Cohort of 2025

Urban Design

CAPSTONE REPORT

Christy Joy Gonzalez
School of Urban Studies
June 2025

UNIVERSITY of WASHINGTON | TACOMA

Caption description. Photo courtesy of xxxxxxxxx.

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STUDENTS' VISION FOR THE UWT CAMPUS

URBAN DESIGN CAPSTONE

Main heading

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Caption description. Photo courtesy of xxxxxxxxx.

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Sample Text

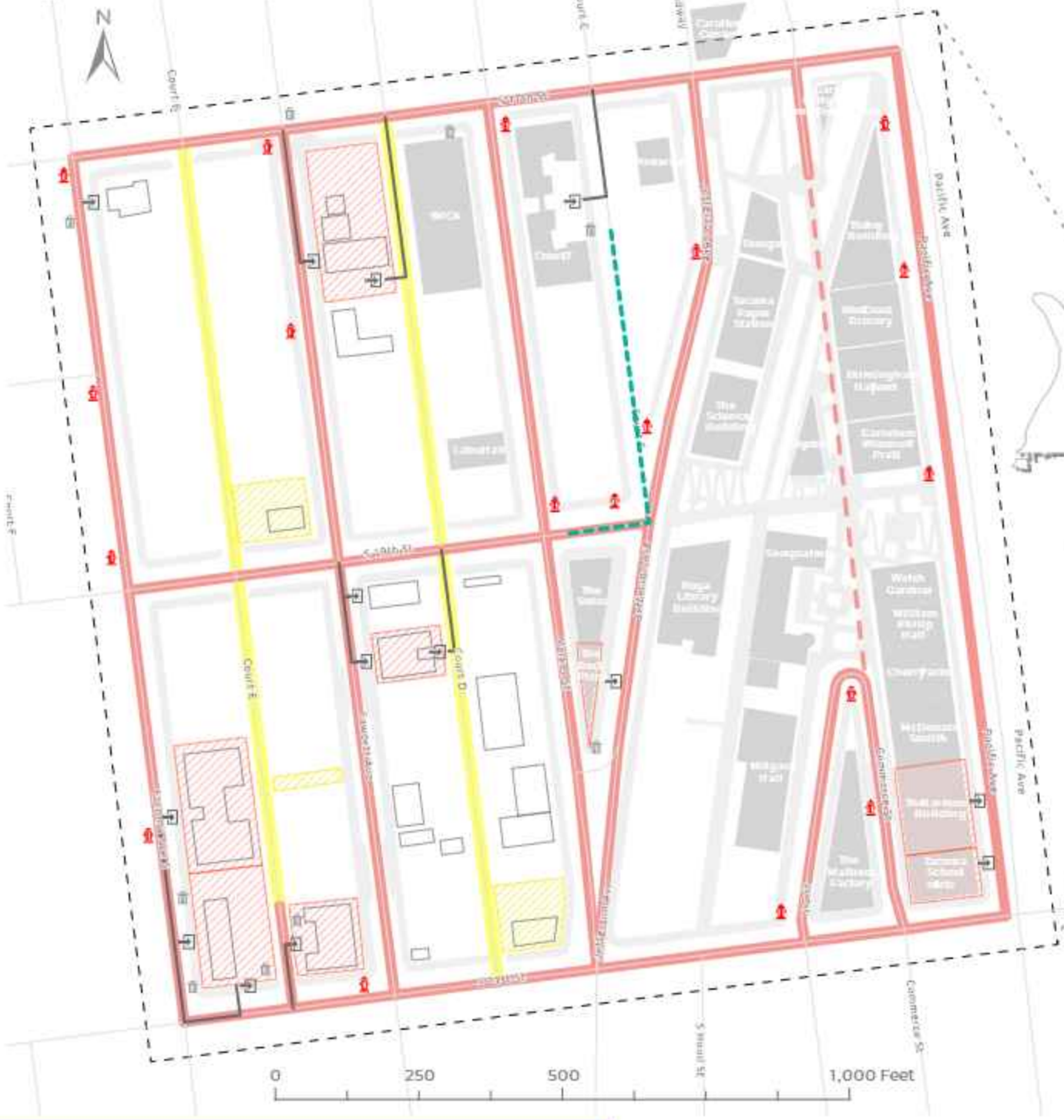
Vehicle Access Route Analysis. Image courtesy of Christy Joy Gonzalez.

Vehicle Access Routes

This analysis maps key vehicle access routes across the UWT campus, emphasizing existing assets like non-emergency pathways and highlighting constraints such as unowned parcels and private entrances. Using ArcGIS, Survey123, and Adobe Illustrator, both assets and limitations were visualized to support design decision-making and reveal opportunities for improved circulation and emergency access. A custom survey was developed in ArcGIS Survey123, allowing for efficient on-site data collection, management, and integration. This streamlined workflow enabled the rapid creation of clear, visually rich maps that guided the identification of access challenges and design opportunities.

Image courtesy of Christy Joy Gonzalez.

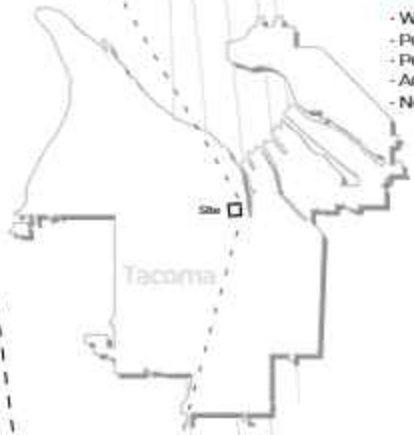
VEHICLE ACCESS ROUTE ANALYSIS - CHRISTY



Assets
- Non-Emergency Access Route
- Negotiating Parcel Sale

Constraints
- Emergency Access Route
- Unowned Parcel - Restricted
- Private Entrance
- Private Entrance Access Route

Opportunities
- Future Project in Progress
- Widen ROW for EV Access Routes
- Potential Road Diets
- Pedestrianized Roads
- Additional Parking Structure
- Nonobstructive EV Access Route Design



- Fire Hydrant
- Private Entrance
- Waste Receptical
- Private Entrance Access Route
- Future Project in Progress
- Emergency Access Route
- Emergency Access Route(Pedestrianized)
- Non-Emergency Access Route
- Unowned Parcel - Restricted
- Negotiating Parcel Sale
- UWT Campus Building Footprints
- Non-Campus Existing Buildings
- Sidewalks
- Site Boundary

Image courtesy of Christy Joy Gonzalez.

Redesign Opportunities

This map builds on the previous access route analysis by identifying specific areas of the UWT campus that can be reimagined through future design interventions. Highlighted zones indicate where redesign is feasible without disrupting critical emergency vehicle access or existing operations. Non-highlighted areas are to remain unchanged due to functional constraints or compliance with fire code standards. This analysis supports thoughtful, safety-informed planning and opens opportunities for enhanced pedestrian spaces, potential road diets, and improved campus circulation.

Image courtesy of Christy Joy Gonzalez.

Key Takeaways

Considerations

Understanding the requirements for emergency vehicle (EV) access routes is essential for the safe design of our streets and communities. This analysis highlights some of the most important minimum requirements for EV access routes to consider in future design concepts for the UWT campus. According to the International Fire Code (IFC), EV access routes must maintain a minimum unobstructed street width of 20 feet, a vertical clearance of 13.5 feet, and an appropriate turning radius for vehicles at intersections and dead ends. Additionally, local fire departments have the legal authority to halt the construction of new streets or modifications to existing ones if they determine that designs do not comply with these requirements. Pierce County's EV access code(PCC) requirements have been updated, resulting in slightly reduced right-of-way (ROW) requirements, as shown in Table 17C.60.150-1 on the PCC website.

Assets

Roads and routes that can be redesigned because they do not meet the criteria for classification as EV access routes, or where there is no need for vehicle access.

Constraints

Existing emergency vehicle routes.
Loading/trash collection access to existing businesses/operations.
Vehicular access to private entrances.

Opportunities

Widen the right-of-way (ROW) to accommodate EV routes and loading/trash collection routes. Consider pedestrianizing certain streets within the site. Explore potential road diets, additional parking options, or designs that do not interfere with EV access routes.

REDESIGN OPPORTUNITIES ANALYSIS - CHRISTY

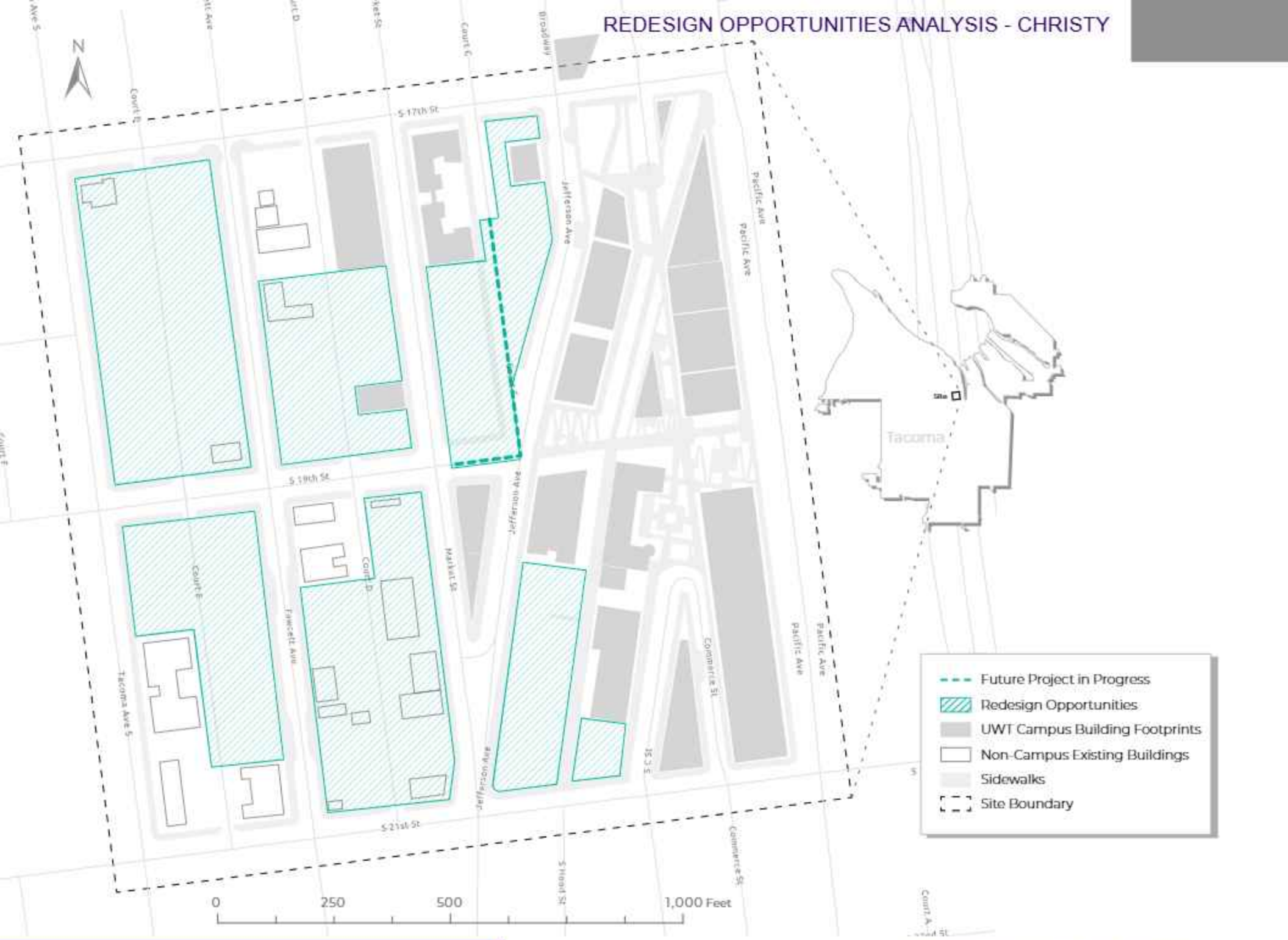


Image courtesy of Christy Joy Gonzalez.

Existing UWT Site Plan

Image courtesy of Christy Joy Gonzalez.

Existing S. 19th Site Section & Elevation

Image courtesy of Christy Joy Gonzalez.

CHRISTY JOY GONZALEZ

Urban Design Approach

Design Proposal Focus: ***ADA accessibility*** *along the campus slope, year-round* ***public green spaces***, ***mixed-use*** *development,* ***pedestrianize the central corridors*** *of campus,* ***unobstructed pedestrian and bicycle pathway*** *with the newly proposed roundabout area, and* ***expanded tree canopy*** *coverage.*

This proposal aims to enhance inclusive ADA accessibility along the campus slope, integrating green stormwater infrastructure (GSI) to manage runoff sustainably while ensuring universal access along campus slopes. It also focuses on expanding year-round public green spaces that serve not only the campus population but the broader Tacoma community, fostering social connection, environmental health, and a sense of shared ownership.

Mixed-use development is incorporated to increase campus vibrancy, while the central corridors are pedestrianized to prioritize walkability. A continuous, unobstructed pedestrian and bicycle pathway will be aligned with the proposed roundabout area to support safer and more intuitive movement across campus. Additionally, Market Street will be activated as a public marketplace—offering space for local vendors, cultural events, and community gathering—strengthening economic opportunity and neighborhood identity. Expanded tree canopy coverage across the site supports climate resilience, provides shade and comfort, and enhances the overall ecological and aesthetic quality of the campus.

Master Plan Proposal - Green Gateways to UWT

Image courtesy of Christy Joy Gonzalez.

Street Sections

Street Sections

Street Sections

Street Sections

Street Sections

Civil Engineering & Urban Design, Spring 2025

UWT CollabCapstone

Urban Design Collaborator:
Christy Joy Gonzalez

Expert advisor(s):
Faculty: Jeff Bridges, Industry: Tim Nordstrom

Student: Reuben Gunasingh
Site: Greenhouse Plaza

Problem statement

This project is situated on the University of Washington Tacoma campus, where mature trees, soil permeability, and vegetation contribute to stormwater management and local climate regulation. Rather than clear-cutting the site, this project emphasizes preserving natural and existing vegetation by designing the 150ft x 50ft greenhouse structure to fit around existing trees.

Loading

Standard LRFD combinations per ASCE 7 / AISC 360
Dead, Live, Seismic and Wind Loads Calculated

Location

See locator map below: Greenhouse structures in green.

HSS Column

Dimensions:
8in x 8in x 3/8in

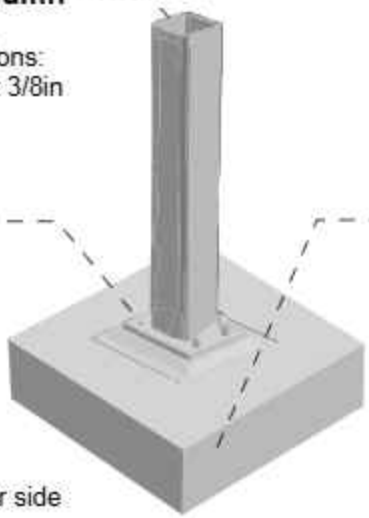
Base Plate

Dimensions: 14in x 14in

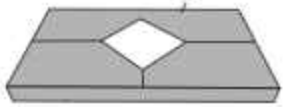
Thickness: 1.25in

Anchor Bolts: 8 Bolts

Welds: 3/16in fillet,
complete perimeter or 1.5in per side



Concrete Flooring



Volume of Concrete: 116yd^3

Reinforcement:
Industry Standard Recommendation
6x6 W1.4 x W1.4 (As - 0.028)
Structural Recommendation
6x6 W8.1 x W8.1 (As - 0.162)

Joint Spacing: 10ft -15ft

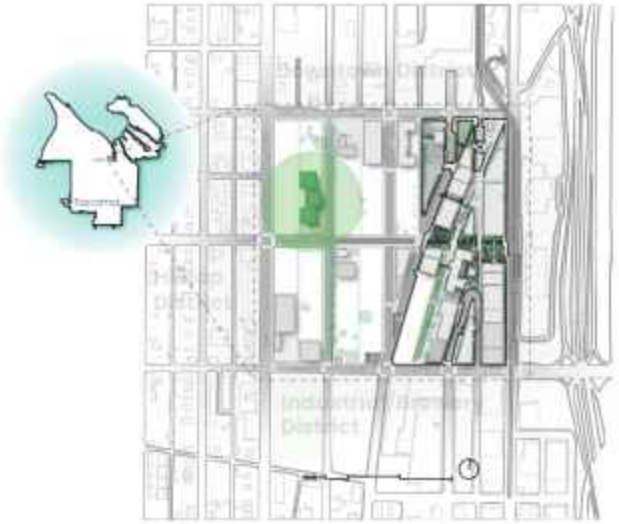
Concrete Footing

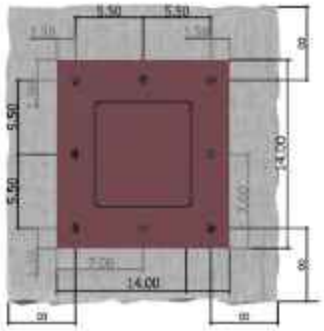
Width: 36in x 36in

Thickness:13in

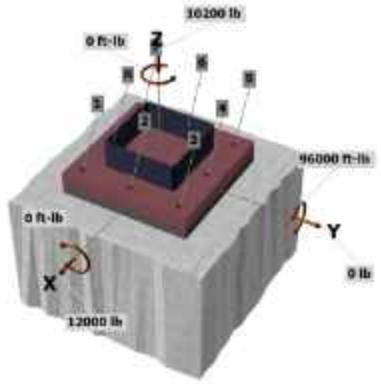
Steel Reinforcement

As = 2.10 Required
Designed: 8 #5 Bar
3in clearance with 4.25in spacing
between each bar going both ways





Plan View of Base Plate



Loads on Base Plate

Civil Engineering & Urban Design, Spring 2025

UWT Collab Capstone

Urban Design Collaborator:
Christy Joy Gonzalez

Expert advisor(s):
Faculty: Ruben Casas, Industry: Joe Farah

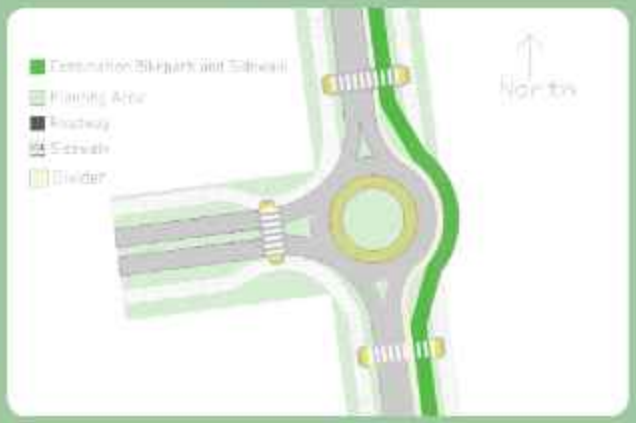
Student: Colin Bjorkhart
Site: Fawcett Ave

Problem Statement

This project aims to redesign Fawcett Avenue in a way that reduces traffic stress levels for pedestrians and bicyclists and creates a safer corridor by reducing vehicular speed and minimizing travel conflicts. It should also serve as an equitable thoroughfare that prioritizes non-motorized users and can function as a dedicated route for higher-speed bicycle commuters and low-speed pedestrians and leisure riders.

An increase in sidewalk and bike paths can mean an increase in impermeable surfaces. Such increases raise runoff and strain on the existing stormwater system. The redesign should also control stormwater runoff, with a goal to have a net decrease in stormwater runoff from the corridor.

Roundabout



Typical Intersection

Design Highlights

- Roundabout at 21st and Fawcett
  - Minimizes potential conflict between cars and other road users
- Combination Bike and Walking Path at roundabout
  - Keeps design within the ROW
  - Minimizes travel distance around the roundabout
- Permeable pavement underneath bike path barrier
  - Reduces runoff from impermeable road and bike path
  - Maintains physical barrier to keep bicyclists safe
- Raised Crosswalks at roundabout
  - Traffic calming measure
  - Smooth transition for bikes from road elevation to raised sidewalk
- 10 foot wide Sidewalks
  - Prioritizes pedestrians
  - Improves disability access
- Multiple Wide Planting Spaces
  - Allows for large mature trees
  - Provides spaces for benches and resting

Fawcett Cross Section

Results

- 41% Reduction in stormwater runoff
- Peak runoff reduced from 3cfs to 1.8 cfs
- Bicycling level of traffic stress reduced from 3 to 1
- Roundabout design accommodates a city bus
- Increased ADA Access

Engagement Campaign

METHOD

In late 2024, we developed a marketing strategy that included a website launch, flyer distribution, and social media outreach to support our community engagement campaign. The campaign officially launched in January 2025, during which we deployed a student-led survey using ArcGIS Survey123. This platform allowed us to efficiently collect and manage feedback, resulting in over 120 student responses. We also hosted three engagement events and several informal social gatherings to increase participation. By the end of January, we closed the survey, completed our events, and began analyzing the results. These responses directly informed the next phase of our design process, ensuring the project remained student-centered and responsive to the needs of the campus community.

Image courtesy of Christy Joy Gonzalez.

Community Engagement

[STUDENT LED]

Collective collaboration of the 2025 Senior Urban Design cohort. Featuring student-led community engagement survey and event hosting to gather student feedback for future UWT campus development.

Image courtesy of Christy Joy Gonzalez.

SABIEN • YASIR • RAISA • HUGO • CHRISTY • ASAD • HIEU • TU • BENJAMIN • PROJECT MANAGER: BARA

STUDENT-LED

Engagement Campaign

Community Engagement

[DESCRIPTIVE FINDINGS]

Method

Over the course of 3 weeks, our 17 question survey recieved **126** responses.

Our **data collection strategies** were as follow:
- 3 hosted community engagement events
- 2 social gatherings

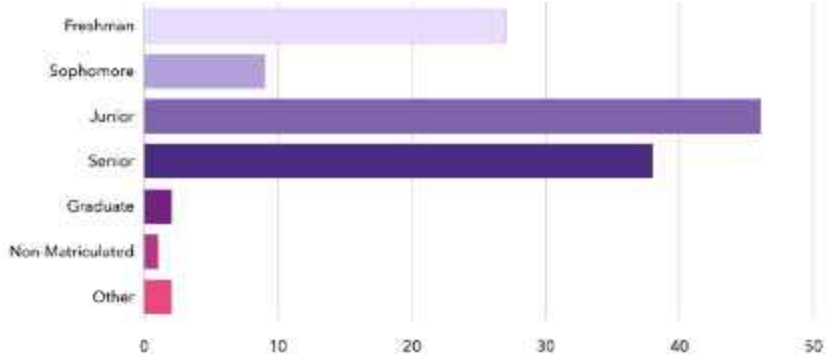
Our **marketing strategies** included:
- Website launch
- Flyer distribution
- Social media postings

Images courtesy of Raisa , Tu, and Sabien

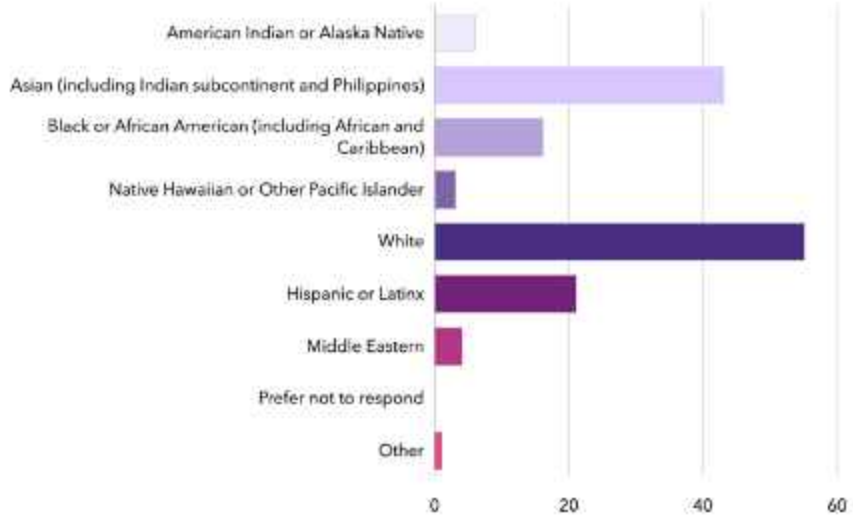
RAISA BAKER

Community Engagement

[DEMOGRAPHICS]



What is your current year of study?



What is your identified race/ethnicity?

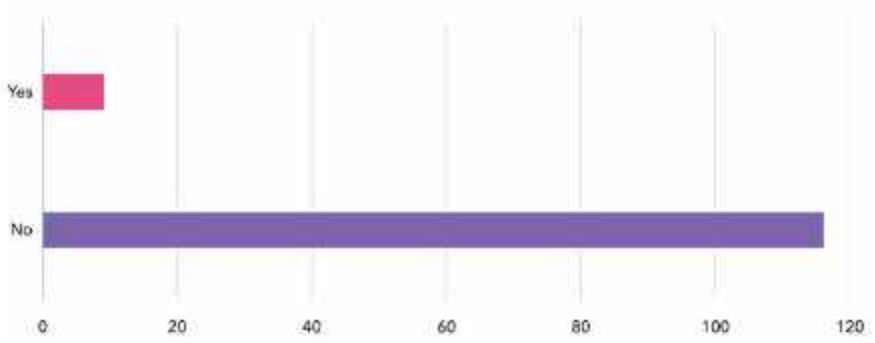
Image courtesy of Christy Joy Gonzalez.

STUDENT-LED

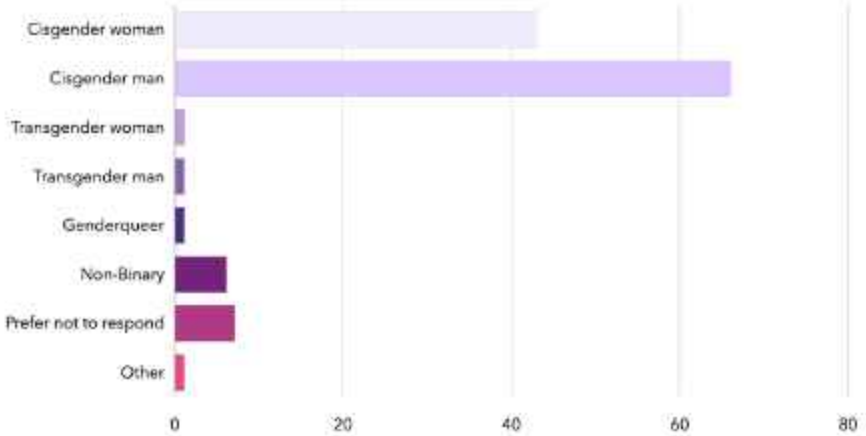
Engagement Campaign

Community Engagement

[DEMOGRAPHICS]



Do you identify as a Veteran, yes/no?

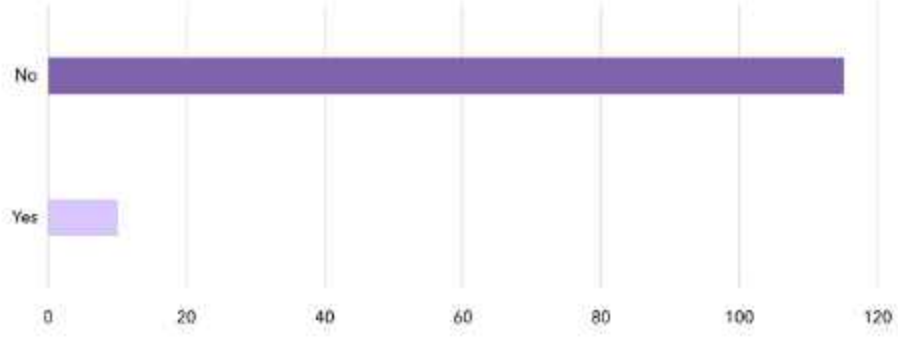


Which gender do you identify with most?

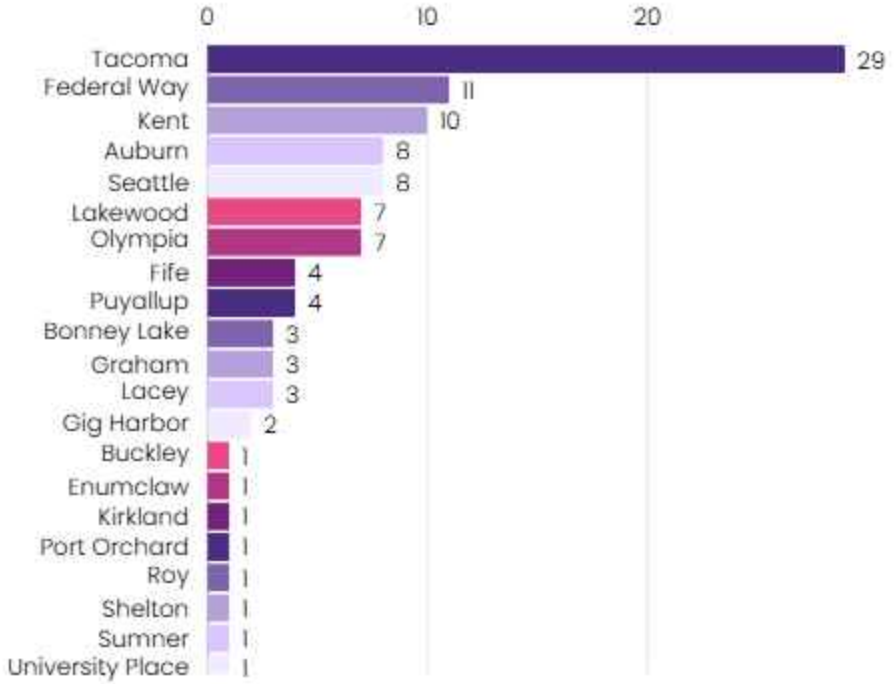
Image courtesy of Christy Joy Gonzalez.

Community Engagement

[DEMOGRAPHICS]



Do you live on campus?



If you live off campus, where do you live(zip code)?

Image courtesy of Christy Joy Gonzalez.

STUDENT-LED

Engagement Campaign

Community Engagement

[PUBLIC SPACE]

Where on campus do you avoid, and why?

STUDENT FEEDBACK QUOTES

Very busy and limited community areas

Slopes and stairs were a consistent concern

Buildings without classes in them are usually avoided

The YMCA is too far out of the way from all class buildings, and not easy to access

Private businesses because they're too expensive particularly along Pacific Avenue

Pacific Avenue and all busy roads surrounding campus due to a lack of pedestrian safety measures

Science building came up multiple times due to no vending machines, no study seating, and it's cold

The unhoused around campus were repeatedly brought up as places students had interactions with and now avoid. Students specifically asked campus to address this issue

KEY TAKEAWAYS

Due to steep slopes, many stairs, and length of time to go up winding ramps, many students avoid going west

Many students expressed not having community gathering places that met their needs that weren't over crowded

KEY LOCATIONS STUDENTS AVOID

Image courtesy of Christy Joy Gonzalez.

CHRISTY GONZALEZ

Community Engagement

[PUBLIC SPACE]

Reflection

At our event, we asked fellow students to take our survey, by the end of our event we had about 60 students respond.

Students want and need better community spaces that are easily accessible and not over crowded.

Accessibility is key to further developing campus to equitably meet the needs of students.

Food insecurity and affordability was a major concern in the survey, with many students expressing difficulty in accessing affordable meals on campus. High food prices led some to leave early to eat at home, while others wished for free or lower-cost meal options, more dining choices, and comfortable eating spaces in between classes on campus.

We noticed that students were particularly engaged in the conversation, sharing their thoughts freely and offering valuable insights about how they interact with public spaces. Their responses reflected a genuine interest in improving the campus environment for everyone.

Image courtesy of Christy Joy Gonzalez.

UWT Urban Form + Noise Pollution

Assets

Areas within campus, near the center, experience lower levels of noise pollution.

Constraints

Much of the campus site has been developed on the outer edge already.

Opportunities

At UWT, noise pollution decreases further inside the site boundary, enabling expanded residential and academic development away from the outer edge of campus. This will create quieter living and learning spaces for future students.

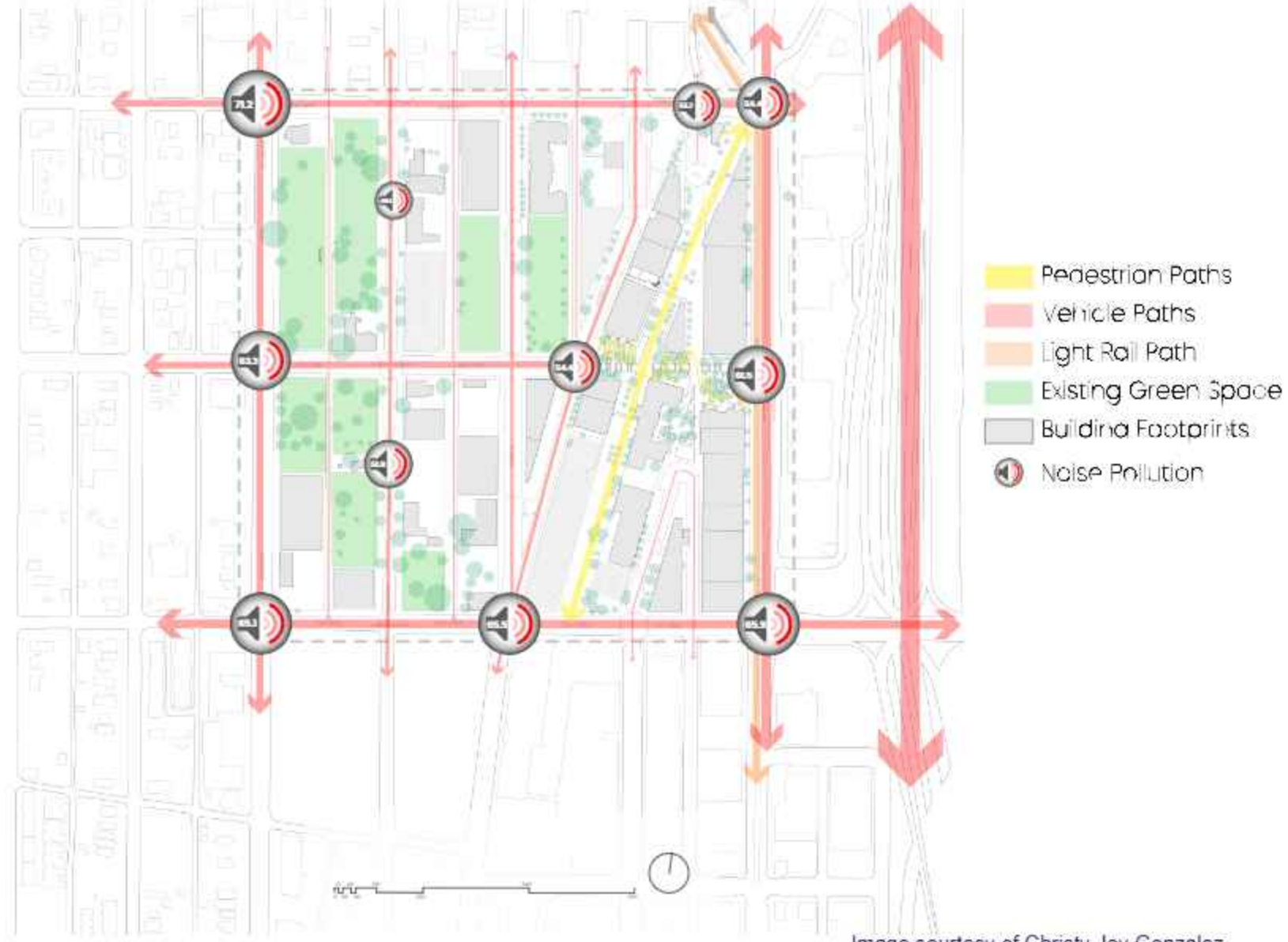


Image courtesy of Christy Joy Gonzalez.

UWT Pollution Analysis

TVOC (mgm3) CE
Pollution Data

HCH O (mgm3) CE
Pollution Data

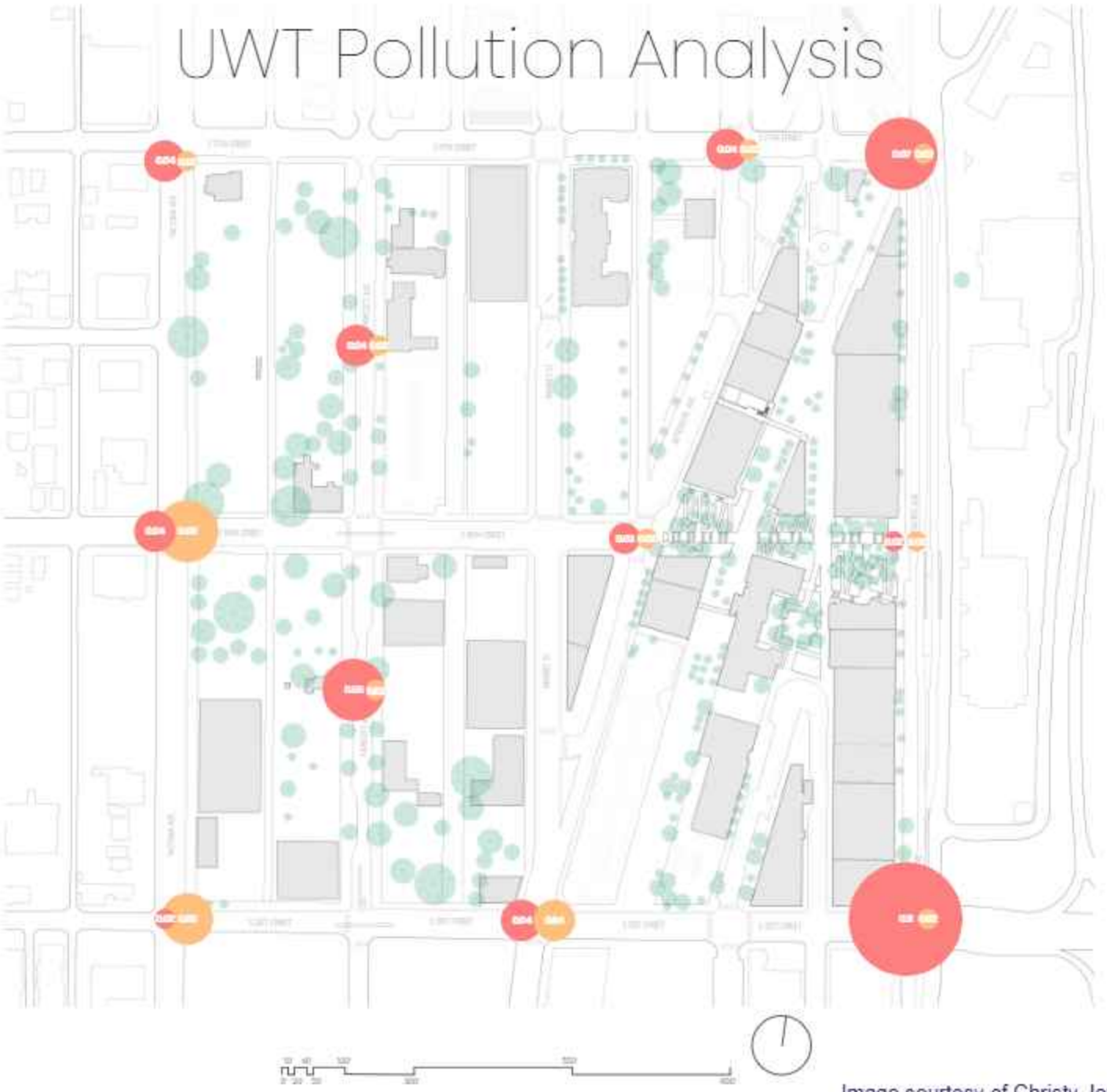


Image courtesy of Christy Joy Gonzalez.

This UWT Urban Design Framework serves as a comprehensive vision for the future development of the University of Washington Tacoma campus, focusing on enhancing connectivity, usability, and community integration. The framework establishes a clear structure by defining key design elements, including institutional paths, pedestrian and vehicle circulation, and the integration of existing green spaces.

A crucial aspect of the plan is the balance between existing land uses—residential, commercial, community assets, student activity, and institutional—and proposed enhancements that foster a more accessible and vibrant campus environment. By promoting the development of active edges, ADA-accessible pathways, and public gateways, the framework encourages a more inclusive and engaging atmosphere.

The framework also emphasizes urban renewal through strategic interventions such as the creation of green stormwater infrastructure (GSI), the preservation of historic locations, and the transformation of underutilized parcels into community assets. Highlighting key landmarks and nodes, it envisions a campus that is well-connected both internally and with the surrounding Downtown, Hilltop, and Industrial/Brewery districts.

This UWT Urban Design Framework proposes a holistic approach that strengthens the campus's role as an educational and cultural hub while fostering sustainable growth and a deeper sense of place.

Image courtesy of Christy Joy Gonzalez.

PROTECTING THE SOUND

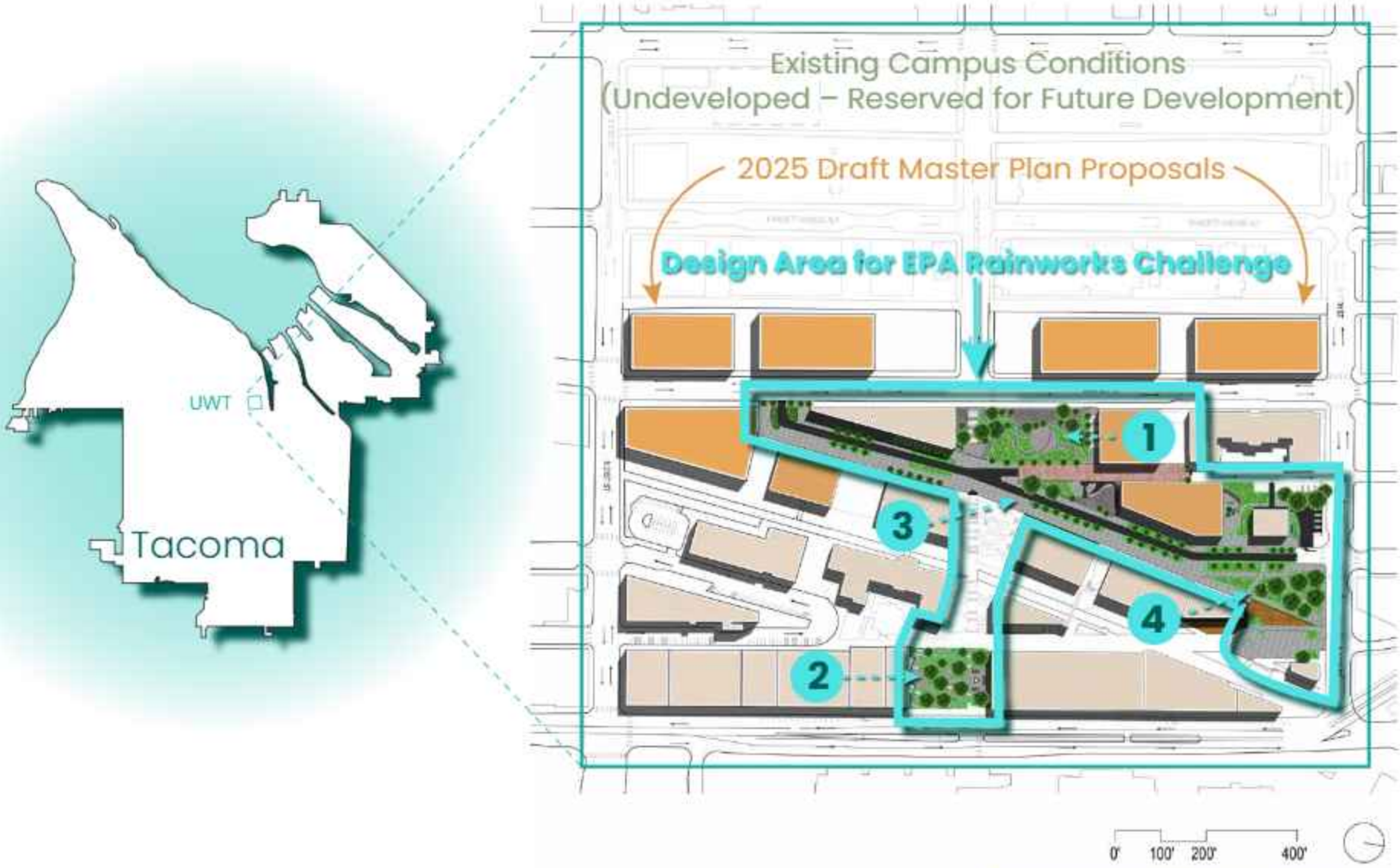


Image courtesy of Christy Joy Gonzalez.

AS IT HITS THE GROUND

Existing GSI + Proposed GSI

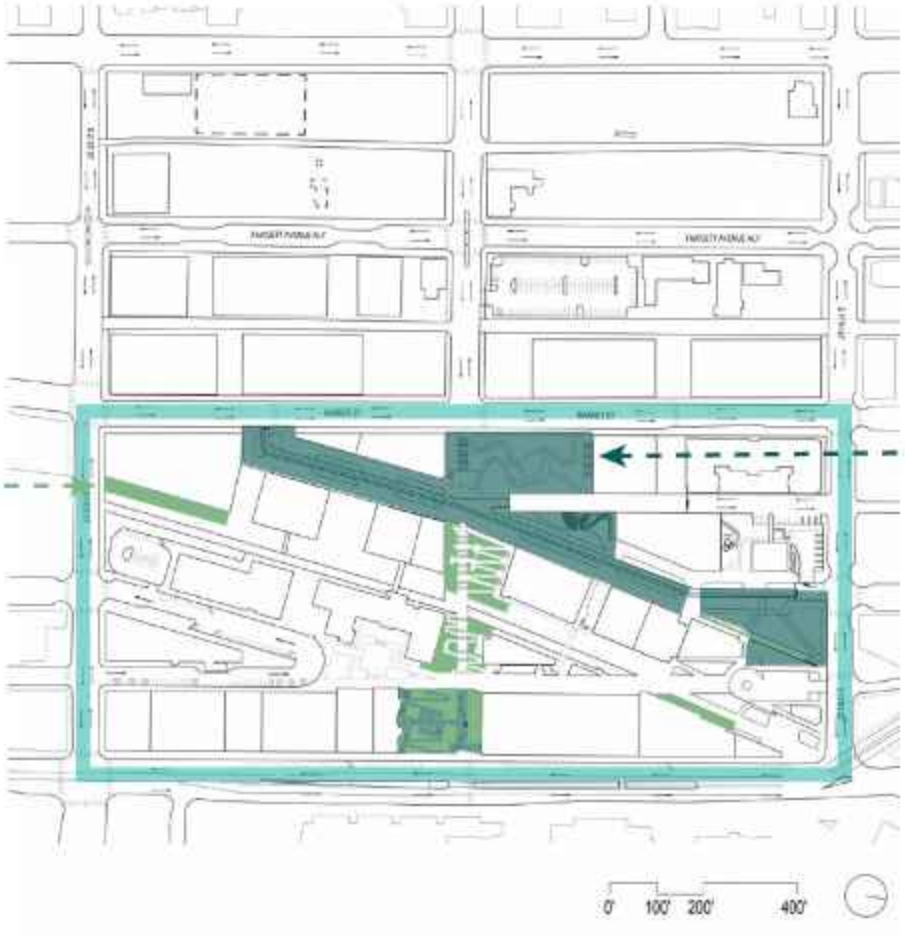
Current Site GSI Conditions Shown with Additional Proposed GSI Interventions

50-Year Storm for 30-Minute Duration
Design Storm Assumed

124,269 ft³
Volume of Ttreated Runoff

792,000 ft²
Air Pollutant Removal by Trees (Phase 1)

24,316 ft²
Area of Restored Native Plant Communities



4,500 lbs per year
CO2 Sequestered

≥94%
Reduction in Pollutants

29,000 lbs per year
Vehicle Emissions Reduced

12%
Reduction in Impervious Surfaces

Image courtesy of Christy Joy Gonzalez.

1. THE QUAD

Image courtesy of Christy and Tu.

2. ACCESSIBLE RAINGARDENS

Image courtesy of Christy and Sabien.

3. PERVIOUS AVENUE

Image courtesy of Christy and Hieu.

4. MICROFOREST

Image courtesy of Christy and Ben.

MicroForest GSI Section

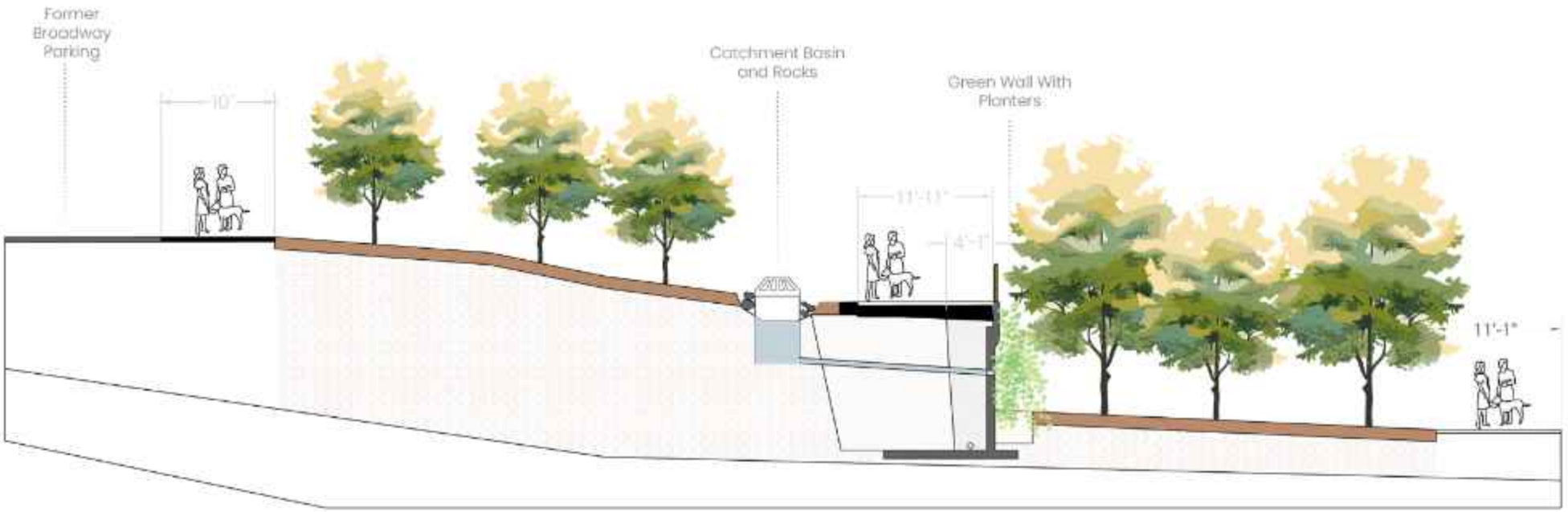


Image courtesy of Christy Joy Gonzalez and Nolan Davidson.

Shallow Soil Contamination

Approximate Areas of Shallow (0 to 5 feet bgs) Contaminated Soil

Image courtesy of Christy Joy Gonzalez.

Site Locations

EPA Rainworks Challenge Design Intervention Locations

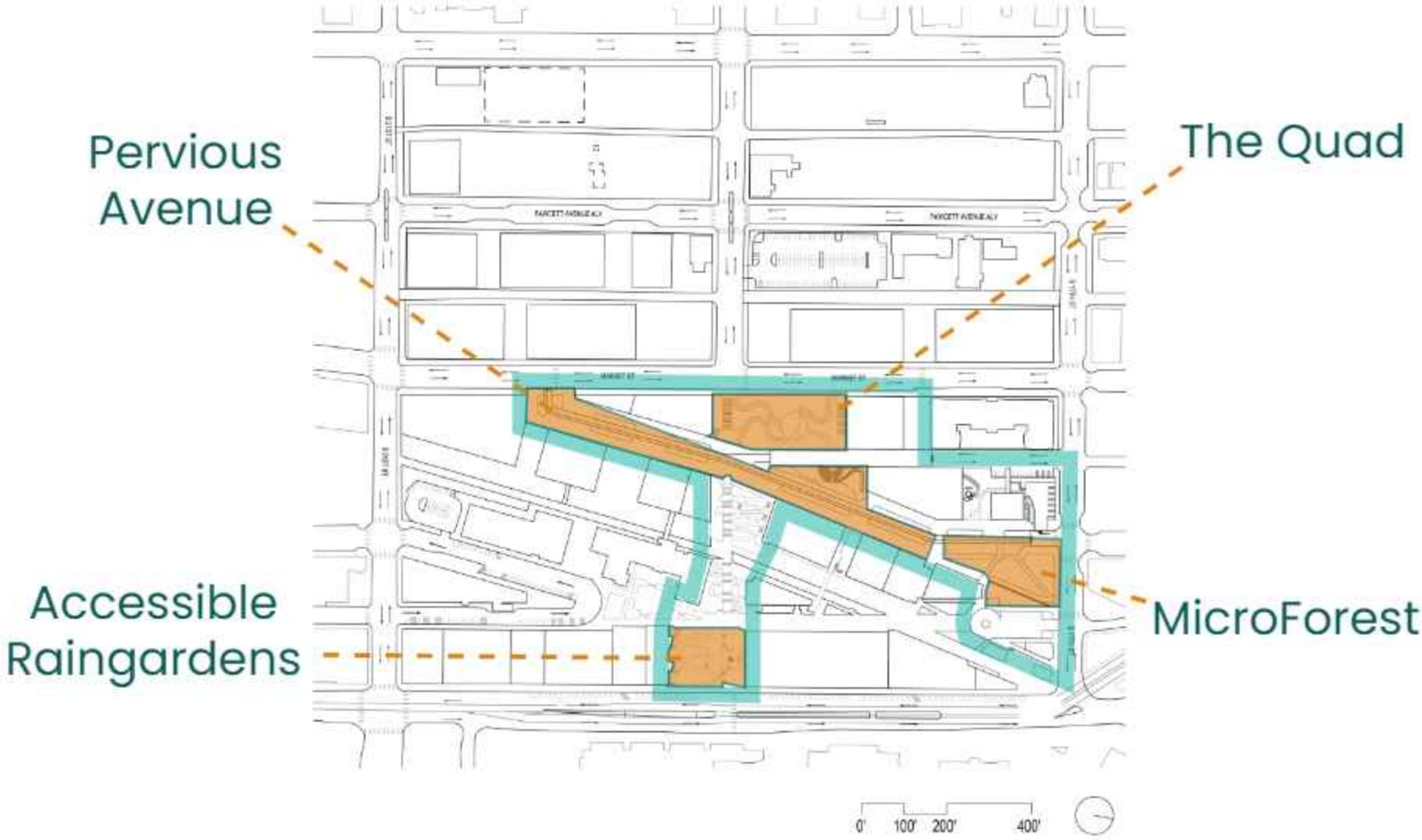


Image courtesy of Christy Joy Gonzalez.