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# Waukesha County Stormwater Workshop

April 21, 2021

## Innovative Green Infrastructure Beneath the Marquette Interchange

Anna Sunderland, P.E., Strand Associates, Inc.®

[Anna.Sunderland@strand.com](mailto:Anna.Sunderland@strand.com)



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# Agenda

- Project Background
- Planning Phase
- Design Phase
- Construction Photos
- What's Next?



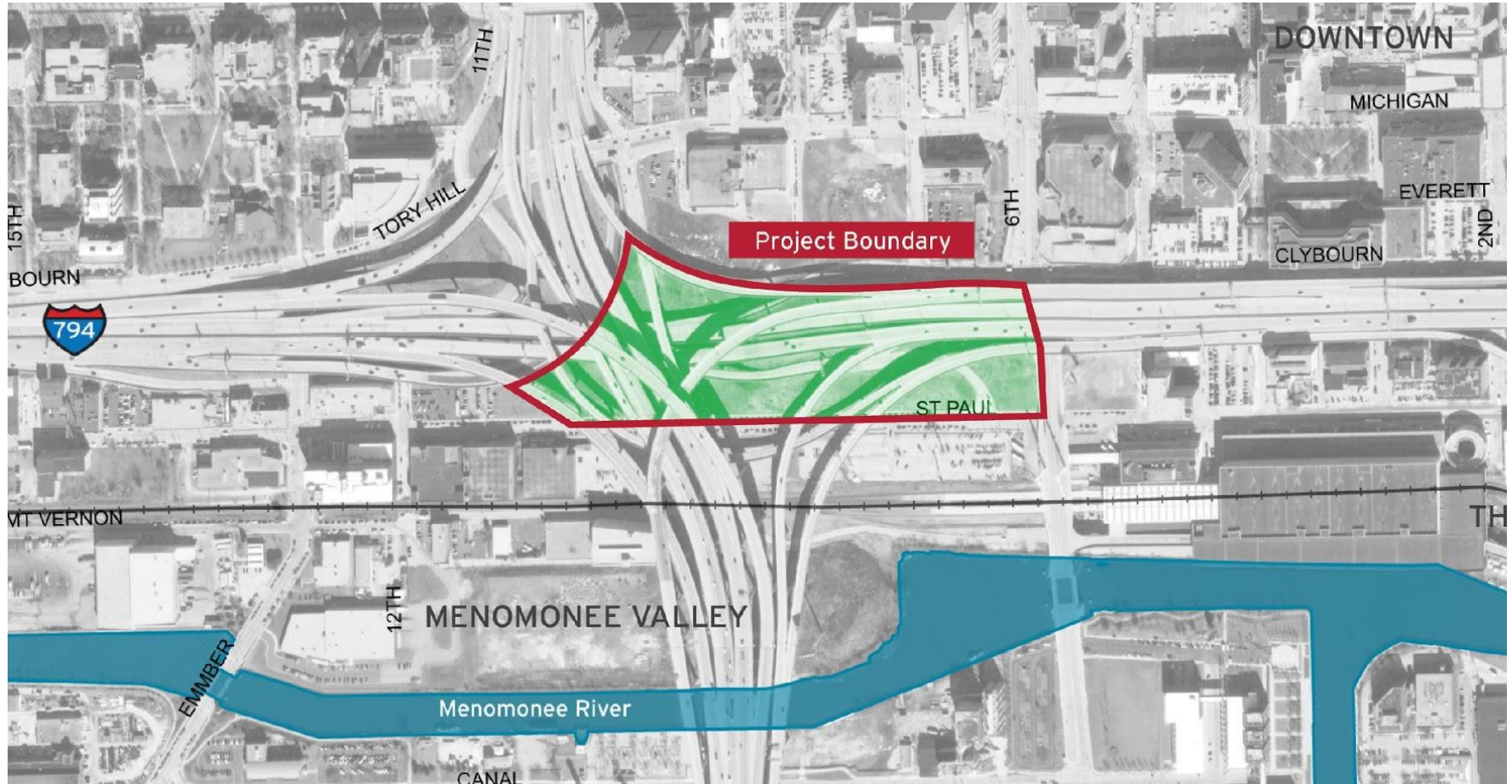
Preconstruction Marquette Interchange site along W St. Paul Avenue

# Forgotten Urban Land Presented Unique Opportunities



Aerial view of the Marquette Interchange  
Map Data: Google

# Contaminated Runoff from Marquette Interchange Discharged Directly to Menomonee River





**Preconstruction west site, facing southeast towards W St. Paul Avenue**



WS4

476  
H. 1.822  
712

**Preconstruction west site, facing east along W St. Paul Avenue**



**Preconstruction west site, facing east  
beneath the Marquette Interchange**





**Preconstruction west site, facing east**



**Preconstruction east site, facing north from W St. Paul Avenue**

# Multi-Agency Collaboration Sets Stage for Project Success



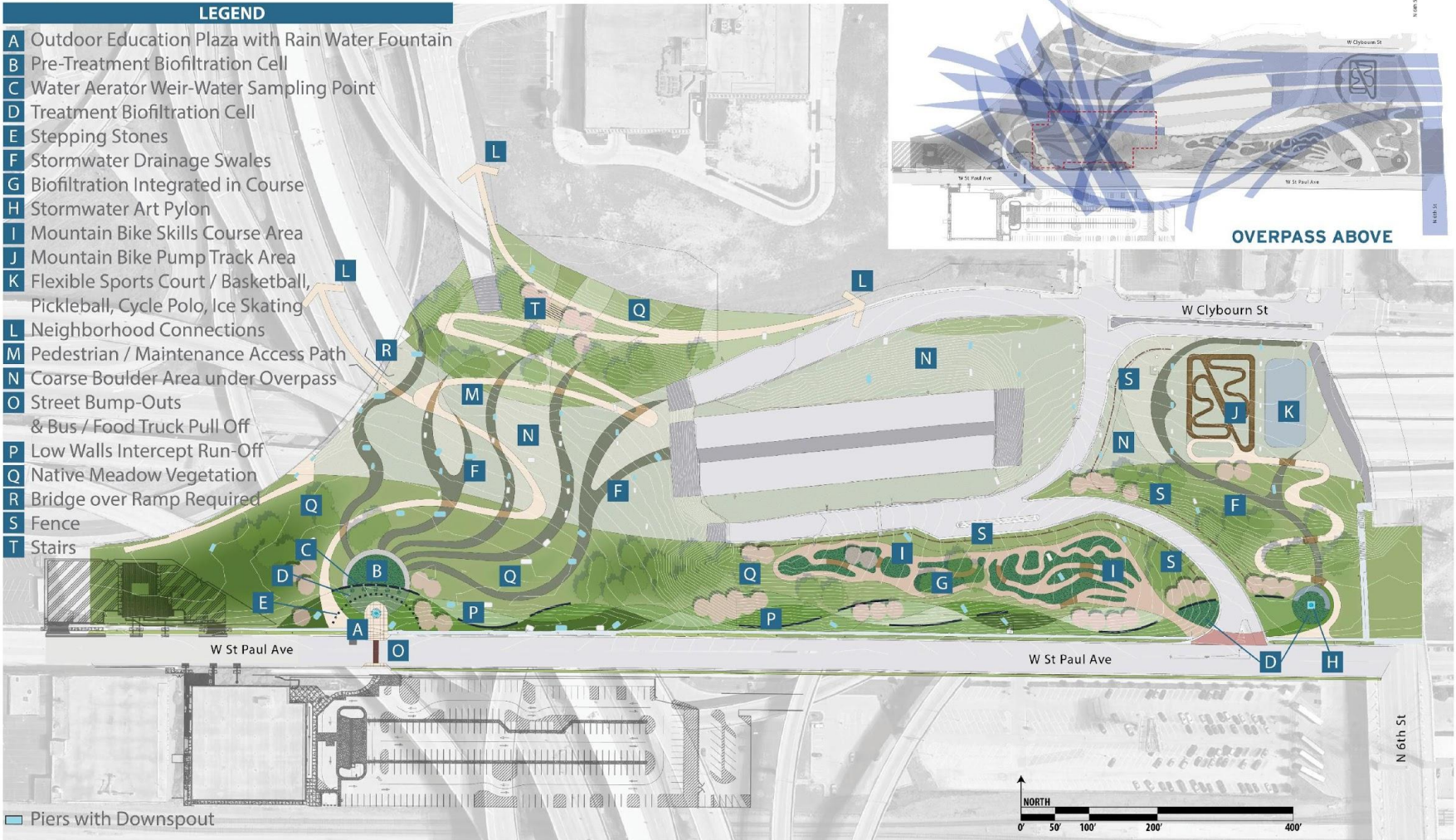
# Inclusive Planning Approach Gathered Input from All Stakeholders

- Project Stakeholders:
  - MMSD
  - City of Milwaukee DPW & DCD
  - WisDOT
  - WDNR
  - Milwaukee County
  - Menomonee Valley Partners
  - Marquette University



MARQUETTE  
UNIVERSITY

# Final Recommended Plan Incorporated Stakeholder and Public Input



HUMAN NATURE | STRAND ASSOCIATES

DECEMBER 17, 2019



# 3D Renderings Communicated Project Vision



With Permission of Human Nature, Inc.

3D rendering of west bioretention basin

# 3D Renderings Communicated Project Vision



With Permission of Human Nature, Inc.

3D rendering of east bioretention basin

# Future Recreational Opportunities Incorporated into Plan



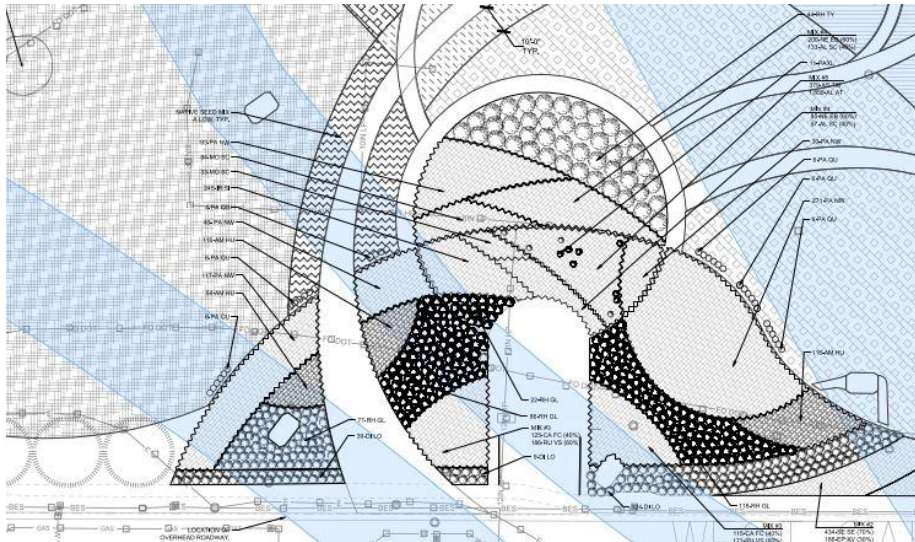
With Permission of Human Nature, Inc.

3D rendering of future recreational opportunities



# Constrained Site Presented Unique Challenges

- Minimal sunlight for plant growth
- High salt levels
- Existing bridge piers and utilities
- Contaminated soils

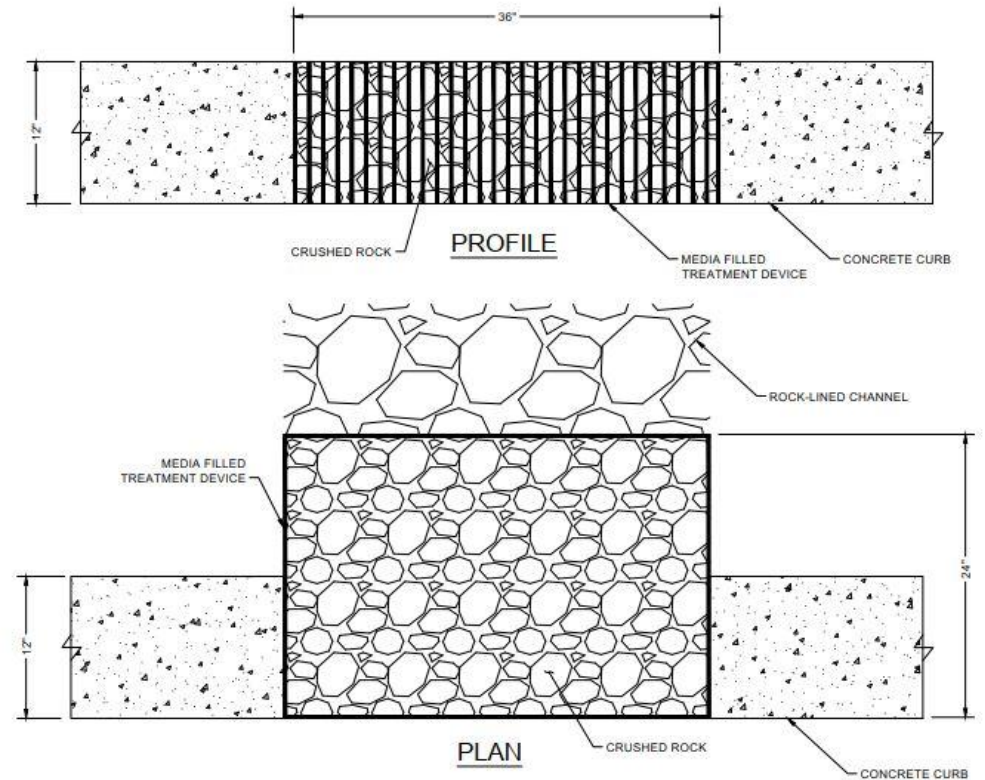
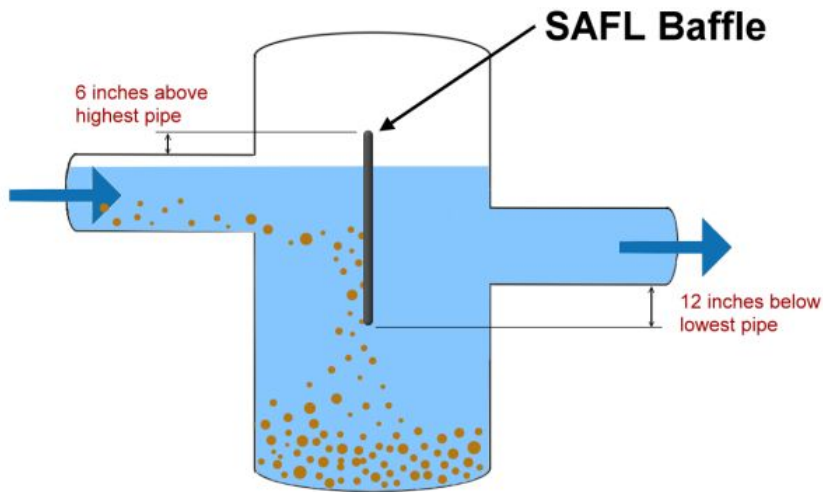


West site landscaping plan



Existing west site, facing northwest

# Innovative Stormwater Devices Designed to Treat Contaminated Runoff



# Green Infrastructure Utilized to Store and Treat Freeway Runoff

- 8,600 SF of bioretention basins
- 2,100 SF of permeable pavers
- 1,700 FT of Organic-Lock permeable path
- 4 acres of native landscaping



Unilock: Eco-Optiloc



Organic-Lock

# Final Design Incorporated Project Goals

- 292,900 gallons of stormwater capture from 6 acres of freeway
- Activates underutilized space
- Improves connectivity
- Sets stage for future phases



Preconstruction west site, facing south

# Construction Photos Show West Site Progress



West bioretention basin under construction



Rock-lined channel flowing to west bioretention basin

# Permeable Path Improves Area Connectivity



Permeable path on west site

# Post - Construction Photos Show West Site Transformation



Completed bioretention basin on west site

# East Site Construction Photos Demonstrate Transformation of Space



Preconstruction east site

East site bioretention basin and rock-lined channel



# MMSD Green Infrastructure Overpass Challenge Opens Doors for Future Stormwater Innovation



**MILWAUKEE**  
**GREEN INFRASTRUCTURE OVERPASS CHALLENGE**

REGISTER BY  
SEPTEMBER 25th

What's your innovative stormwater management solution?

WIN \$5,000 Sponsored by The Teller Foundation

FRESH COAST GUARDIANS

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# Thank You



Anna Sunderland, P.E., Strand Associates, Inc.®  
[Anna.Sunderland@strand.com](mailto:Anna.Sunderland@strand.com)



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