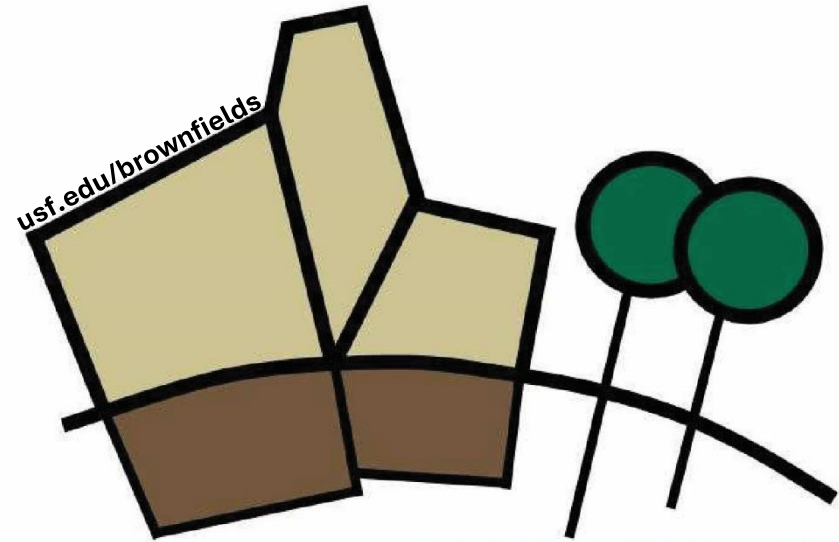


**Out of the
Classroom,
Into the
Community**



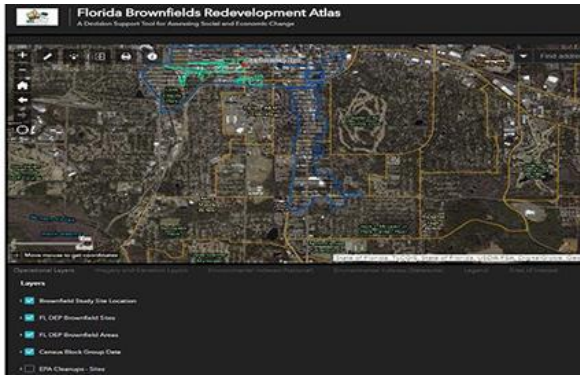
USF UNIVERSITY OF
SOUTH FLORIDA®
CENTER FOR **BROWNFIELDS**
RESEARCH & REDEVELOPMENT





Our mission is to leverage interdisciplinary scientific expertise at the University of South Florida to inform outcome-driven research on environmental contaminants in soil and water, land use legacies, environmental justice, and sustainable and equitable development.

RESEARCH



Florida Brownfields Redevelopment Atlas: A Decision Support Tool

**U.S. EPA Section 128(a) &
104(k) funding through the
Florida Department of
Environmental Protection,
2017-2024; FDEP BIL and U.S.
EPA TAB funding for student
internships**

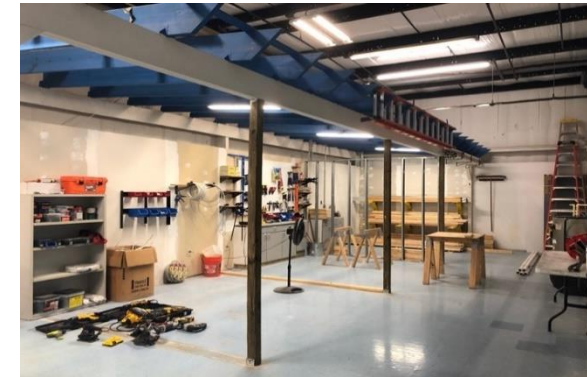
REDEVELOPMENT



Brownfields Redevelopment Planning and Environmental Site Assessments for Tampa Bay Communities

**U.S. EPA Brownfields Area-
Wide Planning Grant, 2017-
2019; U.S. EPA Community-
wide Assessment Grants,
2019-2022, 2023-2025; U.S.
EPA Coalition Assessment
Grant, 2024-2026**

EDUCATION



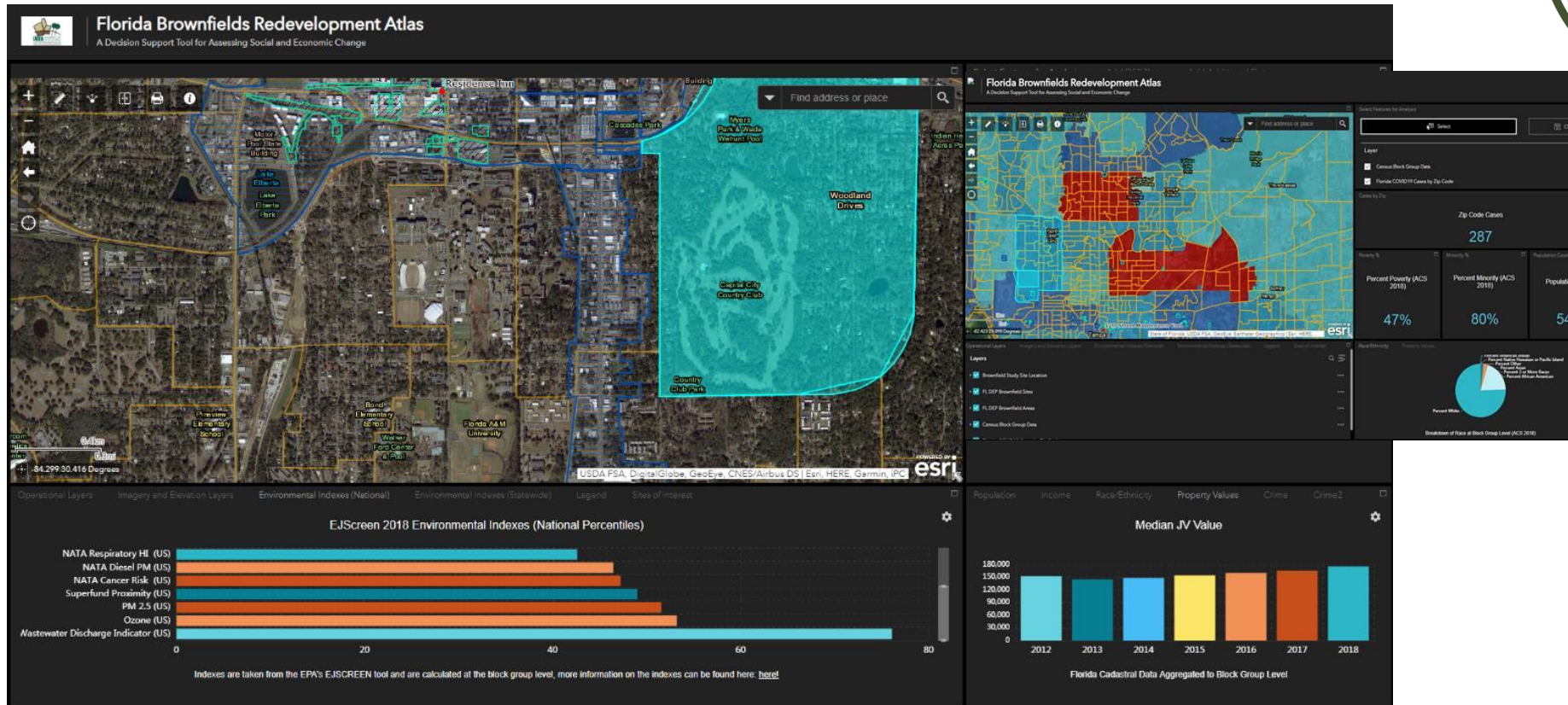
Environmental Workforce Development and Brownfields Job Training Programs for East Tampa

**U.S. EPA Environmental
Workforce Development and
Job Training Grant, 2020-
2022; U.S. EPA Brownfields
Job Training Grant, 2023-
2025**

Florida Brownfields Redevelopment Atlas

An Online Decision Support Tool for Florida's Brownfields Communities

usf.edu/brownfields



The Florida Brownfields Redevelopment Atlas is an online discovery tool that allows researchers to explore, summarize, and extract various types of environmental and socioeconomic data, with an emphasis on change over time, at the census block group level for the entire state of Florida.

Communities w/EJ Challenges in FL



FBA EJ Initiative: “EJ 40/67” & “EJ Lit”

now supported by
FDEP + NJIT TAB!!



2023 Summer Internships in Environmental Justice

Students (undergraduate and graduate) at the University of South Florida are invited to apply for a summer internship in environmental justice with USF's Center for Brownfields Research and Redevelopment.

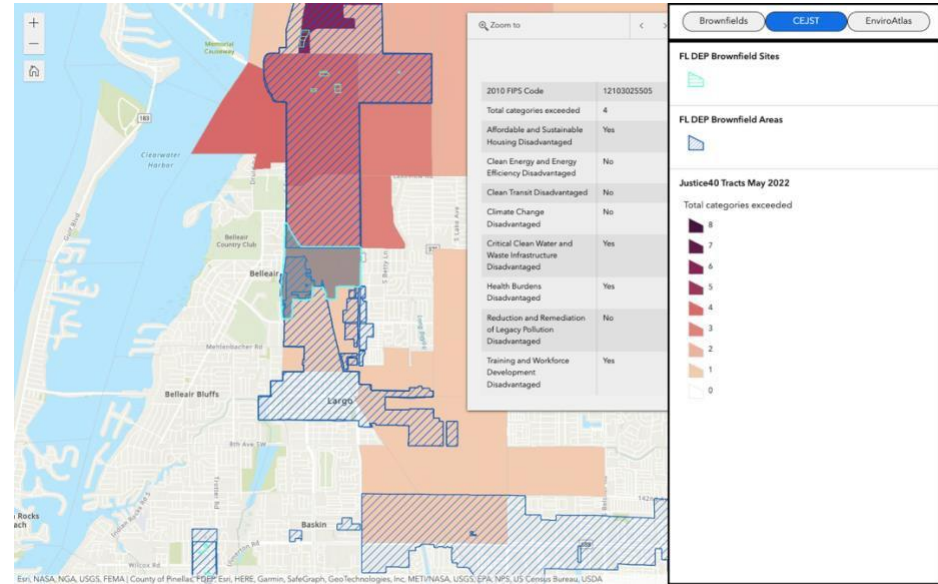
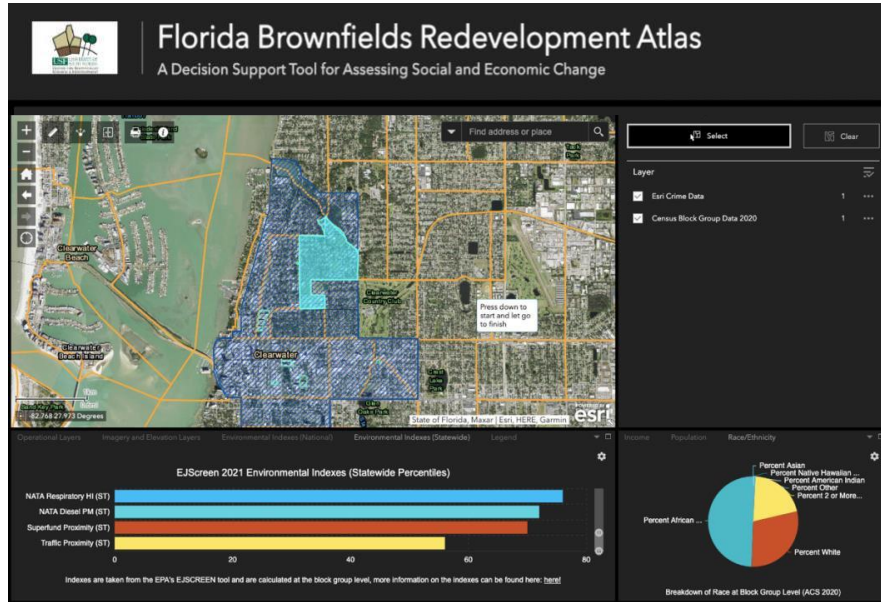
The internship will train students how to recognize and advocate for communities experiencing environmental justice challenges in the Tampa Bay area. Interns will work in pairs and be assigned a specific region in which they will: 1) research communities using online EJ screening tools, 2) select and visit at least two communities and complete a structured survey for each, 3) identify community-based nonprofits in the selected communities as potential future partners, and 4) prepare a report of findings.

The internship will take place over two consecutive weeks during May 15-June 15 at the discretion of the intern team. Interns are expected to work full time (40 hours per week). Interns will receive a \$1000 stipend (note: funding is contingent on contract negotiations between USF and the FDEP) and be eligible to apply for a Certificate in Environmental Justice Leadership from the Florida Brownfields Association, which comes with a complimentary one-year membership in the association and an opportunity to request a scholarship to attend the association's annual meeting in Orlando on June 19-21.

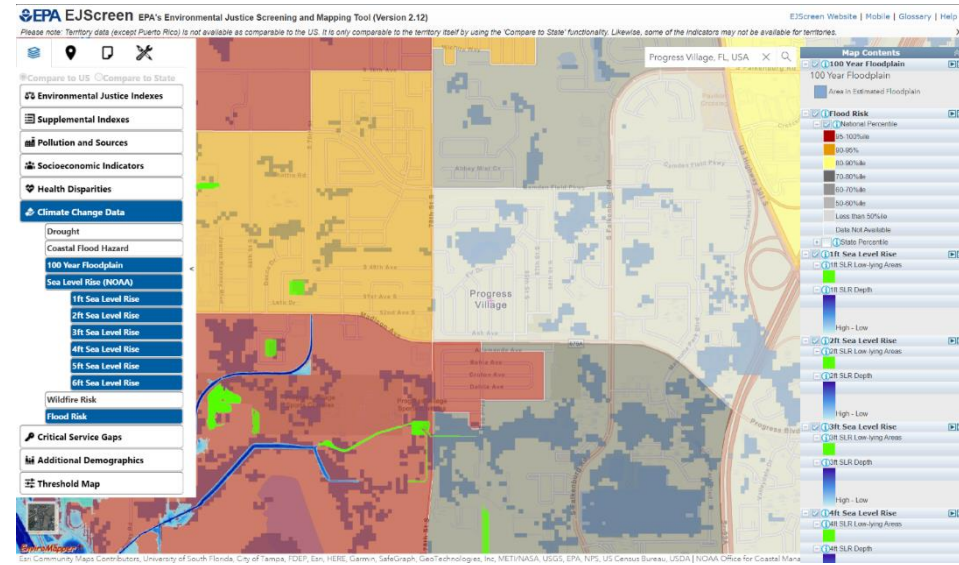
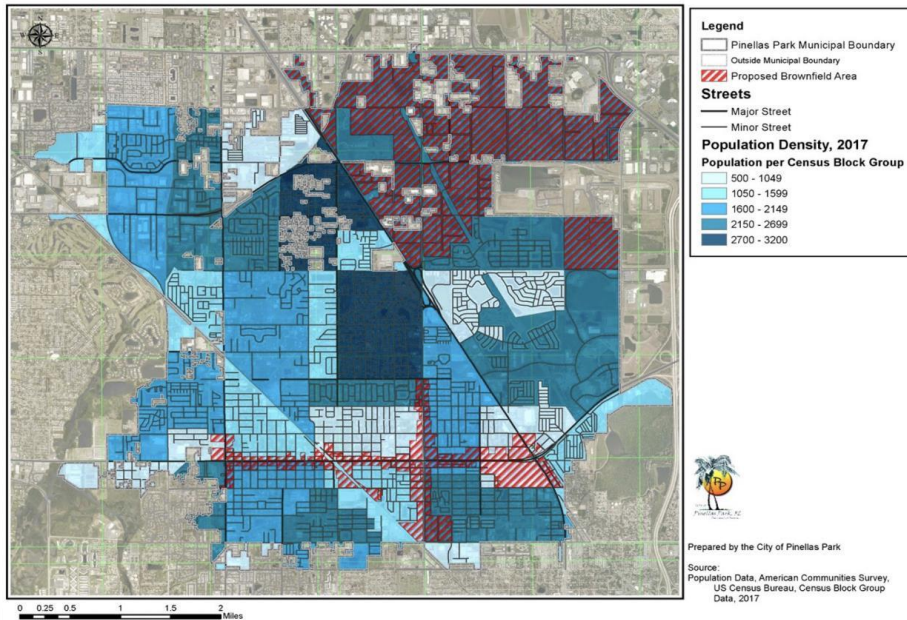
To apply, send your resume/cv and a brief letter of interest to Dr. Christian Wells, ecwells@usf.edu. Up to 12 internships are available. Interns will be selected on a rolling basis until May 15.



ANALYSIS



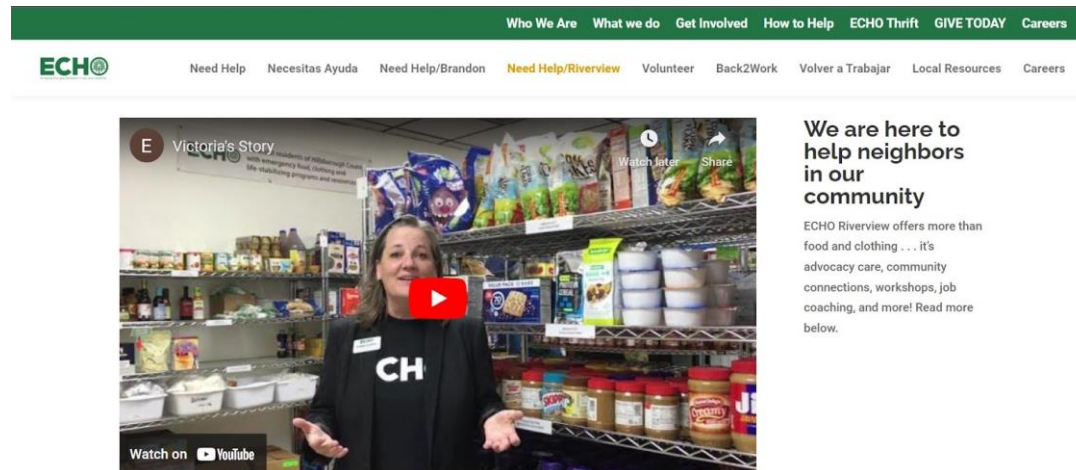
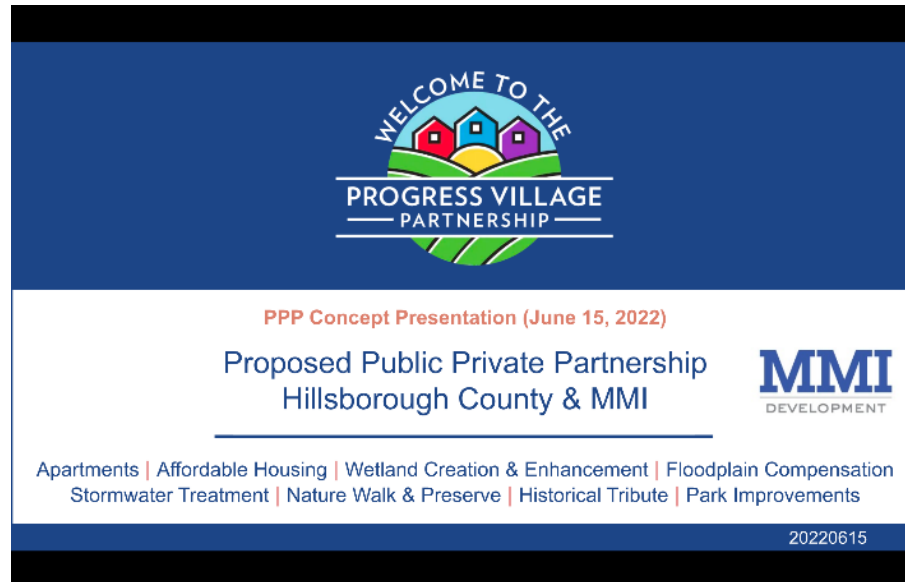
Analysis of Proposed Brownfield Locations and Population Density



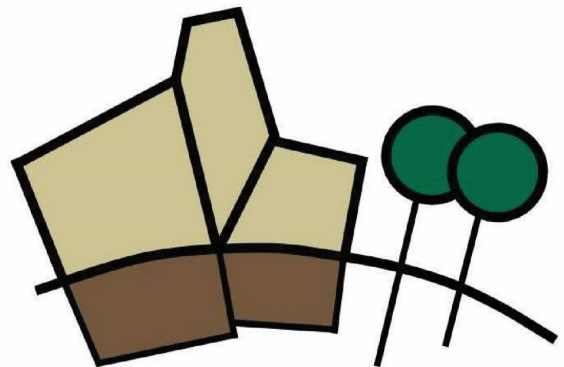
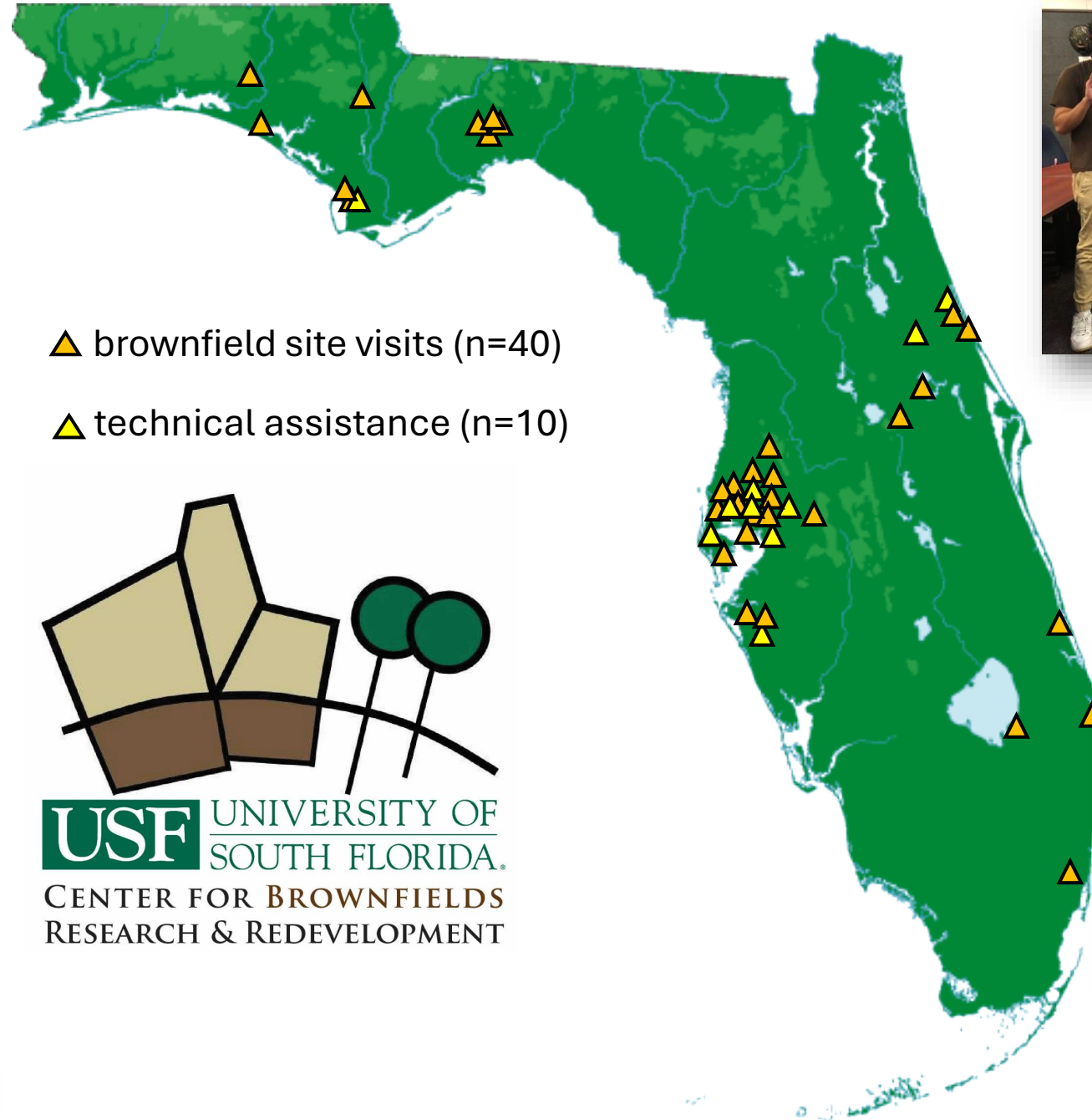
SITE VISITS



IDENTIFYING COMMUNITY PARTNERS



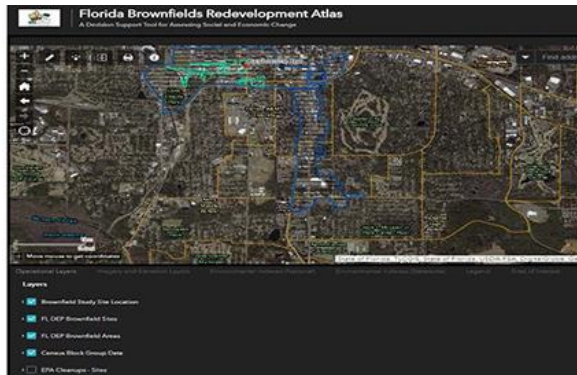
FDEP Brownfields
Internships with USF
RESULTS



USF UNIVERSITY OF
SOUTH FLORIDA
CENTER FOR BROWNFIELDS
RESEARCH & REDEVELOPMENT



RESEARCH



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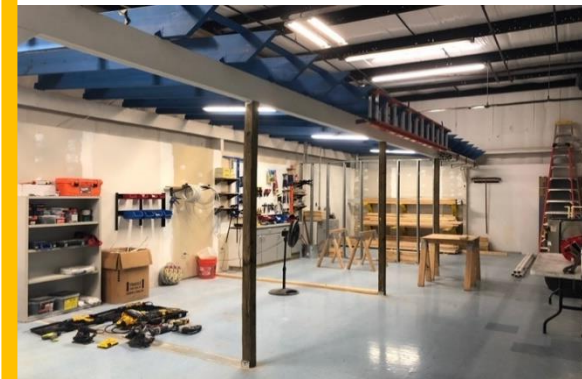
REDEVELOPMENT



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EDUCATION



Environmental Workforce Development and Brownfields Job Training Programs for East Tampa

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Job Training Grant, 2023-
2025**

Environmental Justice Organizing around Chronic Environmental Contamination

E. Christian Wells, Ph.D., AAAS Fellow
Professor & Director
Center for Brownfields Research & Redevelopment



U.S. EPA Cooperative Agreement No. BF02D29422
CERCLA Section 104(k) SCTAG

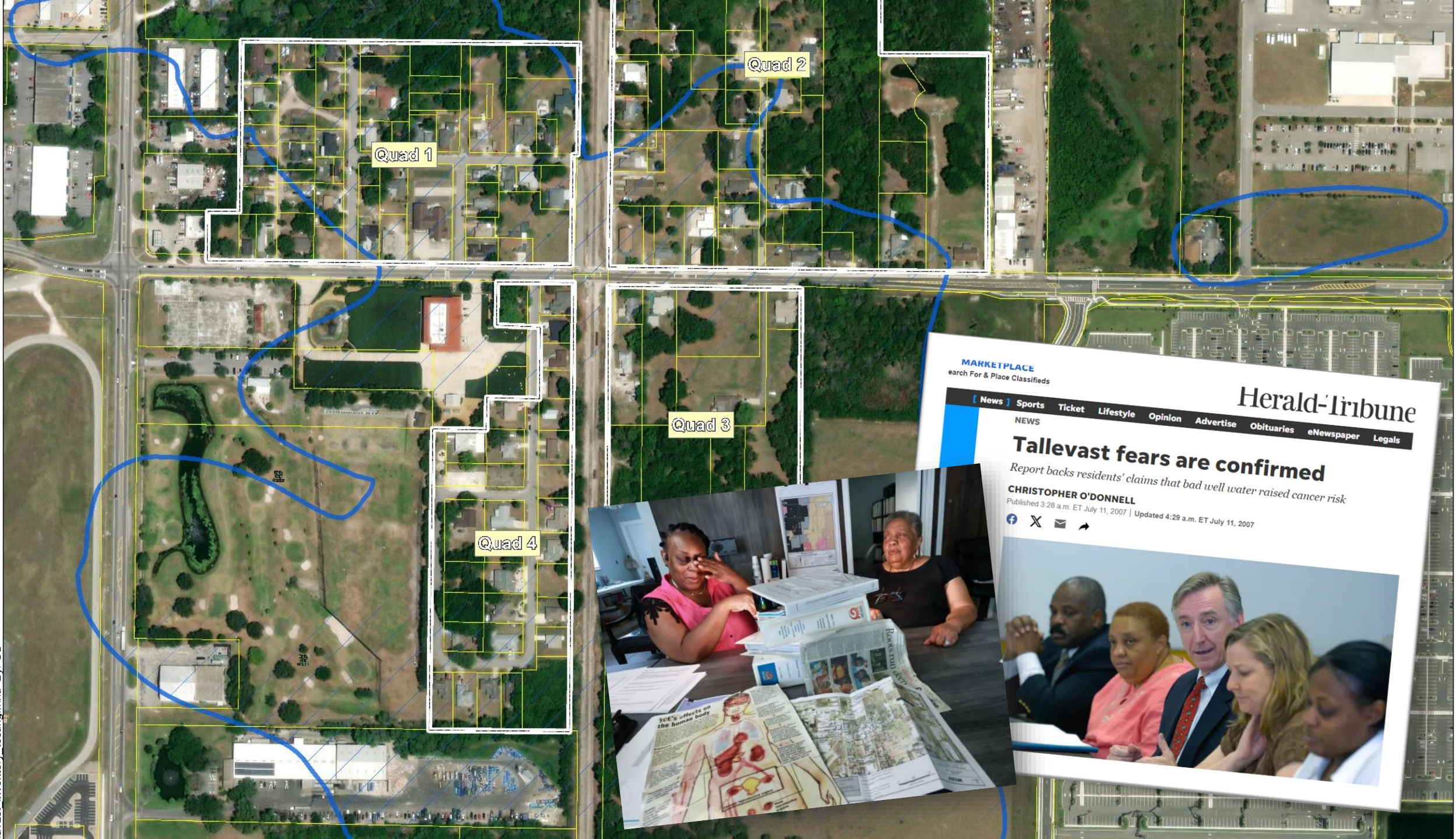
*The views expressed in this presentation are mine
alone and do not reflect those of the U.S. EPA*







American Beryllium Company



Quad 2

Quad 1

Quad 3

Quad 4

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Herald-Tribune

NEWS

Tallevast fears are confirmed

Report backs residents' claims that bad well water raised cancer risk

CHRISTOPHER O'DONNELL

Published 3:28 a.m. ET July 11, 2007 | Updated 4:29 a.m. ET July 11, 2007





TALLEVAST

COMMUNITY VISION PLAN

2024

“PLANNING TO STAY:
A LONG-TERM STRATEGY
FOR STABILITY & GROWTH”



Tallevast @20

*from contamination to
cleanup and beyond*

Saturday, April 20, 2024

8:00 am – 6:00 pm

Selby Auditorium

University of South Florida Sarasota-Manatee



Environmental Justice, Water, & Health

Collaborative Co-design of Green Infrastructure to Advance Equitable Stormwater Management

Overview

- Stormwater ponds are important forms of green infrastructure that can help attenuate the flow of nutrients into the Tampa Bay Estuary, which can cause harmful algal blooms that produce toxic effects on people and marine life.
- With increasing frequency and intensity of coastal flooding due to climate change, stormwater ponds in underserved communities are becoming less effective and characterized by poor water quality that negatively impacts human and environmental health.
- Our research works with underserved community residents and environmental engineers to co-design solutions to stormwater management in the University Area Community in Tampa.

U.S. EPA Cooperative Agreement No. MX-02D47623

*The views expressed in this presentation are mine
alone and do not reflect those of the U.S. EPA*



*This research was conducted with the
permission of the USF Institutional
Review Board, IRB Study 005811.*



University Area Community

- Urban disadvantaged unincorporated community
- History of residential segregation
- High residential densities
- High proportion of renters
- Aging housing stock
- Proximity to brownfields/hazardous wastes
- Lack of critical infrastructures



News Channel

USF News > USF Awarded EPA Grant to Help University Community

USF Awarded EPA Grant to Help University Community Area Plan New Uses for Former Brownfield Sites

USF was one of 19 institutions and municipalities – and the only recipient in Florida – awarded the EPA grants this year to engage the community and conduct planning activities for cleanup and re-use of brownfield sites.

The University of South Florida received a portion of \$3.8 million in U.S. Environmental Protection Agency funding announced Jan. 5 to help communities plan new uses for former brownfield sites – land contaminated with hazardous waste or pollutants, or perceived to be so.

USF received a \$200,000 grant to work with the University Area Community Development Corporation (UACDC) and other organizations to create a strategic plan for addressing environmental pollution and redevelopment challenges in the University Area Community (UAC).

USF was
engage
Brownfi

to
PA's



**UNIVERSITY
AREA CDC**
Let's grow together!



Harvest Hope Park & Pond PROJECT ACTIVITIES

- Environmental Inventory
- Economic Market Analysis
- Rapid Health Assessment
- Social Impact Assessment
- Needs-based Assessment
- GIS for Redevelopment Planning
- Community Outreach
- Community Design Charrette
- Community Advisory Board
- Key-informant interviews
- Strategic Communication & Marketing





Community Garden



Multi-Purpose Sports Field



Playground



Walking Trail



Outdoor Fitness Stations



Tilapia Fish Pond



Harvest Hope Park University Area Community uacleanup.com



[HOME](#) [ABOUT](#) [RESEARCH](#) [PARTNERS](#) [CONTACT](#)



Brownfields Area-Wide Plan for the University Area
Community

[ABOUT THE PROJECT](#)

Aaran's Pond

USF researchers secure \$1.5 million federal grant to improve water quality and reduce runoff into Tampa Bay and the Gulf of Mexico

SEPTEMBER 20, 2023 | RESEARCH AND INNOVATION



“I would add trash cans and seating so this area can get cleaned up and people can relax here.”

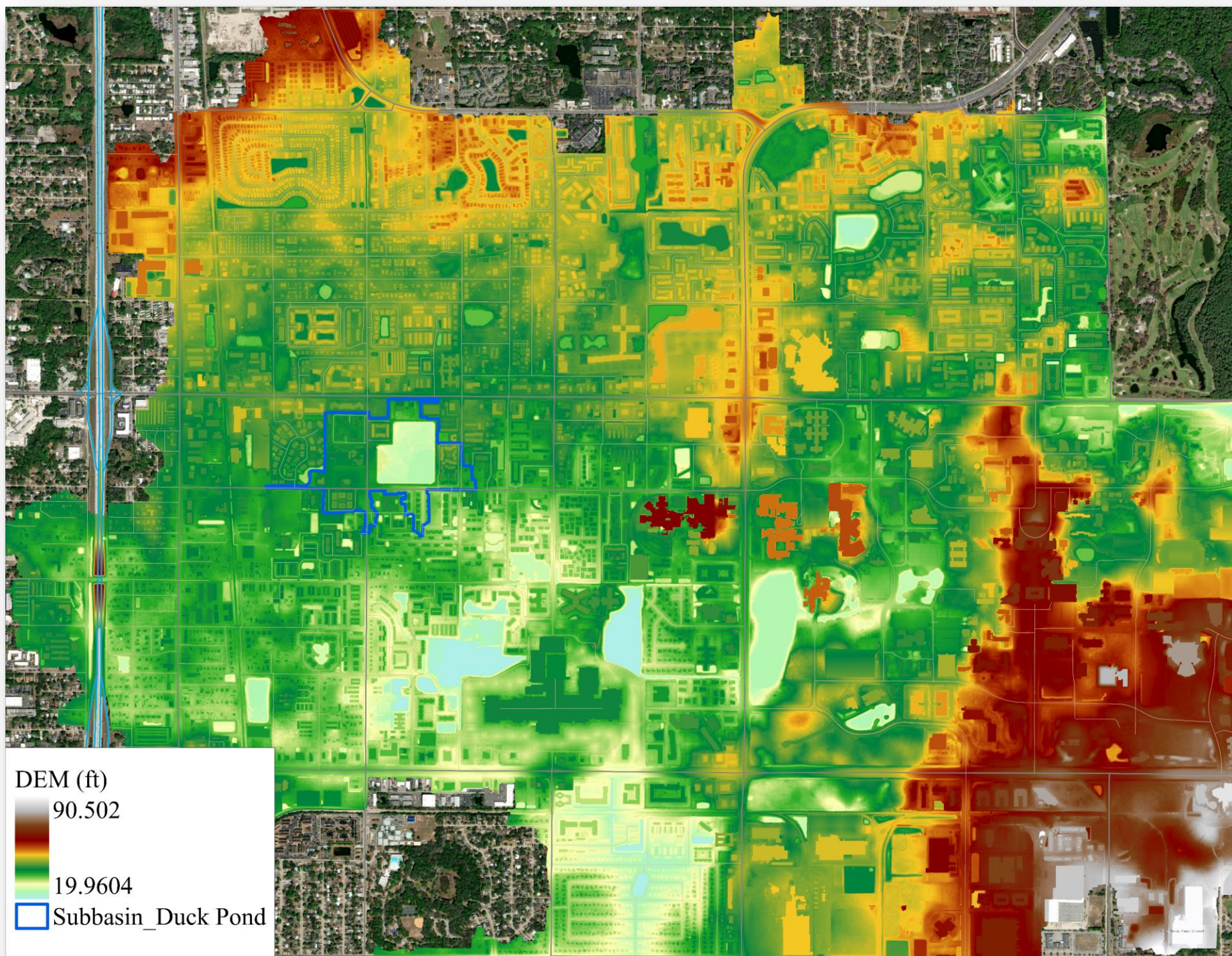


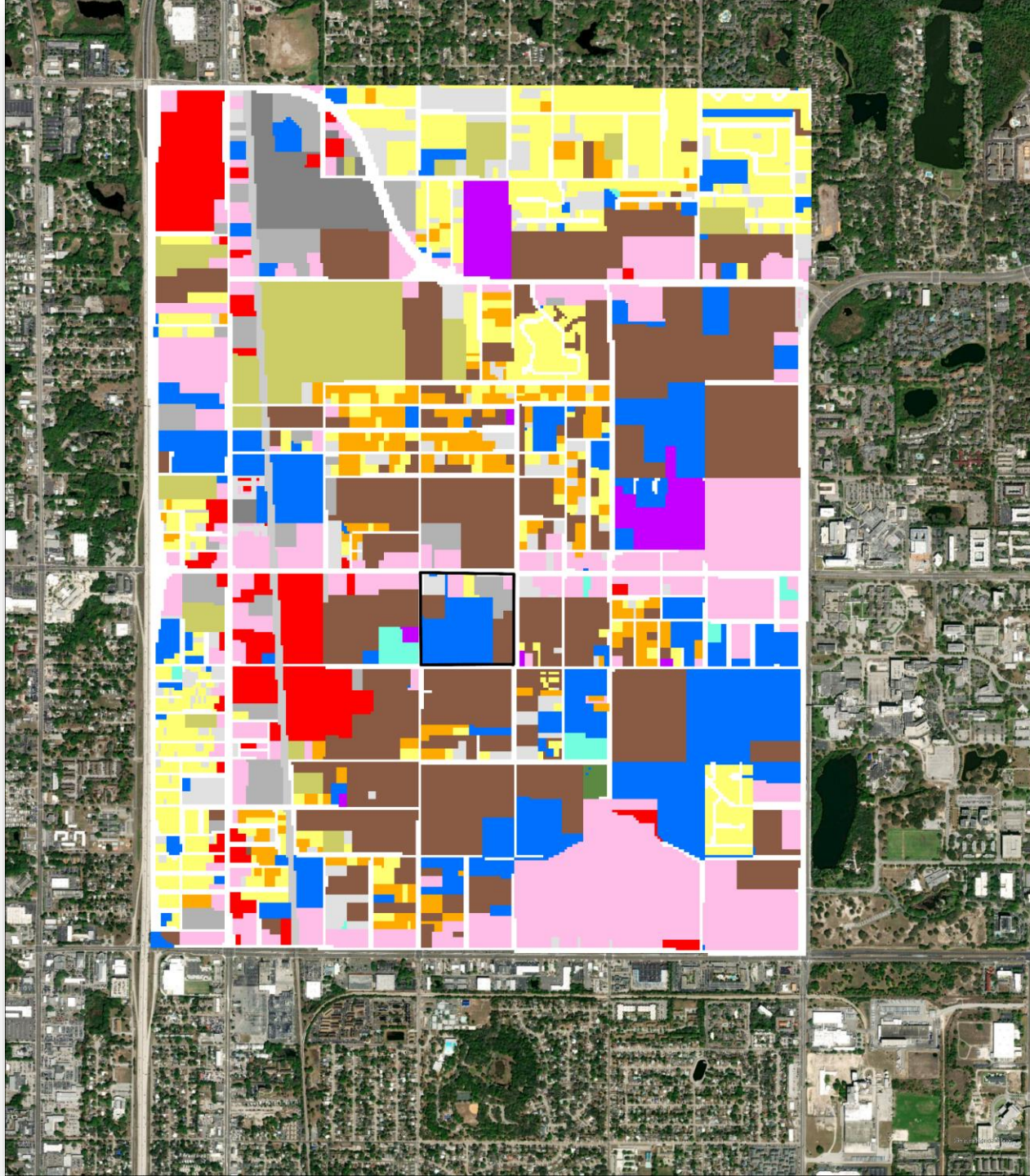
“This pond is nasty and dirty. It is not safe for humans or animals.”

“The water smells so bad when it’s hot outside. I think the sun causes the smell to spread throughout the area.”



“It’s people that live in the fence, so I stay away.”



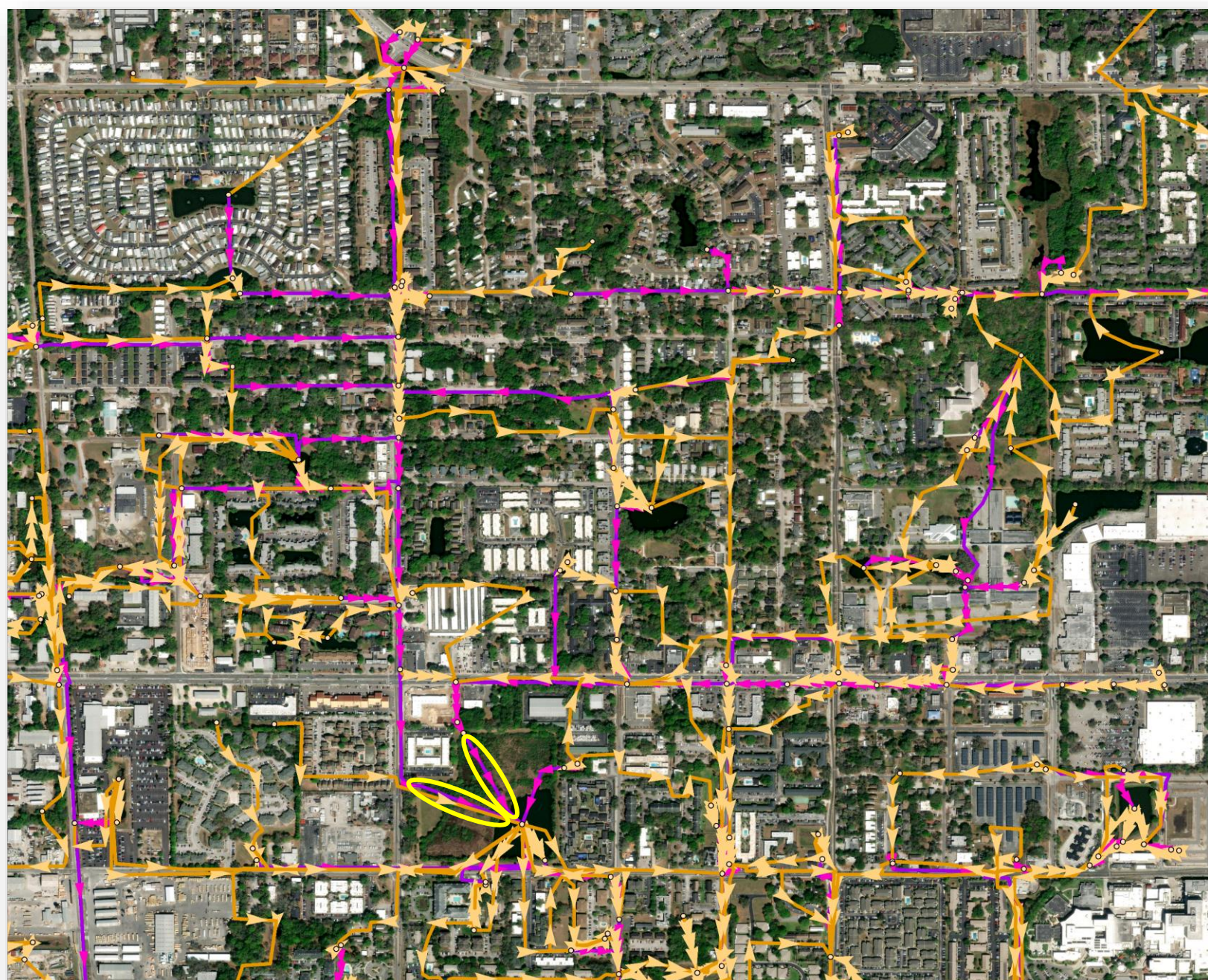


Land Use

- Heavy Commercial
- Light Commercial
- Heavy Industrial
- Light Industrial
- Multi-Family
- Two Family
- Single Family / Mobile Home
- Mobile Home Park
- Public / Quasi-Public / Institutions
- Public Communications / Utilities
- Educational
- Right of Way / Roads / Highways
- Unknown
- Vacant
- Not Classified

 Target Pond Location

- 16 links are directly connected with pond.
- 5 conduits, 1 orifice, 10 weirs.
- Half of links carry water to the pond, and the rest drain water away.
- Drainage areas (approximate acres):
North, 498.7; West, 39;
South community, 17.7;
East community, 8.89.



◦ Stormwater_Junction

Stormwater_Weir

Stormwater_Conduit



Two pipes with
the highest flow

Results of BMP Trains

- Annual loading (kg/yr):

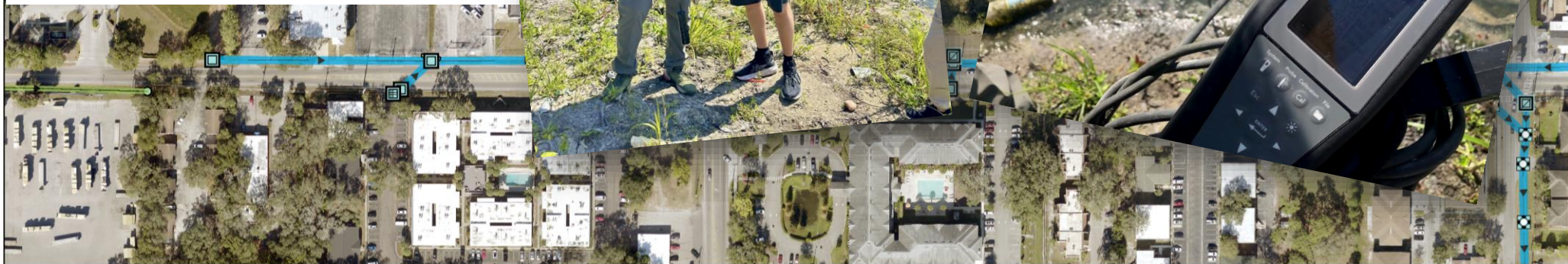
TN: 326.1, TP: 63.9

- After treatment:

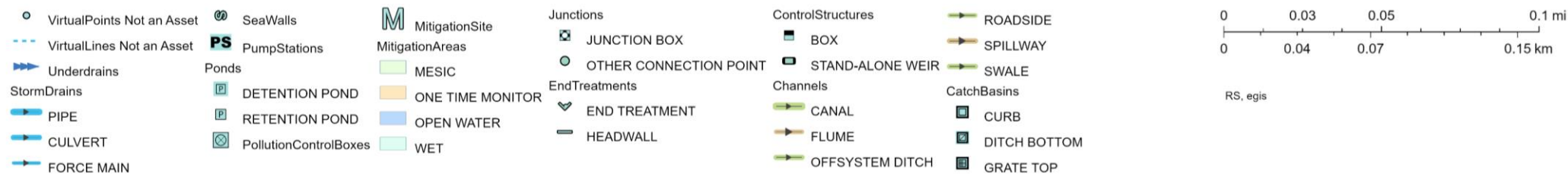
TN: 228.2, TP: 44.7

- Reduction:

TN: 97.8; TP: 19.2

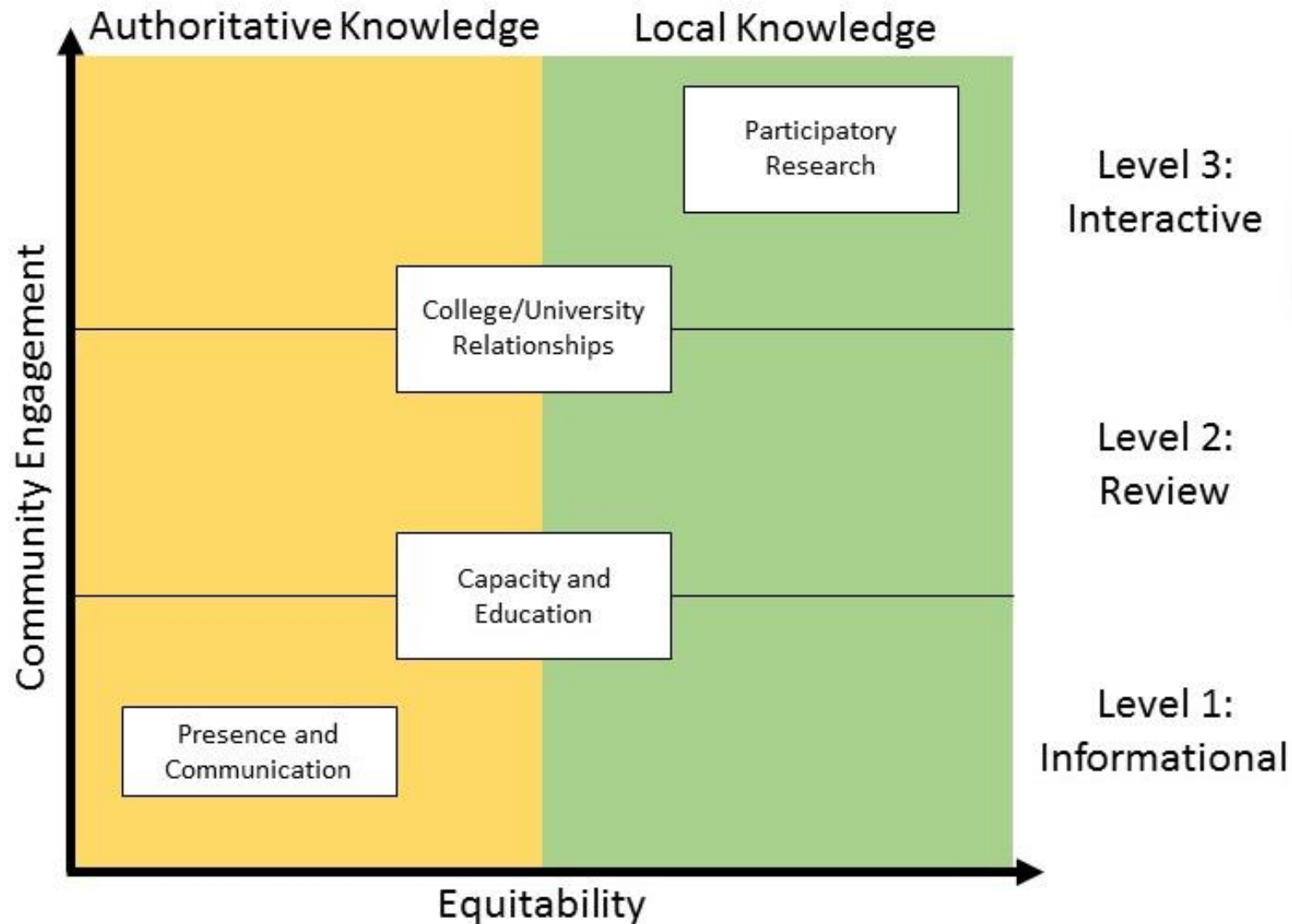


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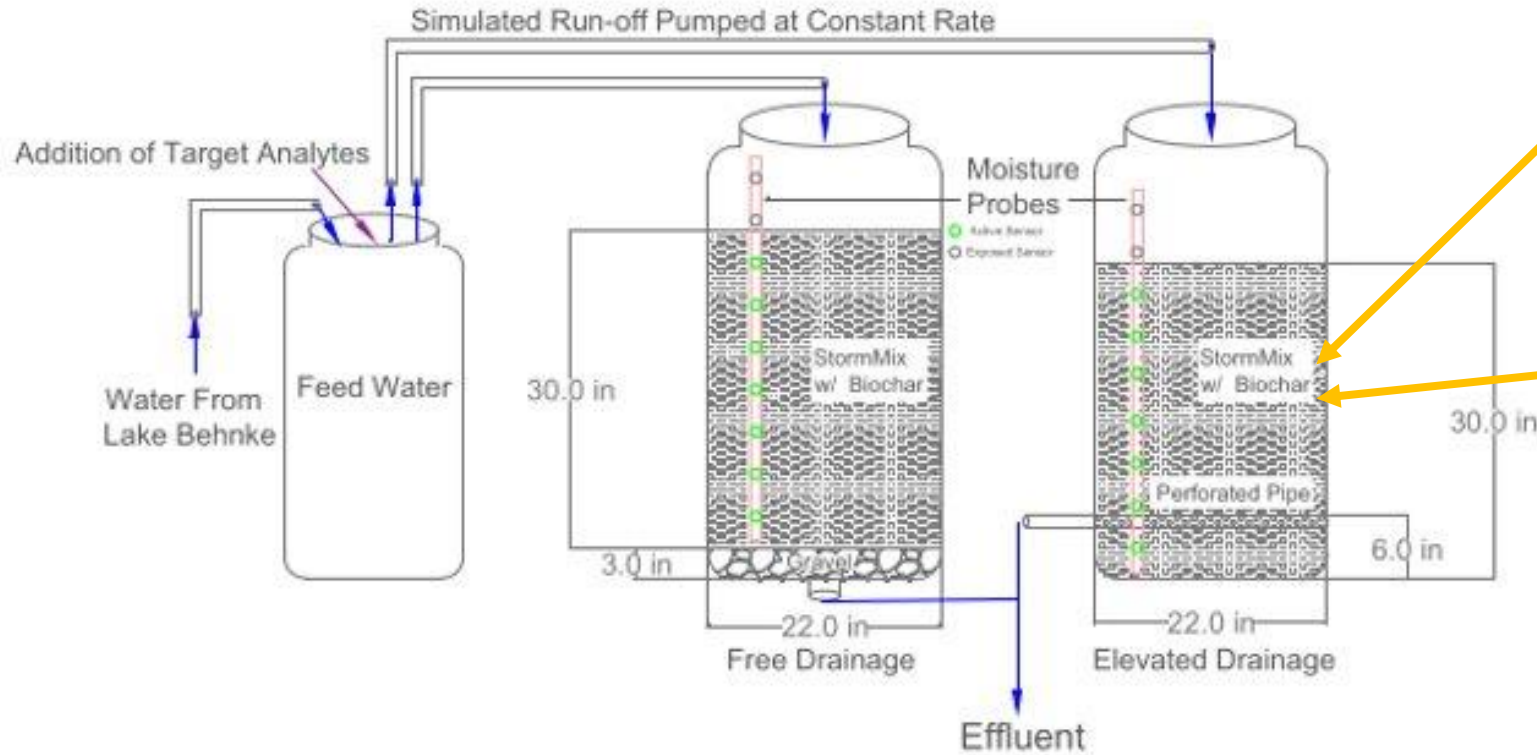




Models for Community Engagement and Brownfields Redevelopment



System Schematic

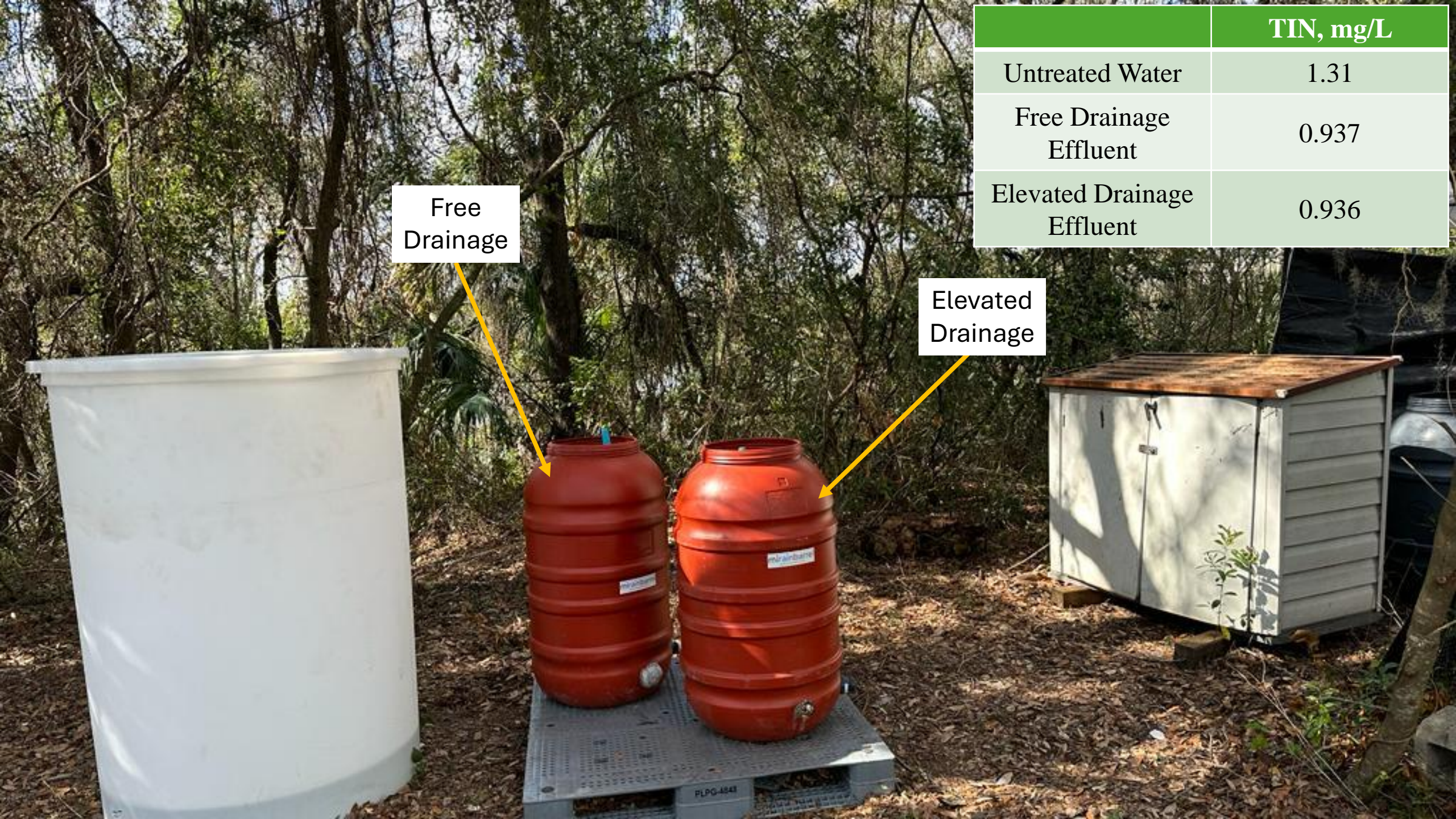


High Permeability Media



Biochar





Free
Drainage

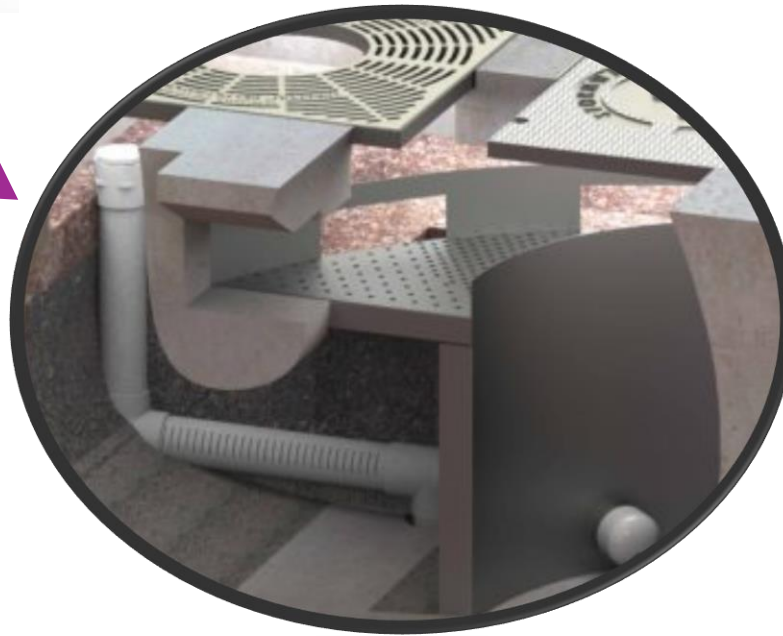
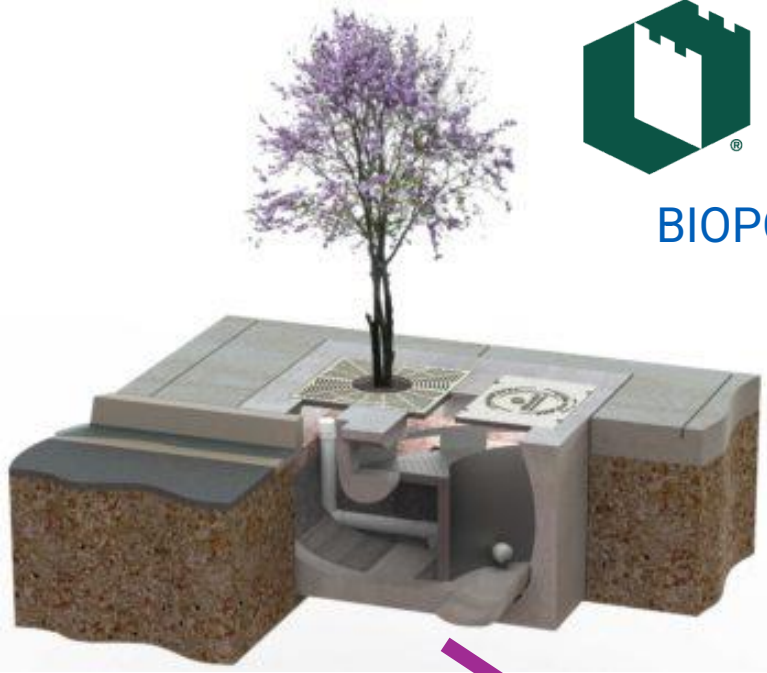
Elevated
Drainage

	TIN, mg/L
Untreated Water	1.31
Free Drainage Effluent	0.937
Elevated Drainage Effluent	0.936



Oldcastle Infrastructure™
A CRH COMPANY

BIOPOD™ SYSTEM WITH STORMMIX™ MEDIA



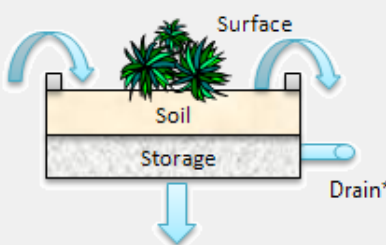
SWMM model

Different parameters of surface and soil properties, such as surface roughness, soil porosity, field capacity, conductivity, influence pollutant removal of surface runoff.

LID Control Editor

Control Name: LID1

LID Type: Bio-Retention Cell

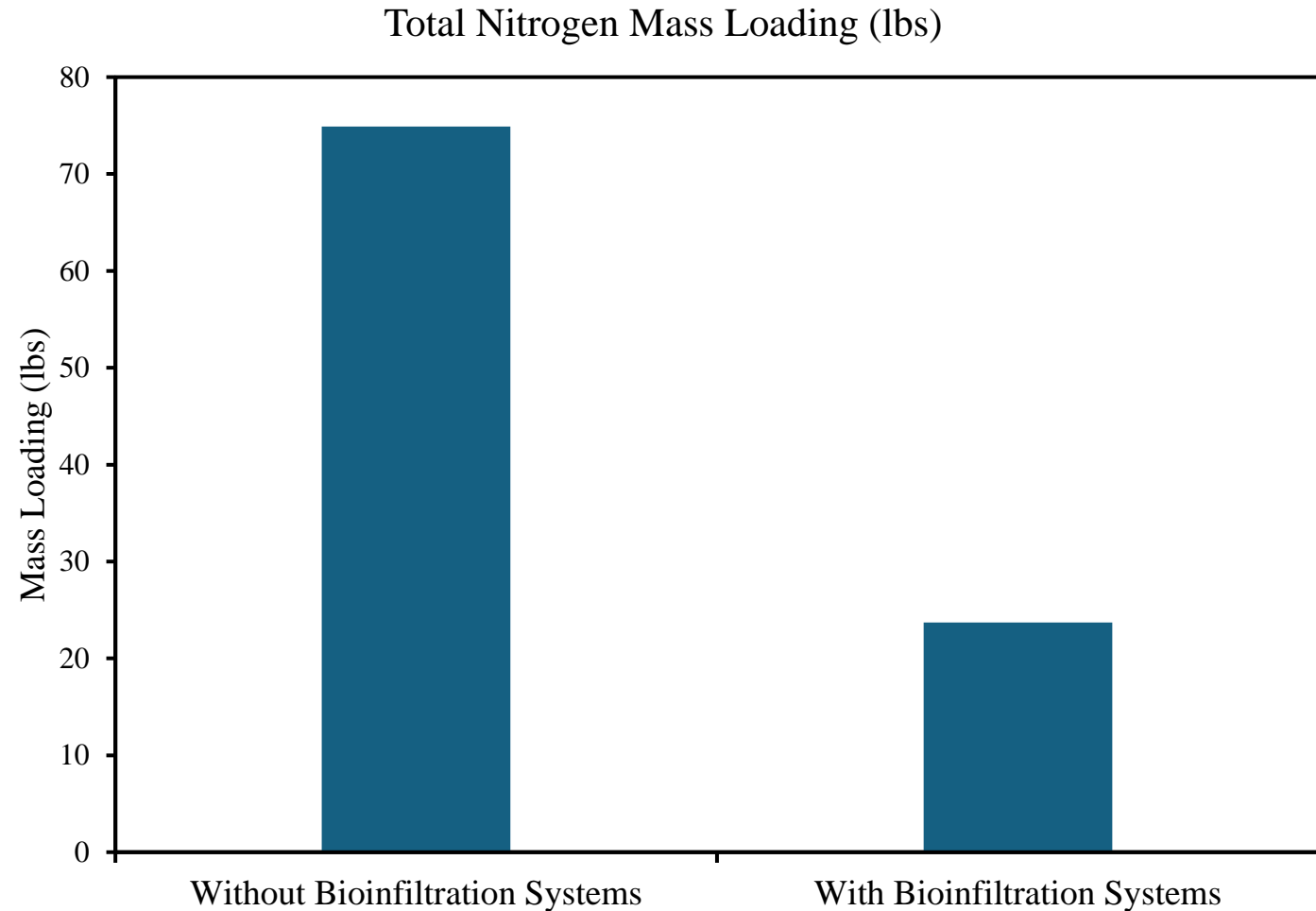


*Optional

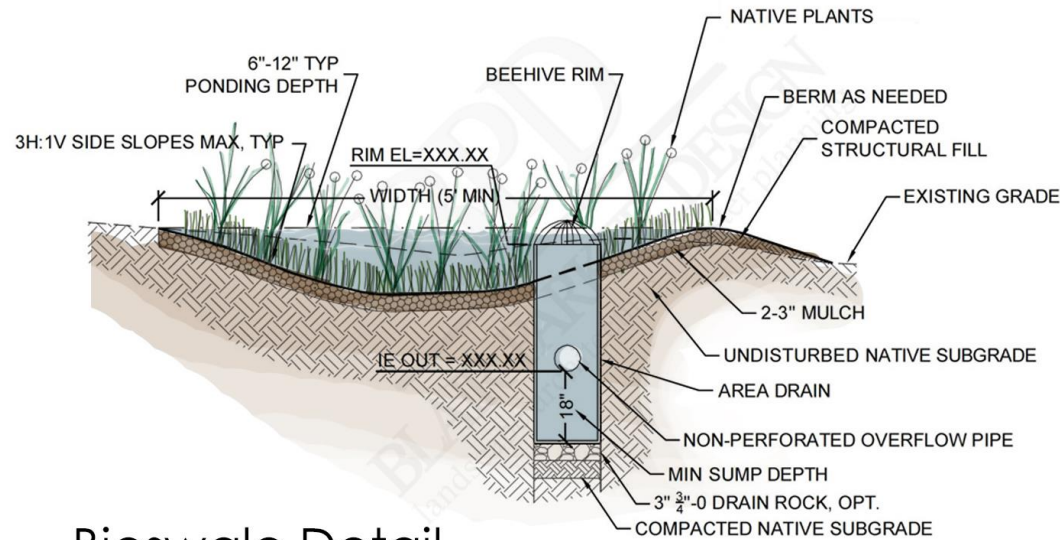
Drain	Pollutant Removals	
Surface	Soil	Storage
Thickness (in. or mm)	20	
Porosity (volume fraction)	0.45	
Field Capacity (volume fraction)	0.18	
Wilting Point (volume fraction)	0.02	
Conductivity (in/hr or mm/hr)	50	
Conductivity Slope	10	
Suction Head (in. or mm)	3.5	

OK Cancel Help

Total nitrogen (TN) loading with and without the bio-infiltration systems

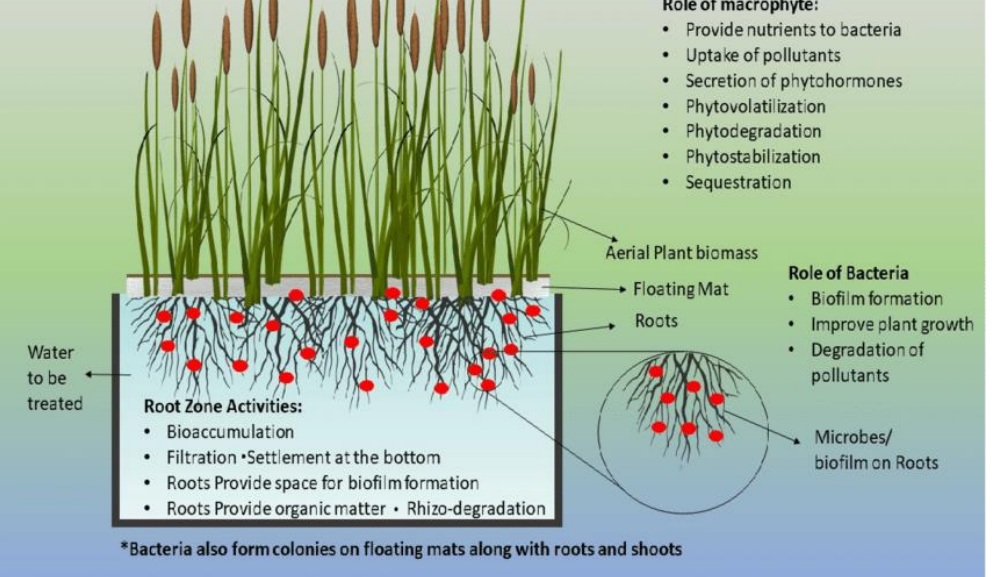


Additional Urban Bioremediation Technologies/Infrastructures



Bioswale Detail

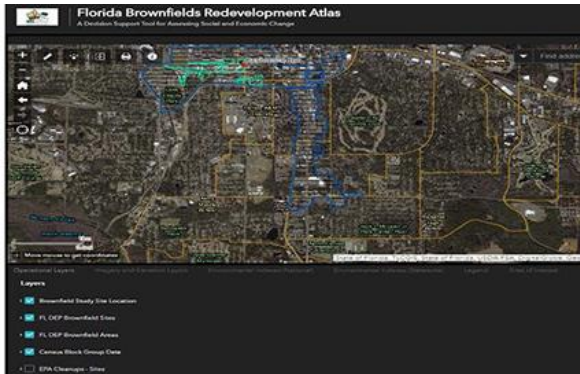
Floating Treatment Wetlands



2024
NSF REU
students



RESEARCH



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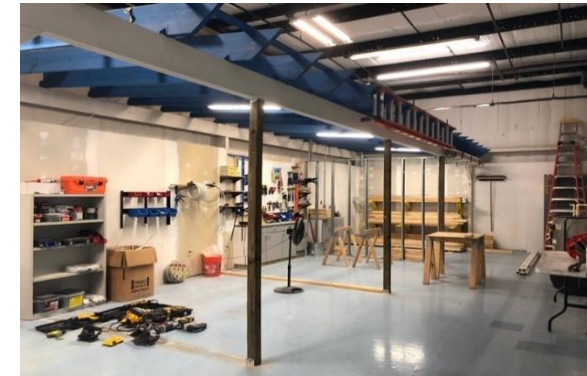
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EDUCATION



Environmental Workforce Development and Brownfields Job Training Programs for East Tampa

U.S. EPA Environmental Workforce Development and Job Training Grant, 2020-2022; U.S. EPA Brownfields Job Training Grant, 2023-2025

USF, CDC of Tampa team up on job creation program with a focus on East Tampa

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MORE THAN JUST A NUMBER

WHAT MAKES US DIFFERENT?

University of South Florida launches project to address local revitalization efforts through workforce development

WHY THIS MATTERS

The USF Center for Brownfields Research & Redevelopment recently launched a program designed to clean up brownfield properties in the community, while simultaneously creating jobs for Tampa residents. A brownfield property is land that is complicated to expand, redevelop, or reuse because of the presence of a hazardous substance, pollutant, or contaminant. The Corporation to Develop Communities of Tampa, in collaboration with the Environmental Workforce Development and Job Training program, will provide comprehensive training to residents for full-time careers in environmental and brownfields remediation. The training includes a five-week full-time course, which upon completion, will receive certification for 40 individuals required to obtain jobs in the environmental sector. With the current workforce for hazardous waste management and environmental soil and water sampling in high demand, this program aims to provide individuals training in this field and further to advance redevelopment efforts in the region.

FLORIDA IS #1 IN THE NATION FOR HIGHER EDUCATION



FREE

Career Training & Job Placement Assistance

Classes Start November 8



REGISTER ONLINE TODAY
cdcfortampa.org/workforce-development



LIMITED SEATING
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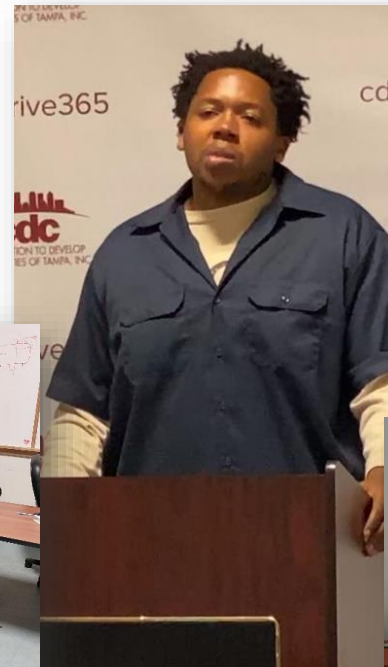
FREE State of the Art Safety Training in:

- Warehousing
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2605 N. 43rd Street
 Tampa, FL 33605





WeRISE WORKING TO ERADICATE
RACISM IN SCIENCE &
ENGINEERING



Goal: develop and implement a suite of integrated, interdisciplinary, community-engaged, anti-racism training opportunities for civil and environmental engineering undergraduates and faculty to build capacity for solving complex and interconnected challenges of our time

Community Partnerships



Building curriculum with and within disadvantaged communities for mutual beneficial outcomes through reciprocal engagement

Student Training



Training students on brownfields and community engagement through environmental justice

Faculty Training

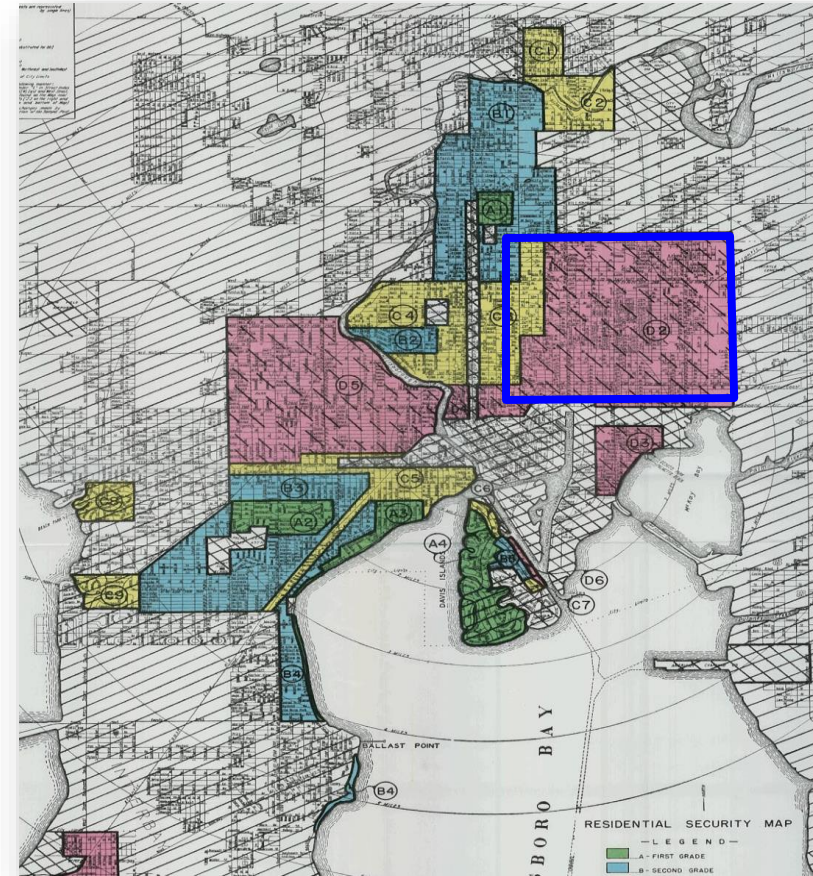


Training faculty on brownfields and community engagement through environmental justice

Brownfields, Environmental Justice & Stormwater Ponds in East Tampa



Example of a fenced stormwater pond along 22nd Street across from Middleton High School



HOLC redlining map showing East Tampa marked with a “D” grade for “hazardous” with an “undesirable population”

<p>All The News Fit To Print</p>	<p>FLORIDA Sentinel Bulletin AMERICA'S FOREMOST SEMI-WEEKLY 110,000 READERS EACH EDITION Published Every Tuesday And Friday</p>	<p>35¢</p>
<p>VOL. 40 NO. 60</p>	<p>TAMPA, FLORIDA, FRIDAY, JUNE 28, 1985</p>	<p>PRICE 35 CENTS</p>

City To Re-Study Ponds After Protest

(SEE STORY ON PAGE 2-A)

"We are convinced that the retention pond is not in the best interest in our community. We have spent years maintaining our community. No one will want to live in our area if the city continues to take more and more valuable land for retention ponds."

—Ruby Gatson, East Tampa resident (1985)

Residents Speak Out; City Agrees To Re-Study Retention Pond Plans



From left to right Roberta Lopez and Mr. and Mrs. Edward Jolly.

BY PATTY ALLEN
Sentinel Staff Writer

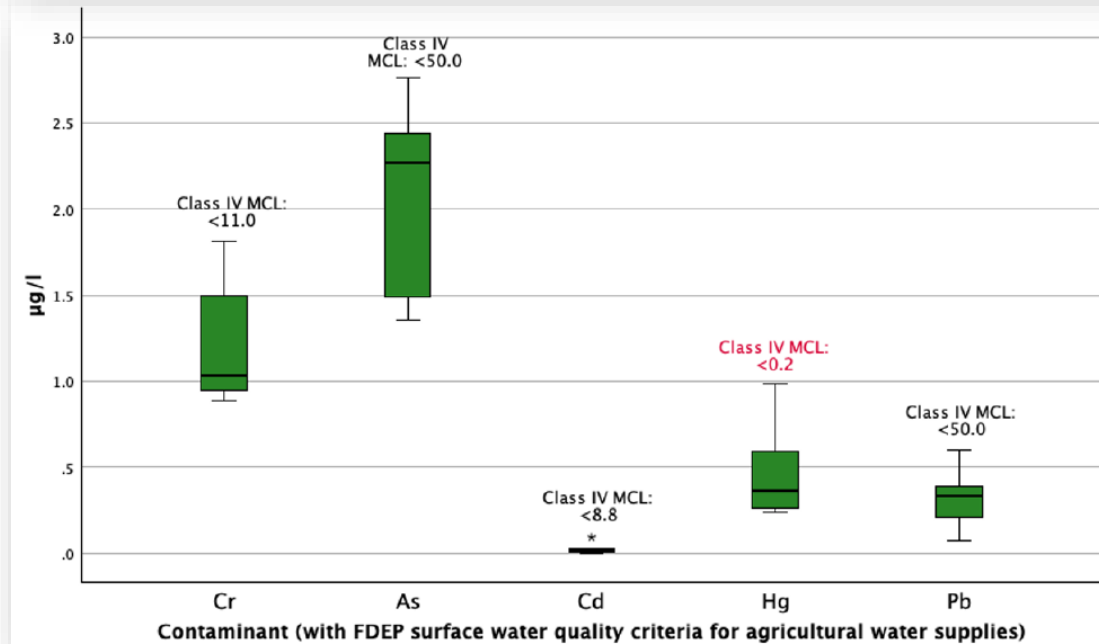
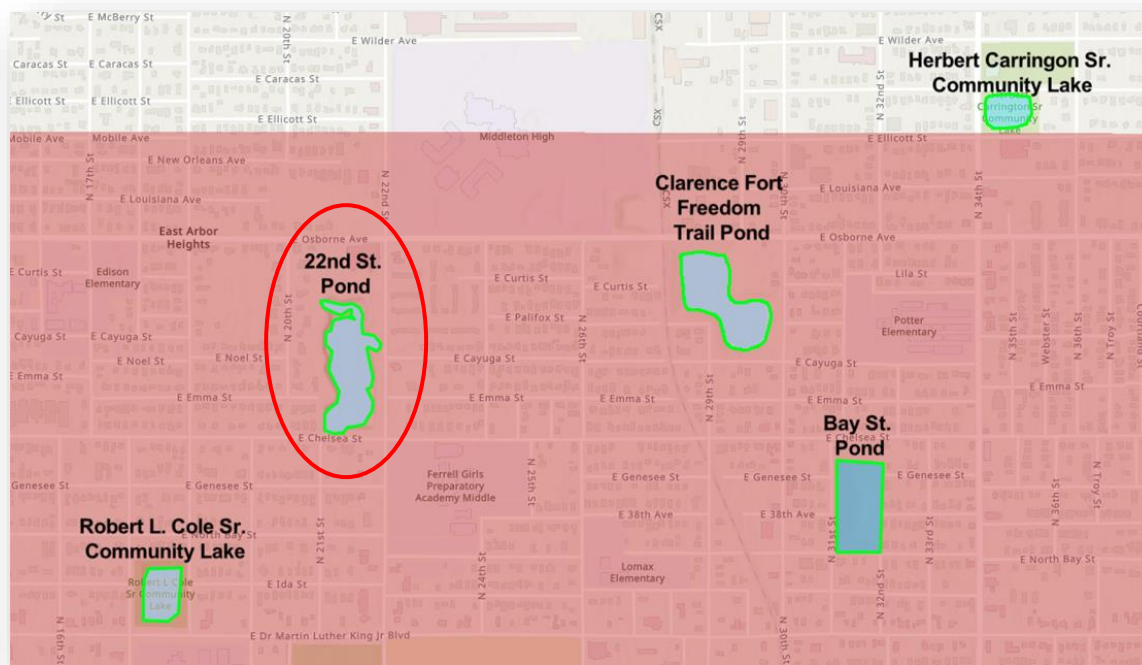
The residents living in the vicinity of N. 32nd St., E. Paris, and E. Henry were united in their opposition to the city's proposed plans to build a retention pond behind their homes.

This stand left Bob Wallace, the city's Deputy Director of Public Works, with only one course of action — to go back and study the area and determine if there is an alternative way to prevent street flooding between N. 43rd and Henry.



From left to right Bob Wallace and Mike Burwell.





Oral History
w/ Leila

Leila Washington 1/25

• She grew up in Tampa
 one thing more safe, it was safer
 children even knew about things
 by the background
 safe places
 some about locks
 need to be careful
 para is on a cloud and
 good neighbors
 a school
 truck knocked over when mailboxes
 broke left some
 neighbors took care for each other
 and wanted to be there for their
 neighbors

period of the safety & police are present
 she wants to see a grocery store near their
 house → 2011





"We didn't have a park when I moved in this area. It was a cow pasture, and we went before City Council, and they gave us a park."

"There is a lot of mobility in East Tampa that wasn't here in the beginning. It has been fun seeing the changes and I'm hoping to see more changes like the center that they are going to build for the seniors on 34th."

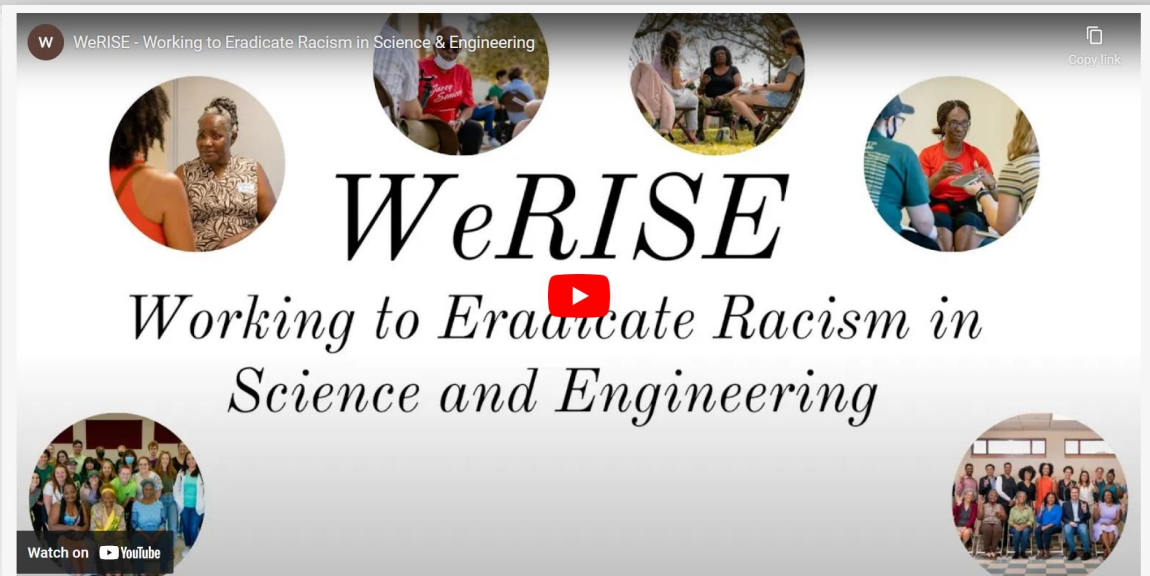
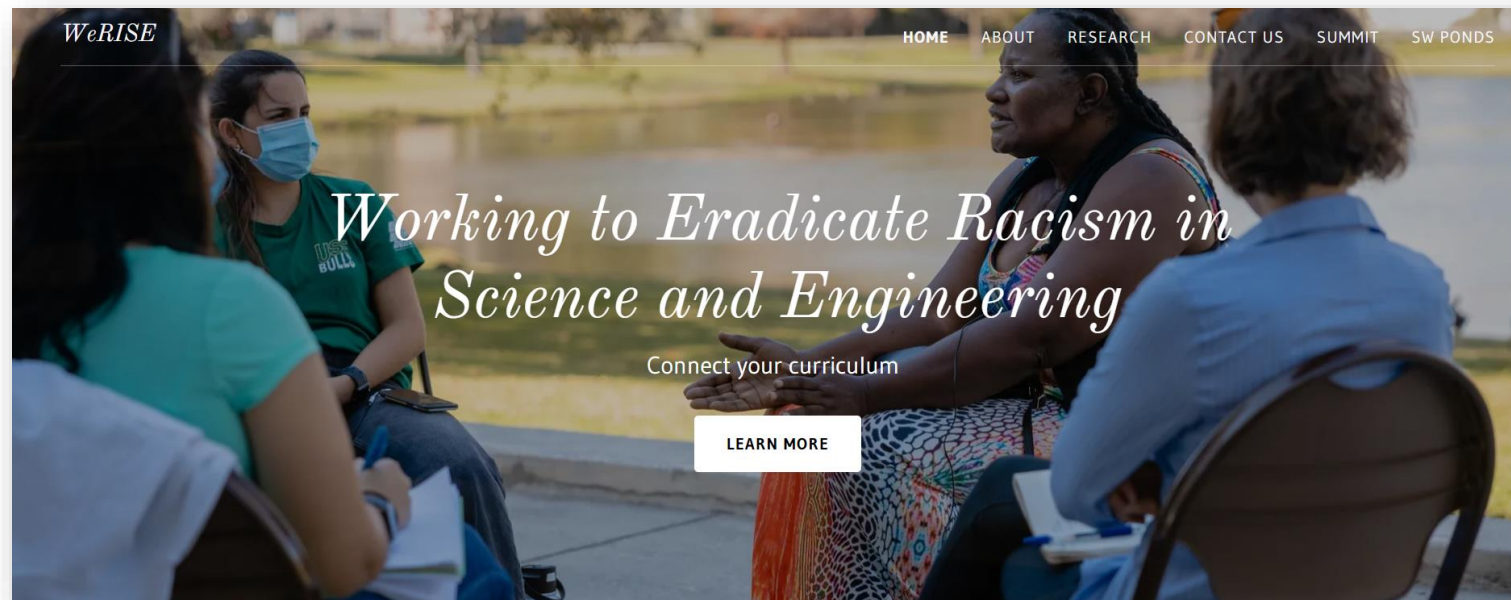
—Betty Bell, President of the Jazzy Seniors



Environmental Justice Film Festival & Oral History Book

- Students presented their videos on stormwater ponds (past, present, & future) with the Jazzy Seniors and other community stakeholders
- A video about the WeRISE project and Jazzy Senior collaboration was produced
- A book documenting the oral histories of the seniors was published and distributed





This work is supported by the National Science Foundation (Grants no.s 2142714, 2142657), “Collaborative Research: Challenging Anti-Black Racism in Civil & Environmental Engineering Curriculum.” Opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not reflect the views of the funder.

THANK YOU!



Christian Wells, ecwells@usf.edu, usf.edu/brownfields