



THE LIMTIACO CONSULTING GROUP
CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

Performance and Reliability Upgrades at the Wahiawa Wastewater Treatment Plant and Recycled Water Opportunities

February 22, 2021

Project History – City's Wastewater Program (2008)

*Final
Central Oahu Wastewater
Facilities Plan*

Contract No. F76430

Prepared for:



The City and County of Honolulu
Department of Design and Construction

Prepared by:



June 2008

Final Environmental Impact Statement

for the

Central Oahu Wastewater Facilities Plan

Proposing Agency:

City and County of Honolulu, Department of Design and Construction

Accepting Authority:

City and County of Honolulu, Department of Planning and Permitting

This Document is prepared pursuant to Chapter 343, Hawaii Revised Statutes

June 2008



Project History – City’s Wastewater Program (2008)

The image shows a collage of document covers for the City's Wastewater Program (2008). A central yellow box highlights three key areas: ***Collection System***, ***Treatment***, and ***Effluent Disposal and Reuse***.

Visible document titles and content include:

- Final Environmental Impact Statement** for the **ties Plan**
- Final Cent**, **Faci**, **Contract**
- Prepared by:** THE LIMTIACO CONSULTING GROUP, CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS
- June 2008**
- Construction**
- Permitting**
- This Document is prepared pursuant to Chapter 343, Hawaii Revised Statutes**
- June 2008**

Project History – City’s Wahiawa WWTP (2008)

Final Alternatives Analysis Report

Wahiawa Wastewater Treatment Plant Modifications

(Previously titled Wahiawa “Wastewater Treatment Plant Influent Pump
Station Upgrade and Equalization Facility”)

Prepared for:



The City and County of Honolulu
Department of Design and Construction

Prepared by:



July 2008

Final Environmental Assessment and Finding of No Significant Impact

for the

Wahiawa Wastewater Treatment Plant Modifications

Contract No. F87772
Project No. 02046



Prepared for:
City and County of Honolulu
Department of Design and Construction
650 S. King Street
Honolulu, Hawaii 96813



Prepared By:
The Limtiaco Consulting Group
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Honolulu, Hawaii 96817

May 2008



Recent Upgrades at Wahiawa WWTP

Front-End (completed January 2013, \$10.4M)

- Preliminary Treatment Upgrade
- Odor Control

Back-End (completed April 2015, \$29.5M)

- MBR Upgrade
- On-Site Storage (Unused Tanks)



Recent Upgrades at Wahiawa WWTP

Frontal (completed) 0.41

Upgrades Resulted in Improved
Performance and Reliability

High Quality Effluent
(aka Recycled Water)



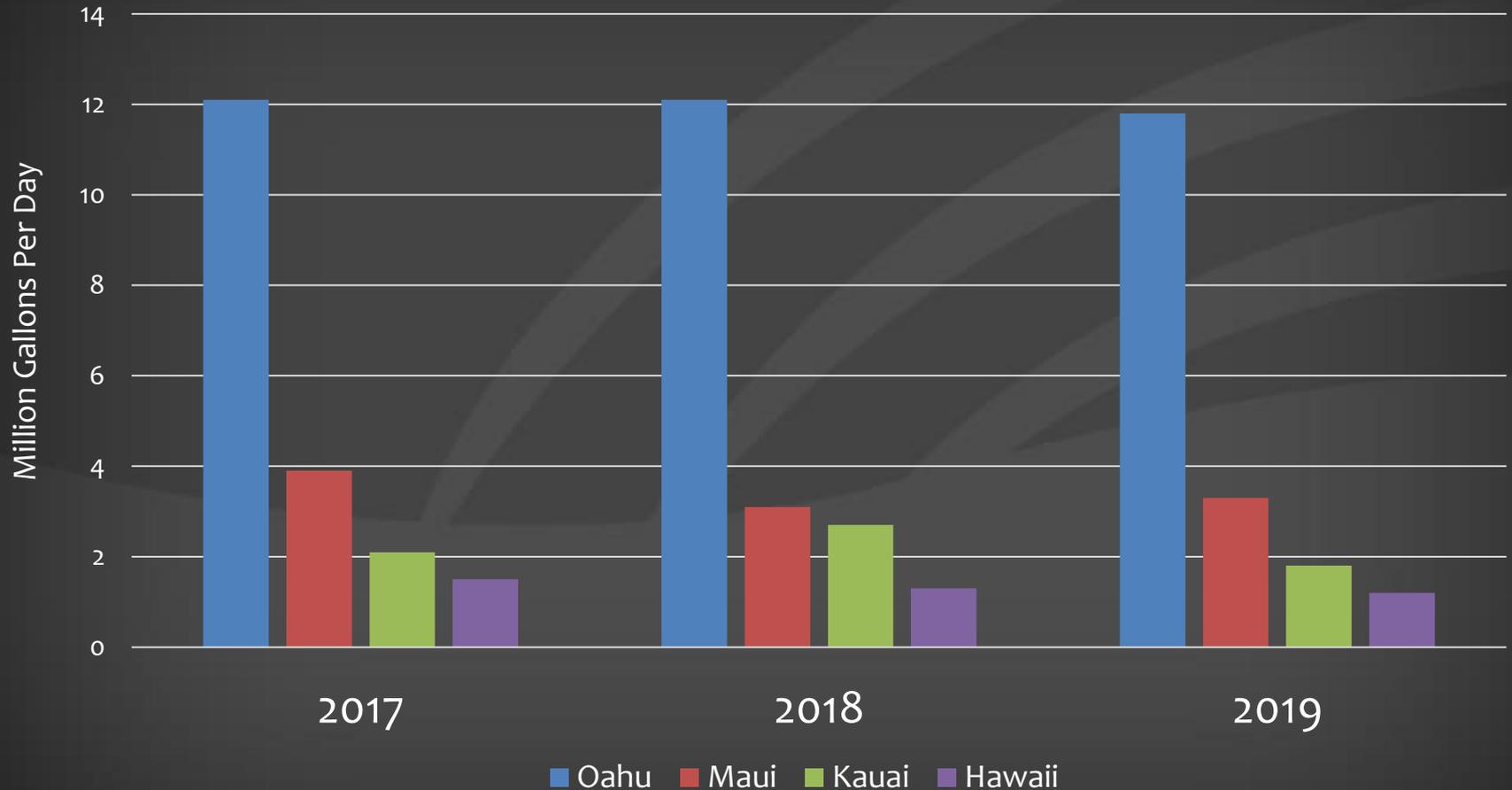
Is recycled water a new thing?



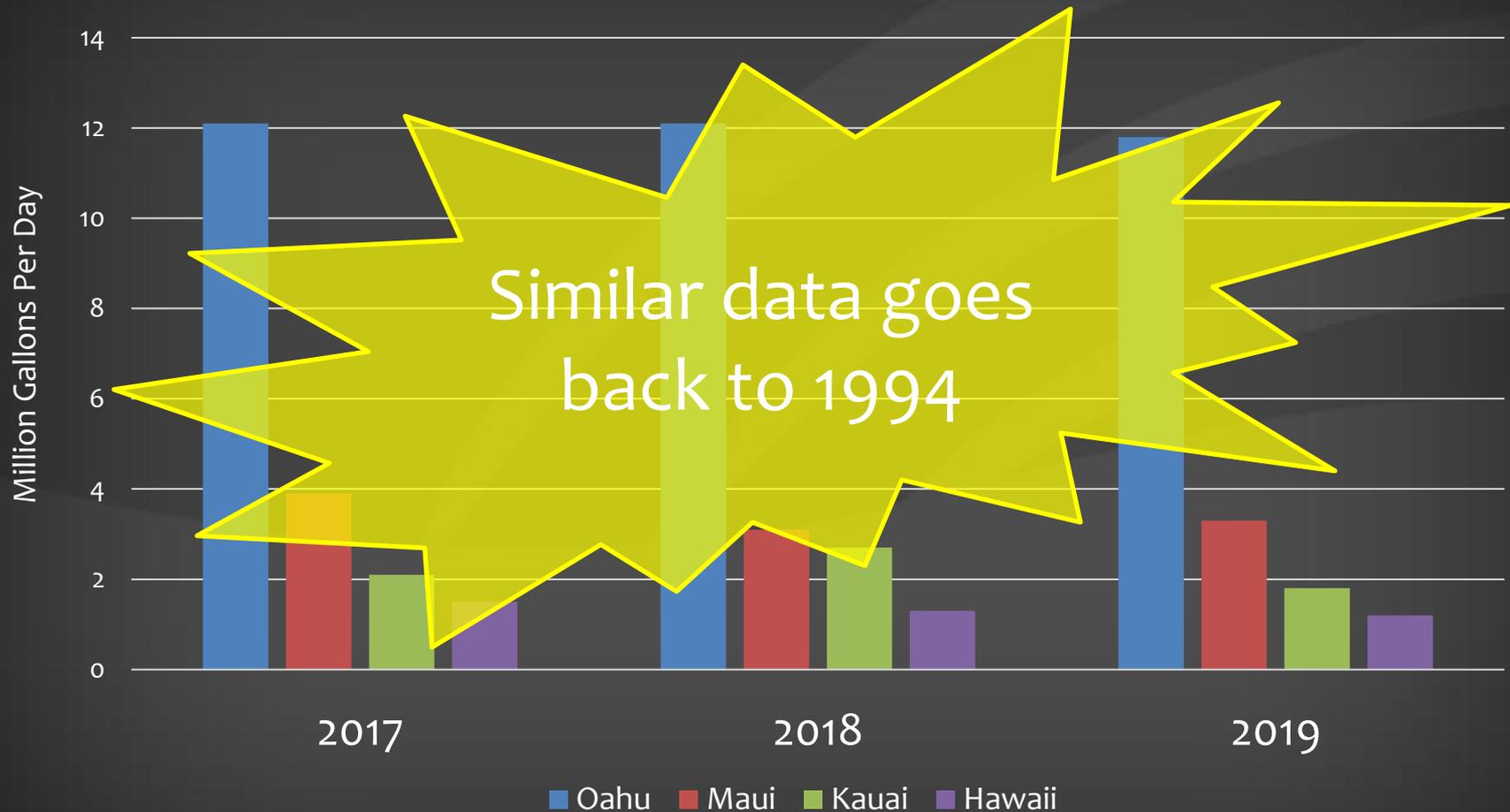
Recycled water in Hawaii
dates back to 1928.
(Waialua, Oahu)



Recycled Water in Hawaii



Recycled Water in Hawaii



Is recycled water safe?



Is recycled water safe?

YES!



Recycled Water in Hawaii

REUSE GUIDELINES

Volume 1: Recycled Water Facilities



Prepared by
Hawai'i State Department of Health
Wastewater Branch



January 2016
(Replaces May 15, 2002 Version)

REUSE GUIDELINES

Volume II: Recycled Water Projects



Prepared by
Hawai'i State Department of Health
Wastewater Branch



January 2016
(Replaces May 15, 2002 Version)



Recycled Water in Hawaii

R-1 Suitable Uses (a few examples)

- Irrigation: Landscape and agricultural irrigation via spray and drip irrigation.
- Irrigation storage reservoirs and ponds.
- Home irrigation per guideline conditions.
- Fire fighting.



Problem Solving



Wahiawa WWTP

PROBLEM 1 (City):
City's Wahiawa WWTP discharges about 1.6 MG of high quality effluent into the Wahiawa Reservoir each day.

Dole Irrigation Ditch

Kaukonahua Stream

Wahiawa Reservoir

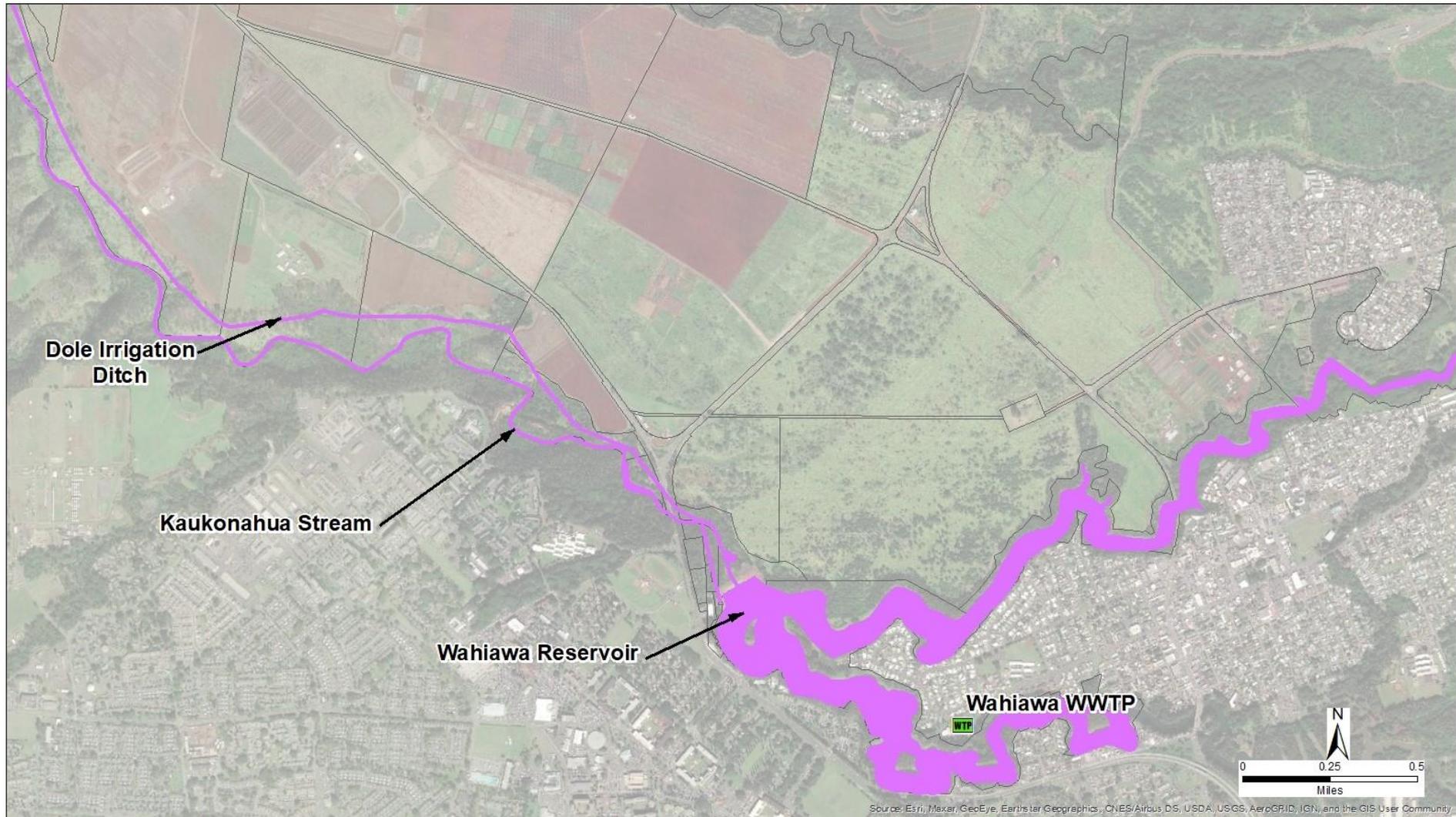
Wahiawa WWTP



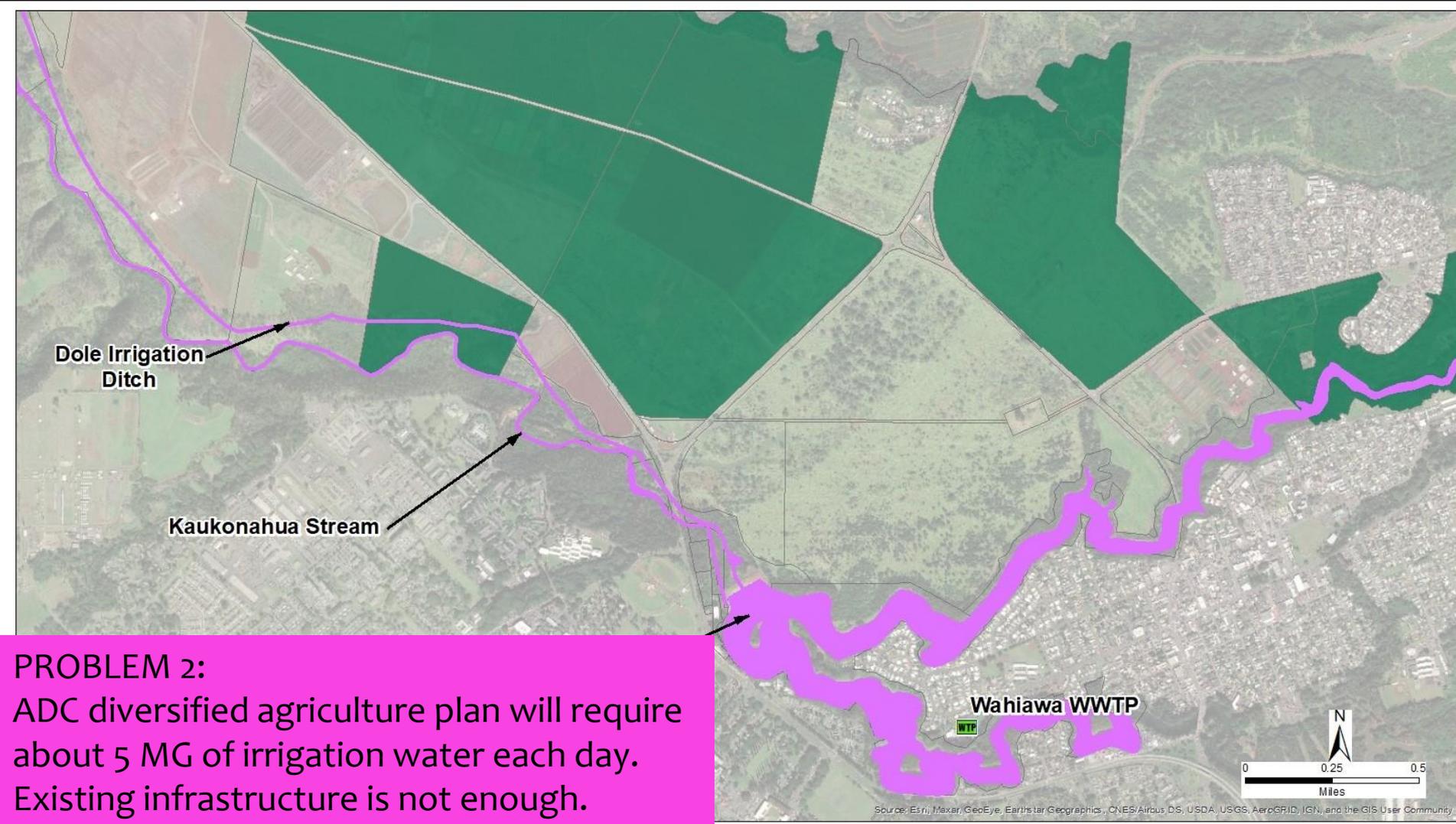
1.6 MG is equivalent to 2-1/2 Olympic Swimming Pools



Treated Wastewater Effluent in Wahiawa Reservoir = “Restricted Water”



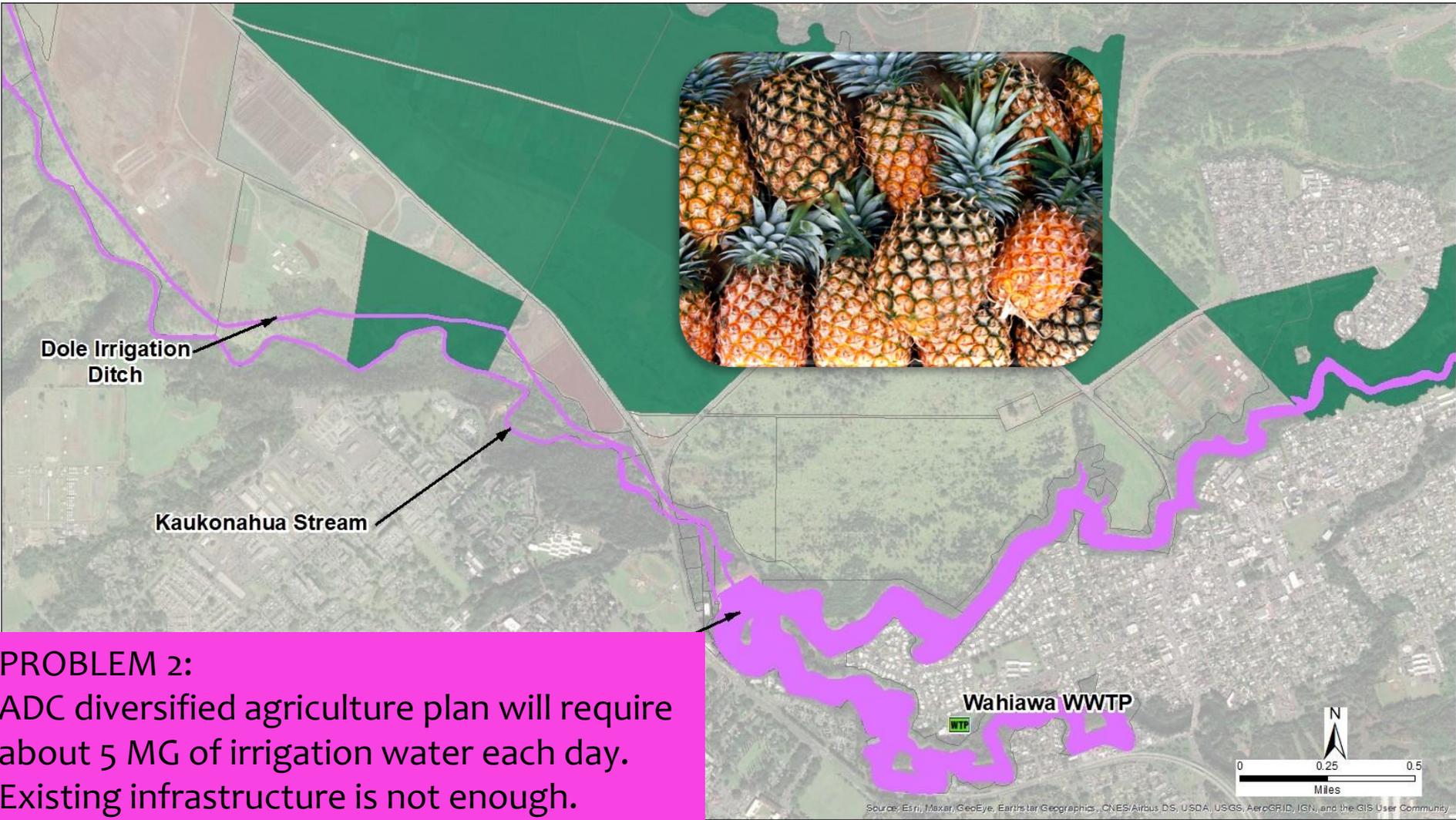
ADC Land



PROBLEM 2:
ADC diversified agriculture plan will require about 5 MG of irrigation water each day. Existing infrastructure is not enough.

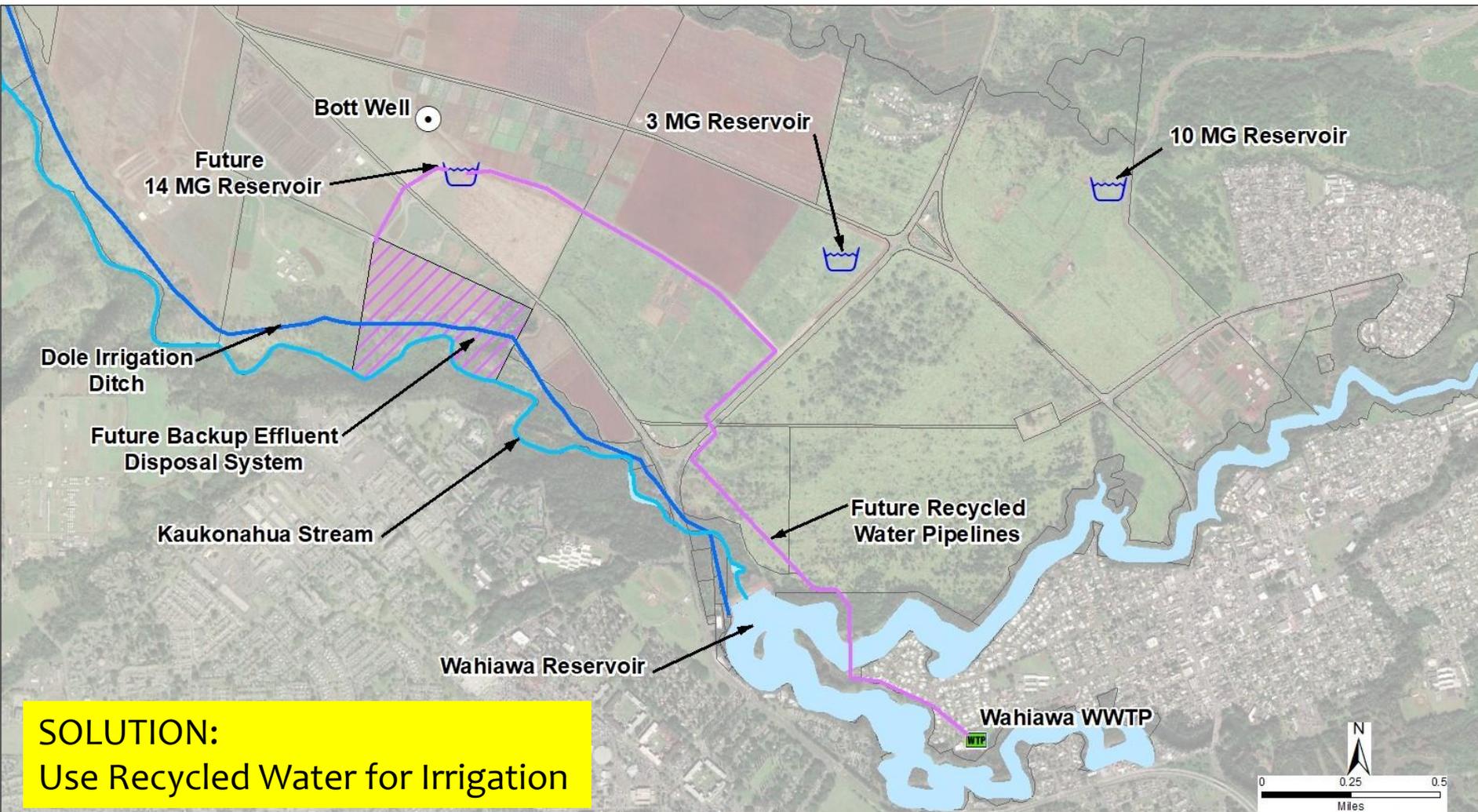
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

ADC Land



PROBLEM 2:
ADC diversified agriculture plan will require about 5 MG of irrigation water each day. Existing infrastructure is not enough.

ADC Recycled Water System



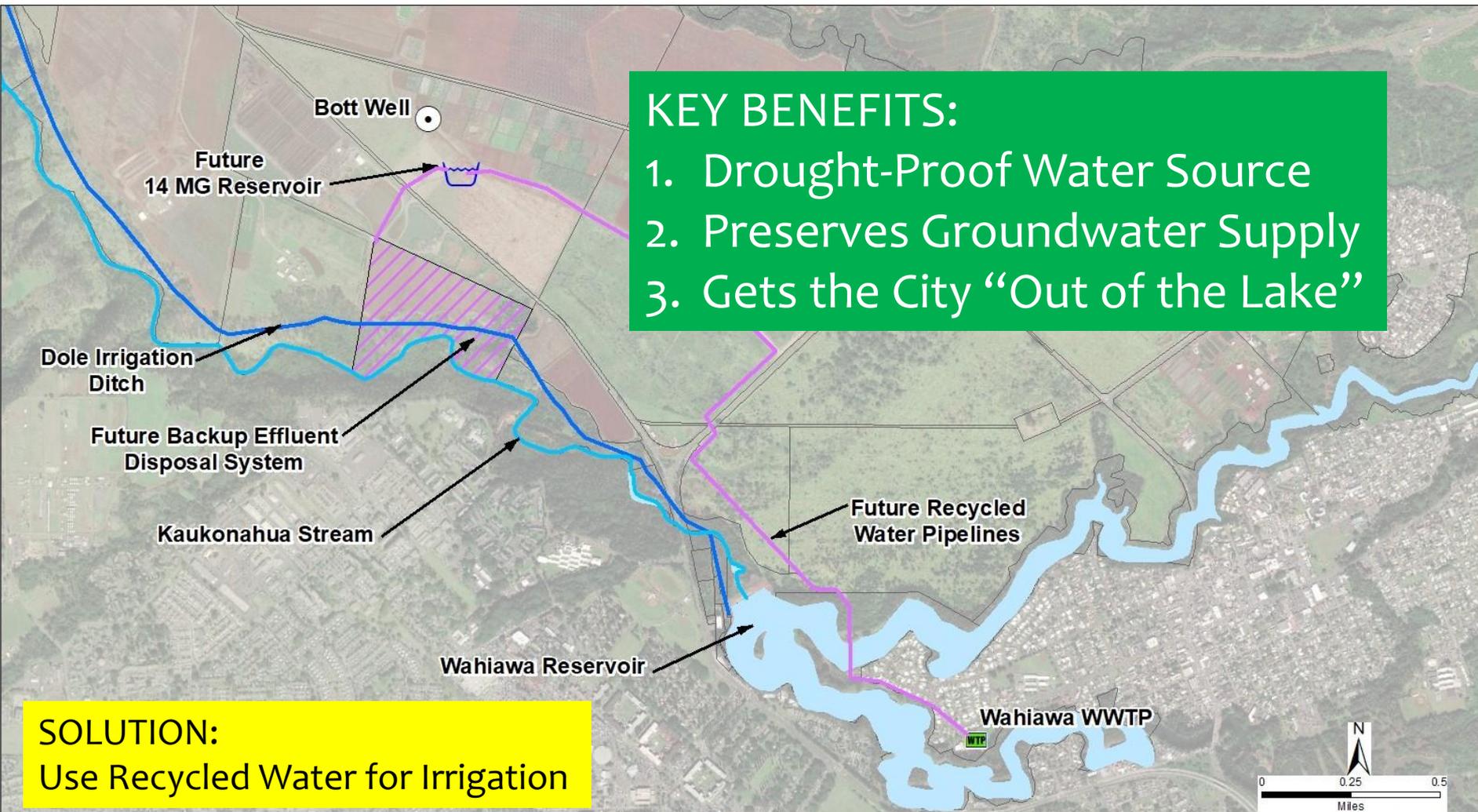
SOLUTION:
Use Recycled Water for Irrigation

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

ADC Recycled Water System

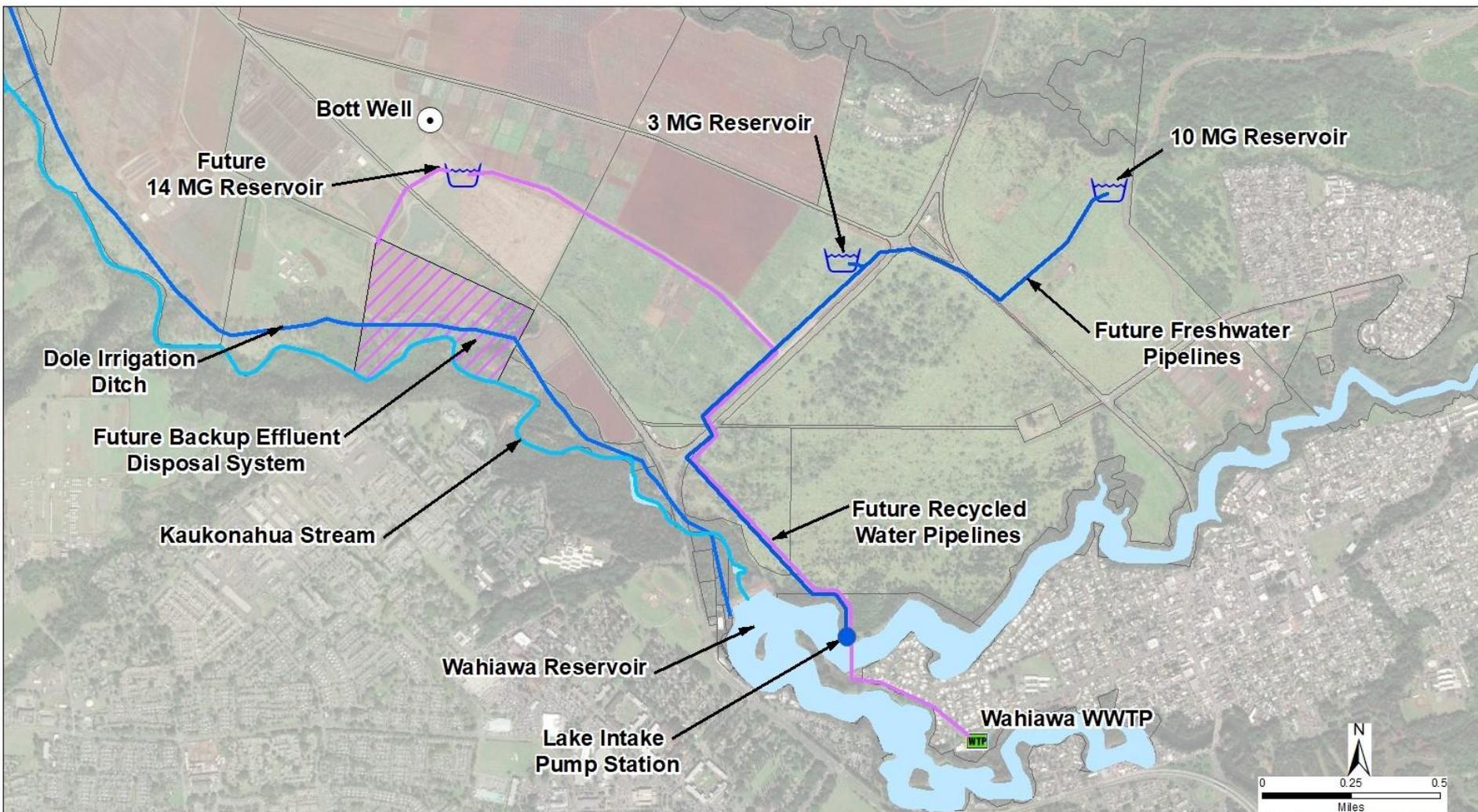
- KEY BENEFITS:**
1. Drought-Proof Water Source
 2. Preserves Groundwater Supply
 3. Gets the City "Out of the Lake"

SOLUTION:
Use Recycled Water for Irrigation



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

ADC Recycled + Lake Water



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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Thank you and stay safe!

Any questions?

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