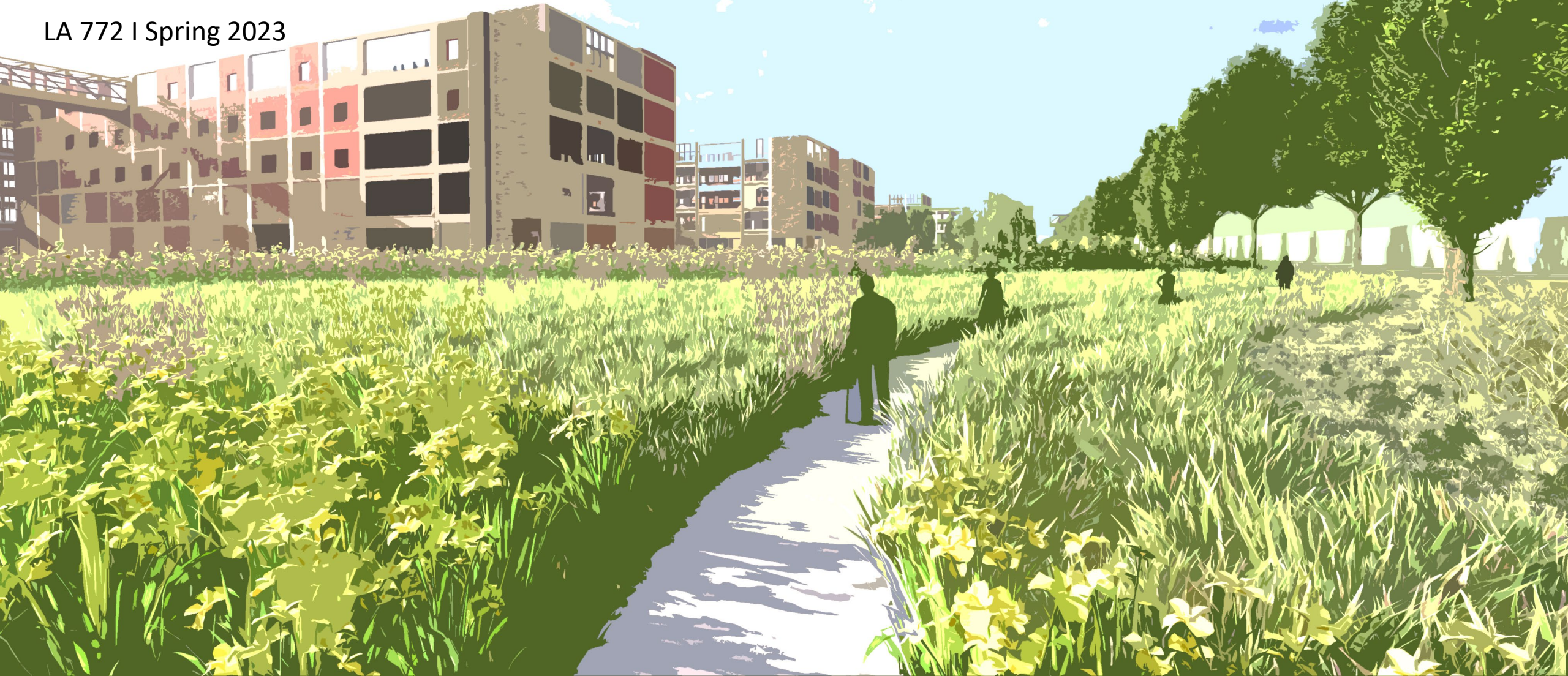


# Restoring Forgotten Land

Masters Landscape Design Thesis

Matthew Jacobson | Studio Advisor: Jason Kost | Primary Advisor: Anna Maria Visilia

LA 772 | Spring 2023



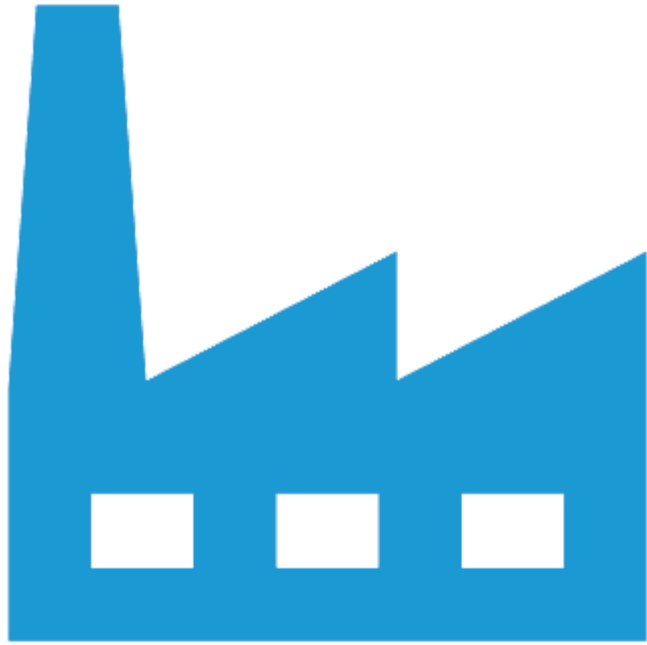


# Restoring Forgotten Land | Introduction

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## Thesis Narrative

This thesis will explore the potential of using phytoremediation to reduce PM2.5 pollution and various chemically contaminated soils in Detroit. Phytoremediation is a type of environmental remediation that uses plants to remove, neutralize, and stabilize contaminants in soil and groundwater. This approach has the potential to be a cost-effective, sustainable, and adaptable approach for addressing pollution in urban areas, such as Detroit. Detroit is a city with a long history of industry and pollution. The city's industries, have contributed to air water and soil contamination / pollution This thesis has identified the abandoned Packard Automotive Plant within Detroit MI as a suitable site to deploy these design solutions. Packard Plant offers a unique opportunity to create a cultural green zone that focuses on the community while also passively impacting the soil and air contamination in and around the site year after year.



# What is Post Industrial Design?

# Restoring Forgotten Land | Introduction

## Post Industrial Design Introduction

**Post Industrial Design:** is a type of landscape design that focuses on the transformation of former industrial sites into functional, healthy and vibrant landscapes. Usually involving the rehabilitation / repurposing of abandoned industrial sites due to the history and memories that are commonly associated with the site.


**Peter Latz:** is a renowned post-industrial landscape architect, known for his innovative designs that transform abandoned industrial sites into vibrant public spaces. His groundbreaking work in the field has earned him international recognition, and his designs continue to inspire all generations of designers



*“Our new conceptions must design landscapes with both accepted and disturbing elements, both harmonious and interrupting ones. The result is a metamorphosis of the landscape without destroying existing features, an archetypal dialogue between the tame and wild”*

*- Peter Latz*



The image features a decorative graphic consisting of several concentric, overlapping rings. The rings are primarily light blue and light green, with some darker shades of blue and green interspersed. The rings are arranged in a circular pattern, creating a sense of depth and movement. The text is centered within this graphic.

# Site Analysis & Information

# Restoring Forgotten Land | Site Location

## Site Location Packard Plant

### About Packard Plant

**Location:** Detroit , Michigan

**Size:** 40 acres

**Thesis Size:** 17 acres

**Architect:** Albert Kahn

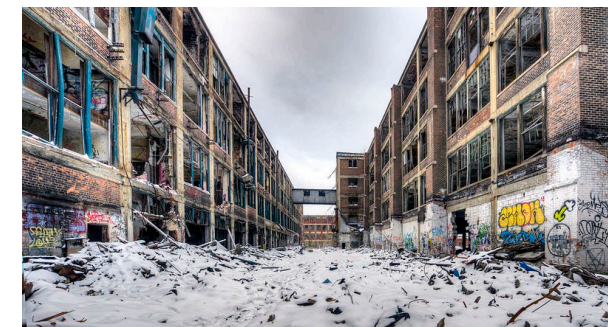
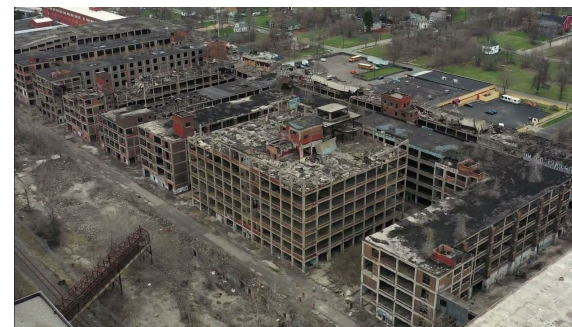
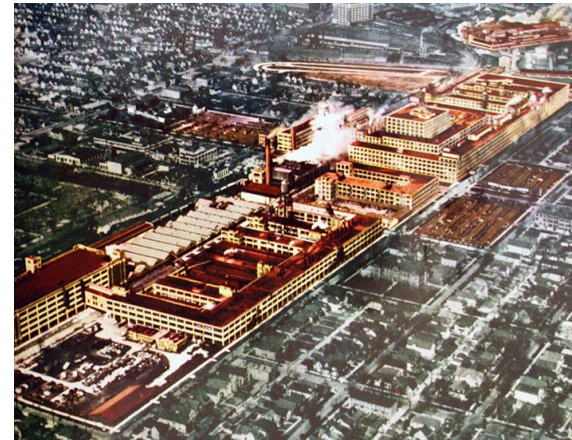
**Owner:** Fernando Palazuelo

**Purpose:** Abandoned Industrial Plant

**Contamination Level:** EPA Superfund

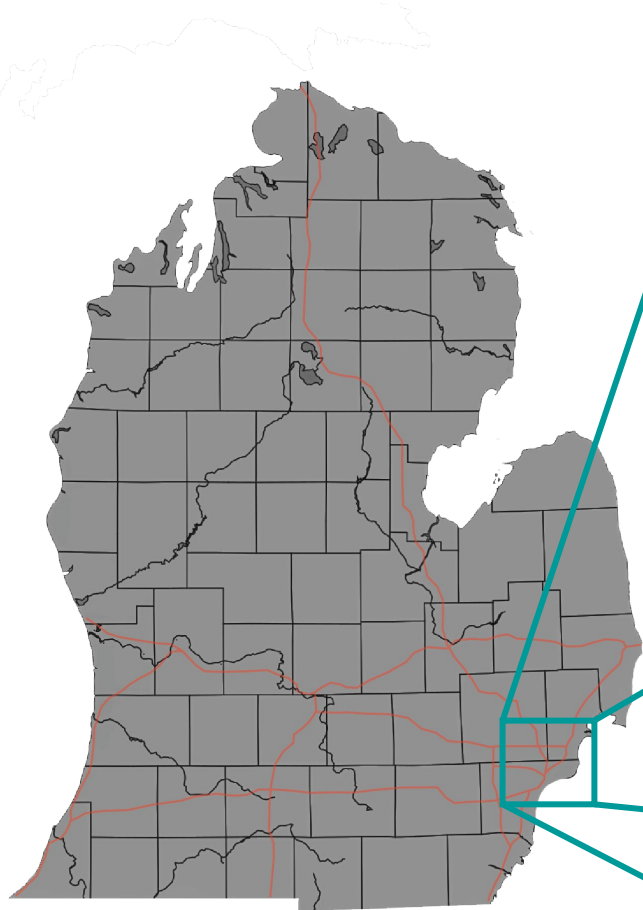
### Site Description

Packard Plant was operational until 1958, at which point the Packard Motor Car Company went bankrupt. After its closure, the plant was used for a variety of purposes, including storage and manufacturing. In recent years, the plant has fallen into disrepair and has become a symbol of the decline of the automotive industry in Detroit. Packard Plant remains a significant historical and architectural landmark to the city of Detroit.

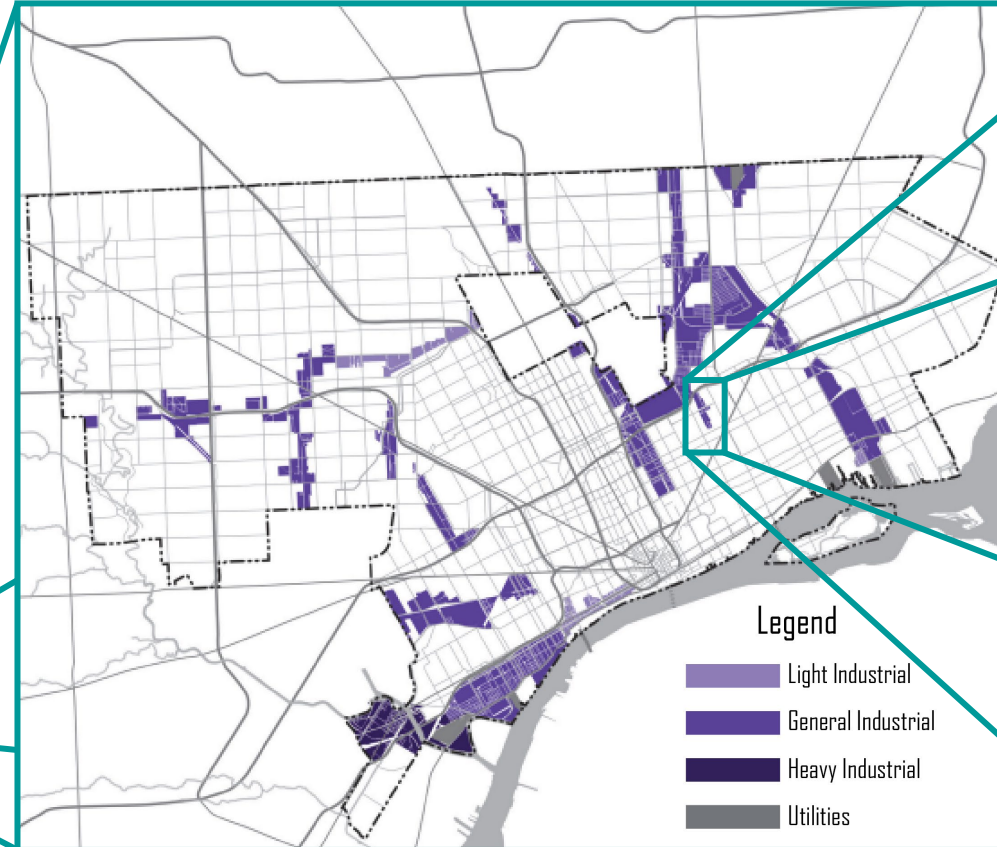




# Restoring Forgotten Land I Site Location



Site Location I Michigan State



Site Location I Greater Detroit Industrial Zone Map

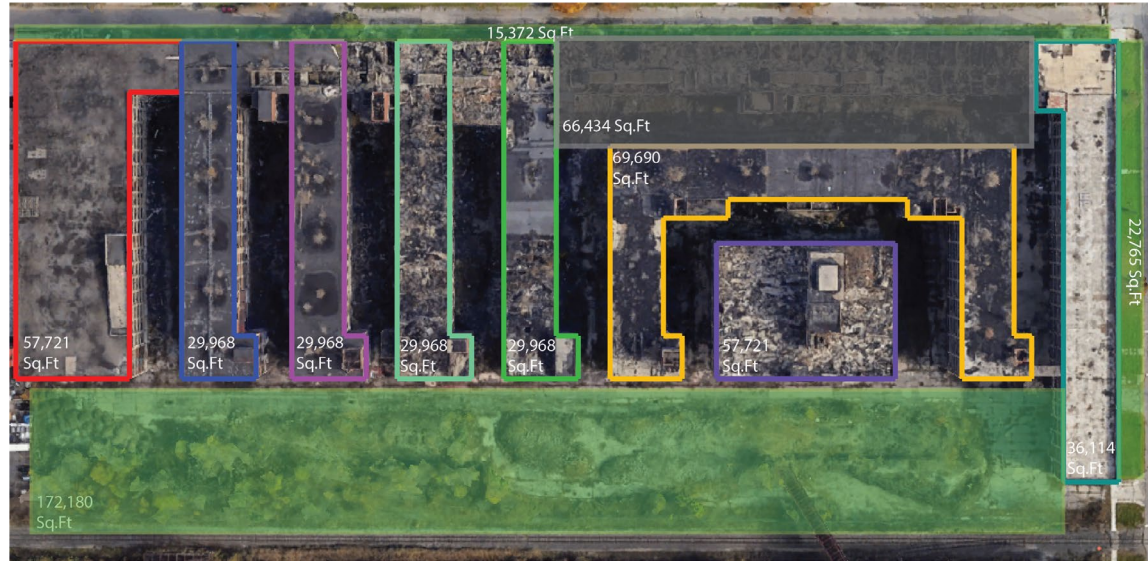


Site Location I Packard Plant



# Restoring Forgotten Land | Site Analysis











## Packard Plant Building Analysis



Site Analysis I Spatial Allocation Map



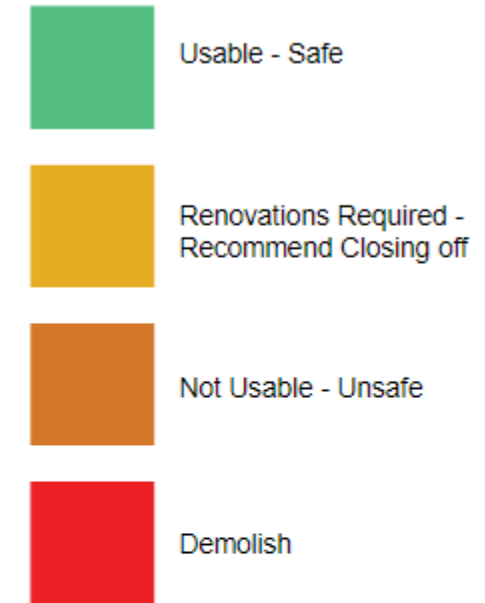
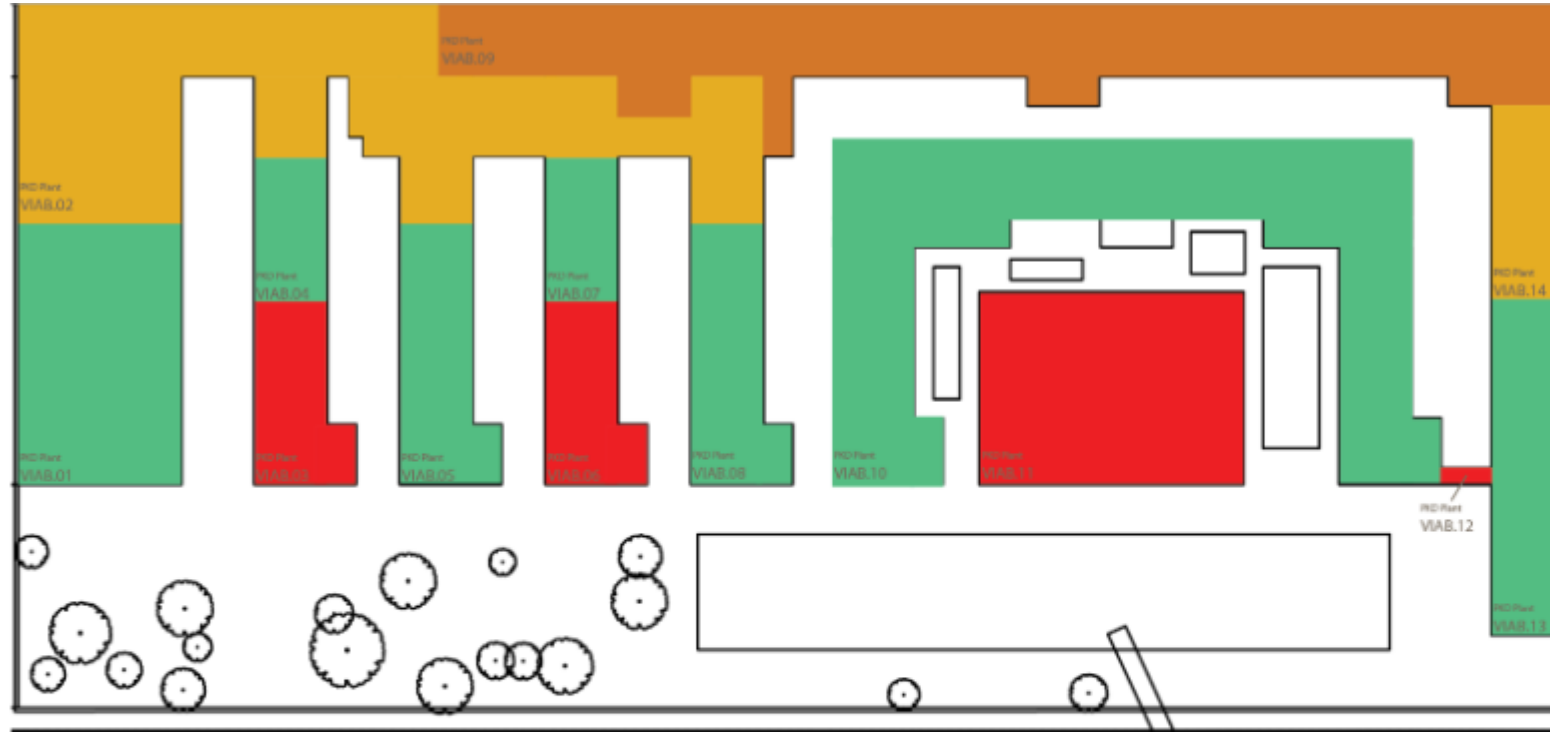
Site Analysis I Proposed Demolition Map

| Locations  | Square Feet         | % of Used Space |
|--|---------------------|-----------------|
|  Rooftop Building #1                | 57,721 Sq.Ft        | 8%              |
|  Rooftop Building #2                | 29,968 Sq.Ft        | 5%              |
|  Rooftop Building #3                | 29,968 Sq.Ft        | 5%              |
|  Rooftop Building #4                | 29,968 Sq.Ft        | 5%              |
|  Rooftop Building #5                | 29,968 Sq.Ft        | 5%              |
|  Rooftop Building #6                | 69,690 Sq.Ft        | 10%             |
|  Rooftop Building #7                | 57,721 Sq.Ft        | 8%              |
|  Rooftop Building #8              | 36,114 Sq.Ft        | 6%              |
|  Usable Space                     | 210,317 Sq.Ft       | 29%             |
|  Unusable Space (Safety Concerns) | 66,434 Sq.Ft        | 10%             |
| <b>Space Remaining</b>   | <b>72,193 Sq.Ft</b> | <b>9%</b>       |



# Restoring Forgotten Land I Site Analysis

## Building Viability Plan



PKD Plant - VIAB.01

PKD Plant - VIAB.05

PKD Plant - VIAB.09

PKD Plant - VIAB.13

PKD Plant - VIAB.02

PKD Plant - VIAB.06

PKD Plant - VIAB.10

PKD Plant - VIAB.14

PKD Plant - VIAB.03

PKD Plant - VIAB.07

PKD Plant - VIAB.11

PKD Plant - VIAB.04

PKD Plant - VIAB.08

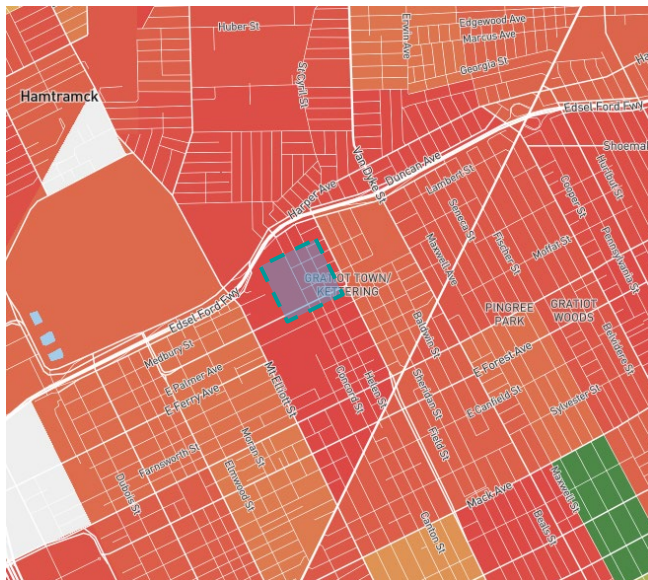
PKD Plant - VIAB.12

# Restoring Forgotten Land | Demographics



- Local Roads ~20 Vehicles / Day
- Rural Arterial ~60 Vehicles / Day
- Urban Interstate <168,000 Vehicles / Day
- Active Railroad ~4 Trains / Month
- Parking Lots
- Thesis Location

Demographics | Road Identification & Activity Map



- High Income | \$ 60,250
- Average Income | \$ 32,500
- Low Income | \$ 16,800
- Thesis Location

Demographics | Household Income Map

## Detroit Demographics

Population: 632,464

Poverty Rate: 30.6 %

### Racial and Ethnic Makeup:

- African American | 79.2 %
- White | 14.1 %
- Hispanic or Latino | 6.1 %
- Asian | 1.3 %

Median Household Income: \$ 32,500

Detroit is the largest city in the state of Michigan and is known for its rich history and vibrant culture. Located on the Detroit River, the city was founded in 1701 by French settlers and was an important center of trade and industry throughout the 19th and 20th centuries. In the early 1900s, Detroit became a major hub of the automotive industry, and was home to some of the most famous car manufacturers in the world, including Ford, General Motors, and Chrysler. However, in recent decades, the city has faced economic decline, urban decay, and population loss.

## Hamtramck District Household Incomes

Packard Plant is located within the Hamtramck district. Many of the residents around Packard Plant are designated as Low-Income Households

Median Household Income: \$ 16,800

Outliers: \$ 40,000 - \$ 60,250



The image features a decorative graphic consisting of several overlapping, semi-transparent rings. The rings are primarily light blue and light green, with some darker shades of blue and green. They are arranged in a circular pattern, with some rings being more prominent than others. The background is white.

# Case Studies

# Restoring Forgotten Land I Case Study Matrix

## Case Study Matrix Introduction

In order to effectively analyze a case study, a performance matrix unique to this thesis needed to be created. This thesis should create a sustainable, integrated landscape that effectively cleans the environment and enhances the quality of life for the surrounding community. The analysis of these case studies using the matrix below has yielded key insights and elements that will drive the design and methodology of this thesis. Each of the case studies offer a new perspective into post industrial design and remediation techniques.

Each case study, with regards to this thesis, were graded based on 4 factors.

**Environmental Impact**  
**Plant Diversity**

**Relevance / Usability**  
**Space Allocation**

Below are the stipulations for the case study matrix

|                      | 1   | 2  | 3   | 4  | 5   |
|----------------------|---|--|---|--|---|
| Environmental Impact | The Case Study Site does not use bio remediation techniques. No intent for environmental impact within design. Not properly cleaned and maintained. | The Case Study shows some intent in the design for bio remediation. Doesn't apply these techniques properly. Maintained and Cleaned 3-4 times a year | The Case study shows intent in the design for bio remediation. Design for environmental impacts are implemented. Maintained and Cleaned 1-2 a month.              | The Case study shows clear intent in the design for positive environmental impacts by way of multiple bio remediation techniques. Maintained and Cleaned regularly.                          | The case study is designed with environmental impacts first, building landscape second. Has led to drastically reduced rates of harmful chemicals. Consistently maintained and cleaned. |
| Relevance Usability  | The case study had little to no community involvement in design. Limited seasonal availability.   | The case study involved community development but did not utilize it efficiently. Available ¼ months of the year for consistent use.                 | The case study involved the community using different involvement techniques. Community influence was present. Available ½ months of the year for consistent use. | The case study works with the community to build the methodology for the project. Available ¾ months of the year for consistent use.   | The case study was developed with the local community side by side with the designers. Site plays host to several community themes / run events. Multi-seasonal, all year amenities     |
| Plant Diversity      | Limited number of plant diversity leading to a weaker landscape   | A couple plant cultivars are present but are not growing well due to poor conditions / direct interference with other plants                         | Multiple plant cultivars present offering a formidable landscape. Plant selection was in part designed for air purification.                                      | Several plant cultivars are present in good growing conditions leading to optimal growth. Plant selection has clear intent for air purification qualities in majority of selection           | The case study has high expanse of cultivated plant species and cultivars leading to a very strong and diverse landscape. Offers plant selection that increases air cleanliness.        |
| Space Allocation     | The case study offers no clear space allocation plan or design intent to offer flexible spaces  | The case study has a basic space allocation plan is presented with limited impact on design  | The case study has a space allocation plan that offers various spaces that work together to create a unique experience  | The case study has a space allocation plan that is present in all aspects of the design. Some of the spaces are being underutilized but overall produces multiple spaces for smaller groups. | The case study has several spaces allocated for flexible mixed use. A clear space allocation plan was developed and executed.   |

# Gas Works Park

## Case Study Analysis

### About

**Location:** Seattle , United States

**Landscape Architect:** Richard Haag

**Year(s) Designed:** 1965 - 1975

**Construction Completed:** 1975

**Typology:** Post Industrial Design - Park - Modernist

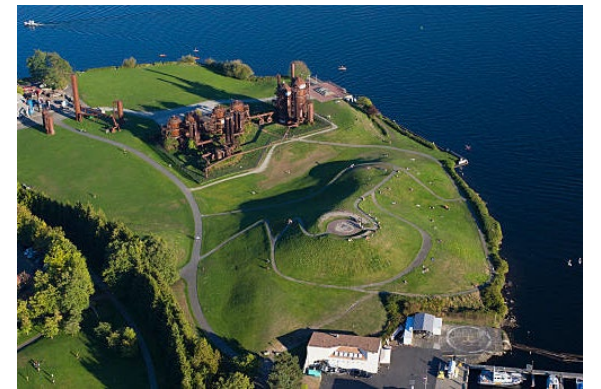
**Awards:** "Award for Design Excellence"

### Design Narrative

Gas Works Park is a public park in Seattle, USA, on the site of a former coal gasification plant that operated from 1906 to 1956. Designed by Richard Haag and completed in 1975, the park incorporates the remaining structures and machinery from the plant, such as the towers and the boiler house. The park includes grassy areas, a children's play area, and a picnic area. The park is known for its innovative use of industrial remnants in its design, and its restoration techniques that clean up the site and restore the natural habitat.

### Design Elements

- The boiler house, a central feature, was converted to a picnic shelter complete with tables and grills.
- The former exhauster-compressor building was transformed into an open-air play barn for all ages.
- Introduced educational elements with interactive mazes and machines left on site.
- Shifted public perception of post-industrial landscapes.
- Secondary reclamation project into the polluted soils was implemented and has now been nationally respected for revolutionizing the bio-remediation process.
- Seven zones in the design: North Meadow, Play Barn, Prow, Towers, Great Mound, Swale, and North Field





# Gas Works Park

## Matrix Analysis

### Environmental Impact



Gas Works Park was a key component in the research and application of restoration techniques with an abandoned industrial zone. Cleaning up the site was no small task with chemical waste being spilled onto the site for years. In just 10 years from being built. Gas Works Park was restored back to its natural habitat. These techniques have been applied to this thesis and will lead to a similar result.

### Relevance / Usability



This site is commonly hosting large events and hundreds of people can be seen using it throughout the year, Gas Works Park has become a Seattle destination.

### Plant Diversity



Gas Works Park has used soil solution techniques to restore the original environment. Allowing for plantings that benefit phytoremediation. While there aren't many plantings on the site. The grass has restored the soil structure.

### Space Allocation



Focusing more on large open spaces rather than a forest of trees. Gas Works Park uses its massive size effectively. Creating a general path throughout the park connecting each location while also allowing users to explore the space. Gas Works Park is an ongoing project that is looking to expand and include more industrial elements on site.



Gas Works Park  
Matrix Score



# MFO Park

## Case Study Analysis

### About

**Location:** Zurich , Switzerland

**Landscape Architect:** Raderschall

**Year(s) Designed:** 1998 - 2002

**Construction Completed:** 2002

**Typology:** Post Industrial Design - Park

**Awards:** 2010 “Most Innovative Contemporary Park” Award

### Design Narrative

The green atrium was designed to be a public, flexible, multi-use space. Its large area is appropriate for individual activities, sports and games. MFO park was designed to have no limitations in comparison to regular parks. Collective events, tournaments, open-air cinema, theater, concerts and variety shows are among the possible uses. Small, quiet rooms are created by the interstices, with a view into the atrium promoting user interaction.

### Design Elements

- The climbing plants are planted at different levels, in the ground and on irrigated troughs on upper levels and roof. They used strong plants like wisteria, grapevine, ampelopsis, and Parthenocissus that complement the architecture.
- By using different plant types, the colors of the space change throughout the year. In winter, the construction is visible, but in growing periods, it's covered in green. In fall, wild vine adds red color. The summer heat is reduced. At night, the structures in the square and atrium are lit from within, creating a 3D effect.





# MFO Park

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## Matrix Analysis



MFO Park  
Matrix Score



### Environmental Impact



MFO Park used its plants to mediate the air and clean it increasing the quality. This park is also fully self-sufficient including a complex greenhouse system with accommodating water system to closely monitor and treat the vegetation.

### Relevance / Usability



MFO Park is frequented daily, and the building can be used for most of the year. While some of the vegetation falls to the cold. Strategically places between an existing pedestrian thoroughfare, this enhances that space and includes a new flexible space for the users.

### Plant Diversity



MFO Park is known for having a vast diversity of plants and vegetation within the park's borders, Using design elements that include a level concept offers more space for the vegetation to grow. The increased variety of plants compliments a strong plant diversity system.

### Space Allocation



MFO Park is a different look at a traditional greenhouse. Utilizing a level concept to better compliment the space given. Offering dozens of seating options and a lush environmental feel. MFO Parks creates a whole new ecosystem once inside

# Uferpark Attisholz Süd

## Case Study Analysis

### About

**Location:** Luterback , Switzerland

**Landscape Architect:** Mavo Landschaften

**Year(s) Designed:** 2016 - 2019

**Construction Completed:** 2019

**Typology:** Post – Industrial

**Awards:** 2022 Public Landscape

### Design Narrative

The Attisholz Süd riverside park provides a possible answer to the question regarding the contemporary shape of this type of cultural landscape between former and future industrial areas, between nature conservancy and pressure from recreational needs, and between infrastructural and ecological connections. This creates a unique perspective between the park and the landscape.

### Design Strategies

- An intervention strategy was implemented due to the pragmatism of the existing industrial buildings. This strategy was oriented towards pragmatism and directness in the use of on-site resources.
- Details a new approach to experience the park from an aesthetic point of view.
- Degree of visible design will interplay with the familiar landscape.





# Uferpark Attisholz Süd

## Matrix Analysis

### Environmental Impact

4

Closing the factory has helped the environment by reducing chemical release. The site has been redesigned to further improve the environment and benefit the local community. Techniques like hydroponics are used to clean the soil and make it good for growing crops. The space is now used for a food market and public gardens.

### Relevance / Usability

3

Before redevelopment, this location was industrial and caused pollution. Despite this, it was important to the community. The existing structures were used, and new open spaces were added with lots of plants and activity. The site is popular with locals and tourists, bringing more people and money to the city. It's open all year and encourages people to use it.

### Plant Diversity

2

The existing industrial site has been completely converted into a public icon park that is frequented yearly. Using an intervention plan to implement hundreds of trees and shrubs throughout the location. While plenty of vegetation was added in the design of this park. Many of the trees are the same or within the same family, This leads to a weaker plant diversity.

### Space Allocation

5

The existing industrial buildings serve as the basis for a pragmatic and cost-effective intervention strategy to address high utilization pressures. Targeted interventions, such as providing bicycle connections and opening up streams and drainage in the rear plots, create multiple attractive spatial qualities while maintaining the existing structures. These interventions also enhance the Aare space, create a promenade along the edge of the park, revitalize the river space, and define the Attisholzplatz.



Uferpark Attisholz Süd  
Matrix Score



# Concrete Plant Park

## Case Study Analysis

### About

**Location:** The Bronx NY , United States

**Landscape Architect:** Jim Mituzas – Bronx Capital

**Year(s) Designed:** 2000 - 2009

**Construction Completed:** 2009

**Typology:** Post Industrial Design - Multi Use - Pedestrian Greenway

**Awards:** 2010 “Designing the Parks” Merit Award in the Site Design Category

### Design Narrative

Focused on renewing this body of water. Alongside its concrete silos, Concrete Plant Park invites visitors to use its boat launch, waterfront promenade, chess tables, and a busy bike path. The park is located between several busy bridges and is cut off from the mainland by an Amtrak line and the Sheridan Expressway. Offering a peaceful and isolated park.

### Design Strategies

- Develop a framework for planning and designing public parks that are innovative, responsive, respectful, sustainable and inclusive
- Introduced a dynamic interactive process, including reverence for place, engagement of all people, expansion beyond traditional boundaries, advancement of sustainability
- Plans to eventually use the silos as “green machines,” as water cisterns or power generators with attached photovoltaics. (Have not been implemented)





# Concrete Plant Park

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## Matrix Analysis

### Environmental Impact



Concrete Plant Park aimed to clean up the industrial area and the water it sits on. Concrete Plant Park had lots of old industrial structures and was covered with concrete, which was contaminated. Despite these challenges, they recognized the potential of the land and made efforts to realize it. They cleaned up the environment, but the current design doesn't have an environmental impact.

### Relevance / Usability



The Bronx community initially opposed the Concrete Plant Park project, but now they embrace it along with community groups and visitors. This shows involving the community in the design process can lead to success. The park is now popular, and hundreds of visitors enjoy it every day.

### Plant Diversity



While offering hundreds of plantings throughout the park. The plant diversity experienced in this park is minimal. This does not take away from the park being a local hotspot. Offering flexible open spaces lends to more random activities.

### Space Allocation



Concrete Plant Park has three sections, with the industrial part in the middle and open fields around it. There are paths leading back to the city. This case study shows how to design for the community's needs. It's a big park with trees that reduce noise and offers a break from busy life.



Concrete Plant Park  
Matrix Score

# Restoring Forgotten Land I Matrix Results

## Case Study Matrix Results

The analysis of these case studies using the matrix designed has yielded key insights and elements that will drive the design and methodology of this thesis. Each of the case offers a new perspective into post industrial design and re mediation techniques. The rankings for the case studies according to the landscape performance matrix (in Order) can be seen below

|                        | Environmental Impact | Relevance / Usability | Plant Diversity | Space Allocation | Total<br>XX / 20 |
|------------------------|----------------------|-----------------------|-----------------|------------------|------------------|
| Gas Works Park         | 5                    | 4                     | 5               | 4                | 18 / 20          |
| MFO Park               | 5                    | 4                     | 5               | 3                | 17 / 20          |
| Uferpark Attisholz Süd | 4                    | 3                     | 2               | 5                | 14 / 20          |
| Concrete Plant Park    | 2                    | 5                     | 1               | 5                | 13 / 20          |



# Restoring Forgotten Land | Matrix Results

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## Case Study Matrix Relevance

### Gas Works Park | 18 / 20

Gas Works Park is an excellent case study that showcases a combination of natural and industrial elements in a visually striking environment. The park's innovative use of industrial remnants in its design is notable. Additionally, the park uses natural restoration techniques to restore the natural habitat of the area. The park's design also includes complex phytoremediation techniques to enhance plant diversity while not using a large amount of vegetation throughout the park. It is a great example of how to involve the community in the design process.

### MFO Park | 17 / 20

MFO Park stands out as it is not a renovated industrial building but built in an industrial district. The park has the most plant diversity, achieved by using many trees and shrubs both inside and outside the greenhouse. Its large atrium space inside the greenhouse creates a unique view and encourages community events.

### Uferpark Attisholz Süd | 14 / 20

Uferpark Attisholz Süd demonstrates how contaminated sites can be transformed into thriving community centers and parks. The case study emphasizes the significance of a well-thought-out planting plan, particularly with respect to the placement of trees and the spaces they create.

### Concrete Plant Park | 13 / 20

Although Concrete Plant Park received a low score in the matrix developed for this thesis, it still provides valuable insights into community involvement in the design process and creating flexible spaces.



Research

# Restoring Forgotten Land | Research

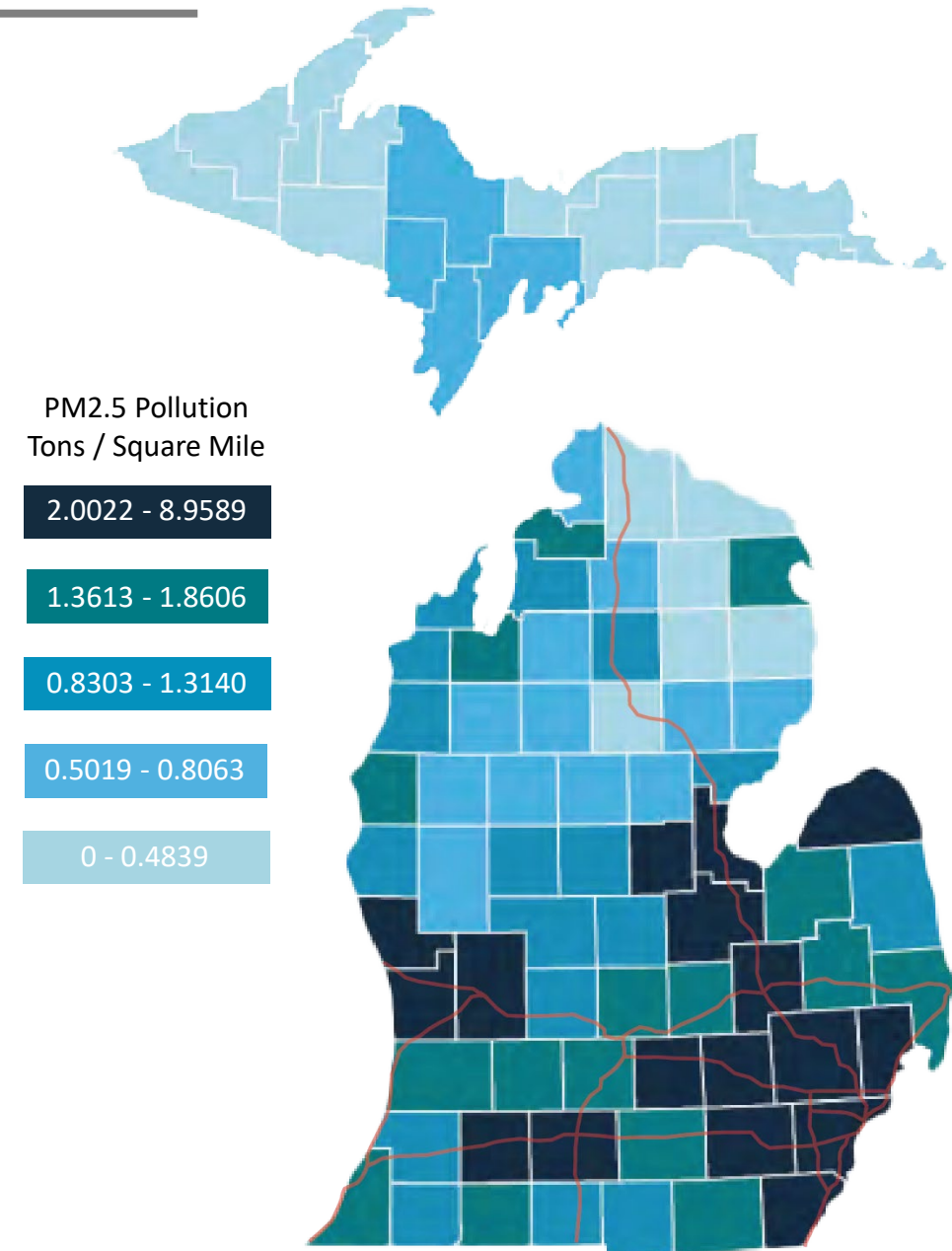
## PM2.5 Pollution

### What is PM2.5 Pollution?

While Detroit may not have the production capability it once had, there is still production happening in dozens of mills, foundries, warehouses etc. As a result of the higher levels of chemicals in the air, PM2.5 pollution has emerged and is now spreading in the surrounding region. PM2.5 refers to a kind of pollution particle that is measured in micrograms per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ). These particles are primarily formed in the atmosphere through a complicated chemical reaction between sulfur dioxide ( $\text{SO}_2$ ) and nitrogen oxides ( $\text{NO}$ ).

### Negative Health Effects?

PM2.5 pollution can have serious health effects on the respiratory and cardiovascular systems, potentially leading to conditions such as COPD, heart attacks, strokes, and premature death. Inhaling these particles can cause symptoms like coughing, wheezing, and chest tightness. Studies suggest that PM2.5 pollution is responsible for millions of deaths worldwide annually.





# Restoring Forgotten Land | Research

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## Sulfur Dioxide SO<sub>2</sub>

### What is Sulfur Dioxide?

Sulfur dioxide (SO<sub>2</sub>) is a colorless gas with a strong and irritating odor. It is a chemical compound composed of sulfur and oxygen molecules.

Sulfur is a common impurity found in industrial fuel. When those materials are burned, the sulfur combines with the oxygen to form sulfur dioxide.

### Companies that produce SO<sub>2</sub> in Detroit , MI



# Restoring Forgotten Land I Research

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## Nitrous Oxide N<sub>2</sub>O

### What is Nitrous Oxide?

Nitrous oxide (N<sub>2</sub>O) is a colorless and odorless gas that occurs naturally in the Earth's atmosphere as well as being emitted by human activities. It is a greenhouse gas that has a warming effect on the atmosphere. The largest source of nitrous oxide emissions in the city is the burning of fossil fuels, such as coal and oil, in power plants and vehicles. Nitrous oxide is also produced by fertilizers in agriculture.

### Industries that produce N<sub>2</sub>O in Detroit

It is difficult to say what companies specifically produce nitrous oxide in Detroit, as the pollutant is produced by a variety of industries including:

- Power utilities
- Transportation and logistics firms
  - Agricultural companies
  - Chemical manufacturers.

# Restoring Forgotten Land | Research

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## Soil Pollutants PCBs & PAHs

### What is PCBs

PCBs (Polychlorinated biphenyls) are man-made chemicals that were commonly used in industrial and commercial products until their toxicity led to a ban in 1979. They are linked to health effects such as cancer, liver damage, and developmental issues. PCBs are persistent organic pollutants that can accumulate in the food chain and are difficult to break down in the environment. Packard Plant's soil has been saturated with PCBs for years, resulting significant soil contamination and damage.

### What is PAHs

PAHs (Polycyclic Aromatic Hydrocarbons) are chemicals formed during incomplete burning of organic materials like fossil fuels, coal, wood, and tobacco smoke. They are also found in asphalt and considered as an air pollutant. These chemicals are present in the environment in various forms and can cause cancer and developmental issues in fetuses and children. They can also harm plants and wildlife. PAHs are persistent organic pollutants

### What is Lead

Lead is a high-density compound with a low melting point and low reactivity rate. Lead was used in dozens of consumer products and in production. Years of lead exposure in Packard Plant has permanently damaged the soil within the borders.

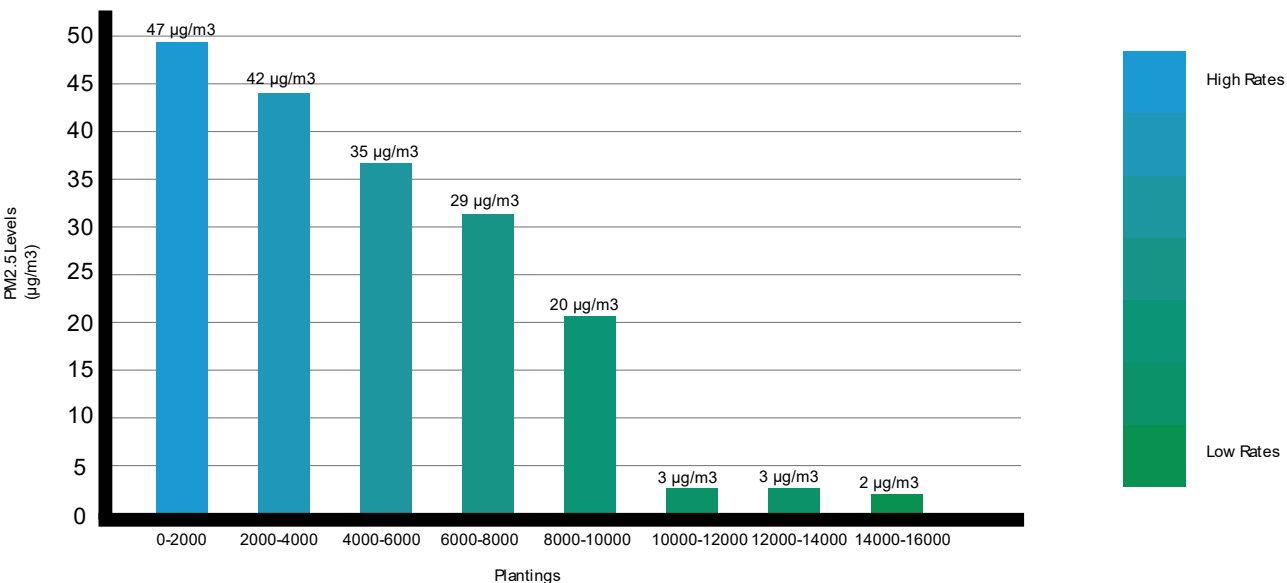


# Restoring Forgotten Land I Results

## Research Results

### Solutions for PM2.5 Pollution

A natural solution presents itself as being an active opponent to the spread of this pollution. Plants, shrubs, and trees all have natural abilities to filter out pollution along with other oxidants from the air and clean it. Due to the increased amount of toxic chemicals in the air specific vegetation will need to be selected to combat it. Using abandoned sites such as Packard plant offers a unique design to both help the environment around it passively. While also offering a new community and local hotspot in an already historic location.



### Solutions for PCBs

Remedial Options Plant-mediated bioremediation. Anaerobic dehalogenation and aerobic degradation

### Solutions for PAHs

Remedial Options: solvent extraction, bioremediation, phytoremediation, chemical oxidation, photocatalytic degradation, electrokinetic remediation, thermal treatment and integrated remediation technologies

### Solutions for Lead

There are a dozen solutions for lead contaminant remediation that vary by cost and effectiveness. The most common would be replacing the existing soil with new, clean, soil and plant native grasses. Fruity trees should be used rather than leafy trees with deep root systems. Fruity trees have a natural remedy for removing lead particles from the air and soil.

### Fighting a Battle:

Located 12.3 miles south sits the Marathon Petroleum Cooperation. This petroleum plant produces 430 tons of nitrous oxide, 83 tons of PM2.5, and 211 tons of sulfur dioxide yearly.

# Restoring Forgotten Land | Research / Results

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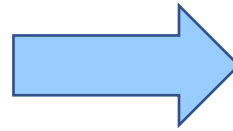
## Memory Strategies

### Memory Design Strategies

**Disruption:** This strategy involves grabbing the attention of the user towards a landscape, altering their route, highlighting memorable features, or magnifying landscape elements can create a disruptive effect from their usual expectations.

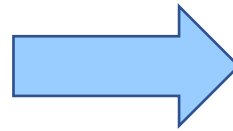
**Centralization:** Place individuals within environments of varying sizes to shape their comprehension of their individual connection to a location, through interaction with others. This triggers emotions, significance, and related memories.

**Storytelling & Interpretation:** One of the main ways that memory can be incorporated into landscape design is through the preservation of historical structures and artifacts. This can include buildings, machinery, and other physical elements that have played a role in the site's history. By preserving these elements and using them as a starting point for the design, spaces can be created that tell a story and help connect the community with the site's history.

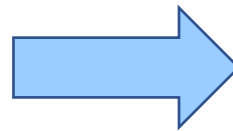


### Design Strategy Implementation

**Disruption:** This strategy was applied within Packard Park by integrating the existing buildings and updating sections of them to make them safe for the public. Detroit citizens have known Packard Plant as crumbling mess for too long. This design strives to turn expectations around for this historic site.



**Centralization:** Utilizing different phytoremediation techniques within the design as well as offering a multi-floor experience throughout Packard Park looks to trigger people's emotions through related memories of what the site was. While creating new memories and connection points.



**Storytelling & Interpretation:** The Story behind Packard Park is one of reuniting with an old friend. For many that live near the area there is a deep connection with the existing Packard Plant. Older residents might have worked there while some younger residents may still have a connection with the building due to a parent or relative. Packard Park looks to rekindle those memories and maybe create some new ones. Playing host to re created structures and entrances that were historically where the average worker arrived. The food truck plaza symbolizes the food that Packard Plant employees would receive often from a food cart.

# Restoring Forgotten Land I Research

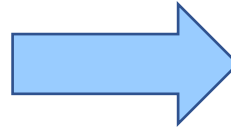
## Memory Theories

### Memory Theories

**Landscapes as a Site of Renewal:** The landscape is viewed as a space of rejuvenation and renewal, where visitors can connect with nature and their inner selves. It seeks to create a harmonious and restorative environment by utilizing elements such as water, vegetation, and natural materials.

**Landscape as Reinterpretation:** The landscape is viewed as a blank canvas that can be reinterpreted to reflect new stories, memories, and experiences. It involves the use of elements such as physical structures, visual and sensory cues, and community engagement to create a new narrative for the site.

**Landscapes as a Site of Contemplation:** The landscape is viewed as a place of reflection, contemplation, and introspection. Where visitors can reflect on the past, present, and future. It seeks to create a serene and contemplative environment by implementing physical and sensory elements that encourage reflection and introspection.



### Theory Implementation

**Renewal Theory:** This theory was instrumental in the development of Packard Park. Developing an identity for the site early on I was able to take the concept of different combining environmental elements and built upon it. The product was a thriving green zone that can set an example for the rest of the city.

**Reinterpretation Theory:** Building with the renewal theory into this theory inspired the design decision to use as many visual representations as possible within the new Packard Park. This serves for all three theories explored and recycling on site materials wherever possible created a landscape that presents the idea of time.

**Contemplation Theory:** Packard Park offers a glimpse into the past with the sections of buildings that were left intentionally to be a spectacle. The existing bridges that workers would use had collapsed. Re-creating them to walkthrough along the path or above connecting each green roof. Packard Park offers a glimpse into the past, while also being a shining example of how abandoned industrial sites can be transformed into a high functioning green zone that pays ohmage to the rich history of Packard Plant



The image features a large, stylized graphic element consisting of several concentric, overlapping bands. The left side of the graphic is a solid blue circle. The right side is a curved, wavy shape that transitions from light blue to a pale green. The text "Packard Park Design" is centered within the white space of the graphic.

# Packard Park Design

# Restoring Forgotten Land | Packard Park Design

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Packard Park Major Project Elements

Phytoremediation Walk

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Ecosystem Restoration

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Integrated Green Roofs

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Food Truck Plaza

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Community Center Plaza

# Restoring Forgotten Land | Packard Park Design

## Packard Park Master Plan



Packard Park - Master Plan  
Scale 1/64" 1' - 0"



### Legend

- |  |  |  |   |
|--|--|--|---|
| PS.1 Perspective 01 - Phytoremediation Walk  | PS.6 Perspective 06 - Lead Remediation         | MPE.1 Major Project Element - Phytoremediation Showcase Walk               | SD.1 Section Detail - 0/5/10 Phytoremediation Zones |
| PS.2 Perspective 02 - Fruit Remediation Walk | PS.7 Perspective 07 - Fruit Remediation Willow | MPE.2 Major Project Element - Community Center Demolition Plaza            | SD.2 Section Detail - Integrated Green Roof         |
| PS.3 Perspective 03 - Food Truck Plaza       | PS.8 Perspective 08 - Food Truck Plaza Ground  | MPE.3 Major Project Element - Community Farmers Market                     | EF.1 Existing Feature - Railroad                    |
| PS.4 Perspective 04 - Community Center       | PS.9 Perspective 09 - Indian Mustard Fields    | MPE.4 Major Project Element - Food Truck Plaza                             | EF.2 Existing Feature - Building Debris             |
| PS.5 Perspective 05 - Green Roof Look Down   | PS.10 Perspective 10 - Packard Park Entrance   | MPE.5 Major Project Element - Integrated Green Roof (Connected by Bridges) |   |



# Restoring Forgotten Land | Packard Park Design

## Community Center Square & Farmers Market Master Plans



### CC Square / Farmers Market Master Plan

Scale 1/16" = 1'-0"



#### Legend



Elevator Access



Phyto Planting 2 -

Douglas Firs  
Silver Maples  
Native Blue Joint Grass



Phyto Planting 3 -

Indian Mustard



Phyto Planting 4 -

Big & Little Bluestem Grass  
Switch Grass  
Festuca Ovina Grass



Phyto Planting 6 -

Boston Fern  
Colored Hyacinth  
Glacial Plain Grass



Phyto Planting 6 -

Oak Tree  
Native Blue Joint Grass



Structural Component - Seated Planter



# Restoring Forgotten Land I Packard Park Design

## Community Center Square & Farmers Market Perspectives



Packard Park Design I Community Center – 4:45 pm



Packard Park Design I Community Center – 6:00 pm

# Restoring Forgotten Land I Packard Park Design

## Food Truck Plaza Master Plan





# Restoring Forgotten Land | Packard Park Design

## Food Truck Plaza Perspectives



Packard Park Design | Food Truck Plaza – 11:00 am



Packard Park Design | Food Truck Plaza – 6:50 pm



# Restoring Forgotten Land | Packard Park Design

## Phytoremediation Walk Master Plan



Phytoremediation Walk - Master Plan  
Scale 1/32" = 1'-0"



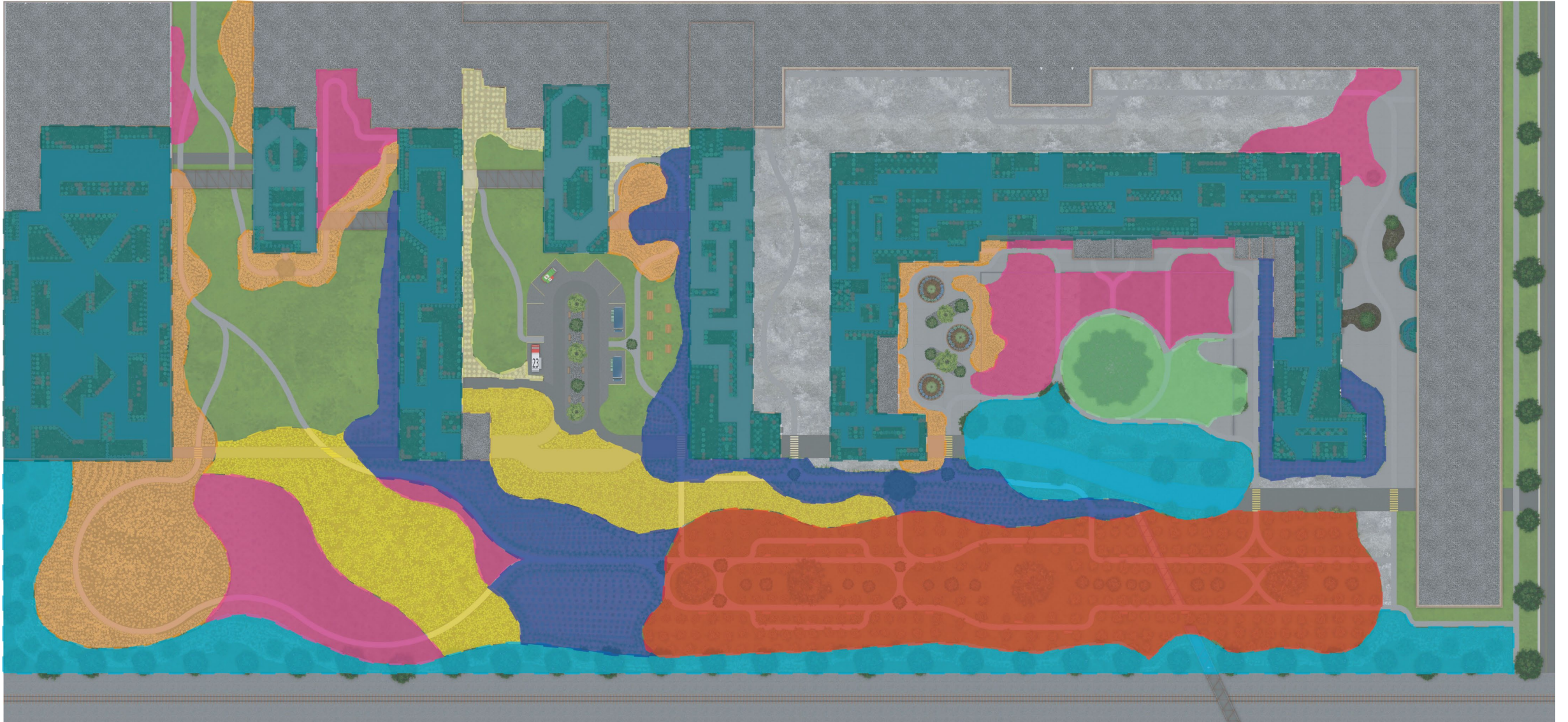
### Legend

- |   |   |
|---|---|
|  Phyto Planting 1 -<br>Apple, Cherry, Pear Fruit Trees<br>Willow Trees<br>Native Dune Grass |  Phyto Planting 6 -<br>Boston Fern<br>Colored Hyacinth<br>Glacial Plain Grass |
|  Phyto Planting 2 -<br>Douglas Firs<br>Silver Maples<br>Native Blue Joint Grass            |  SC.2 Structural Component - Bridge Replica                                  |
|  Phyto Planting 3 -<br>Indian Mustard  |   |
|  Phyto Planting 4 -<br>Big & Little Bluestem Grass<br>Switch Grass<br>Festuca Ovina Grass  |   |
|  Phyto Planting 5 -<br>Sunflowers<br>Switch Grass<br>Glacial Plain Grass                   |   |



# Restoring Forgotten Land | Packard Plant Design

Packard Park Remediation Zones Visualized





# Restoring Forgotten Land I Packard Park Design

## Phytoremediation Walk Perspectives



Packard Park Design I Fruit Remediation Walk – 11:00 am



Packard Park Design I Food Truck Plaza – 11:00 am



Packard Park Design I Phyto Walk near Willow – 7:40 pm

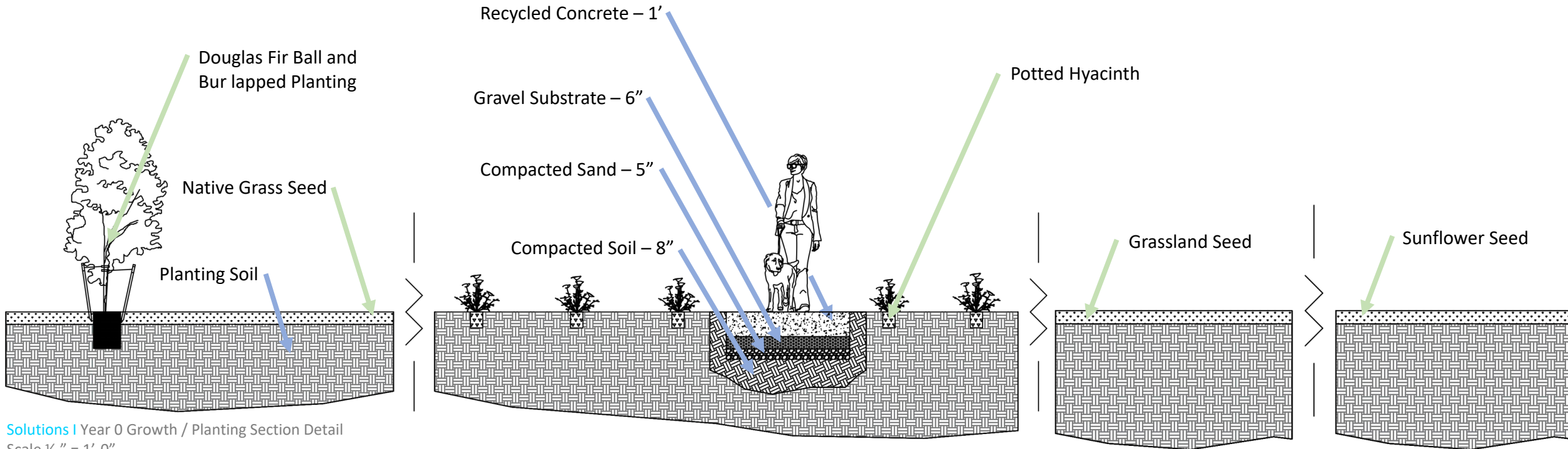


Packard Park Design I Hairpin Phyto Walk – 6:15 pm



# Restoring Forgotten Land | Solutions

0 – 5 – 10 Year Growth Details



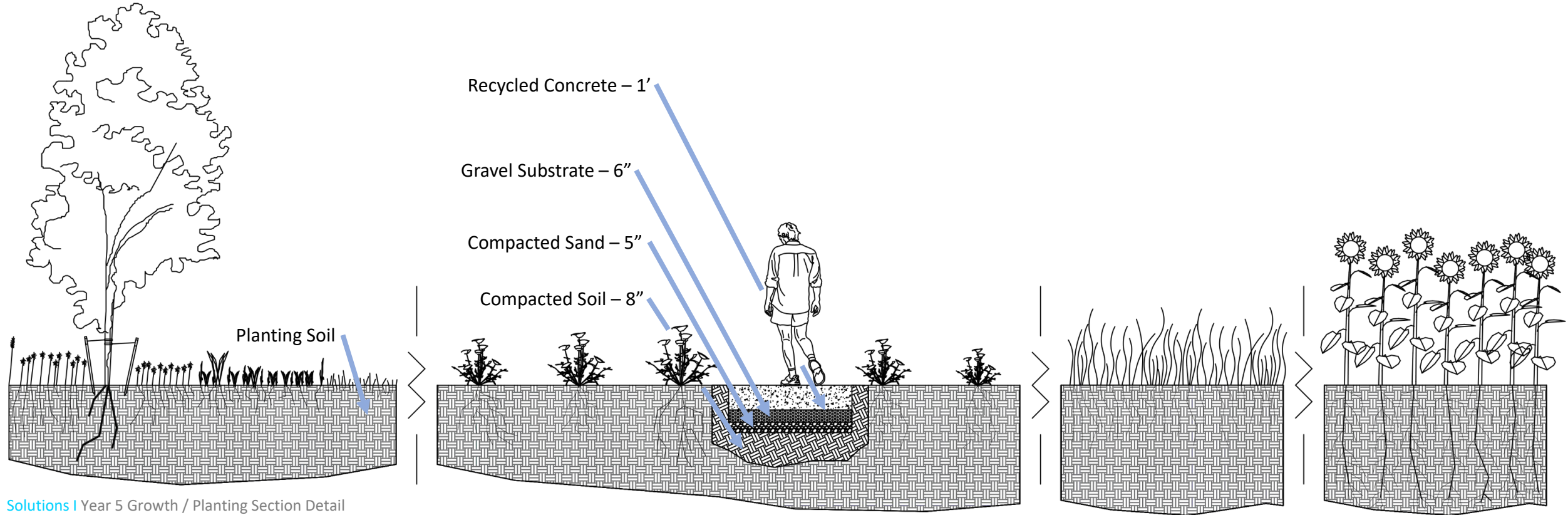
Solutions | Year 0 Growth / Planting Section Detail

Scale 1/2" = 1'-0"



# Restoring Forgotten Land | Solutions

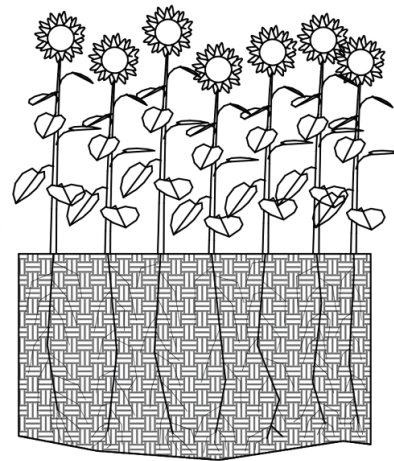
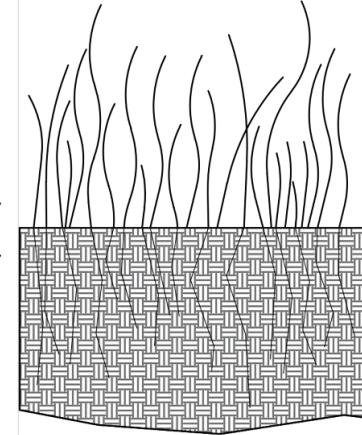
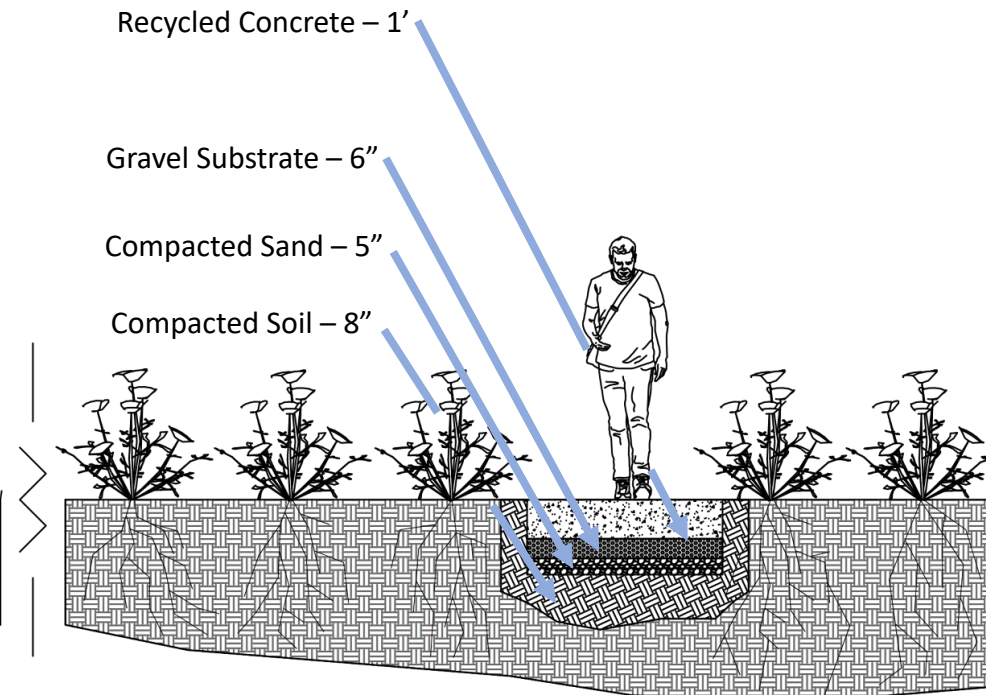
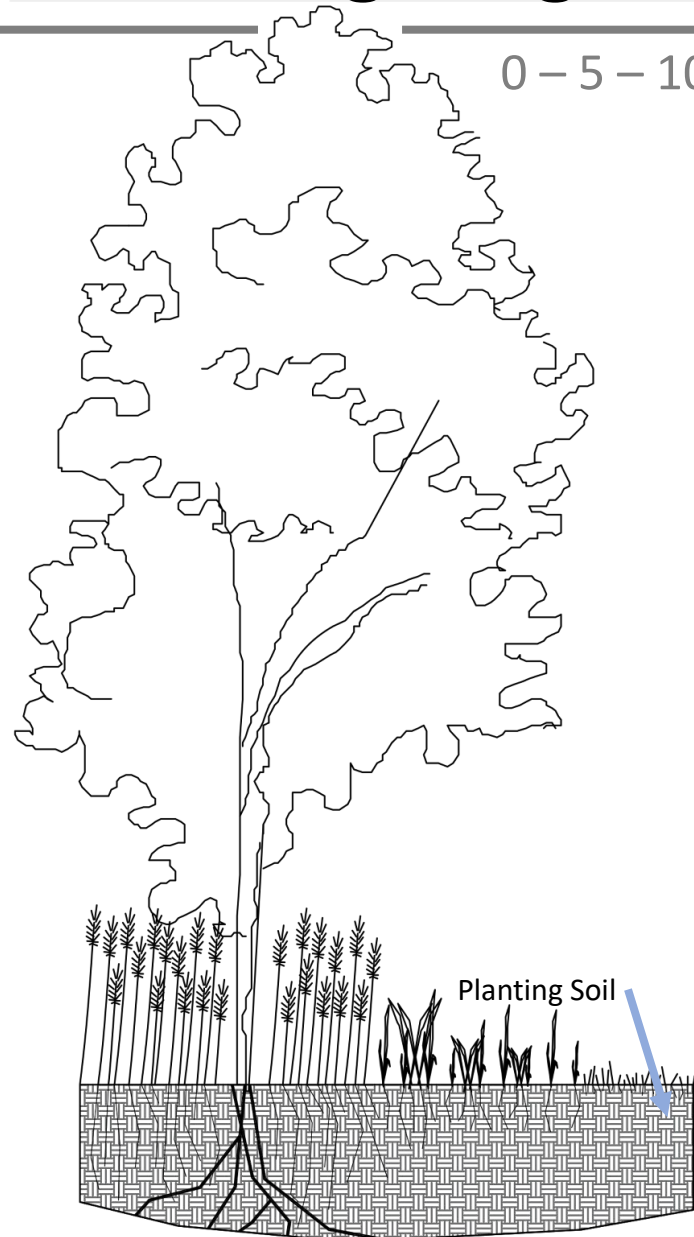
0 – 5 – 10 Year Growth Details



Solutions | Year 5 Growth / Planting Section Detail  
Scale 1/2" = 1'-0"

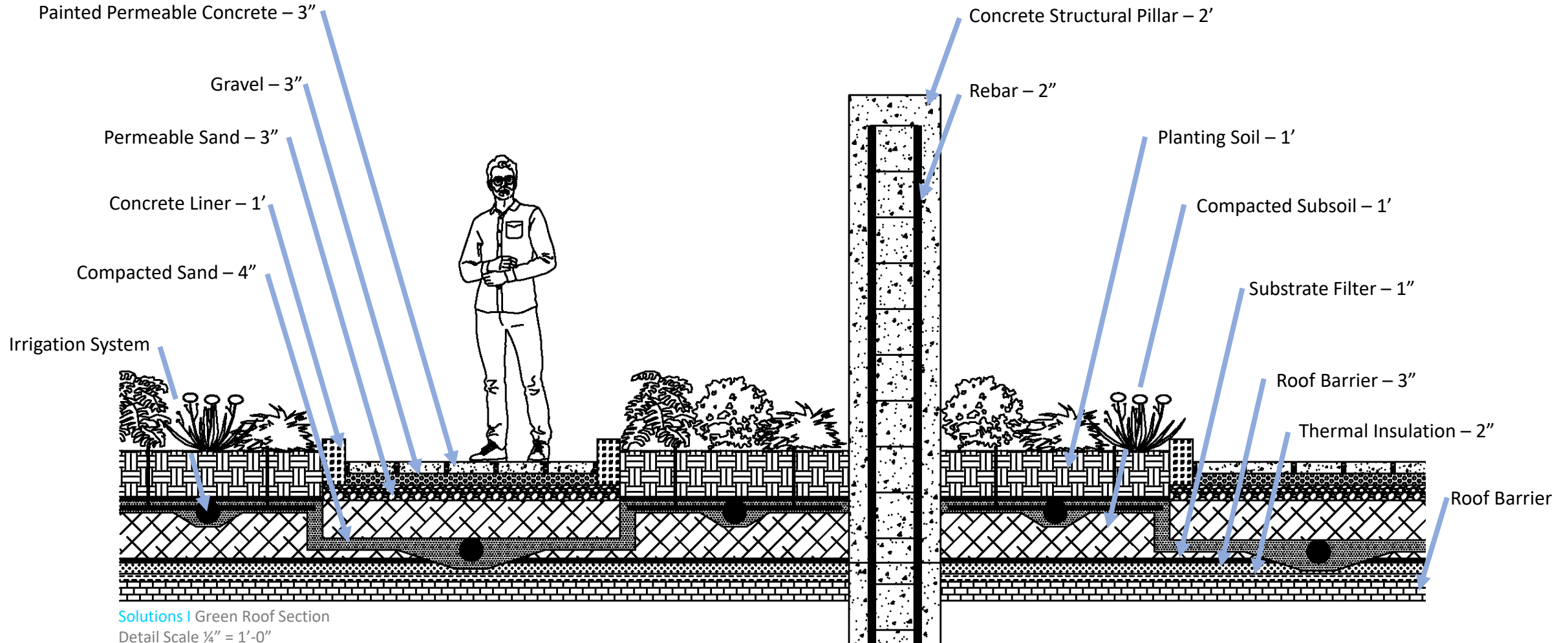
# Restoring Forgotten Land | Solutions

0 – 5 – 10 Year Growth Details



# Restoring Forgotten Land | Solutions

## Green Roof Detail



Solutions | Green Roof Section  
Detail Scale  $\frac{1}{4}'' = 1'-0''$



Questions?