



# Los Carneros Water District Recycled Water Pipeline Project

AWWA Fall Conference CA-NV Section

October 28, 2015

Andrew Hawksworth, P.E. – Carollo Engineers



# Acknowledgements

- Los Carneros Water District
  - John Stewart – President
  - LCWD – Board Members
- Napa Sanitation District
  - Andrew Damron, P.E. – Project Manager
  - Robin Gamble Holly – Project Eng.
- Carollo Engineers
  - Tracy Clinton, P.E. - Associate VP
  - Anne Prudhel, P.E. – Project Manager



✓ AGENDA

✓ LCWD Overview

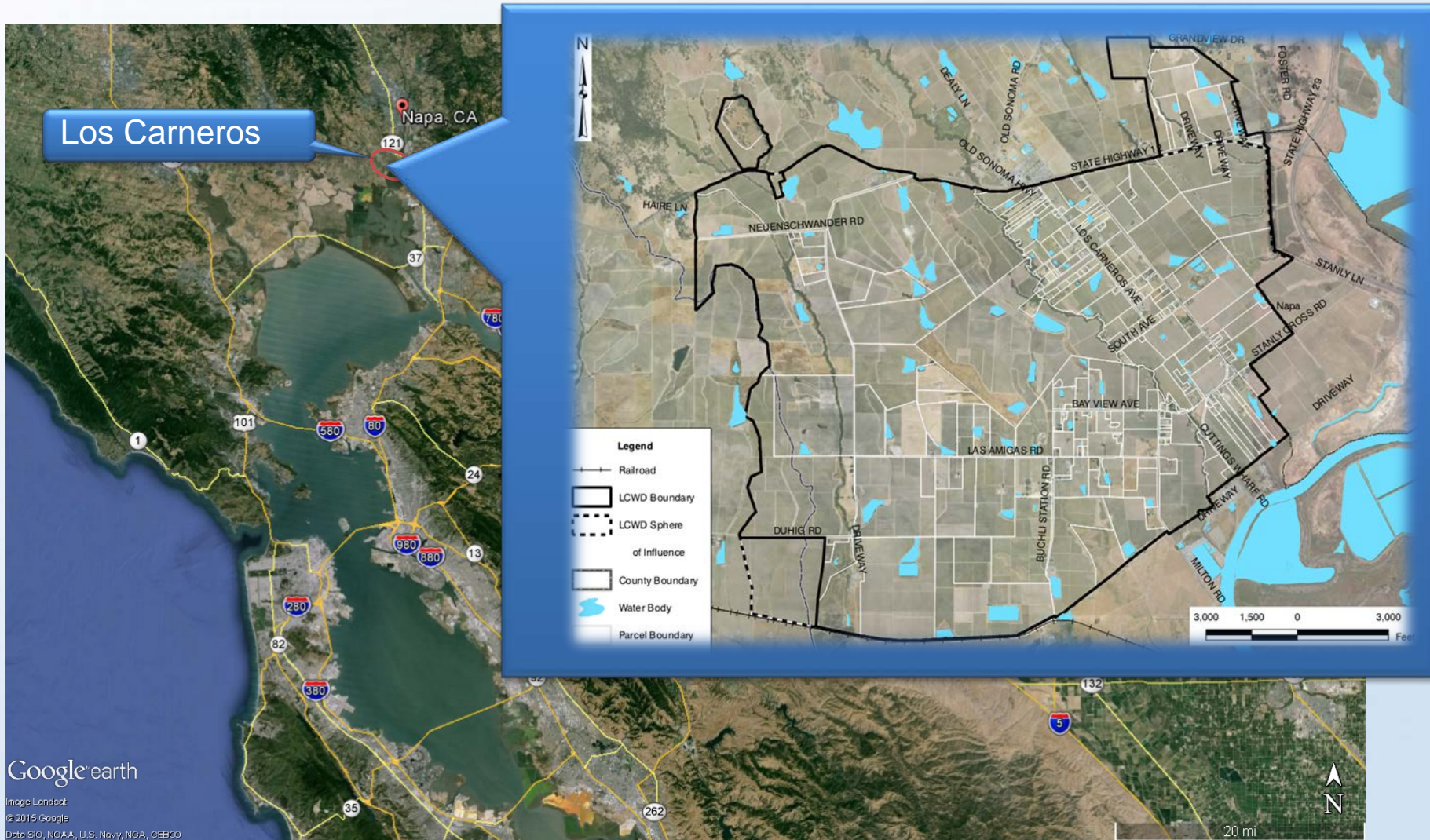
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TECHNOLOGICAL  
INNOVATION  
AND  
SUSTAINABILITY  
AGENDA  
FOR  
LCWD  
2024-2028

# LCWD Overview: Where is Los Carneros?



# LCWD Overview: Personal Effort

- Formed in 1978 to bring recycled water to the 5,000 acre community.
- Made up of volunteers
- Developed an assessment district
- Multiple Town Hall
- Land owner questionnaires
- Agreements with Napa Sanitation District



# LCWD Overview: Water Supply Problem

- Groundwater levels are dropping
- Improve water quality for irrigation
- Offset surface water use in the summer months
- Loss of revenue from unplanted crops
- Eliminate the need to truck in potable and recycled water.
- Current Drought



✓ **M E E T I N G**

✓ **A G E N D A**

✓ **C O N T E N T S**

✓ **1. I N T R O D U C T I O N**

✓ **2. P R O J E C T O B J E C T I V E S**

✓ **3. S C O P E O F W O R K**

✓ **4. T I M E L I N E**

✓ **5. C O N C L U S I O N**

✓ **Project Overview**

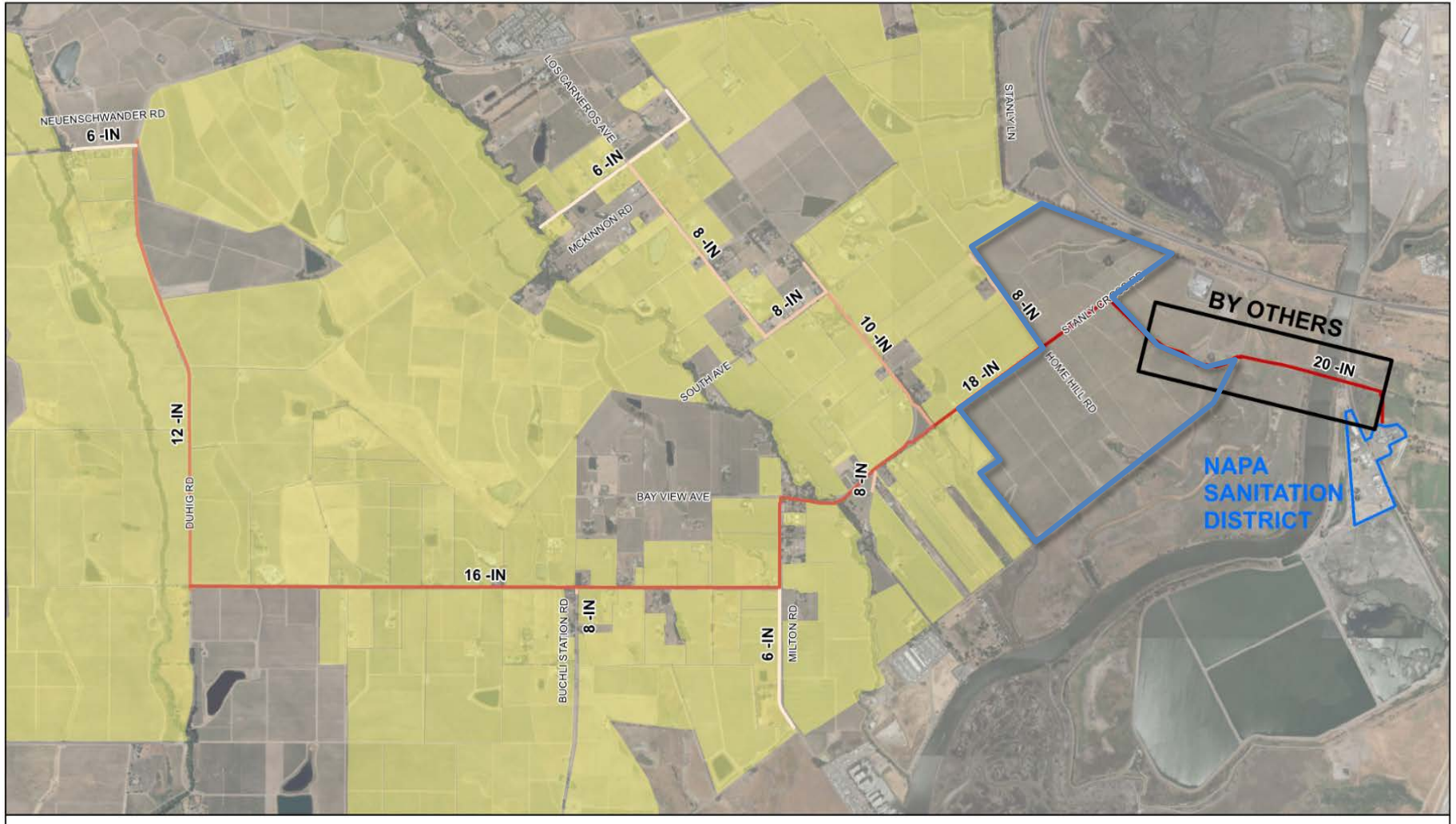
# Project Overview: Project Design

- 8.6 miles of 6"-20" recycled water pipe
  - Combination of FPVC and Bell & Spigot
- 115 parcels, (4,000 irrigated acres)
- Truck fill station
- Jack & Bore Crossing
- Pipe Bridge
- Only Utilities, 26" and 16" HP Gas (400 psi!)





# Background: Project Area



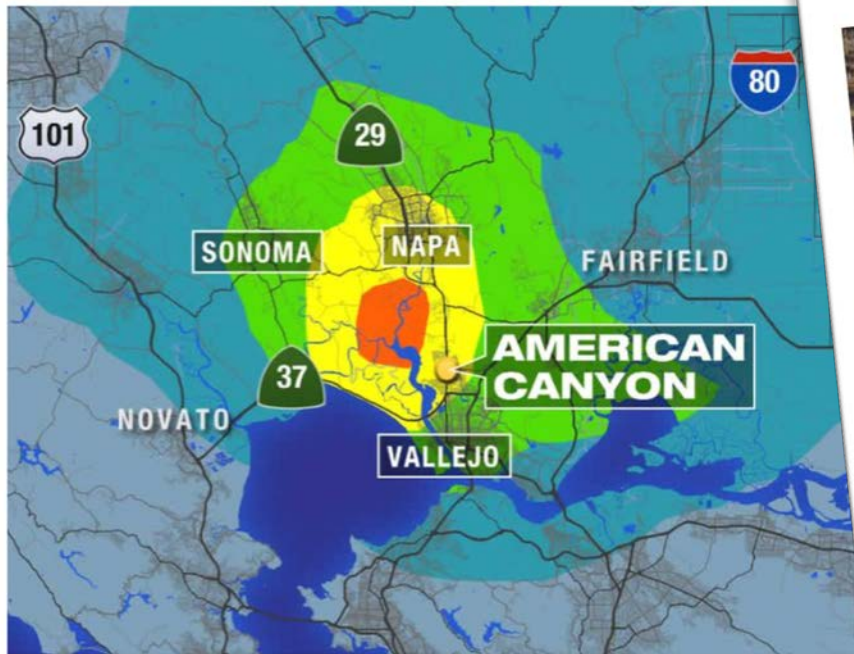
# AGENDA

## DESIGN CHALLENGES

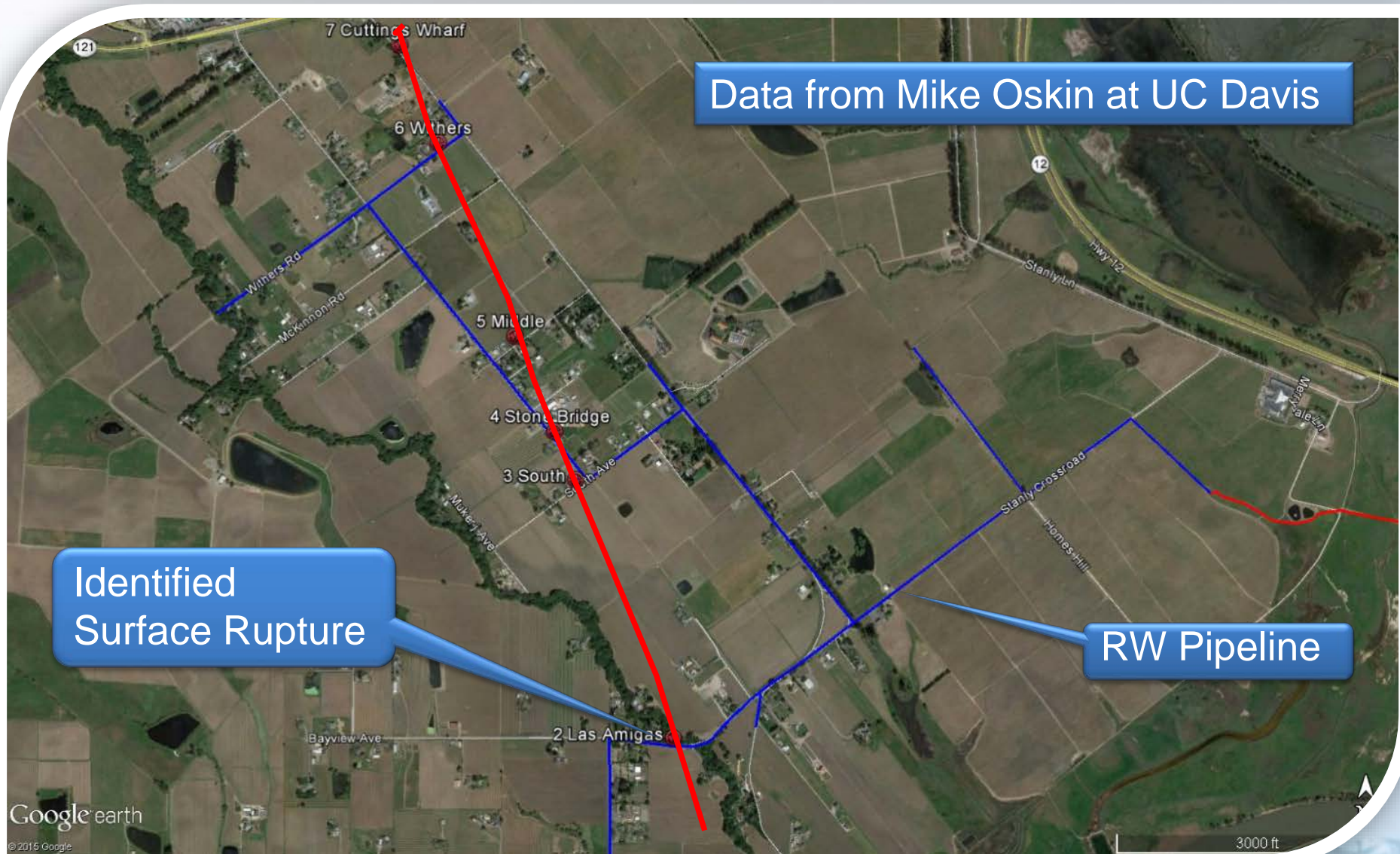
- ✓ Design Challenges
  - ✓ Earthquake
  - ✓ East Side Connection
  - ✓ A Few Others

# Design Challenges: Napa Earthquake

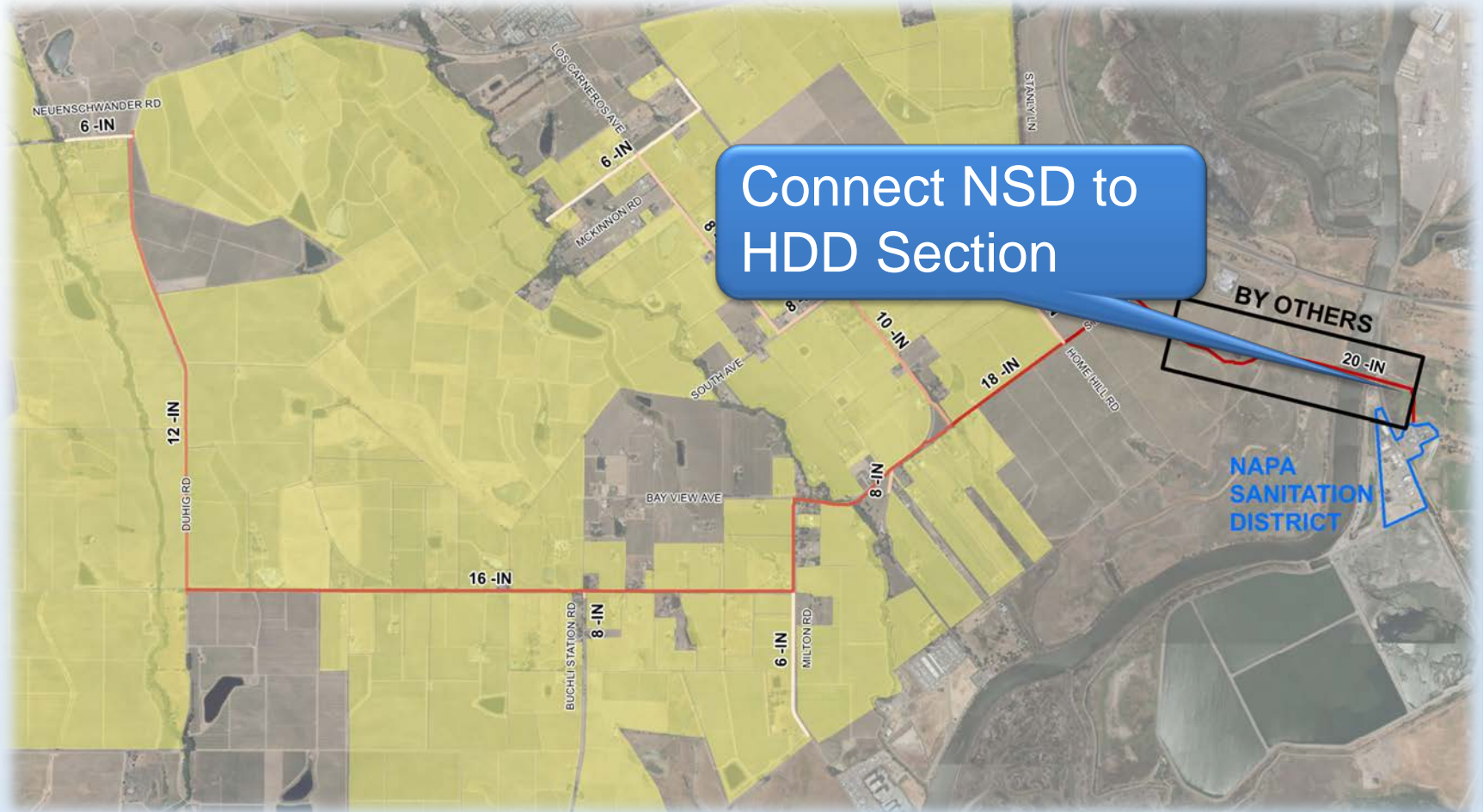
- August 24, 2015
- Magnitude 6.0
- Epicenter was one mile south project site
- Fault had been identified as inactive



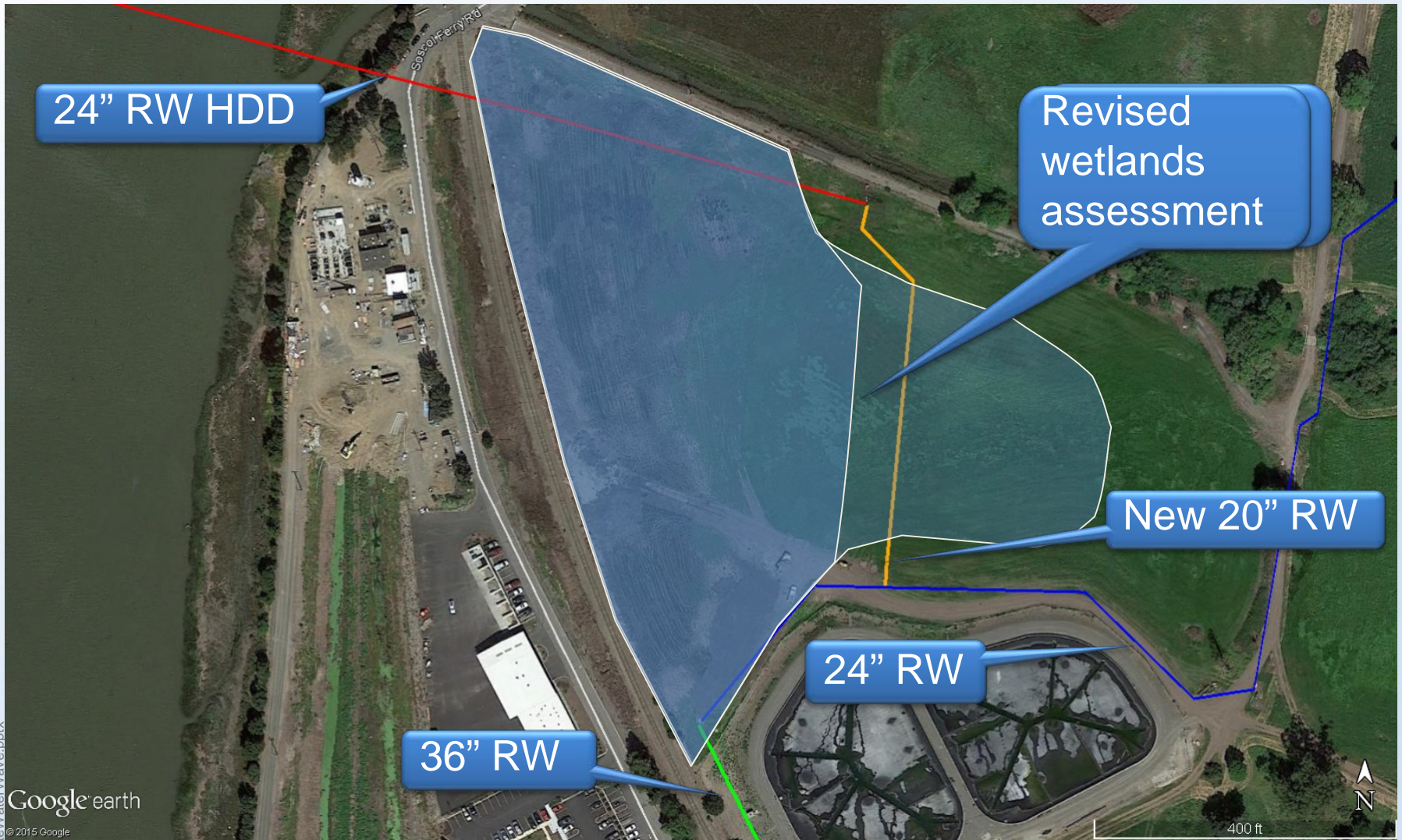
# Design Challenges: Napa Earthquake



# Design Challenges: East Side Connection



# Design Challenges: East Side Connection



# Design Challenges: A Few Others

- No road closures during harvest
- Location of meters
- 36 Culvert Crossings

✓ M  
A G E N D A  
✓  
✓  
✓  
✓

✓ Metering Technology

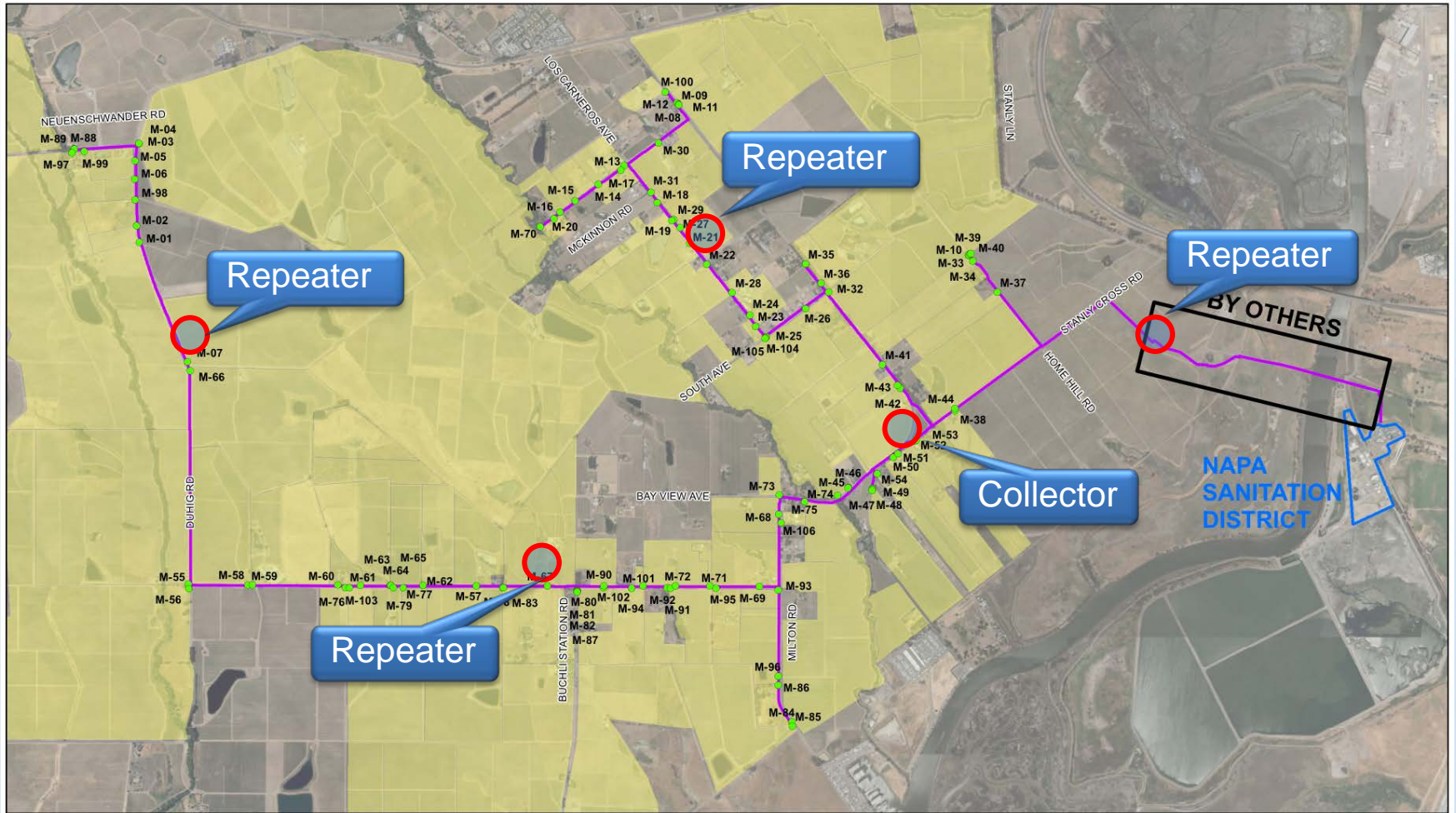


# Metering Technology: Installation

- 105 meters, plus ability to add more at a later date.
- Turbo Series
- Badger High Resolution Encoder
- Itron Radio Based Endpoint
- Itron pole mounted receiver




# Metering Technology: Remote Reading



# Metering Technology: Web Portal

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Water, wastewater, recycled water

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## AQUAHAWK CUSTOMER PORTAL

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### AquaHawk: 24/7 Access to Your Water Account

It's easy to use our AquaHawk Alerting Customer Portal to monitor your water use and view billing information. You can set a water use threshold you don't want to exceed (in dollars or gallons) and receive text or email alerts to help you meet your goal. You also can estimate your next bill, view and print historic bills, sign up for paperless billing, and make one-time payments.


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Browse through the tips below for answers to the most frequently asked questions.

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 **Dublin San Ramon Services District**  
Water, wastewater, recycled water

A Customer Portal Solution for Water Utilities

Powered by  AquaHawk

# Metering Technology: Web Portal

## Customer

- Notifications: text, e-mail, phone or direct mail
- Estimate of their bill
- View historical, current and projected water use
- Integration of rainfall and temperature data
- Set thresholds
- Export data in .csv format

## Utility

- Analyze for leak detection and notification
- View customer data
- Export usage data
- Set thresholds and set alerts
- View abnormal usage / accounts violating threshold restrictions

# Project Overview: Funding

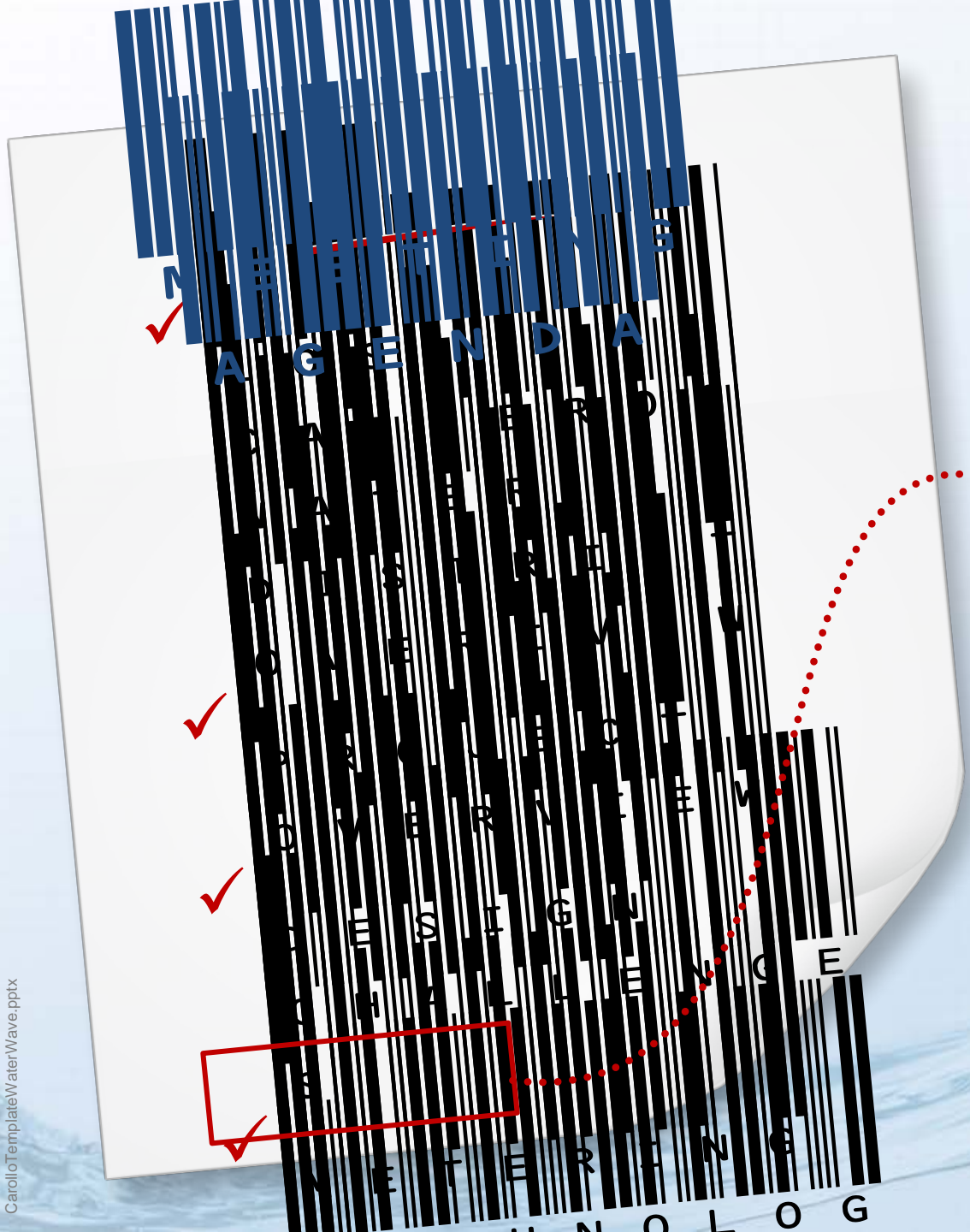
- Recycled Water Planning Grant from State Water Resources Control Board (SWRCB) for 50 % of the Feasibility Study
- Grant/Loan funding from State Revolving Fund (SRF) and Proposition 1 for the design and construction.
- Parcel Assessment Fees
- Stanly Ranch Development Partnership
- Napa Sanitation District
- Two grants from the US Bureau of Reclamation for agriculture irrigation and energy efficiency.



# Project Overview: Project Cost

- Engineers Estimate: \$15.5 Million
  - Low Bid: \$10.5 Million
  - Notice to Proceed: March 2015
  - Expected Completion: January 2016
- 
- **Grants and Loan Relief:**  
**\$5.6 Million**





✓ Questions