



# Ventura River Levee Rehabilitation (VR-1)

Public Meeting Presentation

# Agenda

Meeting Introduction

Ventura River Levee and Project History

Ventura River Levee System Deficiencies

Project Alternatives

Geotechnical Investigations

Environmental Processes

Project Schedule

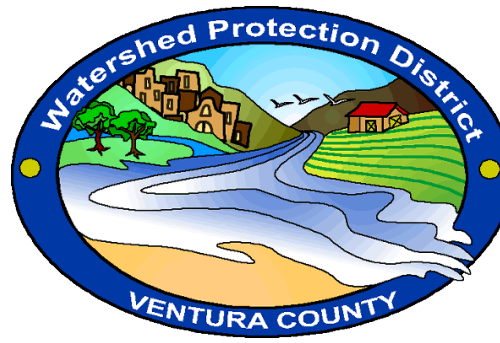
Contacts and Websites

**10-Minute Break**

Questions and Answers

# Presenters

- ***Glenn Shephard*** Director, Ventura County Watershed Protection District
- ***Peter Sheydayi*** Deputy Director, Ventura County Watershed Protection District
- ***Anna Lantin*** Senior Vice President, Michael Baker International
- ***Lisa Blewitt*** Senior Associate, Aspen Environmental Group



## OUR MISSION

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**Protect life, property and community infrastructure from flood events, improve water resources management, and enhance the health and natural function of watersheds in Ventura County.**



## OUR VISION

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**We champion an environmentally-resilient and economically-sustainable future for Ventura County watersheds through regional leadership and building community alliances benefiting current and future generations.**

# District Overview: Watersheds and Zones

Ventura County Watershed Zones



- Created by the State Legislature in 1944 (Ventura County Flood Control Act)
- Area: 1800 Square Miles
- Four Zones
- Three Major Watersheds
  - Calleguas Creek
  - Santa Clara River
  - Ventura River
- Includes 10 Cities and the County Unincorporated Areas
- Dependent Special District governed by the Board of Supervisors

# Location of the Ventura River VR-1 System

- ▶ 2.65-mile-long levee system
- ▶ Extends along eastern bank of the Ventura River from the Pacific Ocean to the confluence with the Cañada de San Joaquin
- ▶ Extends 1000 ft east along the southern bank of the Cañada de San Joaquin

Ventura County Watershed Protection District



September 26, 2018



# Ventura River VR-1 System





# Levee system components

- ▶ Embankment
- ▶ Side-slope protection (riverside) consisting of loose or grouted riprap, concrete floodwalls
- ▶ Side-drainage penetrations
- ▶ Stop-log structure at a bike trail crossing





## Historical Timeline



► **1948**  
VR-1 Constructed



► **2000**  
USACE/BOR  
Matilija  
Removal  
Study

► **2005**  
FEMA Nationwide  
Levee Certification  
Program After  
Katrina Disaster

- **2009**  
Applied for FEMA Accreditation
- **Apr & Oct 2009**  
Community Presentations

► **2010**  
Levee De-accredited,  
Given PAL Status



USACE  
Periodic  
Inspection

► **March 2015**  
DWR LLAP  
Grant Package



► **Sep 2015**  
Complete  
Technical  
Studies



► **Mar 2017**  
BOS Accepts  
DWR LLAP  
Grant Award

► **Sept 2018**  
Community  
Presentation



► **1947**  
Matilija Dam Constructed

- **1958** Robles Dam Constructed
- **1959** Casitas Reservoir Constructed

►2009  
Phase I Evaluation  
FEMA/HDR FIS  
PAL Response



► **2011**  
Initiated Appraisal  
Report to request  
Federal Interest

Initiate Technical Studies  
CTP Study

## Pursue Partnership with USACE

► **2014**  
USACE Unable to  
Support a Partnership  
  
Declined Federal  
Interest

► **Aug 2016**  
Community  
Presentation

► **2017**  
Accepted \$1.3M  
State Grant Funds  
(\$1.1M VCWPD  
Cost Share)

► **July 2017**  
Surveys and Field Work

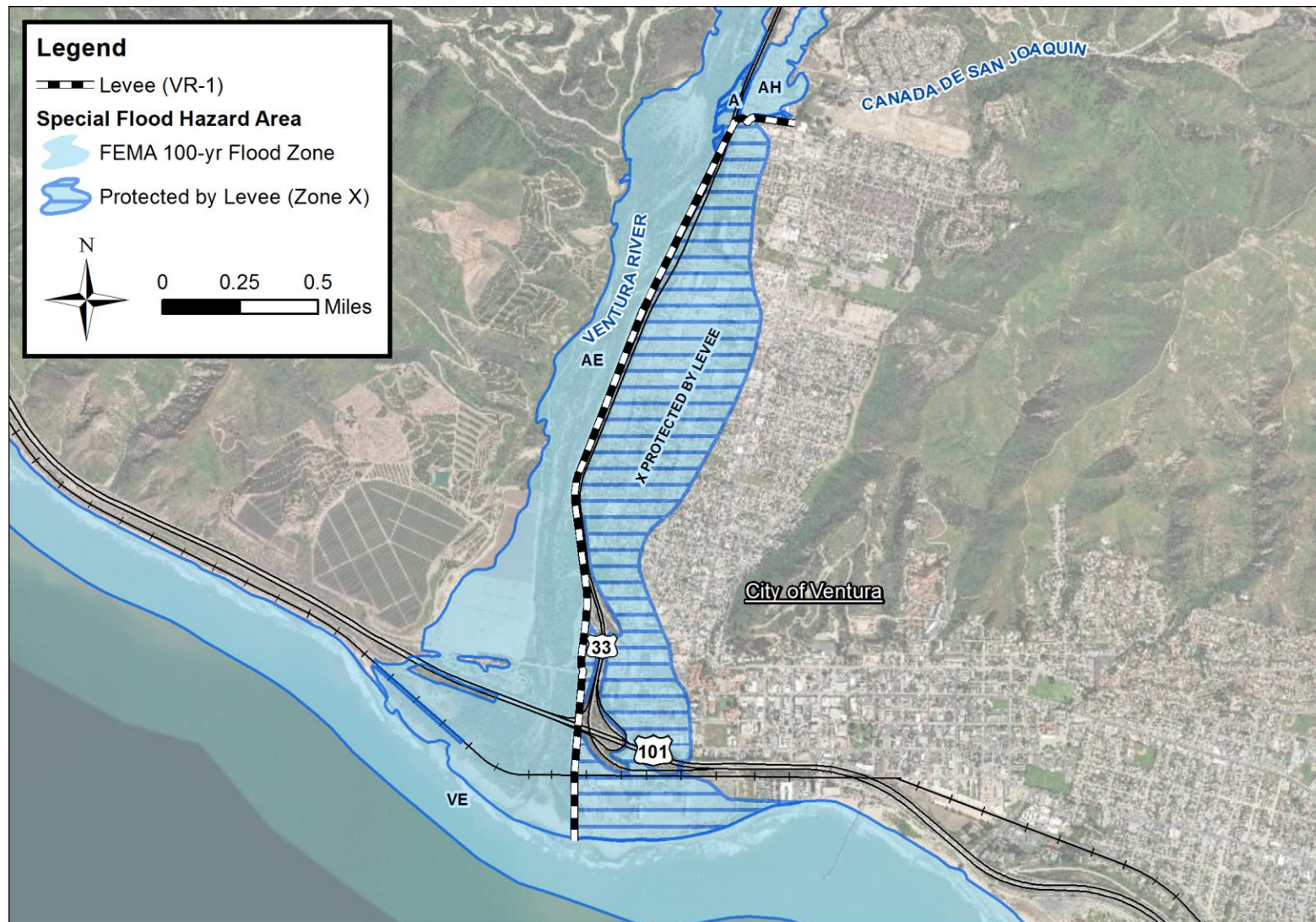
## Michael Baker



► **June 2017**  
Contracts Awarded  
Design/CEQA

# What is FEMA's PAL Process?

- ▶ Post Katrina: FEMA enforces strict levee certification policy
- ▶ FEMA allowed levees already shown to provide flood protection to be “provisionally accredited”
- ▶ This allowed communities time to certify existing levees
- ▶ VR-1 deficiencies need to be fixed before being certifiable



## FEMA Floodplain Map Flood Hazard Areas

Ventura County Watershed Protection District

September 26, 2018

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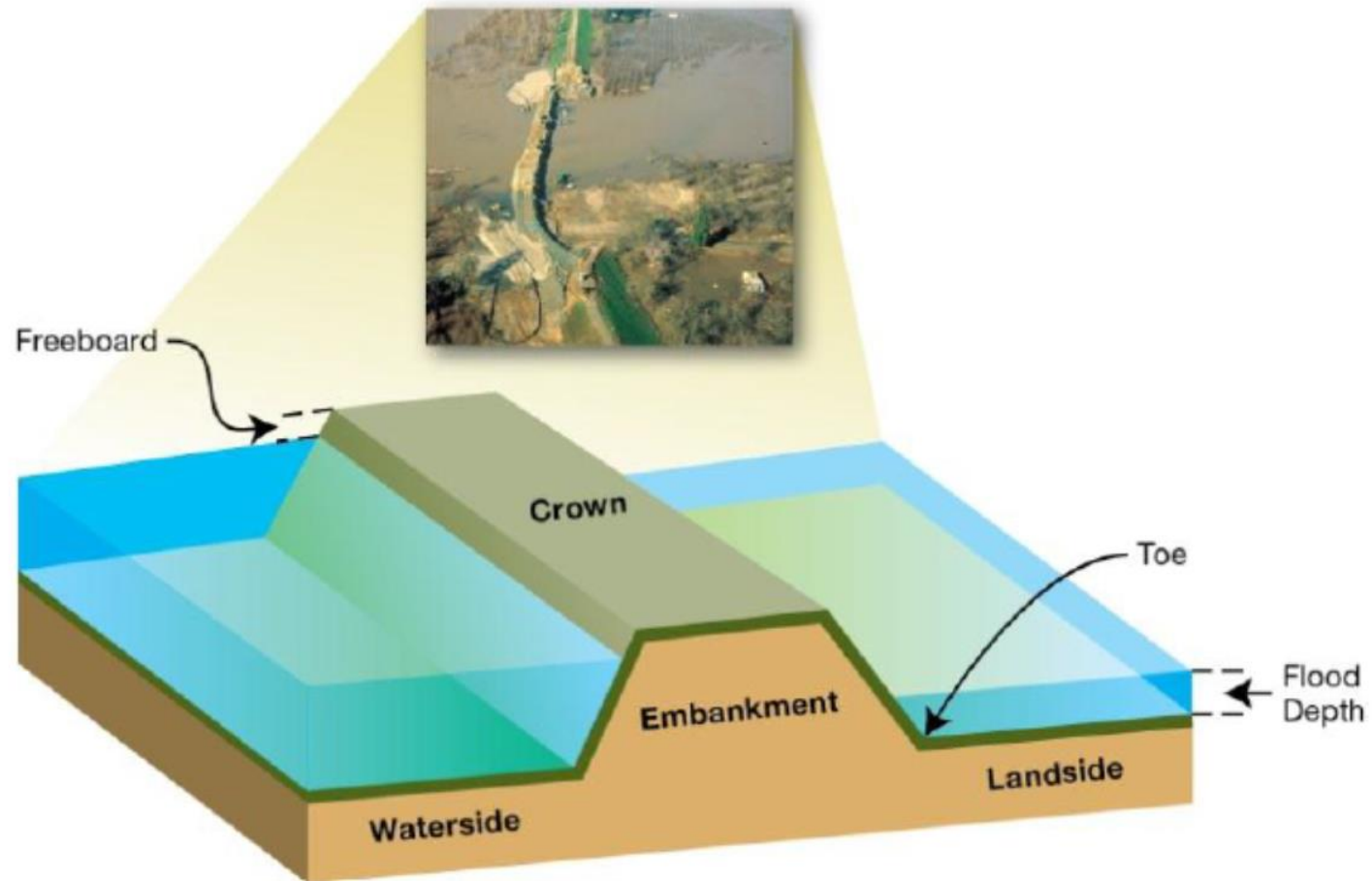


# Why the project is needed?

- ▶ Levee is beyond capital service life (70 years old)
- ▶ Levee has structural deficiencies
- ▶ Needs to be upgraded to be accredited by FEMA
- ▶ Needed for flood protection for the community



# Anatomy of Levee



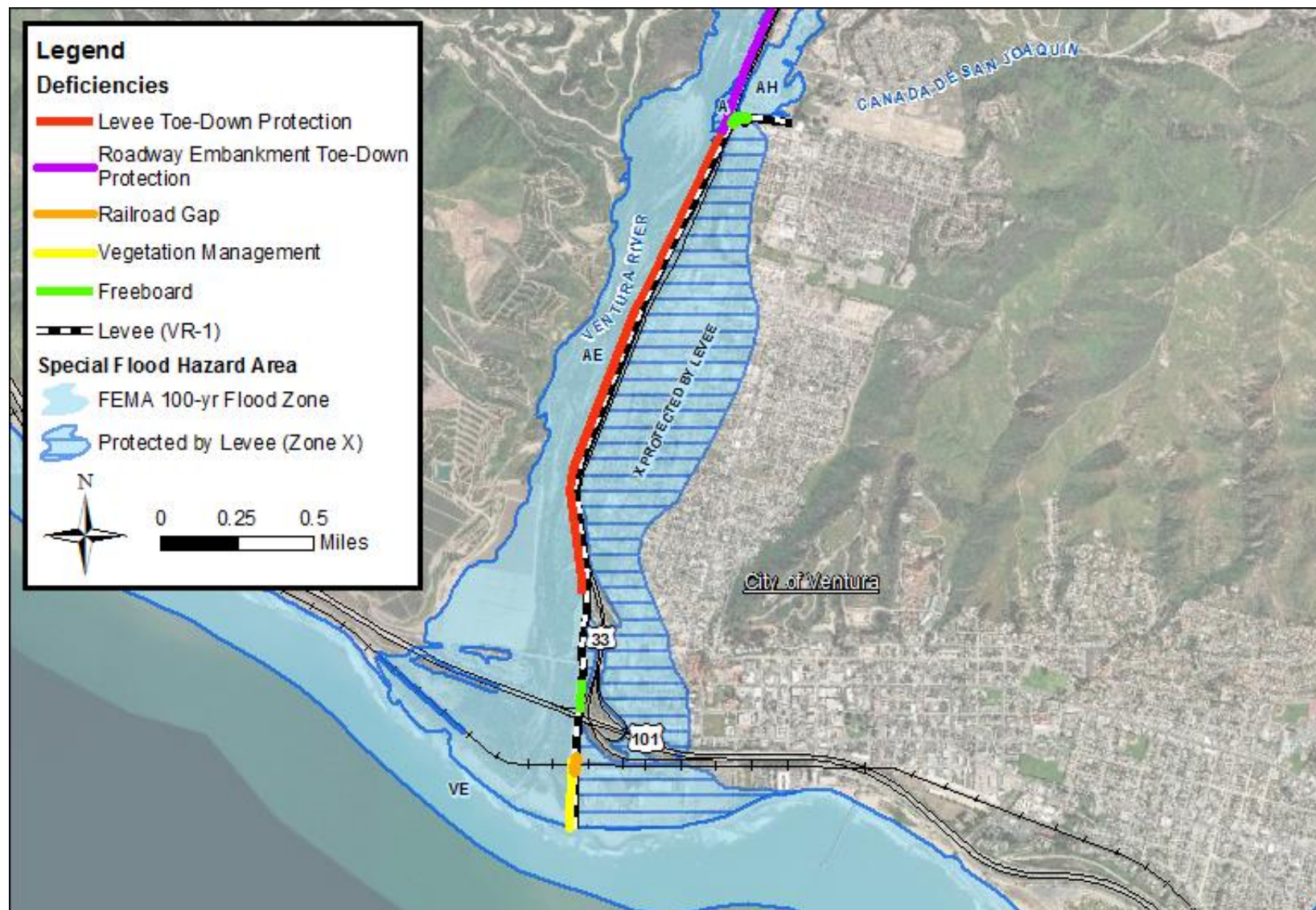
# Ventura River VR-1 System Deficiencies

- ▶ Encroachments into levee
- ▶ Vegetation Management D/S of UPRR
- ▶ Toe-down scour protection
- ▶ Freeboard
- ▶ Railroad Gap

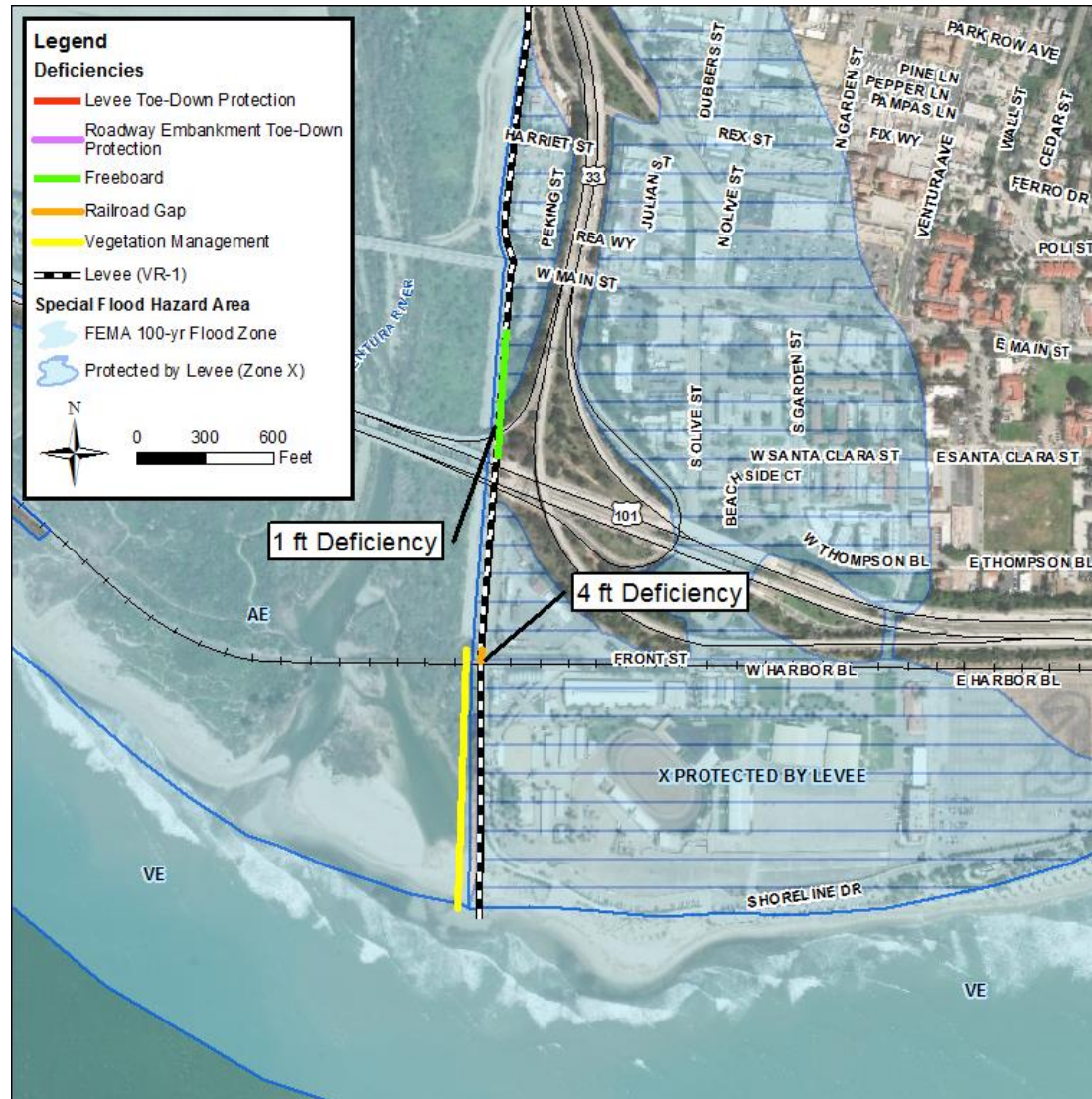




# Ventura River VR-1 System Deficiencies

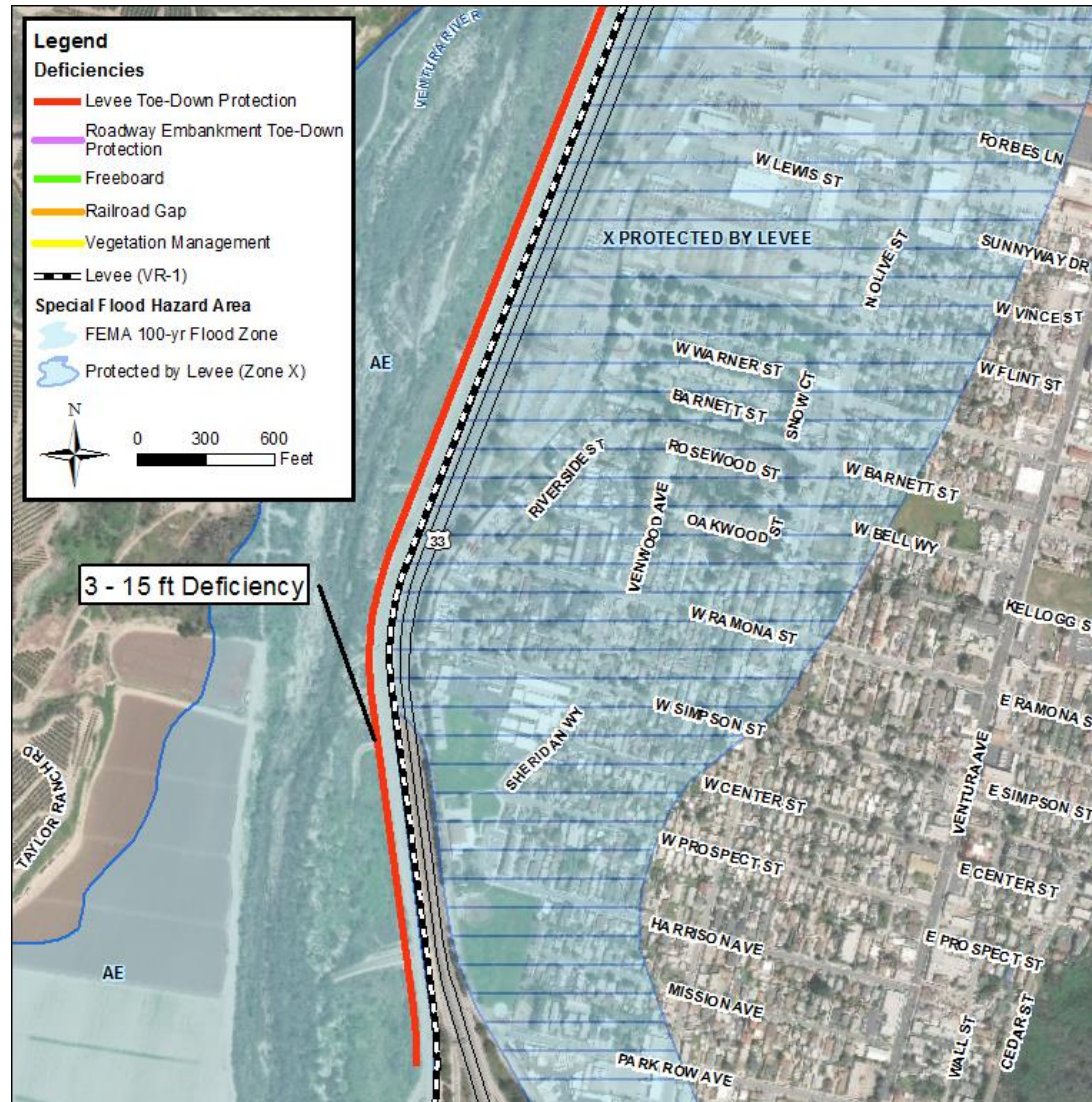


# Ventura River VR-1 System Deficiencies



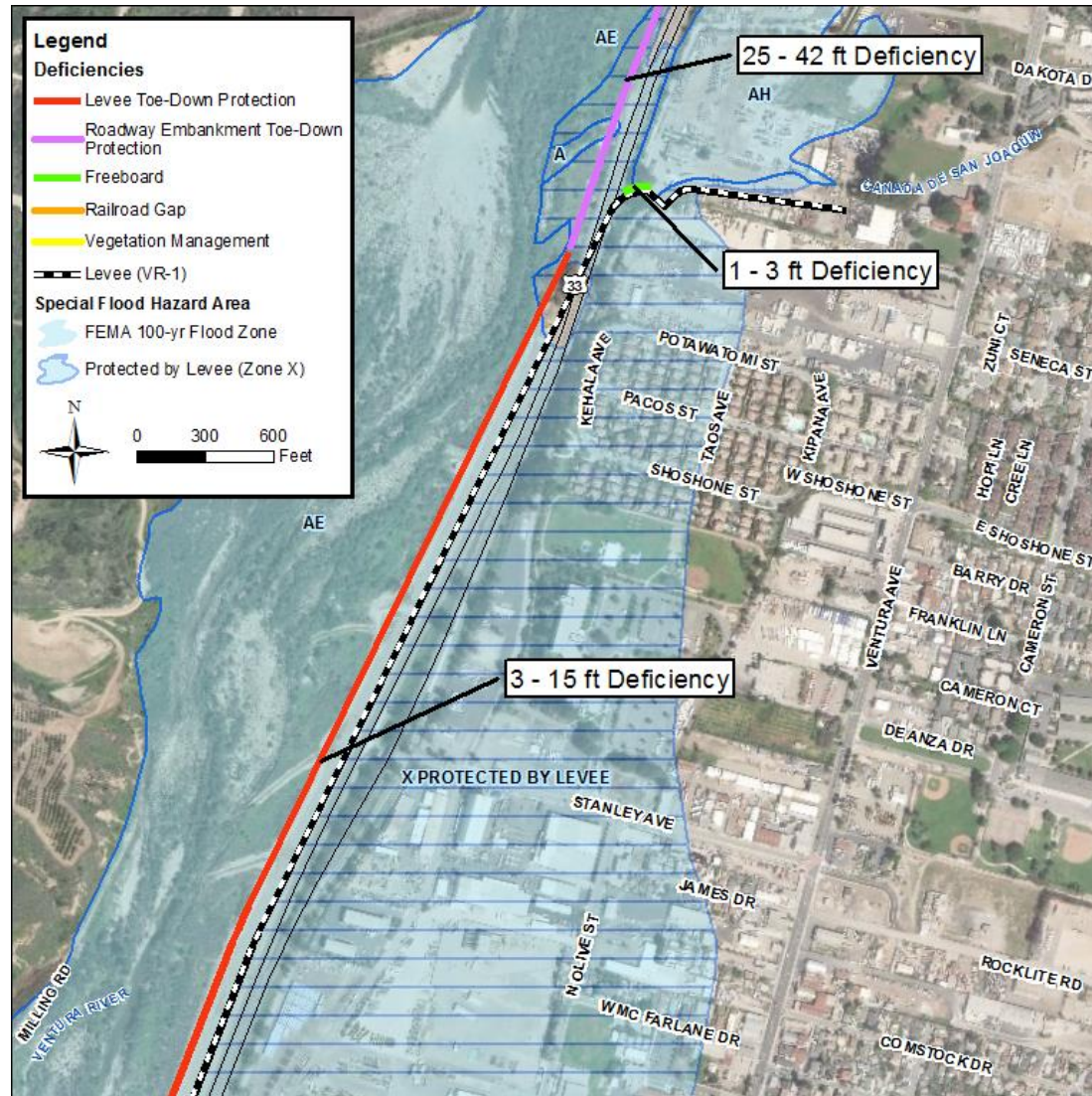


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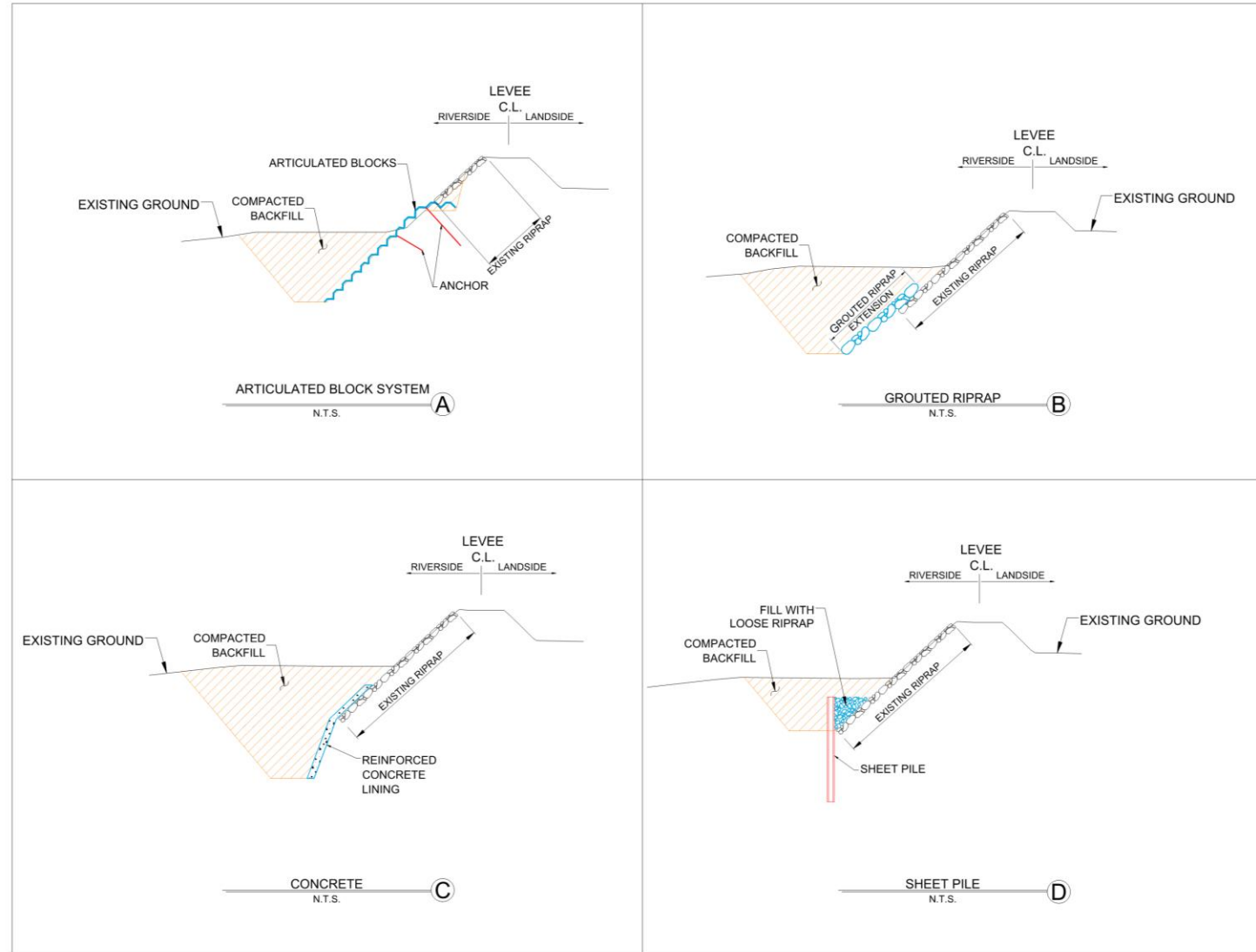




# Ventura River VR-1 System Deficiencies

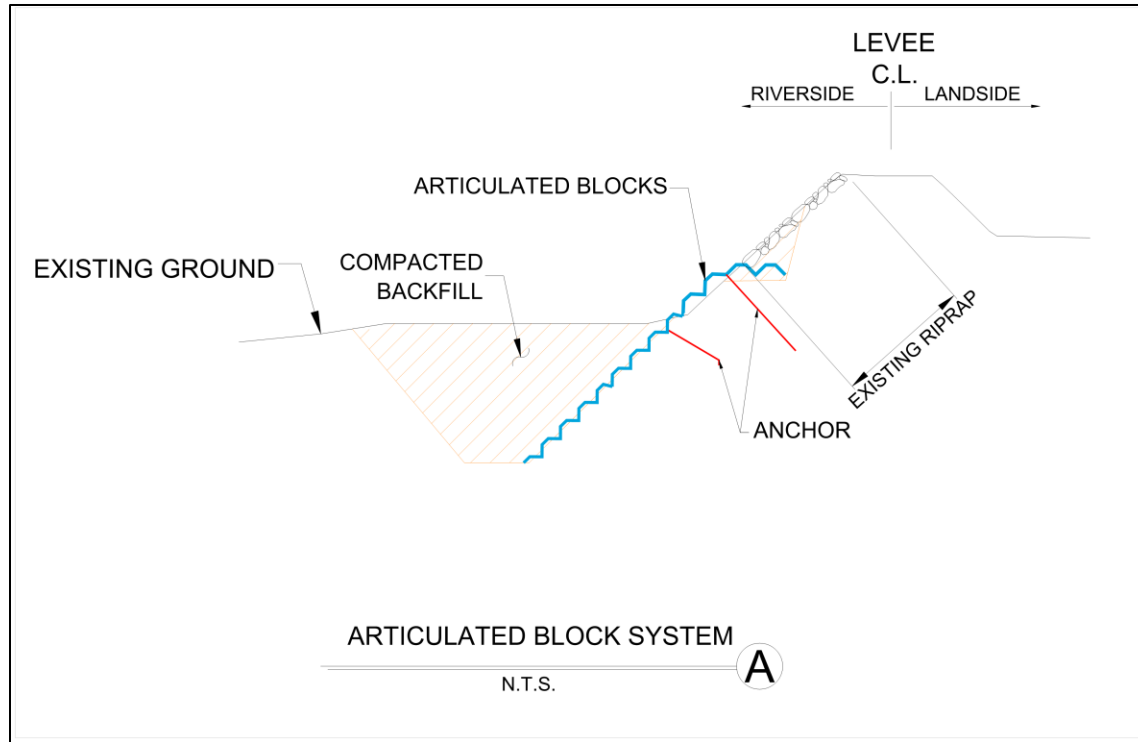


# Alternatives (types of levee bank and scour protection)





# Articulated Block System



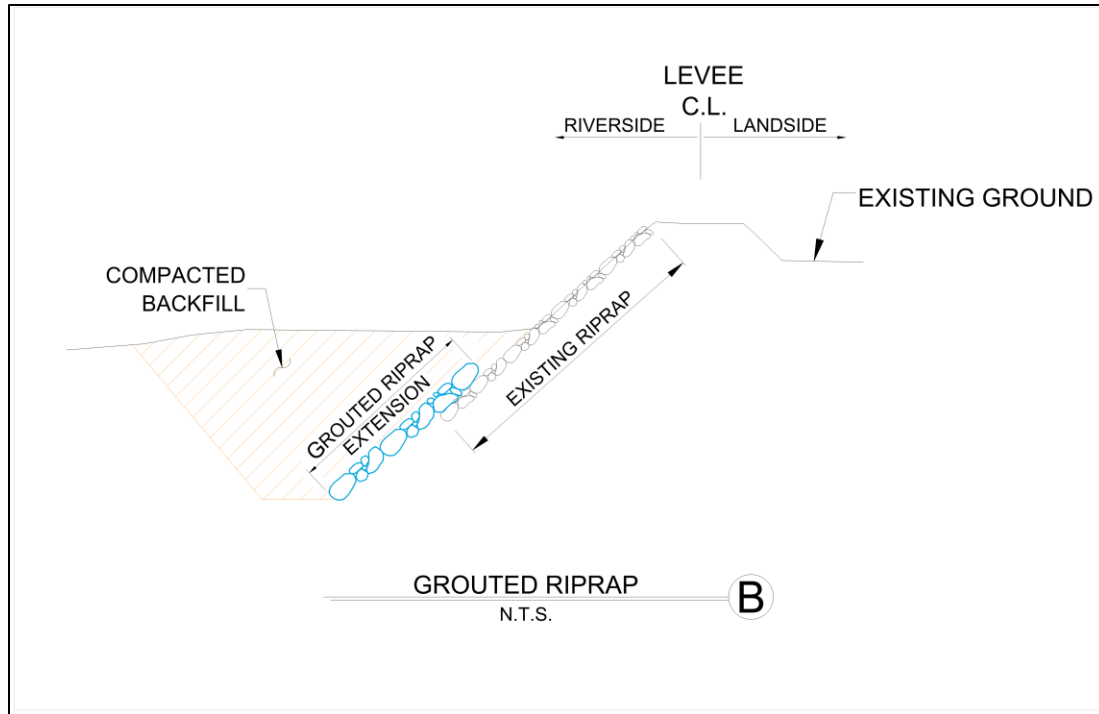
Design

Example Photos





# Grouted Riprap

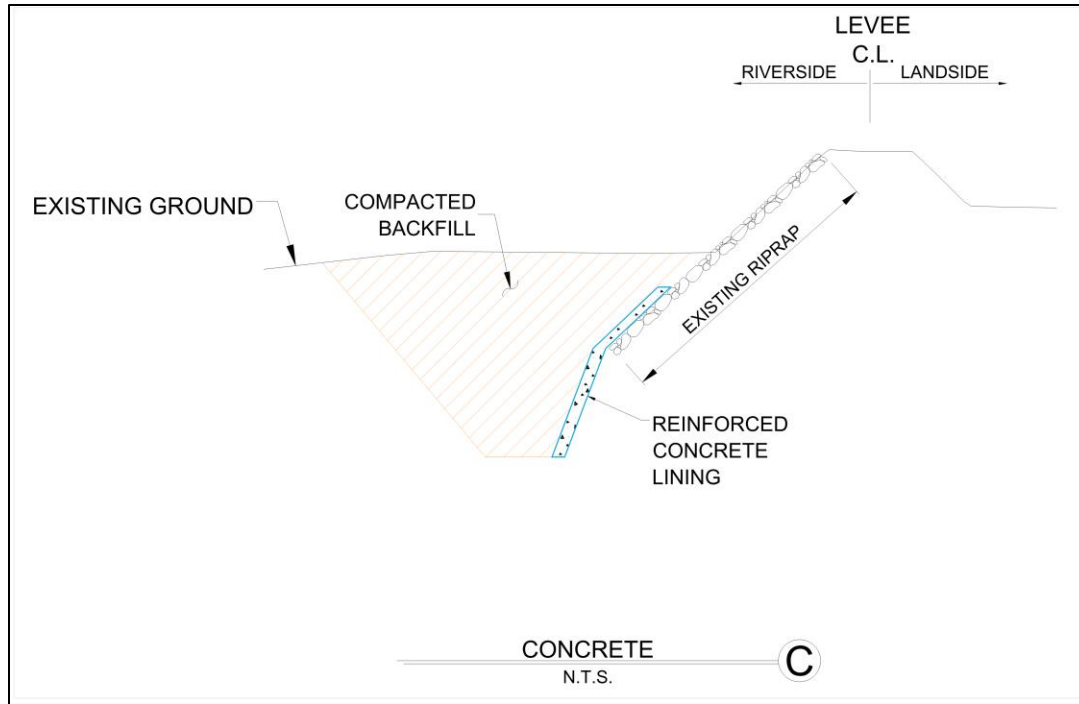


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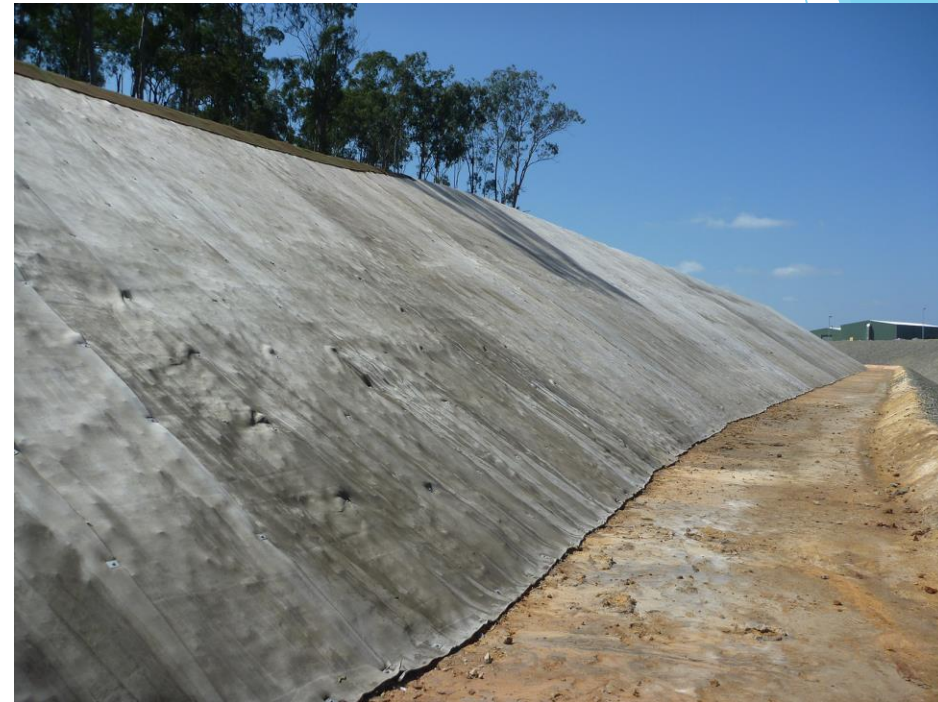


Example Photo

# Concrete

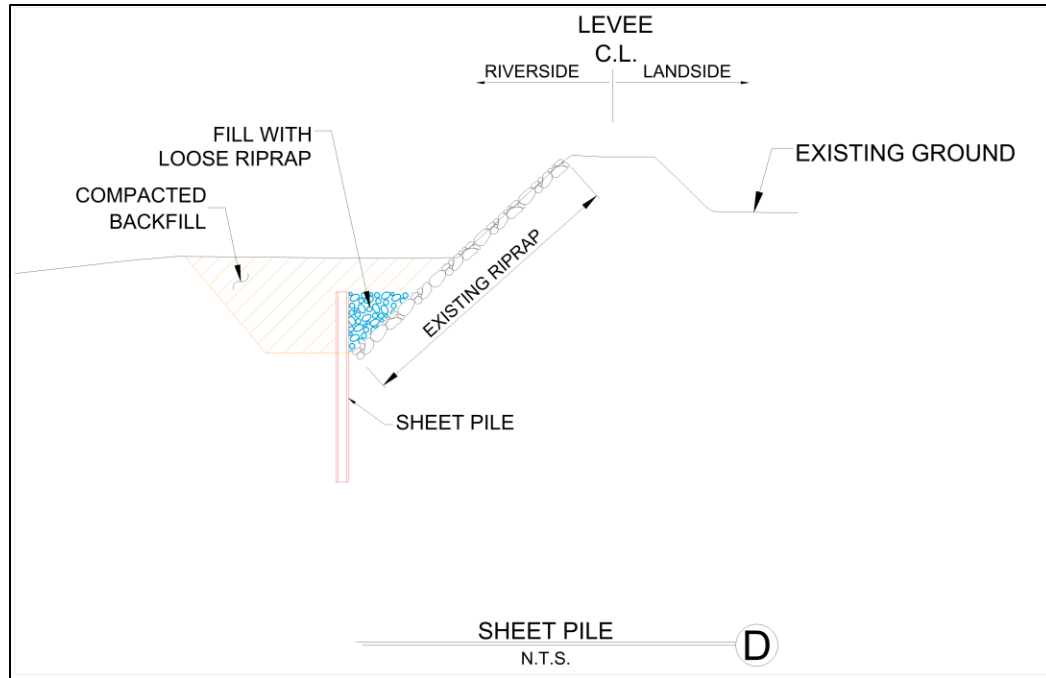


Design



Example Photo

# Sheet Piles



Design



Example Photo



# Example of rock riprap bank protection

- ▶ Photo of recently completed Santa Clara River Levee (SCR-3) bank protection using rock riprap



# Floodwall Alternatives

- ▶ Increase floodwall height, OR
- ▶ Replace floodwall if wall is structurally deficient
- ▶ Photo shows existing floodwall installed by USACE





# Evaluating Options for Gap Closure at UPRR Bridge area





# Gap Closure at UPRR Bridge Option



# Geotechnical Investigation Needed Now

- ▶ Equipment will be deployed Nov-Dec 2018
- ▶ Physically measuring structural integrity
- ▶ Borings and Test pits



Chronicle / Paul Chinn

# Environmental Review

- ▶ Purpose of Environmental Review
  - ▶ Comply with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA)
  - ▶ Identify and disclose potential effects on the environment
  - ▶ Identify ways to reduce or avoid significant environmental impacts
  - ▶ Obtain permits in accordance with State and federal environmental laws



# Cultural and Historic Resource Surveys and Coordination

- ▶ Cultural and archeological surveys
- ▶ Historical Evaluation
- ▶ AB 52 Tribal Consultation (in progress)
- ▶ Supporting Corps on consultation with the State Historic Preservation Officer (in progress)



# Cultural and Historical Assessment and Results

- ▶ Cultural and archeological surveys
  - ▶ No archeological sites identified
  - ▶ No significant artifacts found
    - ▶ Pismo clam shell without context
- ▶ Historical Evaluation
  - ▶ Levee, bridges, and roads assessed
  - ▶ All recommended not eligible under:
    - National Register for Historic Places
    - California Register of Historic Places



# Biological Surveys and Results

- ▶ California Rapid Assessment Method
- ▶ Jurisdictional Waters/Wetlands Delineation
- ▶ Vegetation Mapping
- ▶ Focused Botanical Surveys
  - ▶ No federal or State listed plants found
  - ▶ One locally sensitive plant found (Duckweed)
- ▶ General Wildlife Surveys
  - ▶ Least Bell's vireo (*federal/state endangered*)
  - ▶ Western snowy plover (*federal threatened/California species of special concern*)
  - ▶ American peregrine falcon (*California fully protected*)
  - ▶ California brown pelican (*California fully protected*)

Western Snowy Plover



Photo credit USFWS

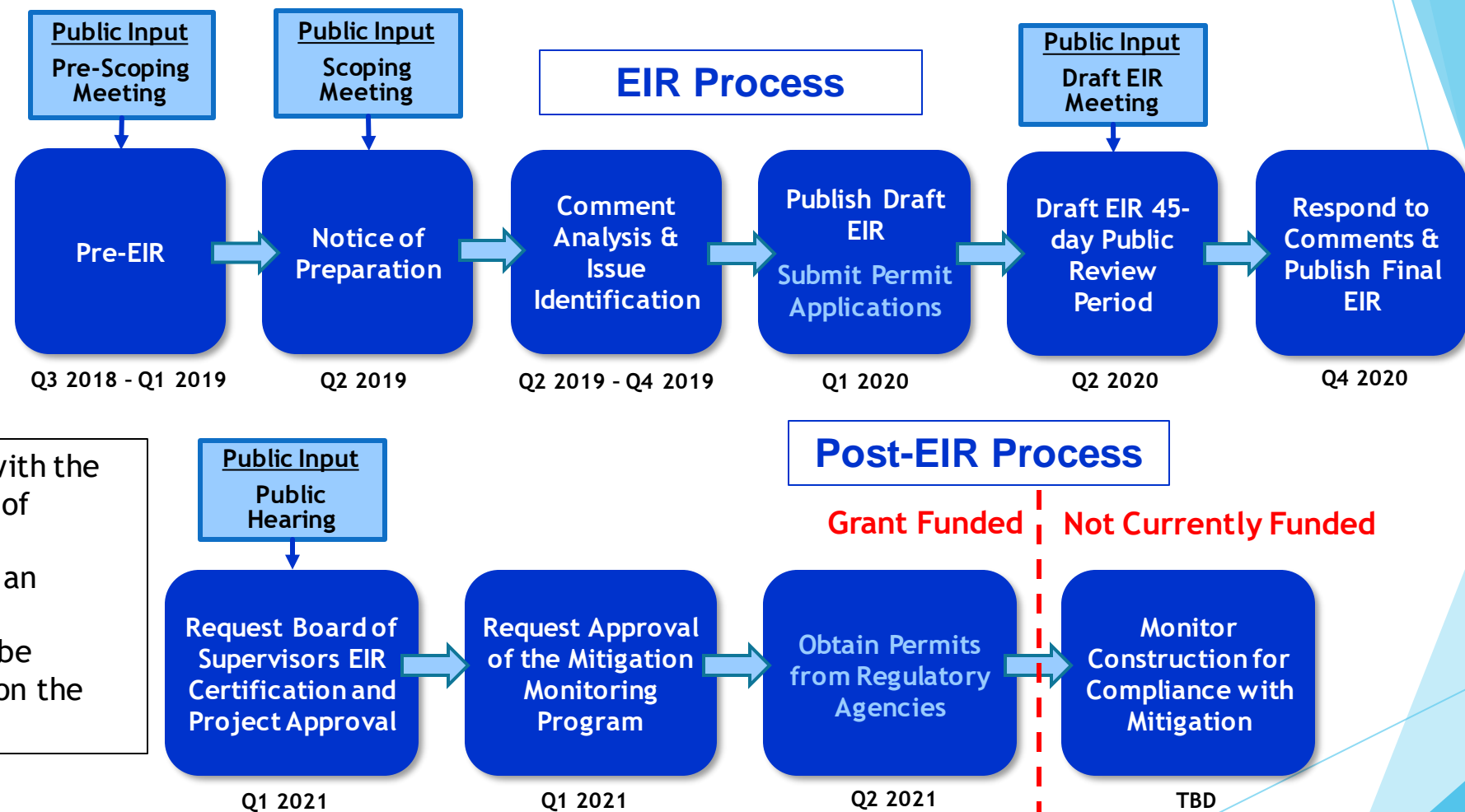
Least Bell's Vireo



Photo credit USFWS



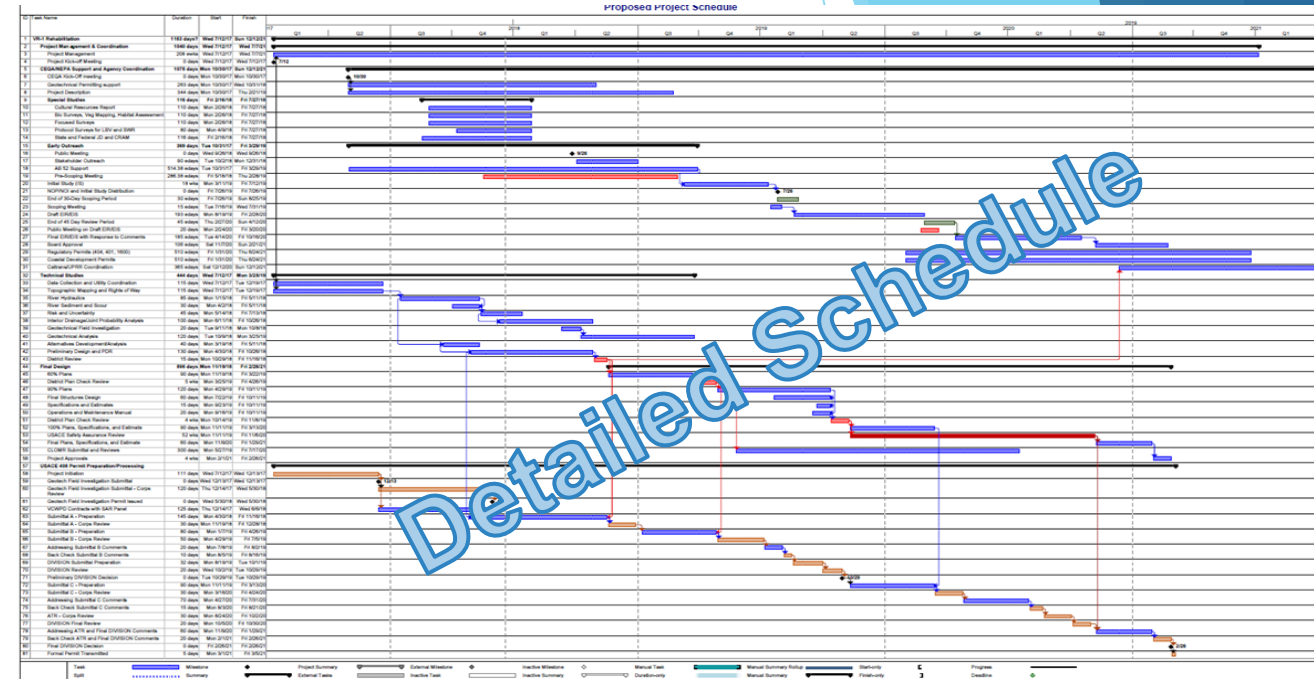
# Environmental Review Process



In consultation with the U.S. Army Corps of Engineers, it is anticipated that an Environmental Assessment will be prepared based on the EIR analysis.

# VR-1 Schedule

- ▶ Complete Technical Studies - Fall 2018
- ▶ Geotechnical Investigation - Fall 2018
- ▶ Preliminary Design - end of 2018
- ▶ Initial Study - Summer 2019
- ▶ Final Design - Fall 2019
- ▶ Draft EIR - Winter (Feb) 2020
- ▶ Final EIR - Fall 2020
- ▶ Construction - pending availability of funding



# VR-1 - Project Information Website Resources

- ▶ Ventura River Levee Rehabilitation (VR-1)
  - ▶ [www.vcpublicworks.org/wpd-programs-and-projects/ventura-river-levee-vr-1](http://www.vcpublicworks.org/wpd-programs-and-projects/ventura-river-levee-vr-1)
- ▶ Ventura County Watershed Protection District:
  - ▶ [www.vcwatershed.org](http://www.vcwatershed.org)
- ▶ County of Ventura:
  - ▶ [www.ventura.org](http://www.ventura.org)
- ▶ Flood Info Community Rating System:
  - ▶ [www.vcfloodinfo.com/](http://www.vcfloodinfo.com/)
- ▶ FEMA:
  - ▶ [www.floodsmart.gov/floodsmart/](http://www.floodsmart.gov/floodsmart/)



# VR-1 - District Contact Information

- ▶ Peter Sheydayi, PE, Deputy Director, Design And Construction Division
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  - ▶ E-mail: [Peter.Sheydayi@ventura.org](mailto:Peter.Sheydayi@ventura.org)
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  - ▶ Phone: (805) 650-4066
  - ▶ E-mail: [Salvador.DiazRubin@ventura.org](mailto:Salvador.DiazRubin@ventura.org)
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# 10-Minute Break



# Questions & Answers

