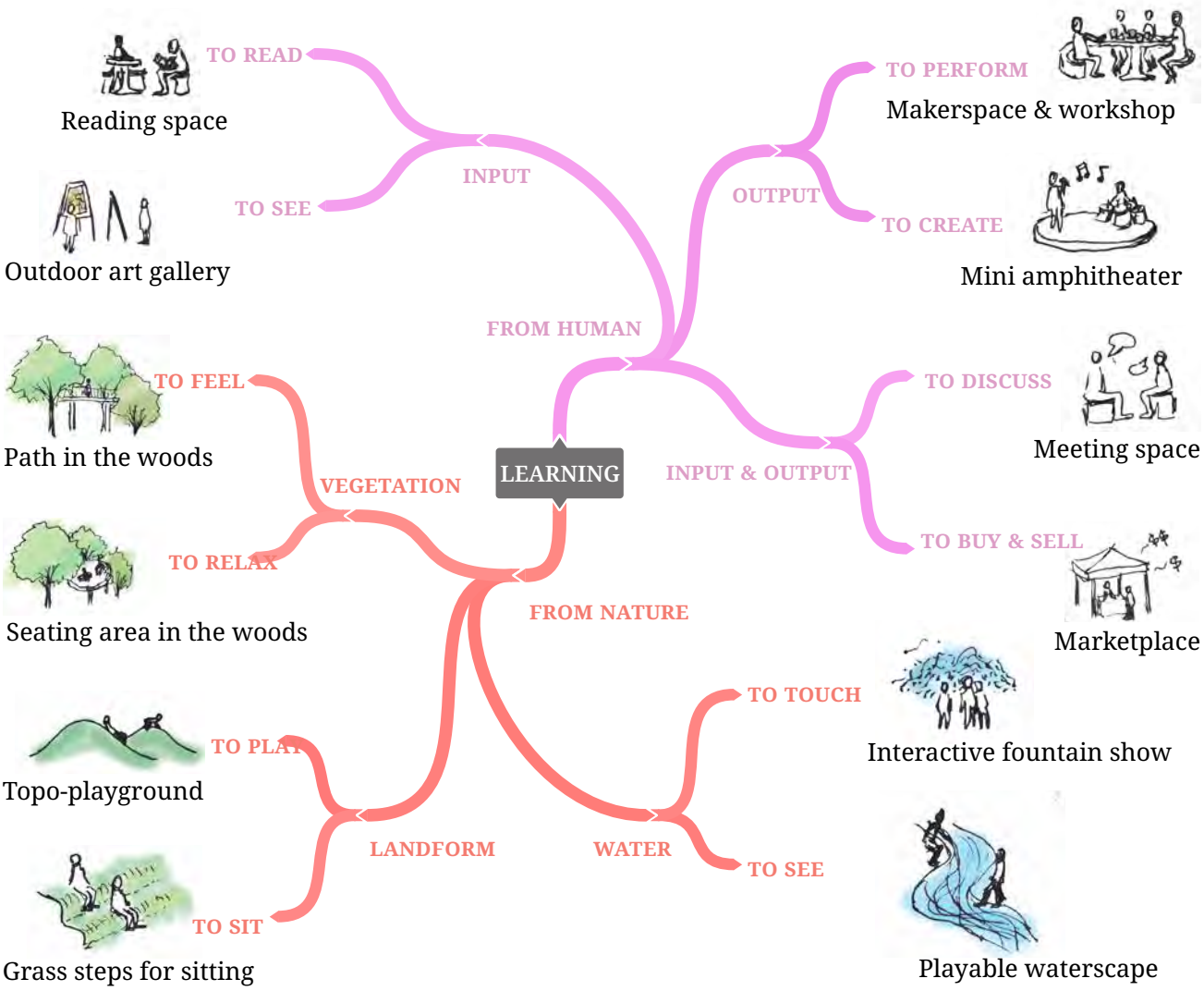
D
Meaditation Unit
individual seating

E
Exhibition Unit
art installlations

A + E
Street Width: 30 ft

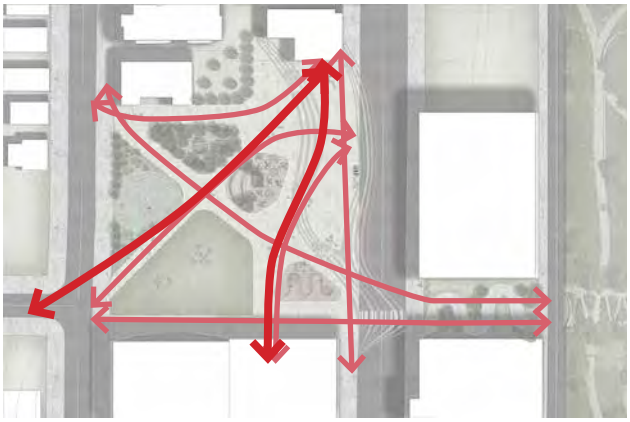
C + B
Street Width: 24 ft

NON-MODULE AREA: LEARNING HUB

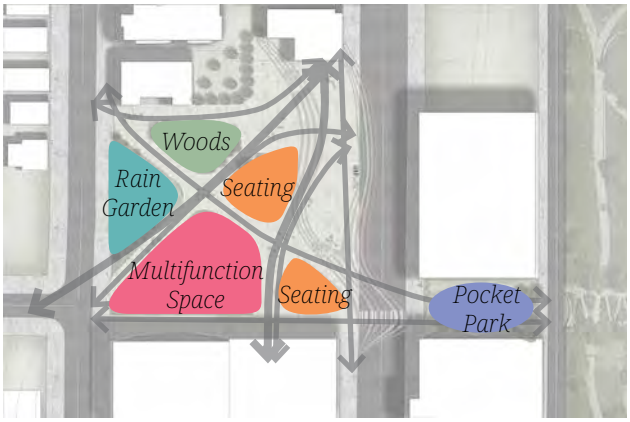


DESIGN CONCEPT

CIRCULATION

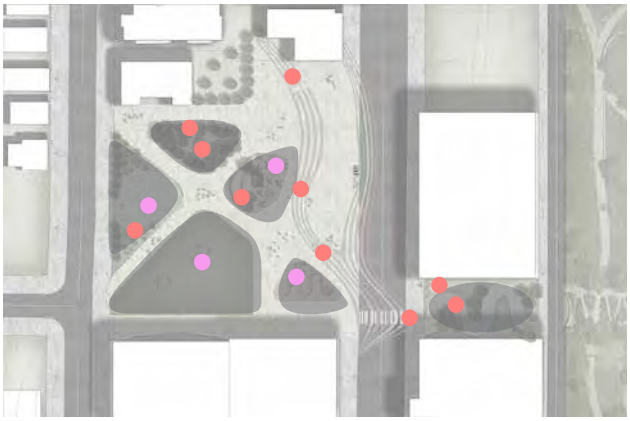


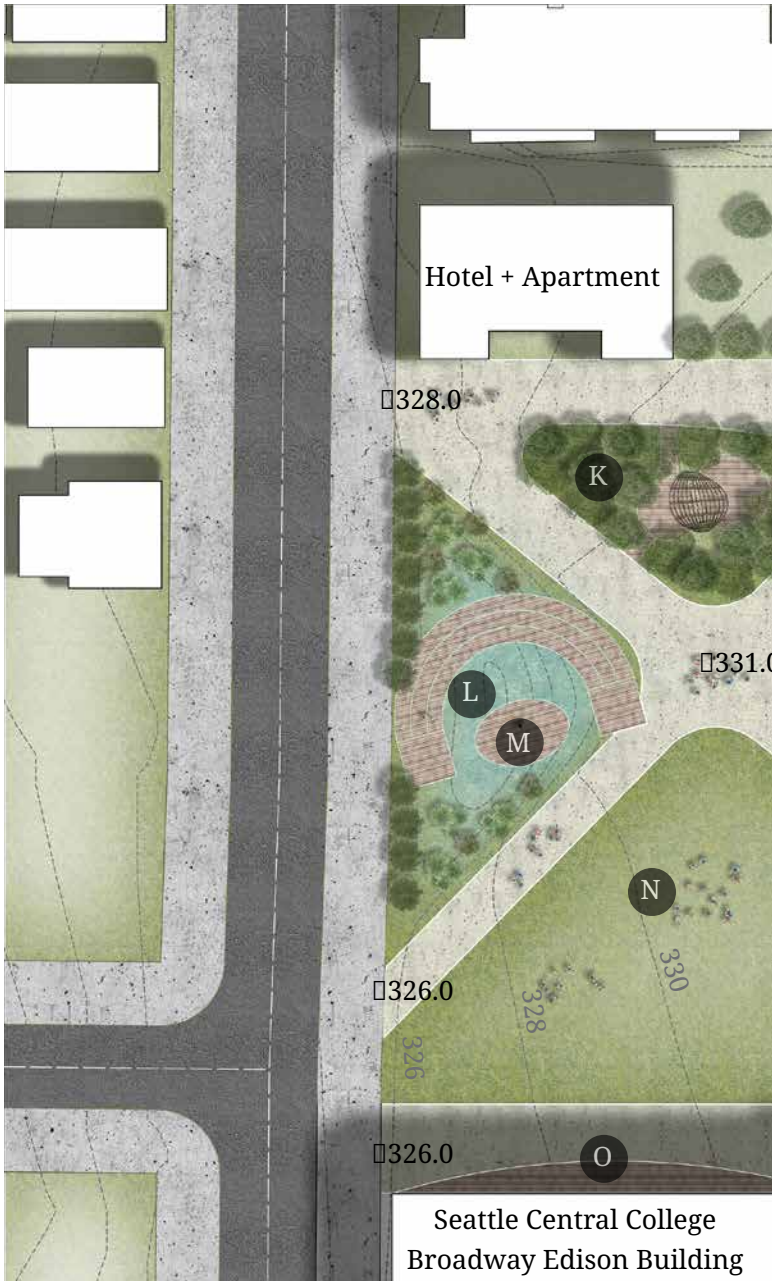
ZONING



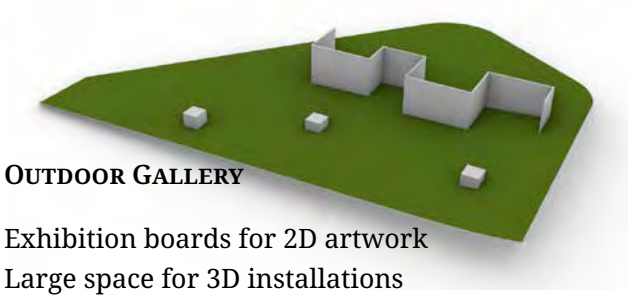
ACTIVITIES

- Learning from nature
- Learning from human



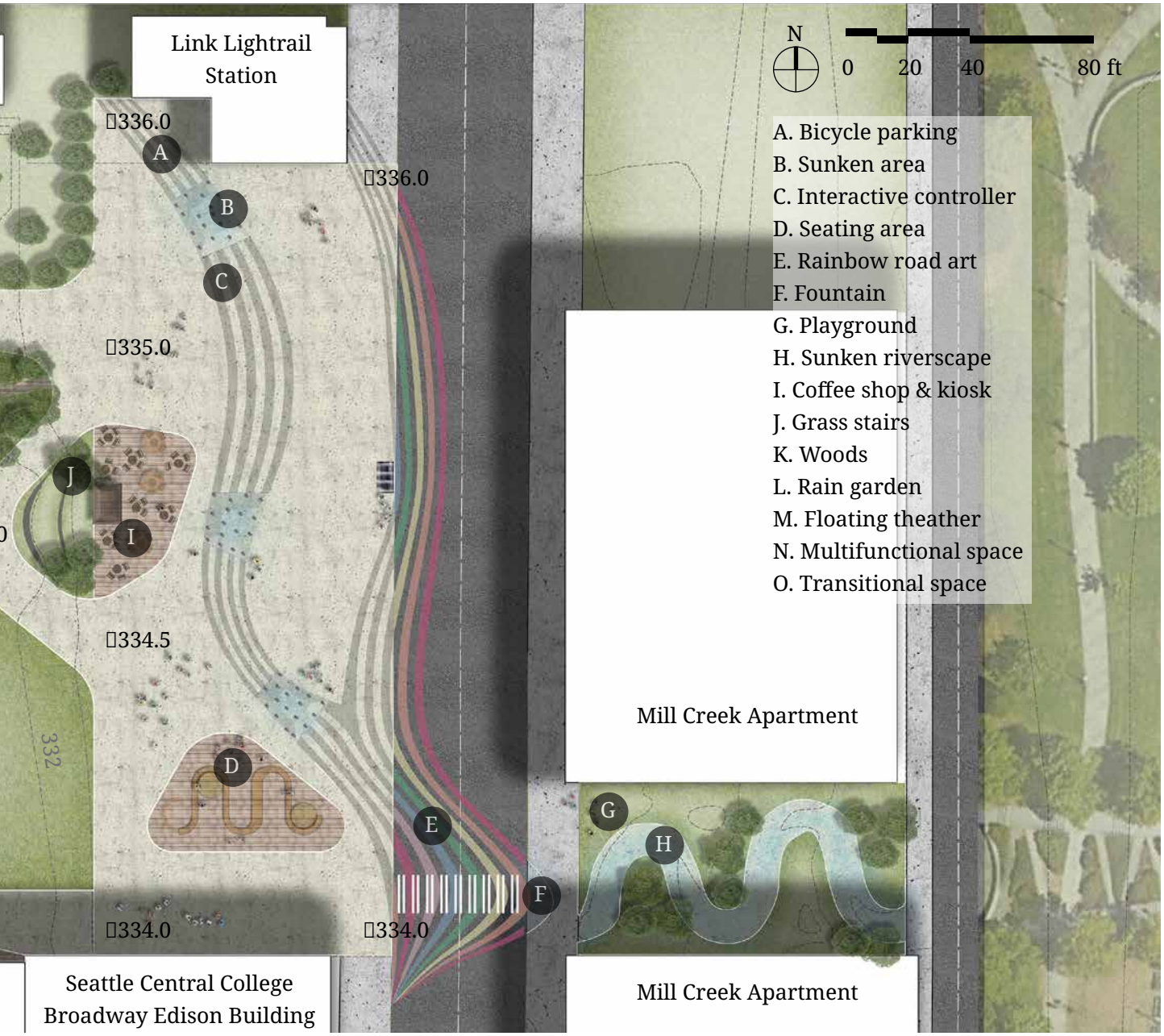


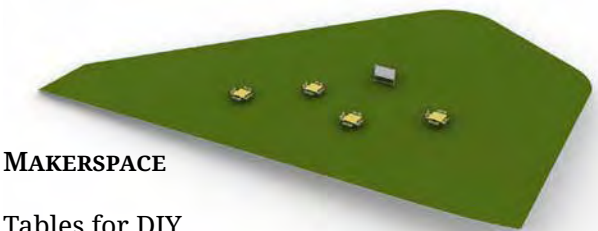
MULTIFUNCTIONAL SPACE



OUTDOOR GALLERY

Exhibition boards for 2D artwork
Large space for 3D installations





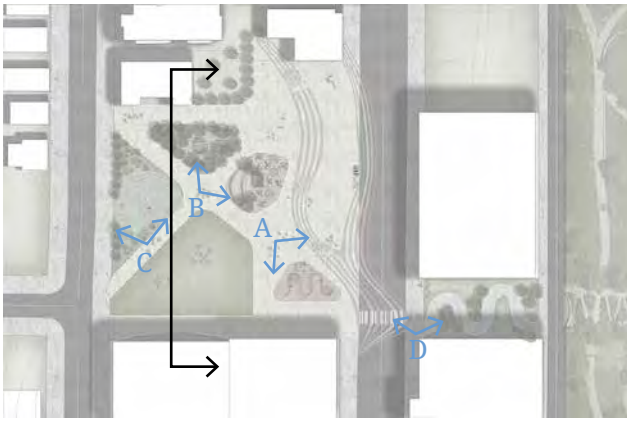
MAKERSPACE

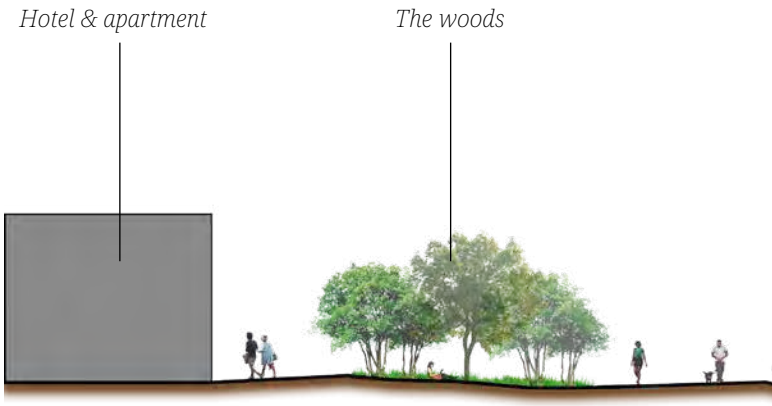
Tables for DIY
Whiteboard for instructions

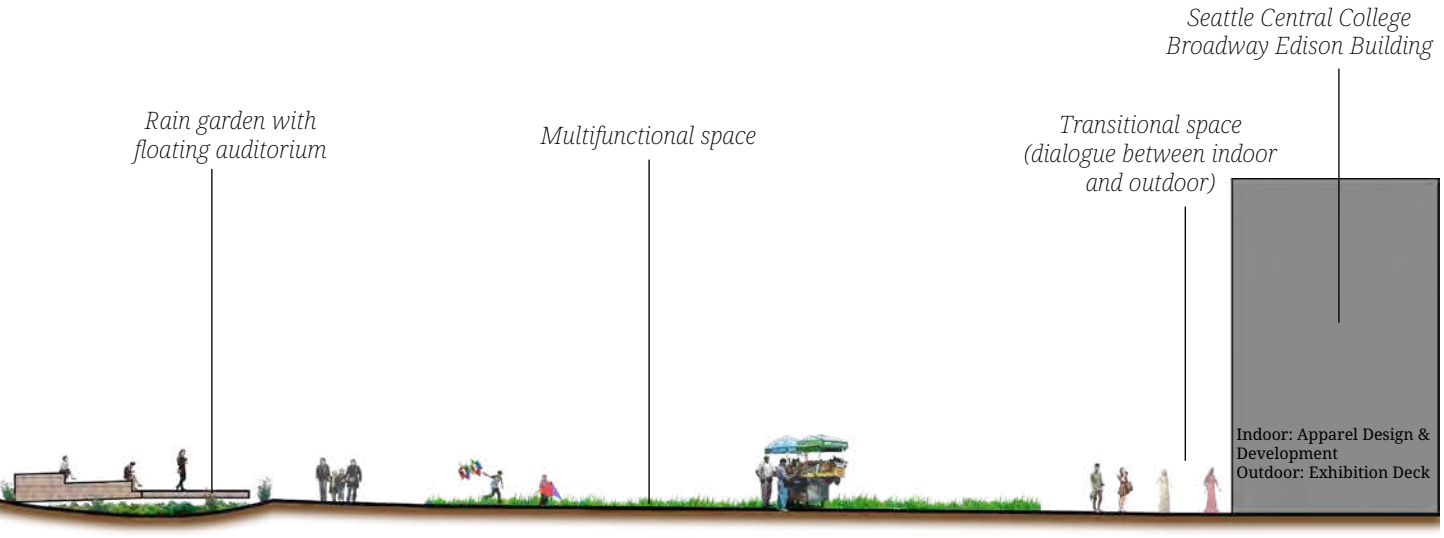
MARKETPLACE

Booths for buying and selling

INDEX FOR SECTION AND PERSPECTIVES






Seattle Central College
Broadway Edison Building
Rain garden with
floating auditorium
Multifunctional space
Transitional space
(dialogue between indoor
and outdoor)
Indoor: Apparel Design &
Development
Outdoor: Exhibition Deck


Rain garden
C
"Floating" stage
"Floating" auditorium


Rainbow road art
Mini fountain
D
Playground
Sunken riverscape

ECO-STREET HARMONY

MENGTING YE

East Pine Street is one of the most active commercial street in the Pike/Pine Conservation District. The goal of this area is to maintain the uniqueness of this district by encouraging creative ways to preserve existing buildings, supporting small businesses, and preserving neighborhood character. Additinally, reducing stormwater runoff, improving infiltration, and creating on-site water treatment is critically urgent.

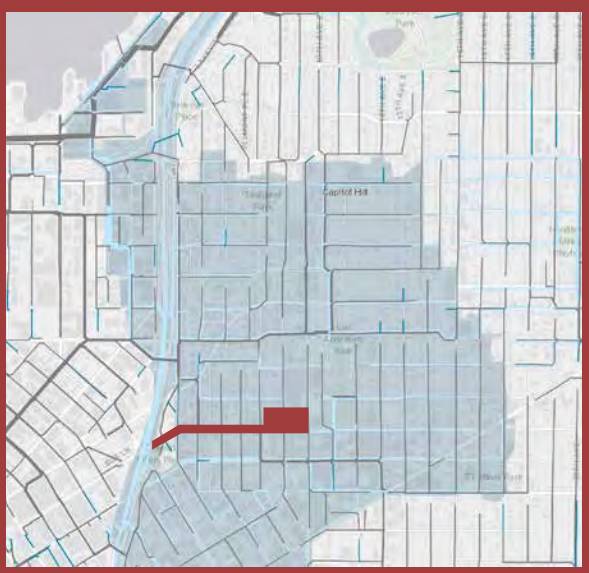
- Stormwater infrastructure / Infiltration & On-site treatment
- Response to climate change / 4 overflow pipes & detention area
- Water visualization & interaction / Public education

STORMWATER

System: Combined

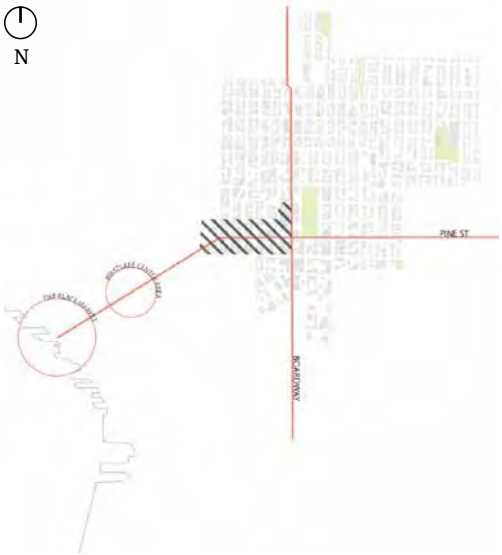
Strategy: Bioretention, Tree Box Filter, Detention

Capacity: 2 million gallons/year



MAPPING THE EXPERIENCE / RESEARCH

CONNECTING URBAN AND WATERFRONT



COMMERCIAL SPACE

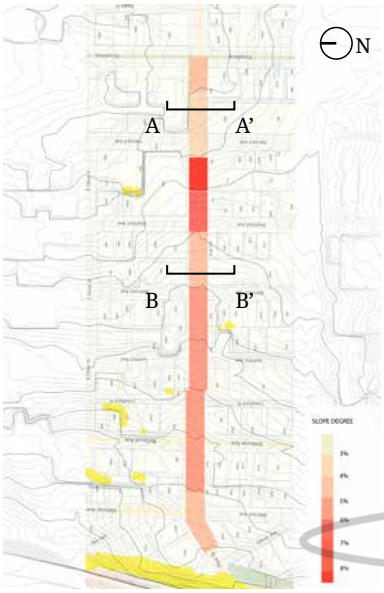
NARROW & UNCOMFORTABLE SIDEWALK

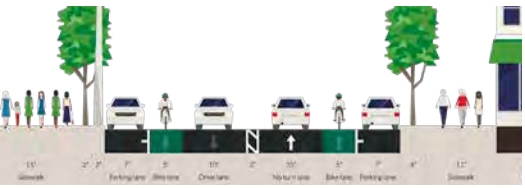
A A’

B

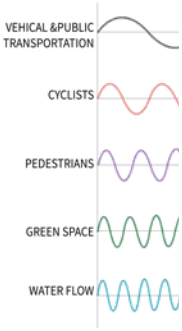
HISTORY, NOW & FUTURE IN HARMONY / CONCEPT

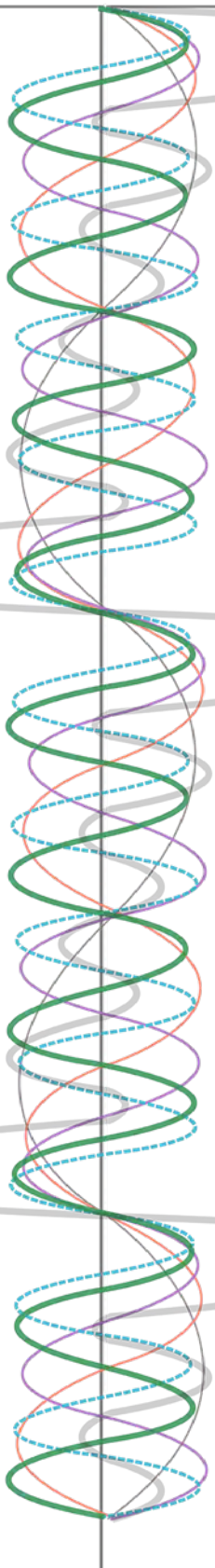
STEEP SLOPE





B'



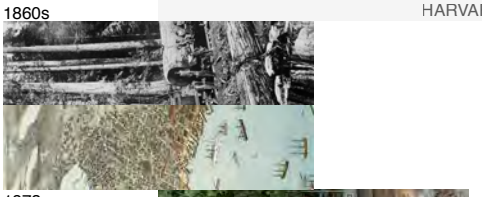


BEFORE 1860s

N

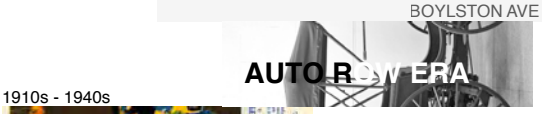
HARVARD AVE

1860s

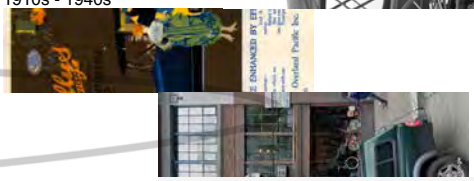


1872

BOYLSTON AVE



1910s - 1940s



BELMONT AVE

SUMMIT AVE

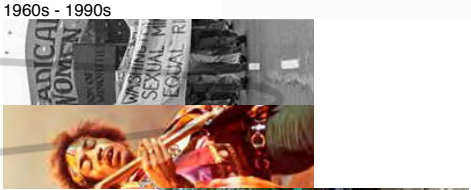
FURNITURE & DECORATOR'S ROW

1940s - 1950s

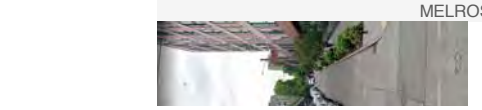
BELLEVUE AVE

ECLECTIC ROW

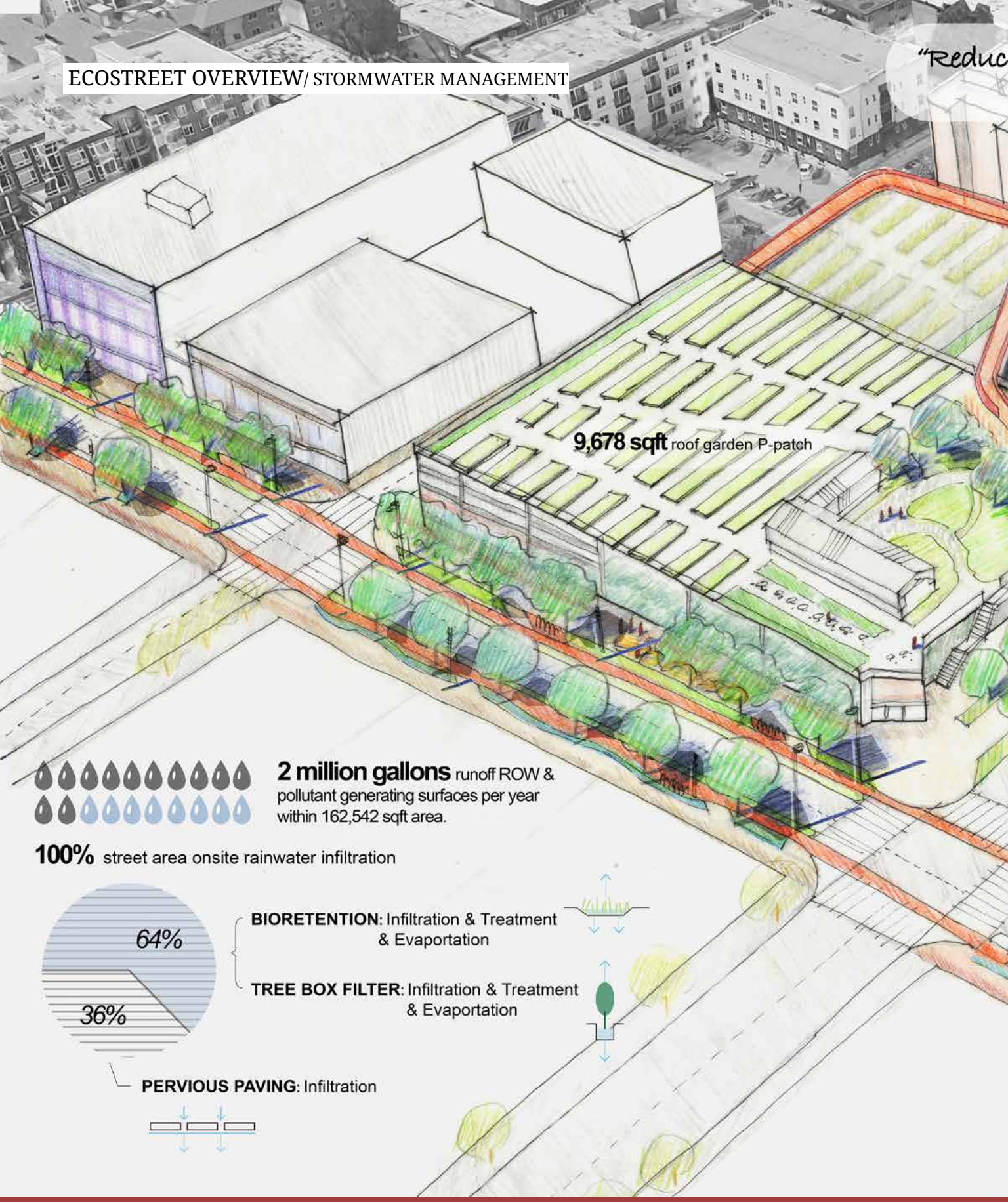
1960s - 1990s



MELROSE AVE



ECOSTREET OVERVIEW/ STORMWATER MANAGEMENT

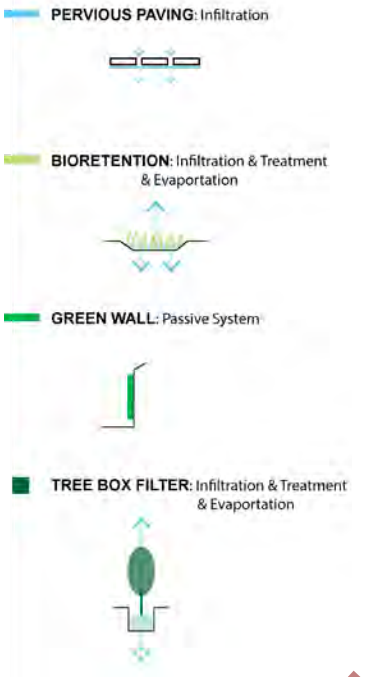


ing rainwater runoff has helped reduce our negative impact on Puget Sound."

- "Postcard from the Future", Capitol Hill's EcoDistrict.

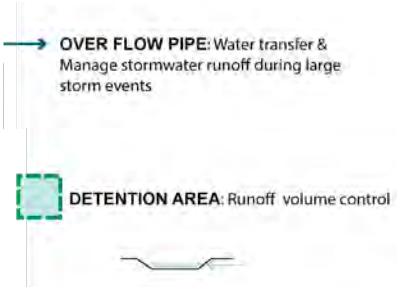
NOW & 1-2 YEAR RAIN EVENT

- 37” average annual rainfall
- 550 million gallons of rainfall within the neighborhood annually
- 340 million gallons runoff ROW & pollutant generating surfaces
- 170 million gallons of rainfall from buildings
- 40 million gallons rainfall on pervious areas

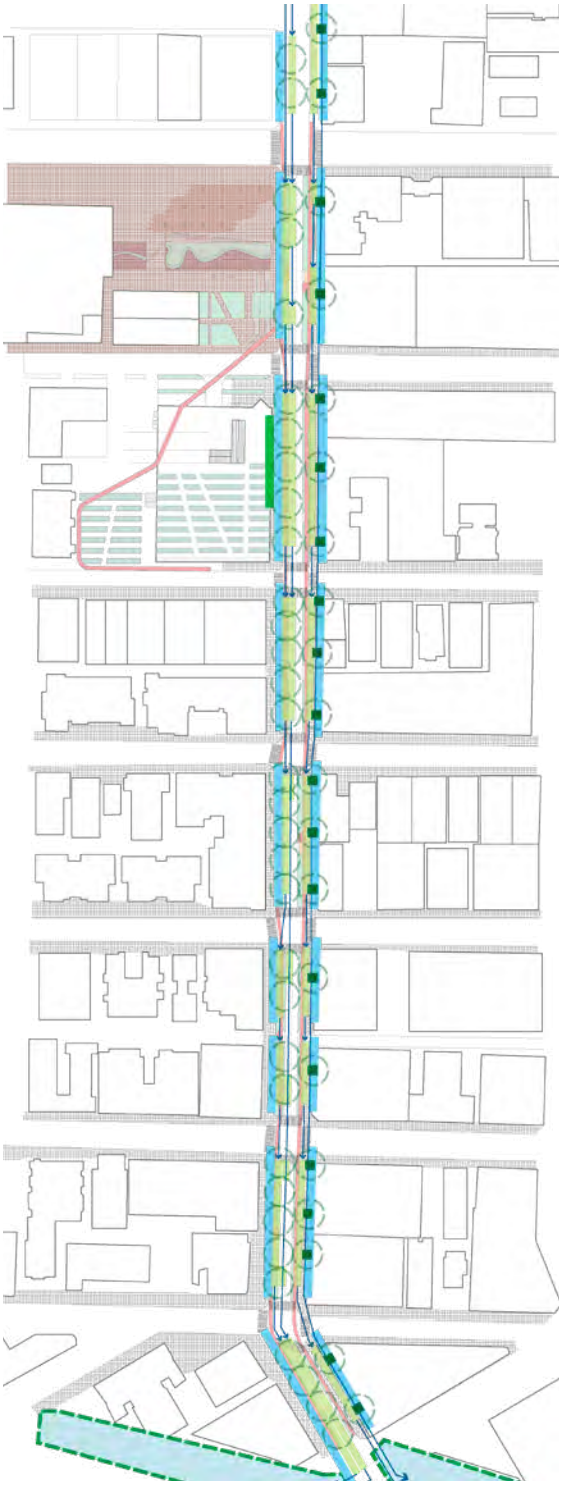


FUTURE & EXTREME RAIN EVENT

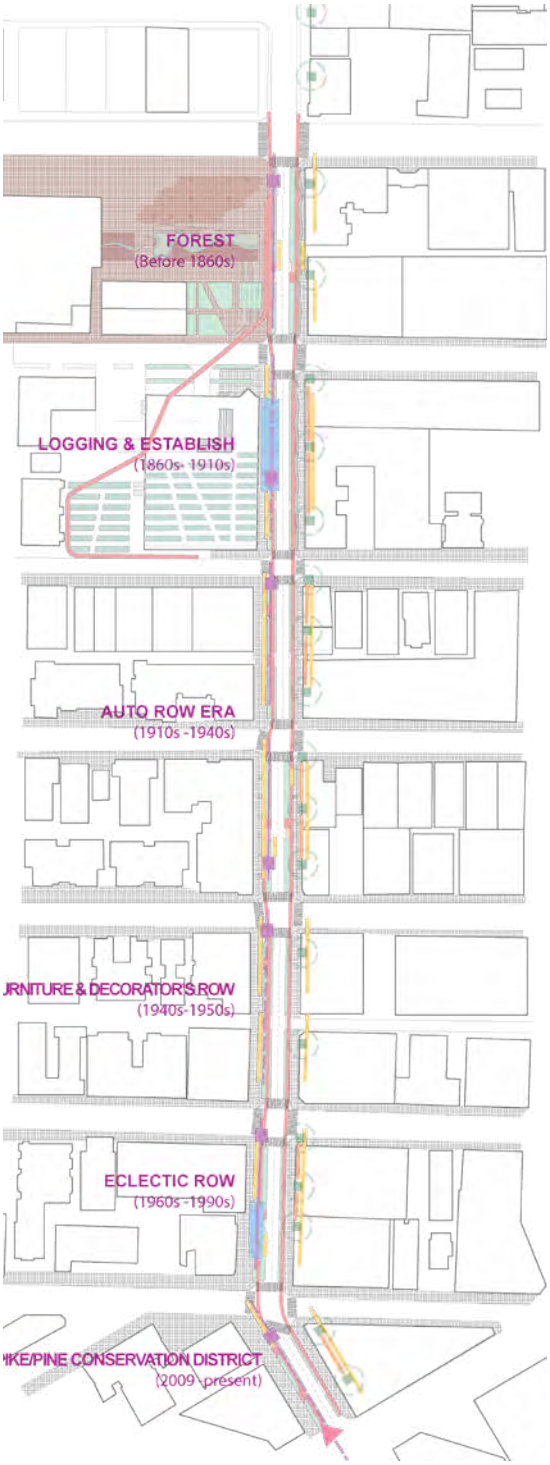
- Wetter winters, drier summers
- More extreme precipitation events
- Declining snowpack



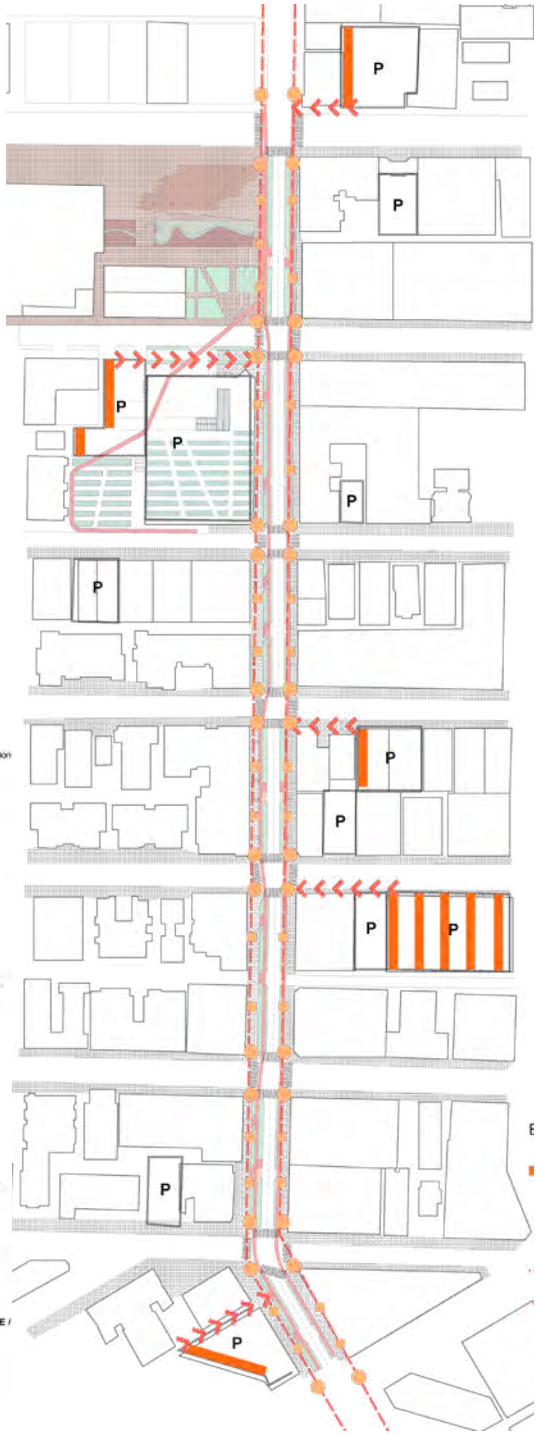
WATER SYSTEM



HUMAN SYSTEM

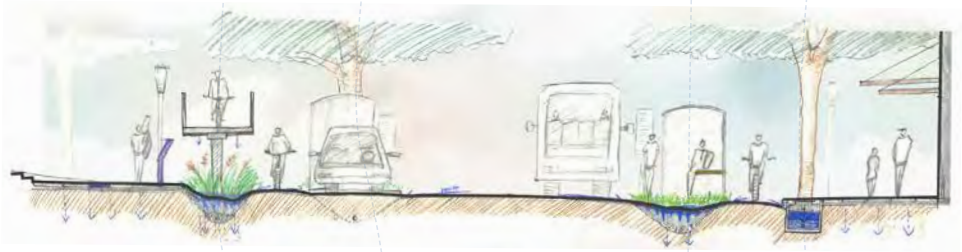


SOLAR ENERGY SYSTEM



CALOCEDRUS DECURRENS

BEFORE 1860s

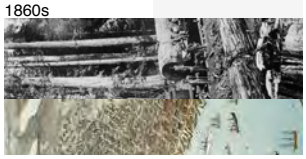


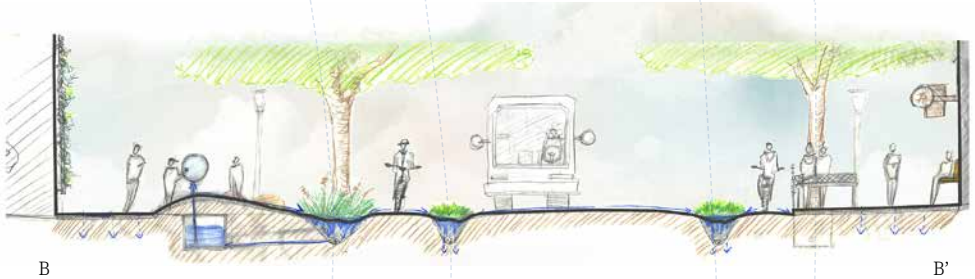
A A'

7'	6'	5'	8'	20'	8'	5'	4'	10'
PERVIOUS PAVING	BIORETENTION	BIKE LANE	BIORETENTION & BUS STOP	CAR LANE	BIORETENTION & BUS STOP	BIKE LANE		PERVIOUS PAVING

ZELKOVA SERRATE

1860s



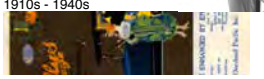


B B'

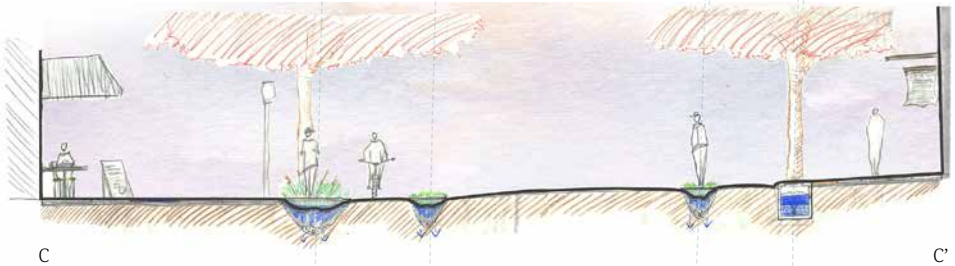
7'	10'	6'	5'	3'	20'	3'	5'	4'	10'
PERVIOUS PAVING	STORMWATER INTERACTIVE INSTALLATION	BIORETENTION & BIKE FLYWAY	BIKE LANE	BIORETENTION	CAR LANE	BIORETENTION	BIKE LANE	TREEBOX FILTER	PERVIOUS PAVING

AUTO ROW ERA

1910s - 1940s



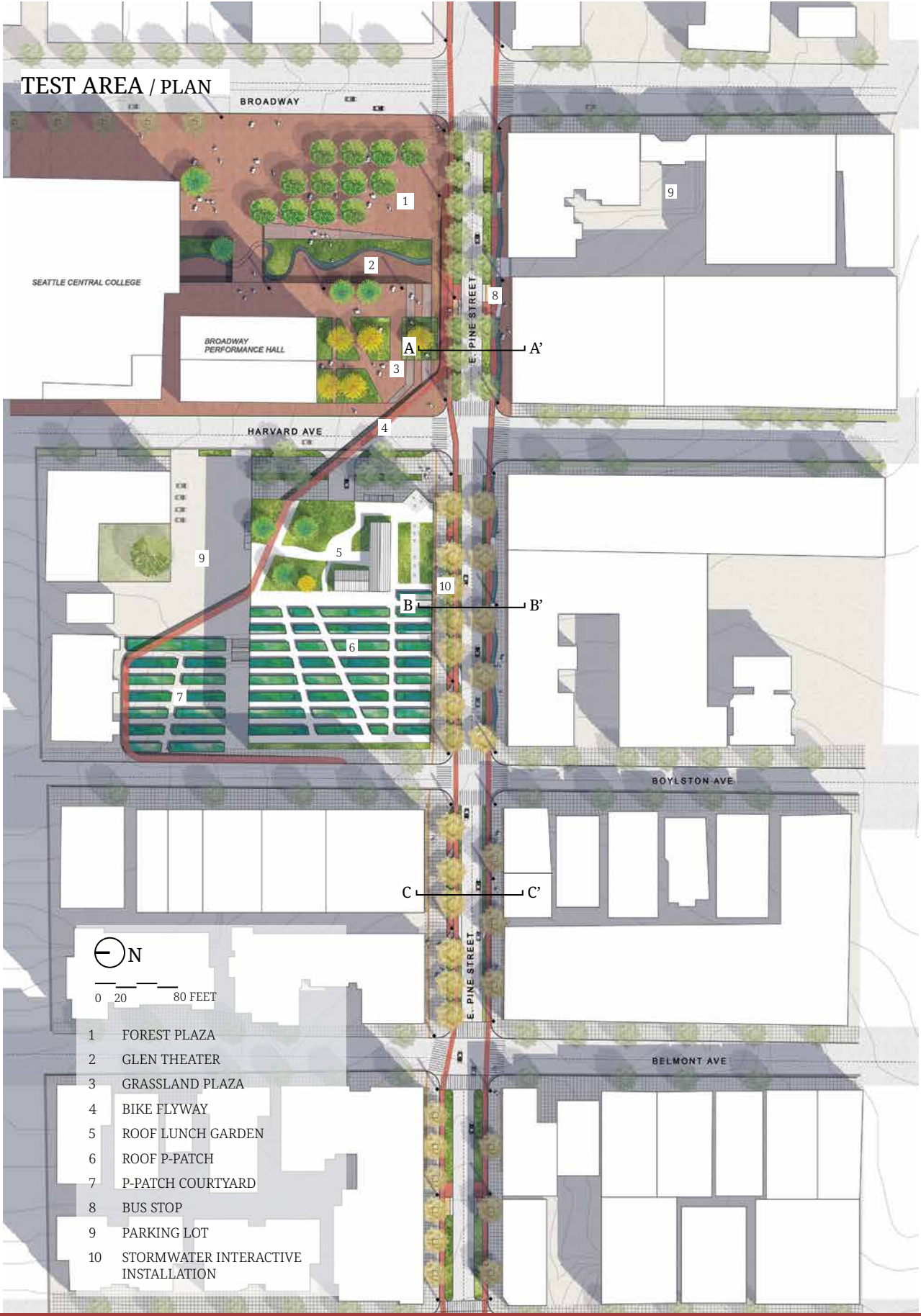
PISTACIA CHINENSIS



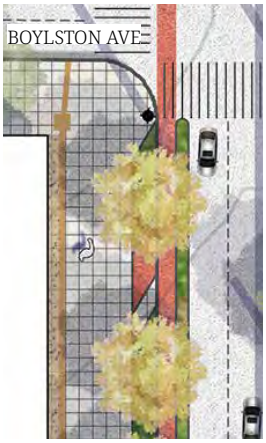
C C'

18'	6'	5'	3'	20'	3'	5'	4'	10'
PERVIOUS PAVING	BIORETENTION	BIKE LANE	BIORETENTION	CAR LANE	BIORETENTION	BIKE LANE	TREE BOX FILTER	PERVIOUS PAVING

TEST AREA / PLAN



ECOSTREET SCENARIO / STREET DESIGN



PUBLIC EDUCATION BOARD

STREET FURNITURE

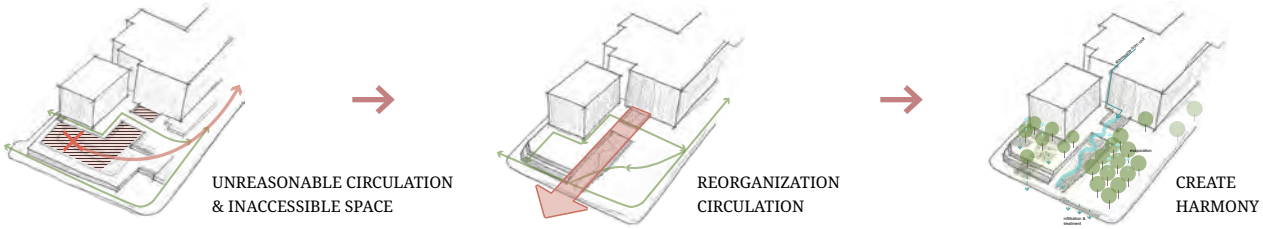
BIKE FRIENDLY STREET

INFILTRATION & TREATMENT

INFILTRATION & TREATMENT

INFILTRATION & TREATMENT

SEATTLE CENTRAL COLLEGE PLAZA / SPATIAL DESIGN



PLAN VIEW ON SUNDAY WITH FARMER'S MARKET

INSIDE OUT

Sarah Bartosh

REVITALIZING THE PUBLIC REALM OF SEATTLE CENTRAL COLLEGE

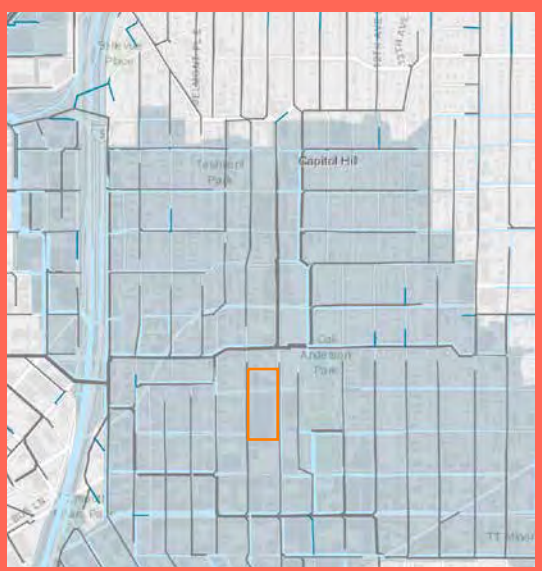
Hidden inside the external walls of Seattle Central College is a thriving arts and culture scene. Due to unwelcoming architecture and outdated landscapes, those traversing Broadway would never know it. This project reveals the richness of Seattle Central College to the public realm of Capitol Hill. An integrated system of green and blue infrastructure creates a new thriving public life and accomplishes the current ecological goals of Capitol Hill.

STORMWATER

System: Partially Separated

Strategy: Biorentention Cells, Cistern, Green Roofs

Capacity: 40,000 gallons in cistern



NEW ARTS BUILDING
SEATTLE CENTRAL COLLEGE

CAPITOL HILL LIGHT RAIL STATION

0 30 60'

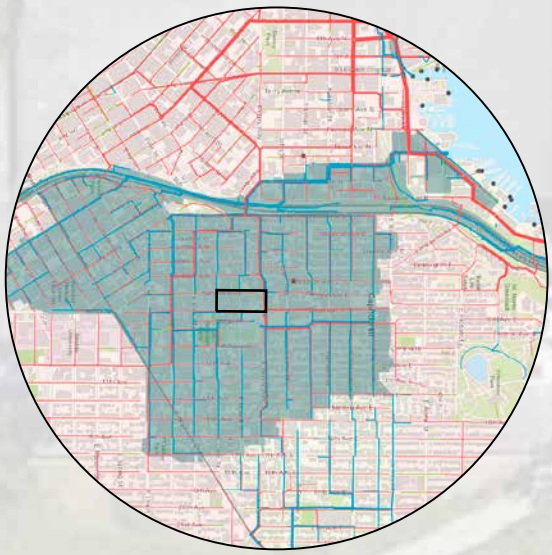
CONNECTING TO CAPITOL HILL ART WALK

Current exhibit spaces

Added exhibit spaces

CONNECTING TO WATERSHEDS

Swale on Yale basin



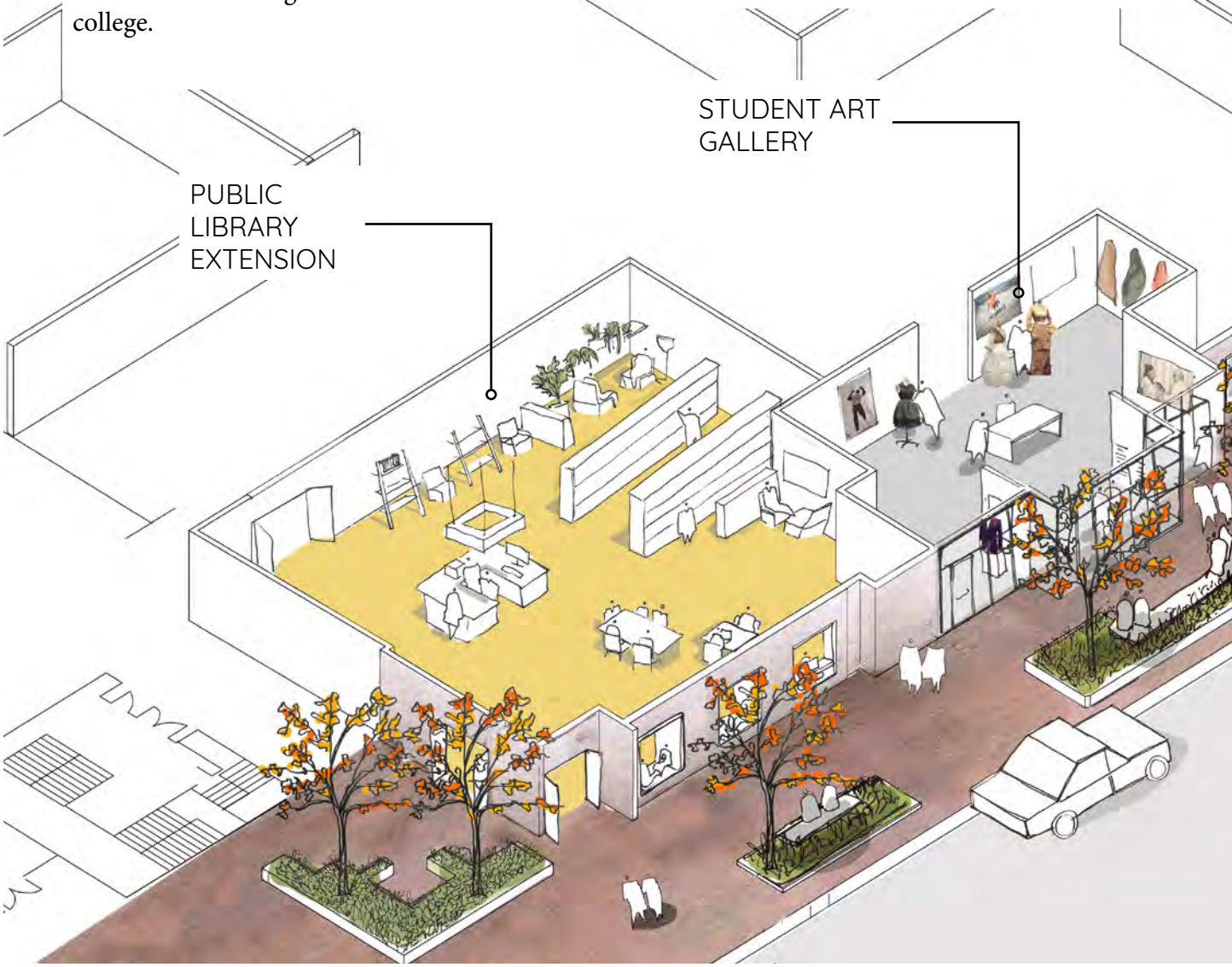
N

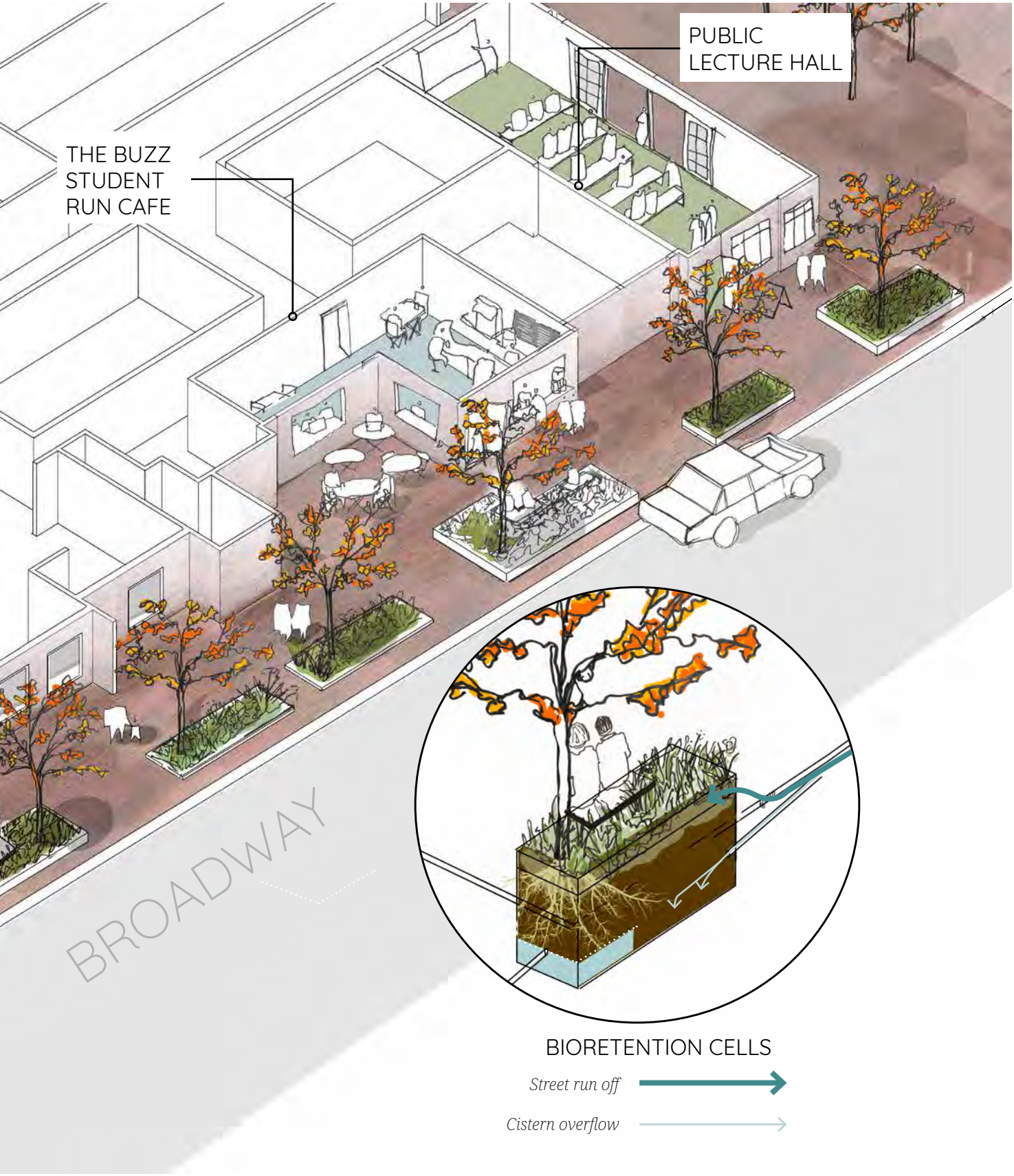
REFACING THE BROADWAY EDISON BUILDING

The eastern face of the Broadway Edison Building intersects with one of Capitol Hill's most frequently traveled streets, Broadway. The inward facing architectural style of the building creates an unwelcoming and cold experience for pedestrians. The reprogramming of the first floor turns the functions of this building inside out. This new experience creates an invitation for engagement between the residents of Capitol Hill and the thriving arts and culture of the college.

A VISION FOR A NEW ARTS AND CULTURE PLAZA

Currently the site of demolished temporary buildings, a new arts and culture building and adjacent plaza will breathe new life into the public realm and act as a new entrance for the college. Scaffolding inspired by ancient cisterns throughout the plaza acts as a learning opportunity for the public to understand the infrastructure below their feet. This scaffolding also provides an opportunity for outdoor art installations and markets.

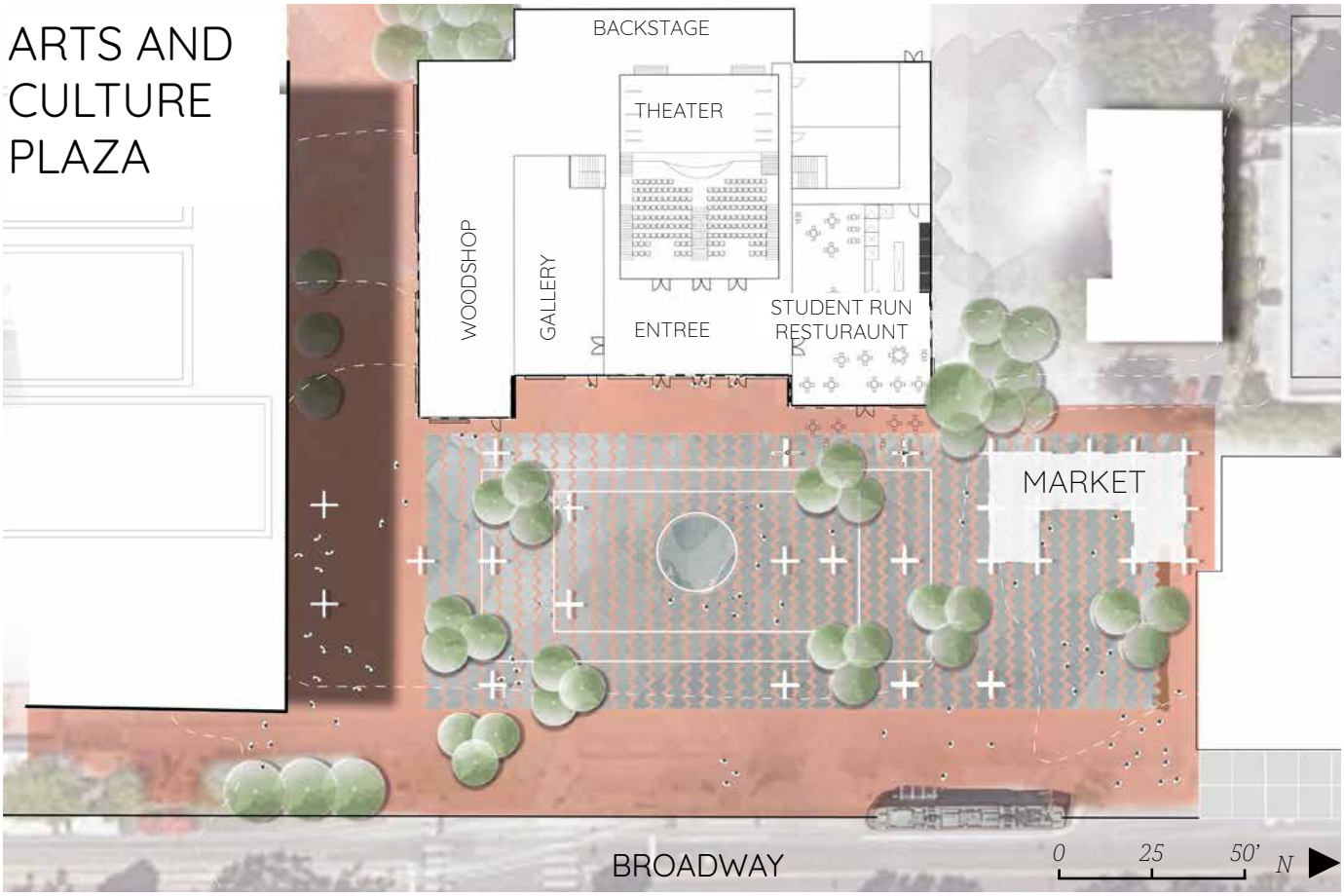




BIORETENTION CELLS

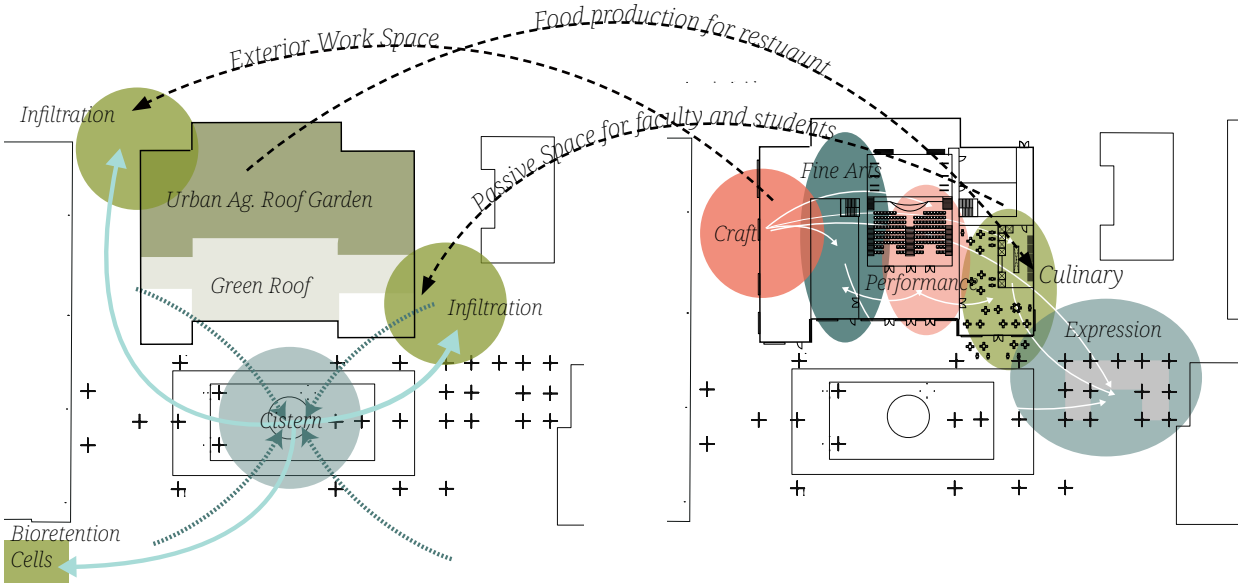
Street run off

Cistern overflow



New Arts Plaza Plan

Underground Cistern Section (nts)



WOOD TECHNOLOGY

DESIGN

PERFORMING ARTS

CULINARY ARTS

PHOTOS BY SEATTLE CENTRAL COLLEGE

Facing West in Art Plaza

CAPITOL HILL PLANT & PLAY

Asya Snejnevski

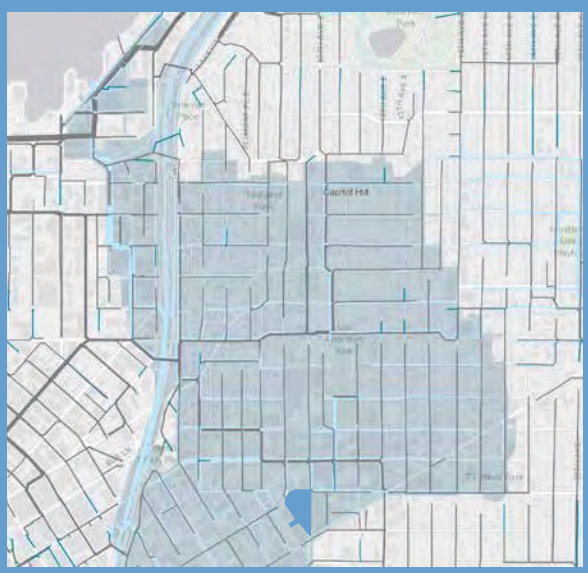
Imagine a whimsical experience where the flowers are taller than you are and you can swing on a blade of grass. By closing off parts of Harvard Avenue and Spring Street, this triangle can bloom into an activity hub featuring play spaces for all ages, a stage, a community garden that would benefit the residents of the neighborhood, and water collection systems that function in various ways to slow down and reuse water on site.

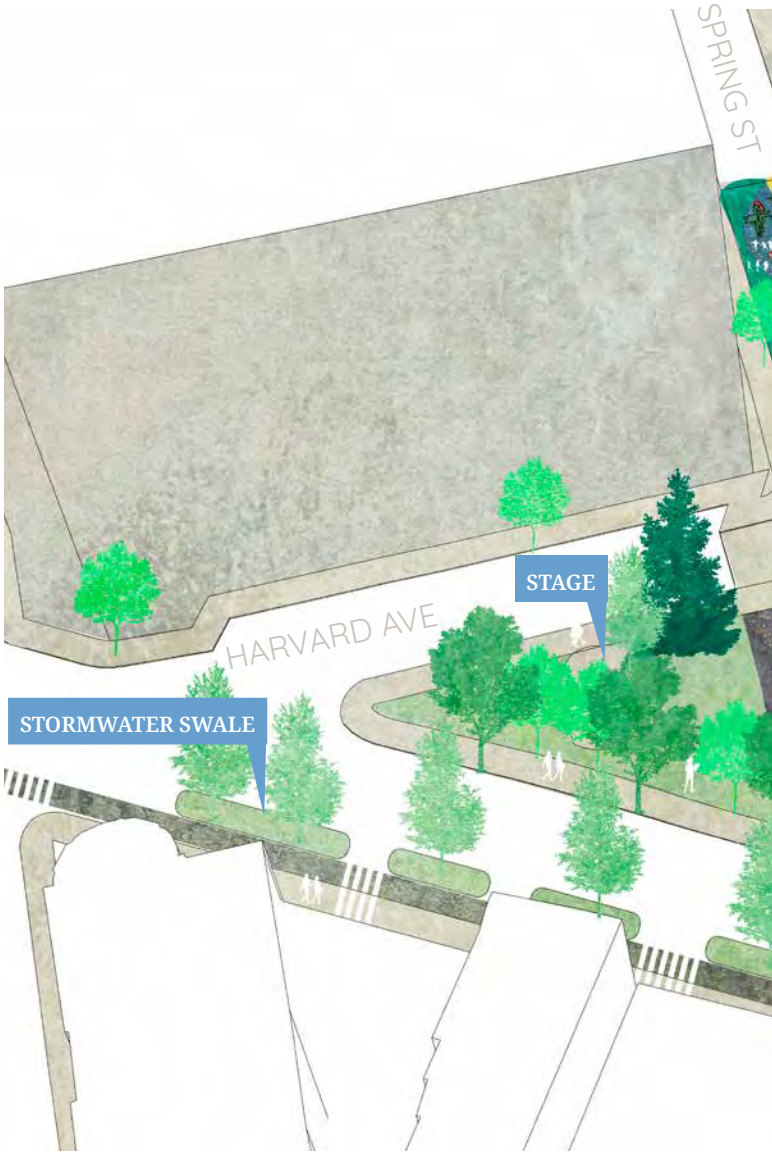
STORMWATER

System: Partially Separated

Strategy: Swale, Retention, Cistern

Capacity: ~750,000+ gallons





Proposed site views

Current site conditions


SENECA ST
PLAYGROUND
P-PATCH
CHURCH PLAZA
TRIANGLE PARK
RETENTION POND
E UNION ST
BROADWAY

SITE ANALYSIS

The Polyclinic's
10 minute walkshed

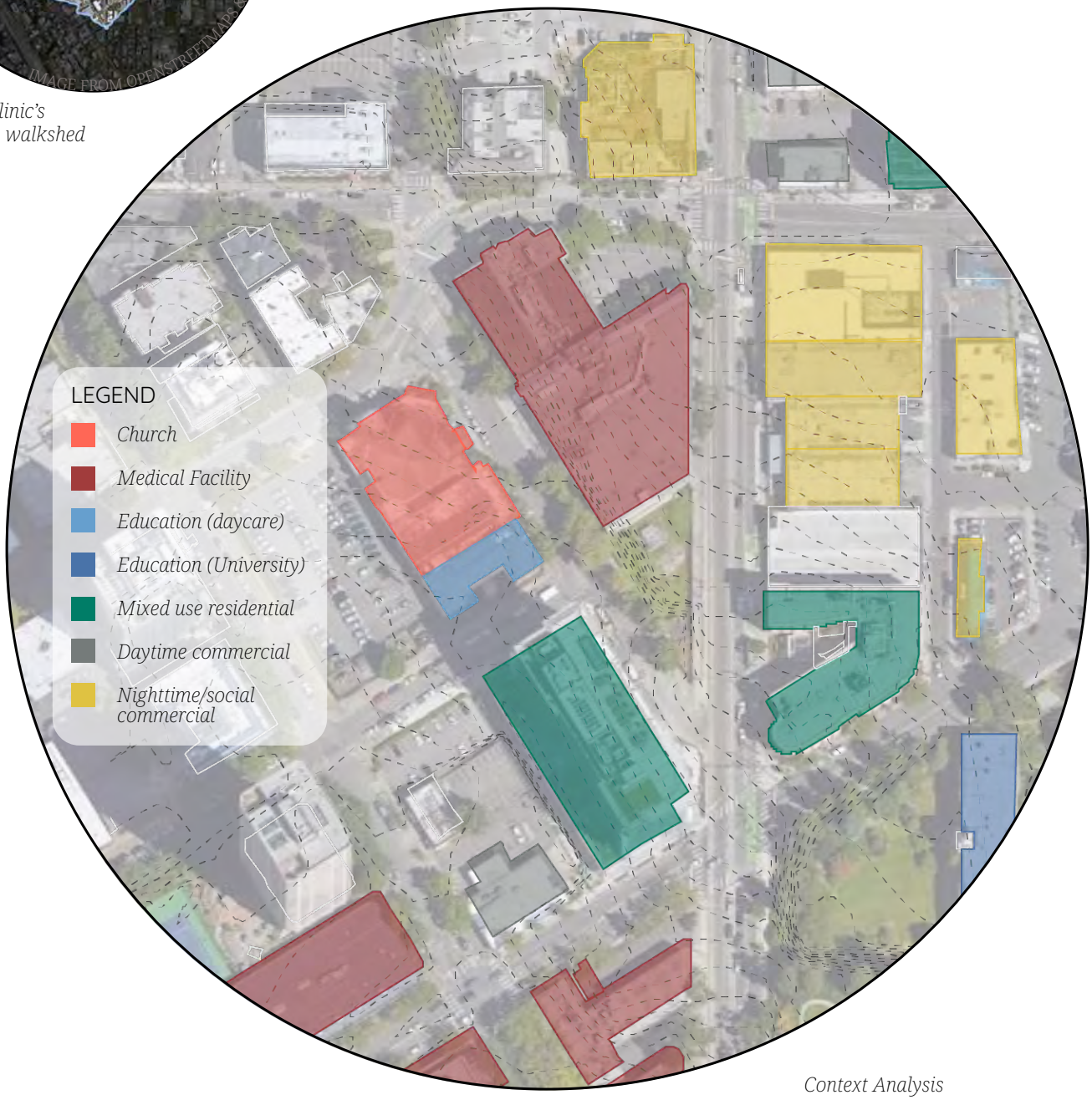
19% OF CAPITOL HILL'S POPULATION IS UNDER THE AGE OF 19

1 PUBLIC PLAYGROUND IN WALKSHED

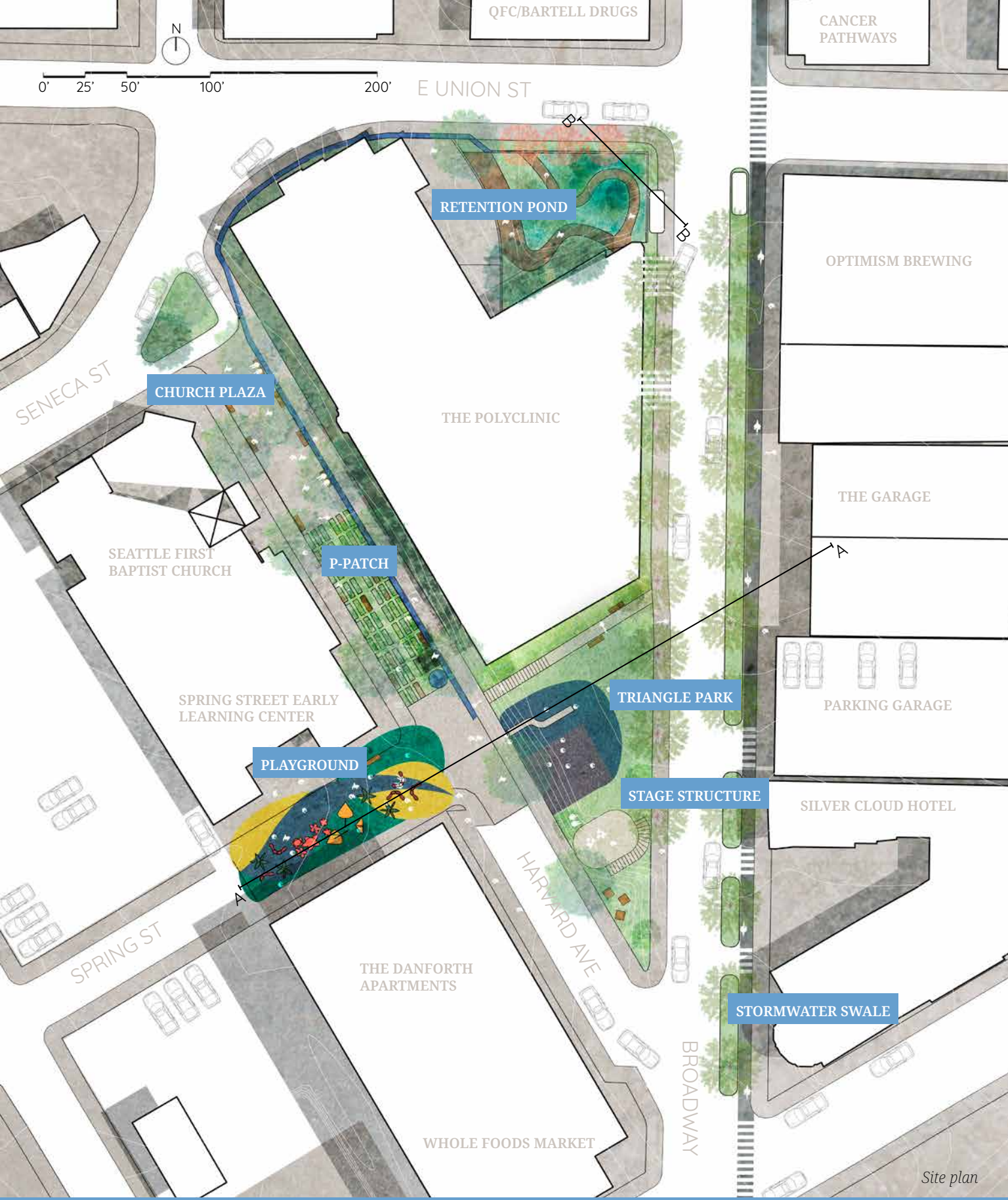
4 DAYCARE CENTERS IN WALKSHED

4 SCHOOLS IN WALKSHED

0 P-PATCHES IN WALKSHED



Context Analysis

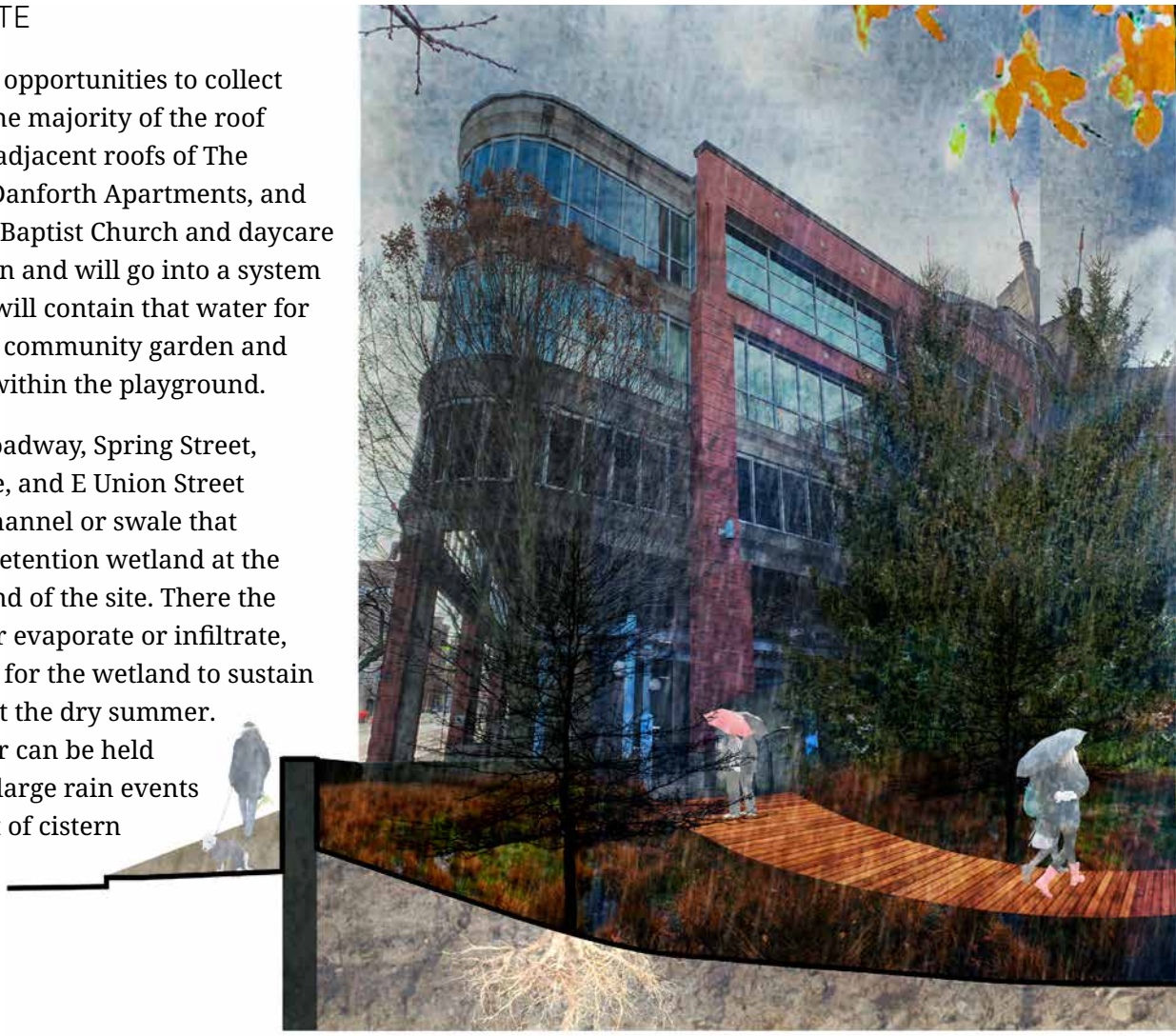

N
0’ 25’ 50’ 100’ 200’
QFC/BARTELL DRUGS
CANCER PATHWAYS
E UNION ST
B
B
RETENTION POND
OPTIMISM BREWING
SENECA ST
CHURCH PLAZA
THE POLYCLINIC
THE GARAGE
SEATTLE FIRST BAPTIST CHURCH
P-PATCH
A
A
TRIANGLE PARK
PARKING GARAGE
SPRING STREET EARLY LEARNING CENTER
PLAYGROUND
STAGE STRUCTURE
SILVER CLOUD HOTEL
HARVARD AVE
SPRING ST
THE DANFORTH APARTMENTS
STORMWATER SWALE
BROADWAY
WHOLE FOODS MARKET

Site plan

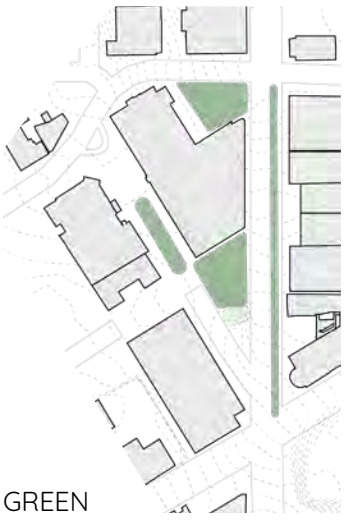
WATER ON SITE

There are many opportunities to collect water on-site. The majority of the roof water from the adjacent roofs of The Polyclinic, The Danforth Apartments, and the Seattle First Baptist Church and daycare buildings is clean and will go into a system of cisterns that will contain that water for irrigation of the community garden and water features within the playground.

Runoff from Broadway, Spring Street, Harvard Avenue, and E Union Street collects into a channel or swale that deposits in the retention wetland at the northwestern end of the site. There the water will either evaporate or infiltrate, ideally allowing for the wetland to sustain itself throughout the dry summer. Additional water can be held there in case of large rain events and in the event of cistern spillover.



WATER MOVEMENT THROUGHOUT THE SITE



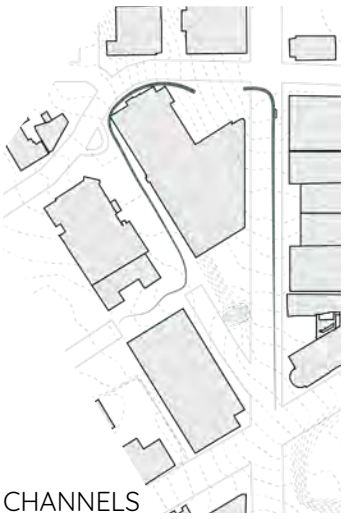
GREEN

ROOF

CISTERNS

SECTION BB

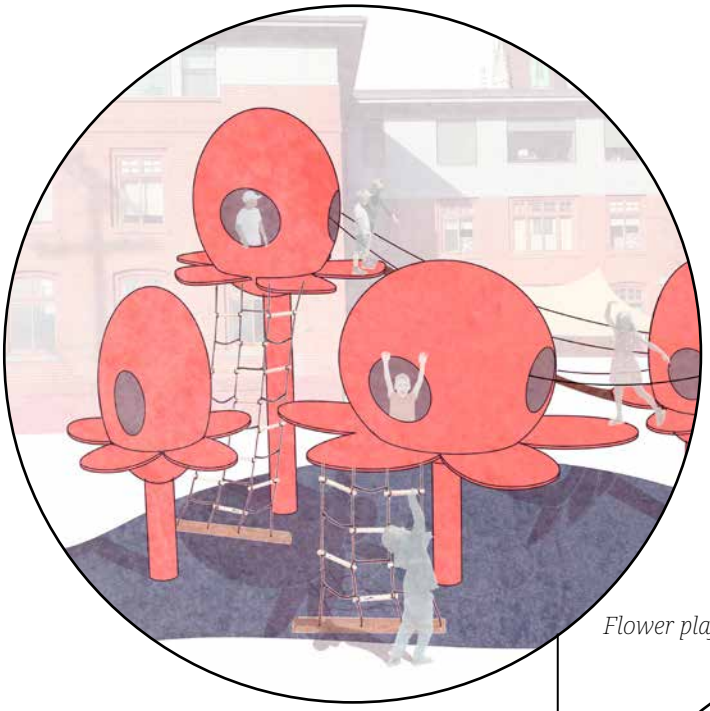
Temporal views of the native wetland stormwater retention pond plantings and boardwalk



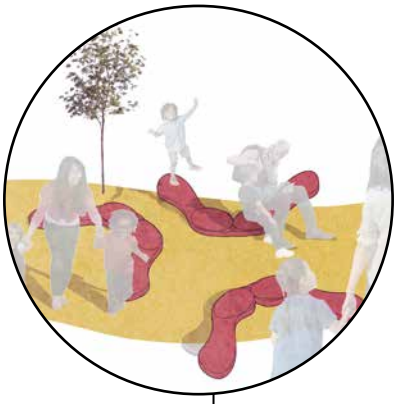
CHANNELS

RETENTION

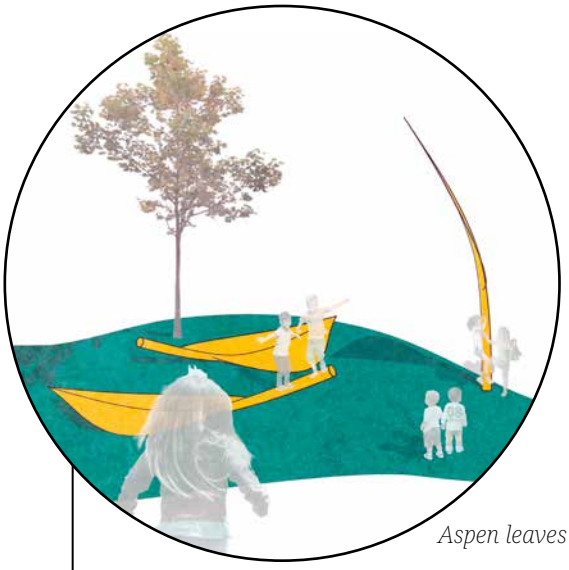
SYSTEMS



Flower play structure



Maple samara benches



Aspen leaves

YOU'RE NEVER TOO OLD TO PLAY-GROUND

The various play structures on site are fun for all ages. Inspired by the native flora of the Pacific Northwest, the structures play with scale as a way to explore plants. The playground would be used daily by the preschool adjacent to the site, and features activities for younger children as well as more advanced play for older children and adults further towards Broadway.

SECTION AA

Play throughout the site

Topography play

THE THRESHOLD

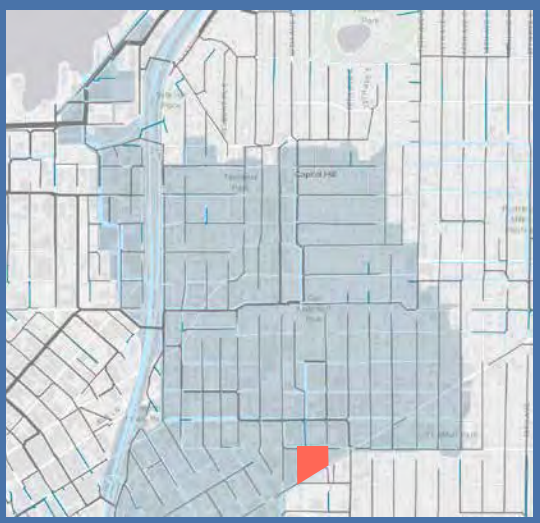
HEATHER PARKER

The Pike/Pine neighborhood and Seattle University both have thriving communities; however, though adjacent, these two neighborhoods are largely disconnected. This design explores what can happen at the "threshold" between these two neighborhoods. The Madison/Union Triangle is an exciting opportunity to bring the unique and dynamic characteristics of these neighborhoods together to create a vibrant, porous public space that will promote community resilience to climate change by addressing stormwater management needs.

STORMWATER

System: Partially Separated

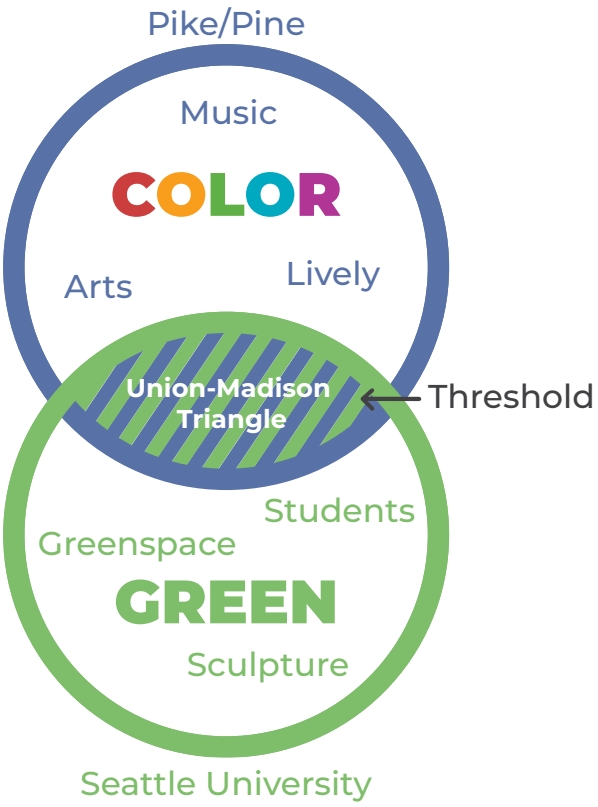
Strategy: Bioretention, Water Harvesting



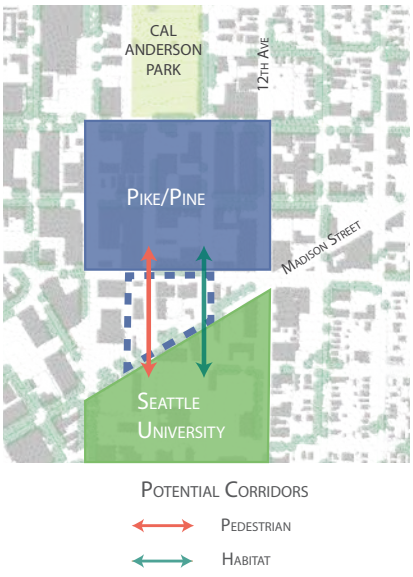
The plaza encourages play for all ages. In the summer months, a sculpture doubles as a splash pad that uses harvested rainwater. The restaurants and businesses adjacent to the space feature seating that spills out onto the plaza.

IMAGE BY HEATHER PARKER

CONCEPT



Pike/Pine and Seattle University both have distinct characteristics and significant presences in the neighborhood. This design uses play and green infrastructure to bring together the liveliness of Pike/Pine with the greenspace of Seattle University, while in the process creating stronger neighborhood connections.



DESIGN STRATEGY

WATER

BIORETENTION + SUBSURFACE WETLANDS

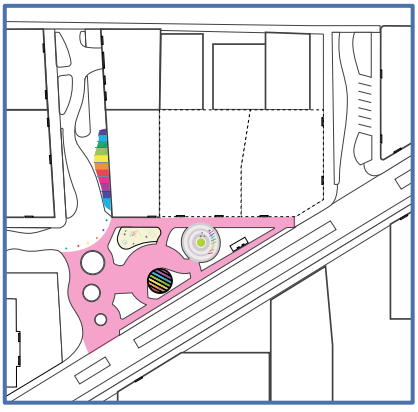
Stormwater is filtered, infiltrated, harvested, and reused on-site.

CONNECTIONS

PEDESTRIANS + BIKES + CARS

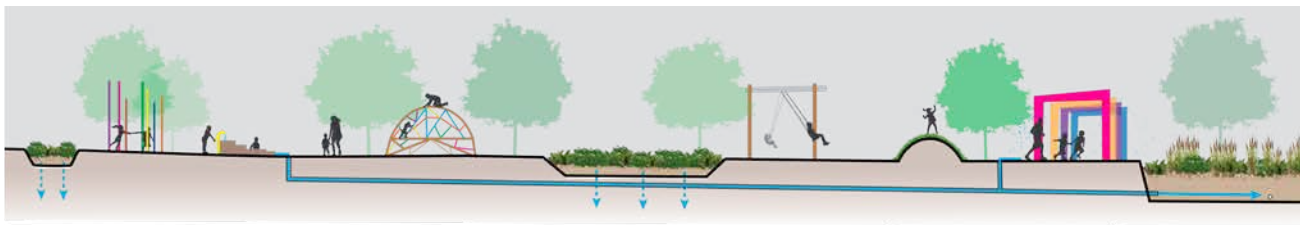
Streets are reimagined with less traffic and more greenspace to improve neighborhood connections.

PUBLIC LIFE



SPACES FOR PLAY

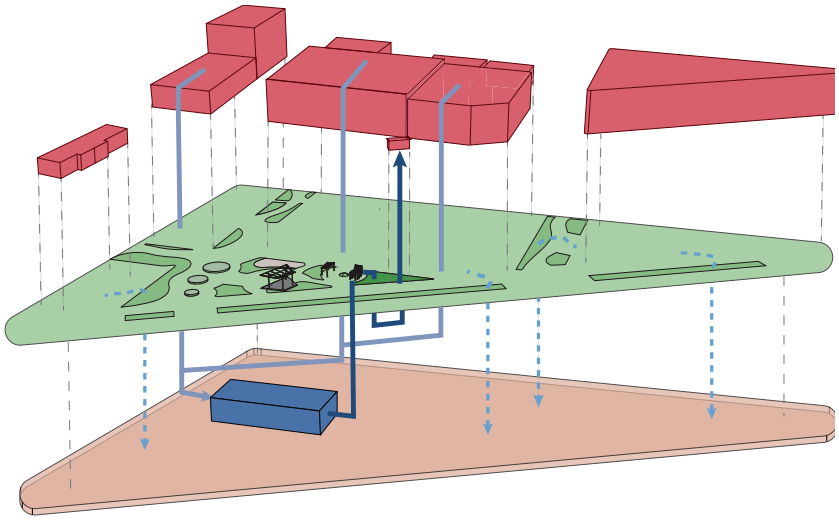
Different types of spaces cater to "play" in all of its forms, creating an active plaza.



Section A: Play Areas and Stormwater Processes

SCALE: 1"=5'0"

PLAN AND SECTION BY HEATHER PARKER



Rainwater circulation follows two distinct paths through the plaza: one for bioretention (the dotted lines) and one for rainwater harvesting (the solid lines).

DIAGRAM BY HEATHER PARKER

WATER

Bioretention

The bioretention areas throughout the plaza will allow for infiltration of stormwater, thereby reducing the volume of water that must be managed downstream. The bioretention areas will be planted with native plants that can thrive even in Seattle's summer drought conditions.

Rainwater Harvesting

Rainwater will be captured from surrounding roofs and sent to to an underground cistern. This water can be used in the plaza's water play features. The water will then enter the subsurface wetland, where it will be filtered before it is sent to the plaza's restroom for toilet flushing.

E Madison Street will act as the "seam" between the two neighborhoods. A reduction in the number of traffic lanes and the addition of a two-way bike line, raised crosswalks, and a bioretention median will help to make the street safer for all users.

SECTION BY HEATHER PARKER

CONNECTIONS

Safer and more welcoming connections across and around the site will be facilitated by three redesigned streets: 10th Avenue, 11th Avenue, and E Madison Street.

In order to create a cohesive plaza, encourage public life, and make the space more pedestrian-friendly, E Seneca Street and one block of 10th Avenue will be closed off to vehicle traffic.

As a more pedestrian-friendly street, 10th Avenue will be one-way and will be used primarily for local traffic. Awnings will be included throughout the street to activate its edges, encourage commercial activity, and make the space usable in all weather.

IMAGE BY HEATHER PARKER

11th Avenue will be transformed into a segment of the planned eco-corridor between Seattle University and Volunteer Park. The addition of bioretention areas will both facilitate stormwater management and create habitat in an urban setting.

SECTION BY HEATHER PARKER

NIGHT

The plaza comes alive at night, with the stage acting as a focal point as students and community members enjoy a concert, grab a drink at the restaurants on the plaza, and catch up with friends.

IMAGES BY HEATHER PARKER

DAY

Though the play areas may be active with families, on a Sunday morning the stage accomodates a slower pace: a seat during a neighborhood stroll, a place to drink coffee, a prime spot for people watching.

A sketch stop at the Maritime Youth House
PHOTO BY KRISTA DOERSCH

"What kind of city do you want? How will your city use climate imperatives to create urbanism, public space, and architecture?"

– Peter Honneke, Landscape Architect, COBE

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SEATTLE 2030 DISTRICT

Capitol Hill Housing