Welcome to the Ventura County Public Works Agency Watershed Protection public scoping presentation for the Ventura River Levee Rehabilitation Project, also known as VR-1.

This presentation serves to comply with requirements of the California Environmental Quality Act, or CEQA.

Watershed Protection

OUR MISSION

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

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.

Who is Watershed Protection?

Watershed Protection is a Special District under the umbrella of the Ventura County Public Works Agency.

Our mission is to 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.

Watershed Protection 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

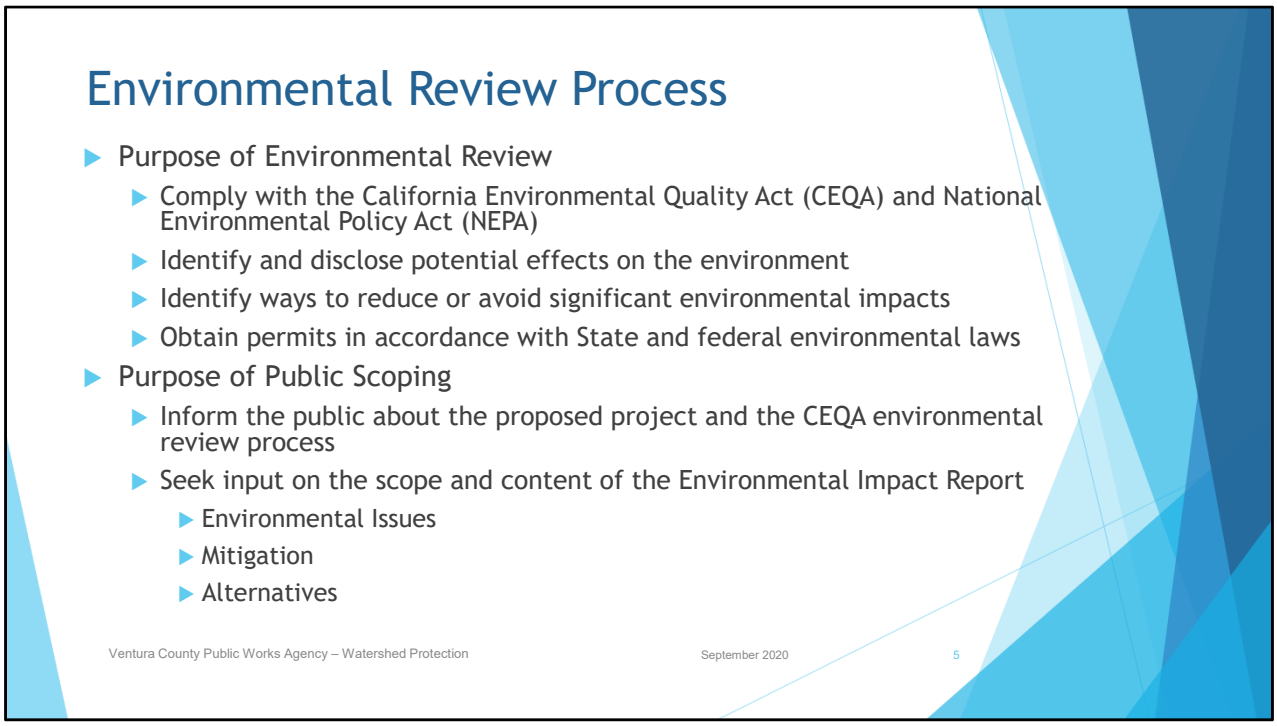
Watershed Protection was created by the State Legislature in 1944.

Watershed Protection's management area is approximately 1800 square miles and is divided into four zones. We are responsible for three major watershed zones including: Calleguas Creek, Santa Clara River, and the Ventura River. The project discussed in this presentation is specific to the Ventura River watershed.

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

This presentation will discuss a proposed project concerning the Ventura River levee. The Ventura River levee is located within the City of San Buenaventura along the east bank of the Ventura River. The levee is approximately 2.65 miles long and begins at the Pacific Ocean and continues north to the confluence with Cañada de San Joaquin. The levee was originally constructed by the U.S. Army Corps of Engineers in 1948 and has been operated and maintained by Watershed Protection since 1963. The levee protects commercial, residential, and industrial properties in low-lying areas within the floodplain of the Ventura River Watershed

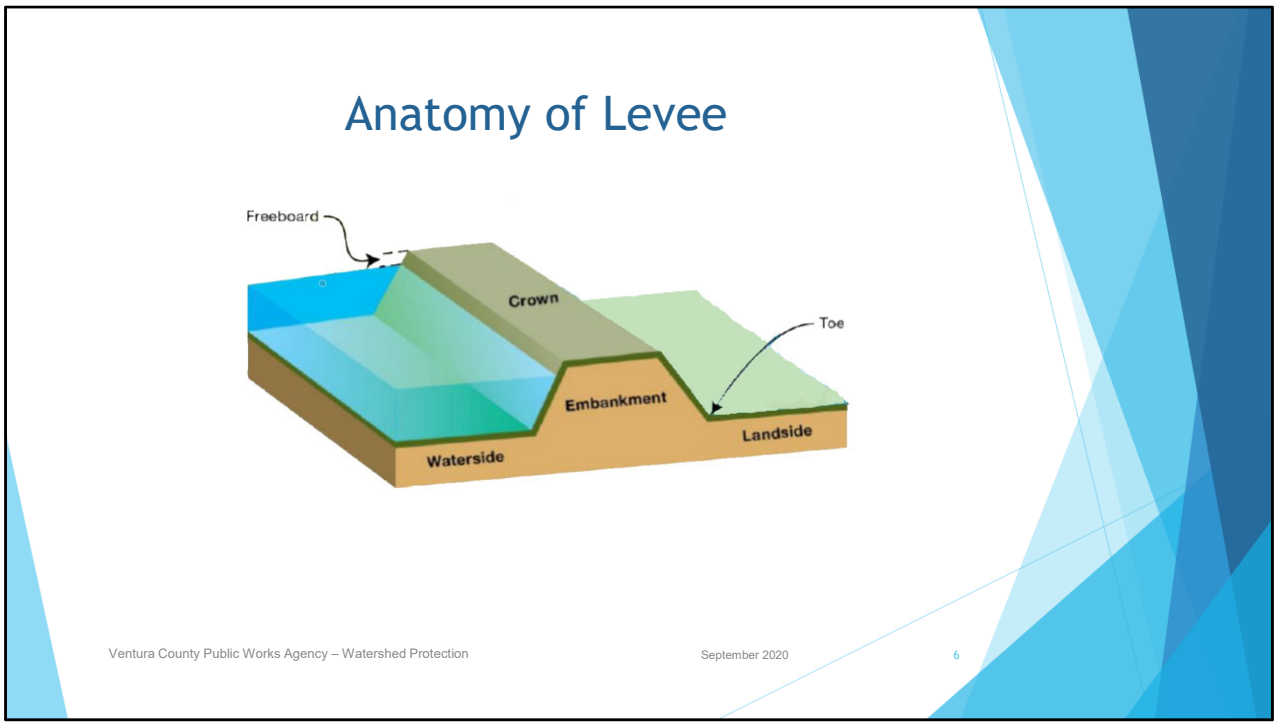


The CEQA review process involves analyzing a proposed project's potential impacts on a variety of resources in both the natural and built environment.

The VR-1 Project is currently in the CEQA scoping period. Watershed Protection has determined that an Environmental Impact Report, or EIR, needs to be prepared for the VR-1 Project.

The purpose of the scoping period is to inform the public about the project and provide information on the environmental review process.

Scoping provides the public an opportunity to give input on potential issues the EIR should address. Any potentially significant impacts will be disclosed in the EIR and measures will be identified to reduce impacts to the greatest extent feasible.



Before we get into the proposed project, let's discuss a little about levees:

A levee system is a flood control structure engineered to contain and convey flood flows to protect adjacent structures and the public from flood risks and damage.

A levee includes: an embankment; a top or crown; side slopes; and toes, which are the points where the levee slopes meet the bottom of the riverbed or the landside of the levee.

There is also an allowance between the top of the water surface elevation and the top of crown that we refer to as freeboard.

VR-1 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

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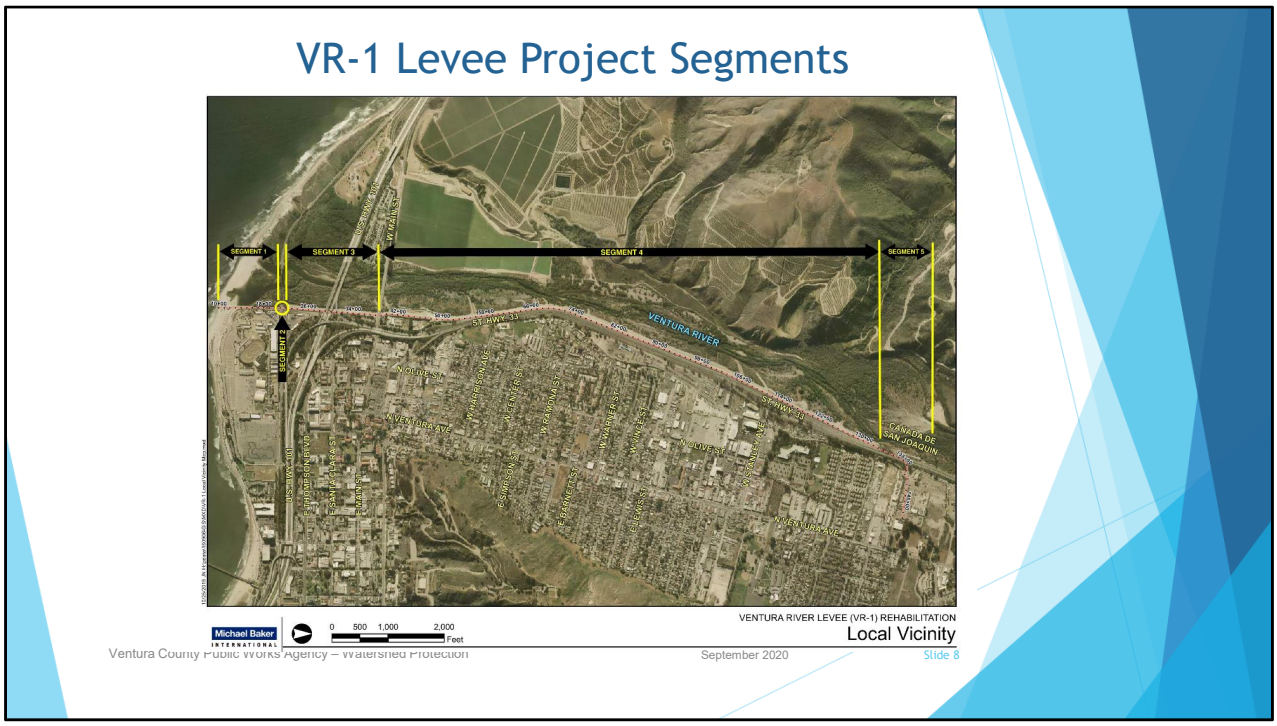
There are several components that make up the VR-1 levee system.

The embankment is made of earthen material and is above ground, generally with rock covered side slopes along the riverside and also on the land side of the levee. This can be seen on the top left photo.

The top right photos shows the riverside slope which consists of rock armor protection designed to protect the levee from erosive river flows. This slope protection extends beneath the river bottom, with what is known as toe-down.

As can be seen on the lower right photo, the levee system also consists of side drainage or interior drainage penetrations, such as a pipe, that directs flows into the river. These side drainage penetrations have a cover to prevent water from backing up into the pipe from the river side.

The levee also has a stop-log structure at the bike trail crossing at the upstream end of the levee that can be installed during large storm events as shown on the lower left photo. Prior to a flood event, boards are placed between the two concrete wing walls to block the flow of water.



For purposes of the analysis and identifying localized areas of modifications and improvements, the VR-1 levee has been divided into five segments.

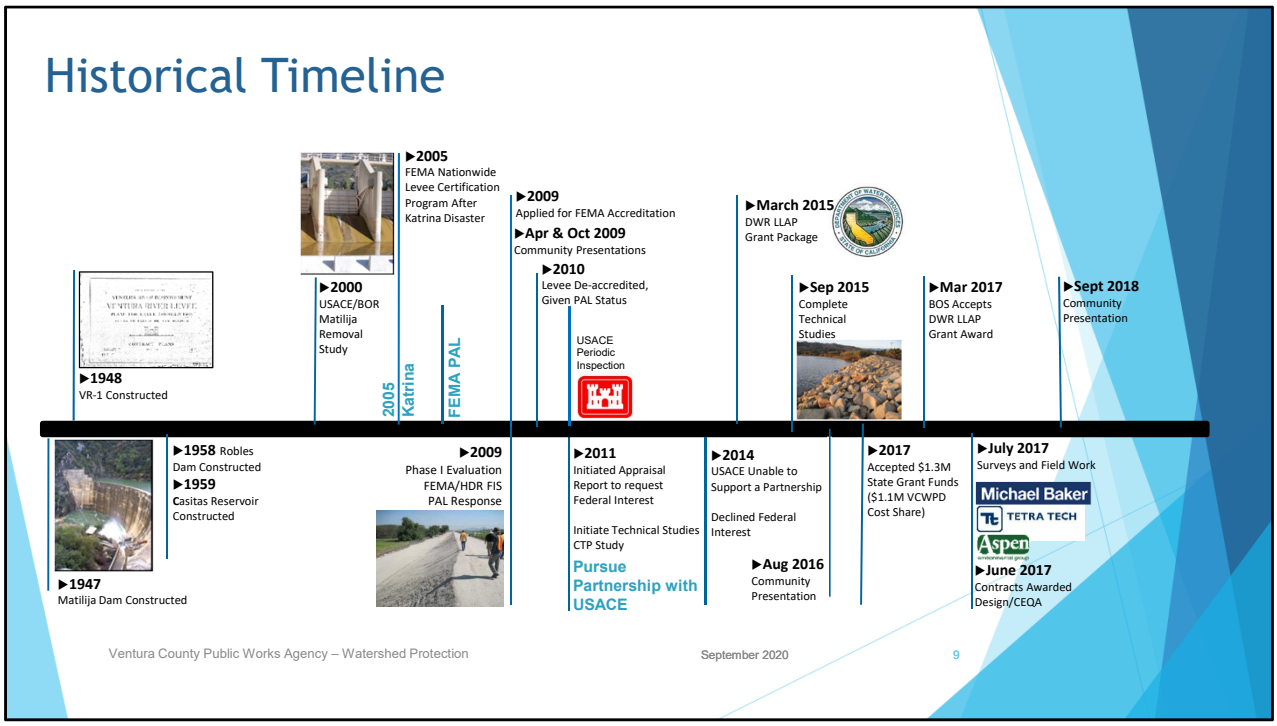
Segment 1 extends northerly from the downstream limits of the VR-1 levee at the Pacific Ocean upstream to the railroad crossing.

Segment 2 consists of the Union Pacific Railroad right-of-way.

Segment 3 extends approximately from the railroad right-of-way upstream to Main Street.

Segment 4 extends from Main Street upstream to the State Route 33 crossing.

Segment 5 includes the upstream end of the levee from the State Route 33 crossing, extending east to high ground south of Cañada De San Joaquin.



As mentioned previously, the levee was constructed in 1948 shortly after Matilija Dam was constructed.

In 2005, the flood disasters associated with Hurricane Katrina drove the need for a nationwide levee certification program that was led by the Federal Emergency Management Agency, or FEMA.

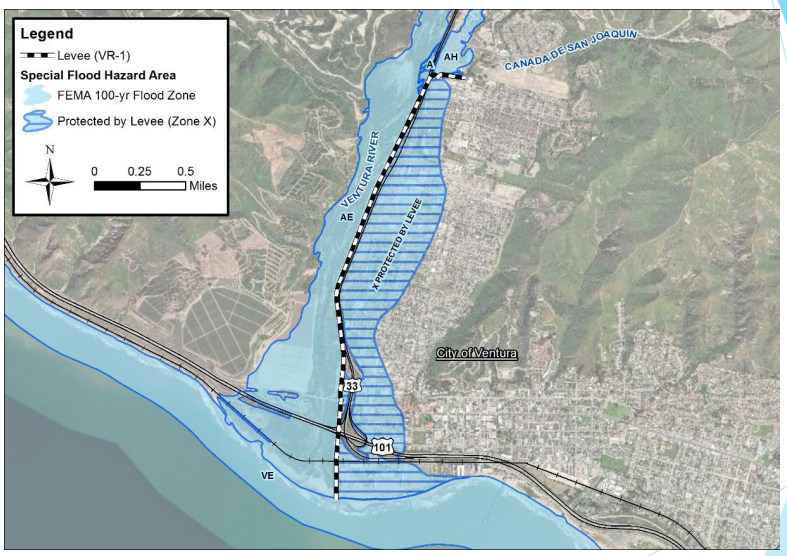
In 2009, a Phase I evaluation of the VR-1 levee was conducted, as a response to the Provisionally Accredited Levee Systems program, and levee deficiencies were found.

Watershed Protection pursued a partnership with the U.S. Army Corps of Engineers to further study the levee in 2011 but was unable to support the partnership.

Watershed Protection obtained state grant funds from the California Department of Water Resources to supplement funding. This allowed for the continuation of technical studies, field surveys, field work, and the environmental review process.

Some of you may remember that in September 2018, Watershed Protection held a public meeting to inform the community of the project and planned work.

FEMA Floodplain Map - Flood Hazard Areas



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Here is the FEMA floodplain map of the VR-1 levee area. The dashed black and white line shows the alignment of the levee. The area in blue is the 100-year event flood zone and the hatched area shows what is protected by the levee.

Why the project is needed?

- Levee is beyond capital service life (72 years old)
- Levee has structural deficiencies
- Upgrades required for FEMA certification
- Community flood protection

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So, why is this project needed?

First, the levee is 72 years old and well beyond its capital service life of 50 years.

Second, the levee also has structural deficiencies including: inadequate bank protection; erosion; and slope instability.

Lastly, in order for the levee to be accredited by FEMA and to assure it provides adequate flood protection for the local community, it needs to be upgraded.

Ventura River VR-1 System Deficiencies

- Encroachments into levee
- Vegetation Management
- Toe-down scour protection
- Freeboard
- Railroad Gap

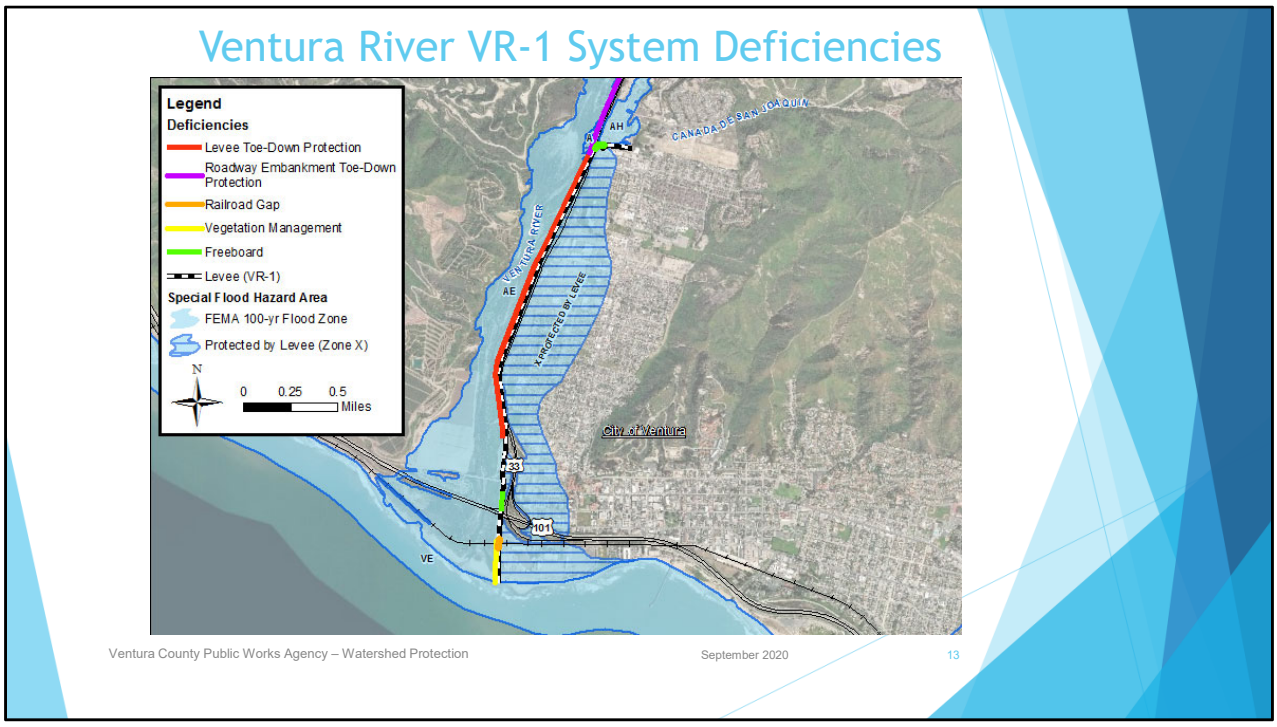
Let's explore the VR-1 levee deficiencies a bit further.

There are multiple unpermitted encroachments into the levee area such as buildings, storage sheds, or other structures.

There is also overgrown vegetation along the levee that needs to be removed in order to be in compliance with U.S. Army Corps of Engineers standards for levees.

There is inadequate toe-down scour protection and erosion and undermining of existing bank protection.
Hydraulic modeling and analysis have also indicated that there are portions along the levee with inadequate freeboard where the Ventura River top of water elevation is close to overtopping or will overtop the crown of the levee during the 100-year flood event.

Finally, there is a gap opening along the railroad crossing where flows would not be contained within the river during a flood event.



This map shows the extent and location of the deficiencies.

The red line indicates where the levee toe-down protection is nonexistent or inadequate based on the analysis of potential scour depths. The purple line is the inadequate toe down protection along Highway 33 upstream of the confluence of Canada de San Joaquin.

The two areas noted in green (upstream of US 101 and along Canada de San Joaquin) do not have sufficient freeboard.

The orange location is the gap at the railroad crossing and the yellow line indicates where vegetation removal needs to occur.

Segment Alternatives

- Scenario 1
  - 1.A, II.A, III.B
  - IV.A
  - V.B
  - $35.4M
- Scenario 2
  - I.B, II.B, III.D
  - IV.A
  - V.B
  - $35.3M

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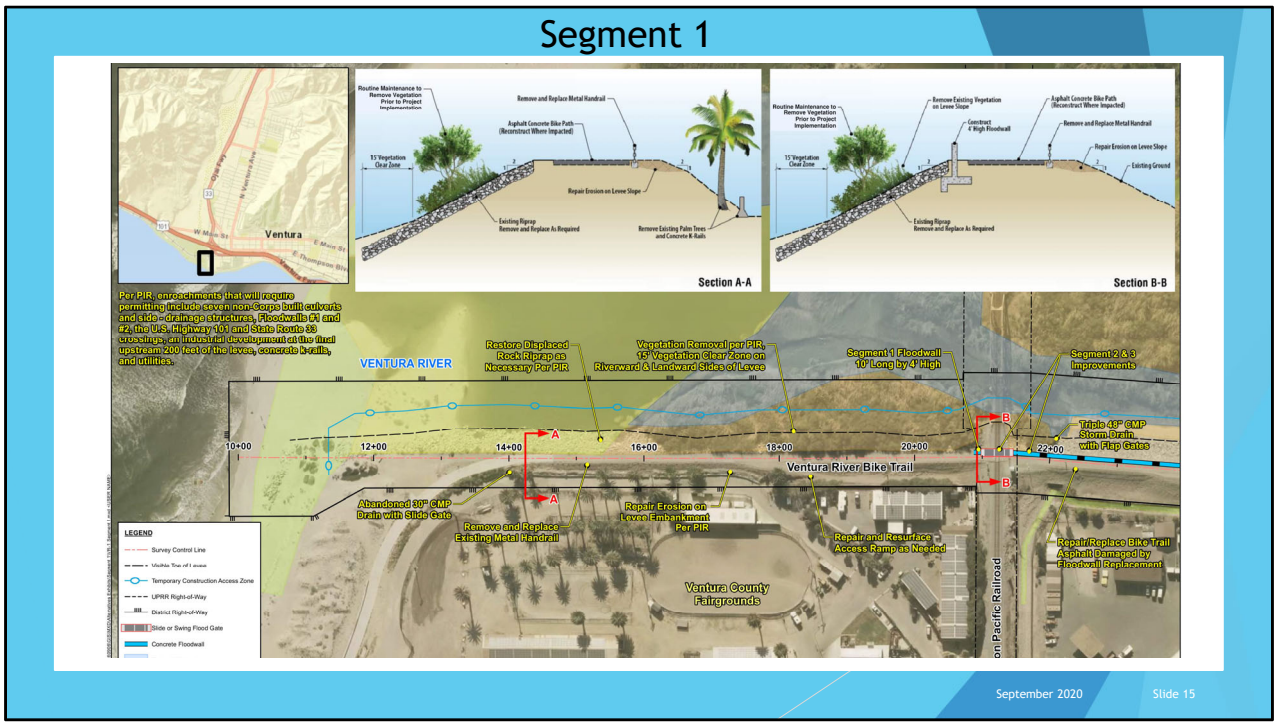
Ventura River Levee (VR-1) Rehabilitation Project Alternatives Summary Table

Project Limits	Segment No.	Alternative Type	Alternative Name	Total Cost
Pacific Ocean to UPRR Bridge (0.21 miles)	1	I.A	Levee Rehabilitation and Floodwall	$ 739,316
		I.B	No Project Improvements	$ -
UPRR Bridge (0.005 miles)	2	II.A	Install Flood Gate to Close Gap between Segment 1 and Segment 3 Floodwalls	$ 1,011,552
		II.B	No Project Improvements	$ -
UPRR Bridge to Main Street Bridge (0.30 miles)	3	III.A	Remove and Replace Floodwall and Replace Rock Riprap along Riverside Levee Slope	$ 3,851,216
		III.B	Raise Height of Levee Crown/Bike Path and Construct Floodwalls at Select Locations	$ 3,649,496
		III.C	No Project Improvements	$ -
		III.D	Improvements Listed in Alternative III.B with a Floodgate and Floodwall at Garden Street	$ 5,276,103
		III.E	Raise Height of Levee Between the US 101 and Main Street with a Floodgate and Floodwall at Garden Street	$ 6,210,883
Main Street Bridge to the Cañada San Joaquin Confluence (1.88 miles)	4.1-4.4	IV.A	Concreted Rock Riprap Toe-Down Protection (1.5:1 Slope)	$ 20,742,836
		IV.B	Reinforced Concrete Lining Toe-Down Protection (1.5:1 Slope)	$ 18,629,110
		IV.C	Loose Rock Riprap Toe-Down Protection (2.25:1 Slope)	$ 25,669,141
		IV.D	Hard Armor Toe-Down Protection (1.5:1 Slope)	$ 18,218,628
Cañada San Joaquin Confluence at the Upstream End of the Levee	5	V.A	Concreted Rock Riprap Toe-Down Protection 1,000-FT Upstream from the End of the Levee	$ 8,459,247
		V.B	Concreted Rock Riprap Toe-Down Protection Along the Existing Levee Alignment	$ 9,308,156
	Alternative Selected for Scenario 1			$ 35,451,356
	Alternative Selected for Scenario 2			$ 35,327,095
	Alternative Selected for Scenarios 1 & 2			

This table shows the summary of the variations of each of the alternatives for each of the segments. Watershed Protection developed two options for levee improvements, referred to as Scenario 1 and Scenario 2. Both are nearly the same cost, but vary in the improvements for Segments 1, 2, and 3.

Scenario 1 is a combination of IA, IIA, IIB along with IVA and VB totaling 35.4 million dollars in 2019 construction costs.

Scenario 2 is a combination of IB, IIB, IIID along with IVA and VB totaling 35.3 million dollars in 2019 construction costs.



Let's get into the project detail by looking at each segment.

In Segment 1, Scenario 1 includes improving the levee by primarily replacing portions of the existing rock riprap on the riverside slope. Scenario 2 would not include any improvements to this levee segment.

Potential Flood Damage with No Improvements to Segments 1-2 per Scenario 2

- $41M Estimated Potential Total Damage

Structure Category	Damaged Structures	Structure Damages	Content Damages	Total Damages
City of Ventura:				
Residential	37	$4,816,000	$1,290,000	$6,105,000
Commercial	23	$2,948,000	$7,030,000	$9,978,000
Industrial	5	$349,000	$1,254,000	$1,603,000
Public	3	$2,678,000	$9,020,000	$11,697,000
Sub-Total	*68*	*$10,791,000*	*$18,593,000*	*$29,384,000*
Fairgrounds	3	$4,719,000	$6,570,000	$11,290,000
CalTrans	1	$102,000	$158,000	$261,000
Total	**66**	**$15,613,000**	**$25,322,000**	**$40,935,000**

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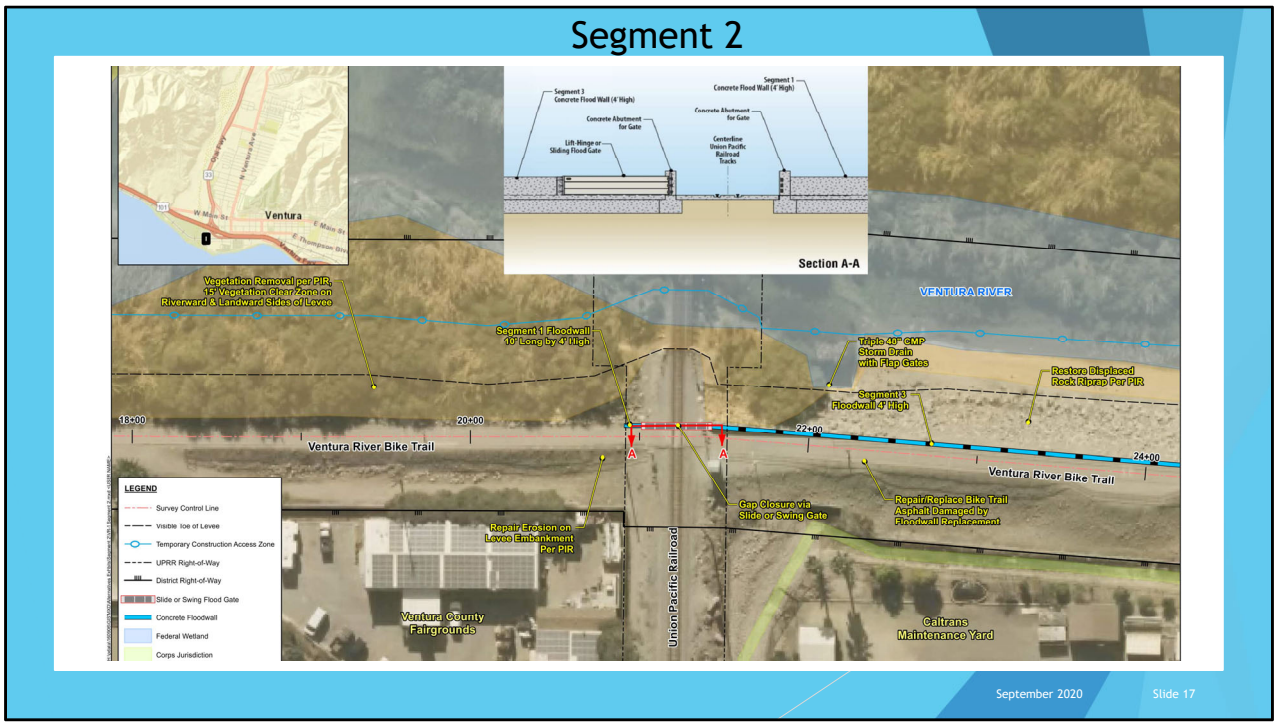
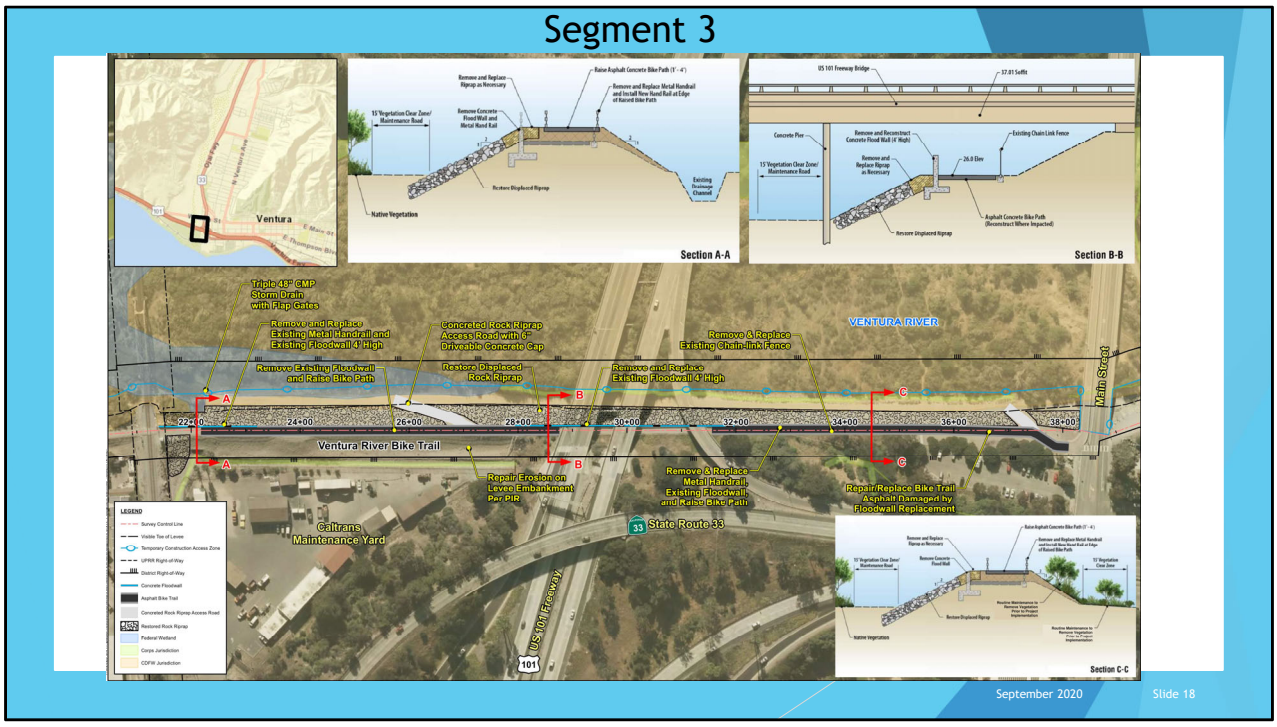
Watershed Protection also took a close look at the extent of potential flood damage should no levee improvements be made along Segments 1 and 2 per Scenario. The image shown here indicates the extent of flooding and the gaps along the local street under crossings along Highway 101.

The economic analysis indicated there could be a potential of 41 million dollars in damage to the 66 structures within the flooded area.

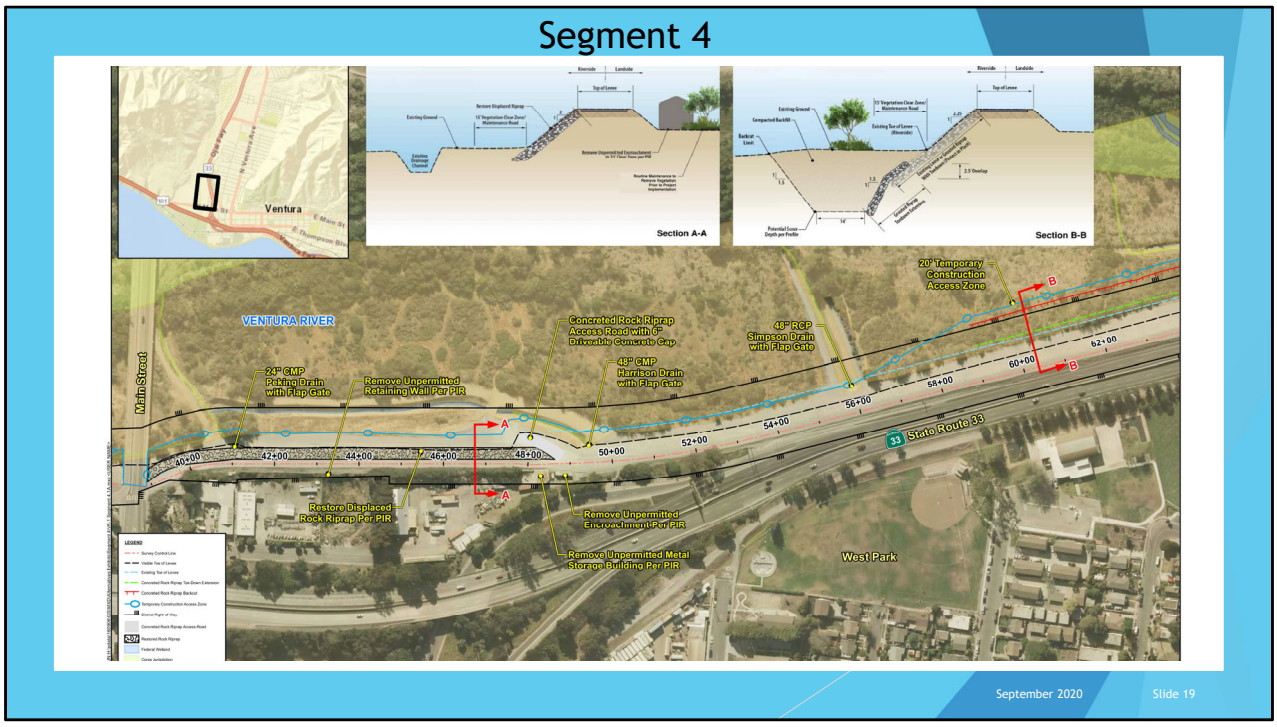
Therefore, Scenario 2 was augmented with a flood gate at Garden Street to prevent these impacts.



For Segment 2, Scenario 1 includes improving the levee by placing a flood gate over the railroad tracks between the Segment 1 and 3 floodwalls. No improvements would occur in this segment for Scenario 2, but the Garden Street flood gate would prevent flooding impacts to developed areas.

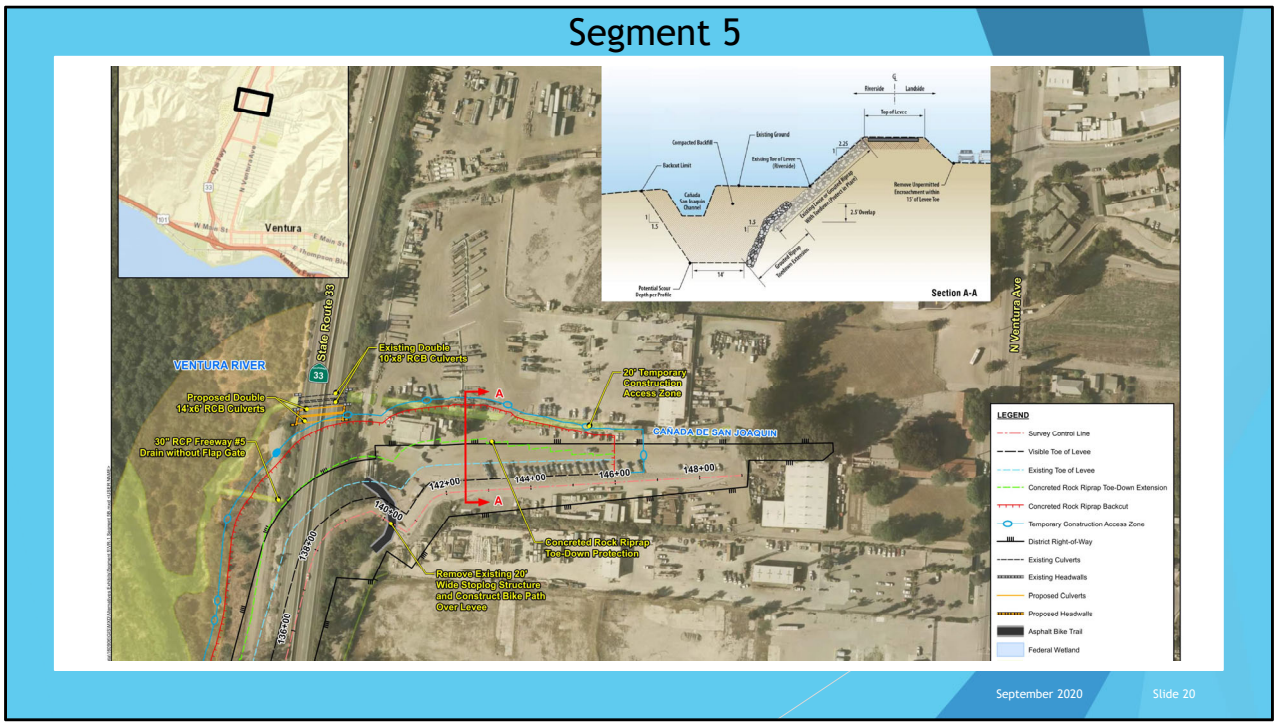


The two scenario alternatives for Segment 3 both include improving the levee by removing and replacing the existing concrete floodwall under the Highway 101 overpass, raising the height of the levee crown, tying the existing levee between Highway 101 and Main Street to the Highway 101 embankment slope. Scenario 2 also includes constructing floodwalls and an automatic floodgate at Garden Street to prevent flooding in the City of Ventura's downtown area.



The primary deficiencies within the Segment 4 reach are related to scour, which is the river's capacity to undermine the levee toe during high velocity storm events.

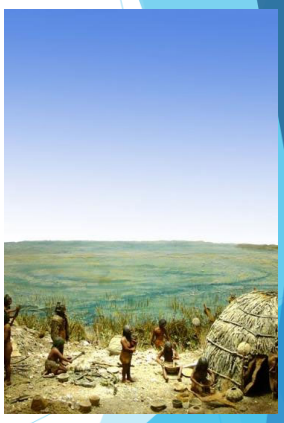
The proposed project includes the restoration of loose rock riprap directly upstream of the Main Street Bridge and the construction of concreted rock riprap toe-down protection along the riverside face of the levee to protect against scour.



Segment 5 of the existing levee turns east from the river to protect the developed areas from Cañada de San Joaquin. Analysis of the Cañada de San Joaquin tributary identified a deficiency in freeboard height. To address the deficiency and protect against scour, the project includes installation of concreted rock riprap toe-down protection and the installation of additional culverts under Highway 33 to increase flood flow drainage to the Ventura River.

Cultural and Historic Resource Surveys and Coordination

- Cultural and archaeological surveys
- Historical Evaluation
- AB 52 Tribal Consultation (complete)
- Corps on consultation with the State Historic Preservation Officer (complete)



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As required by State law, Watershed Protection conducted cultural and archaeological surveys and coordinated closely with Native American tribes in the area to ensure that the proposed project would not adversely impact important cultural, historic, or tribal resources. Consultation with Native American tribes is a requirement of Assembly Bill 52, or AB 52, which was passed in 2016 to evaluate project impacts on California Native American cultural resources such as artifacts, historic lands, and sacred places. AB 52 consultation has been completed for the VR-1 Project, and the NEPA Lead Agency, which is the U.S. Army Corps of Engineers, completed consultation with the State Historic Preservation Officer.

The cultural and archaeological surveys completed for the VR-1 Project did not identify any previously recorded eligible archaeological resources or significant artifacts within the VR-1 project area. Additionally, none of the structures along or in the vicinity of the VR-1 alignment were eligible for listing under the National Register of Historic Places or the California Register of Historical Resources.

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

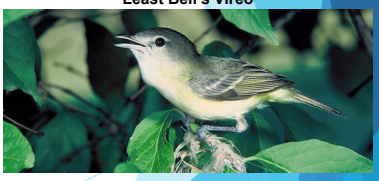

Photo credit USFWS

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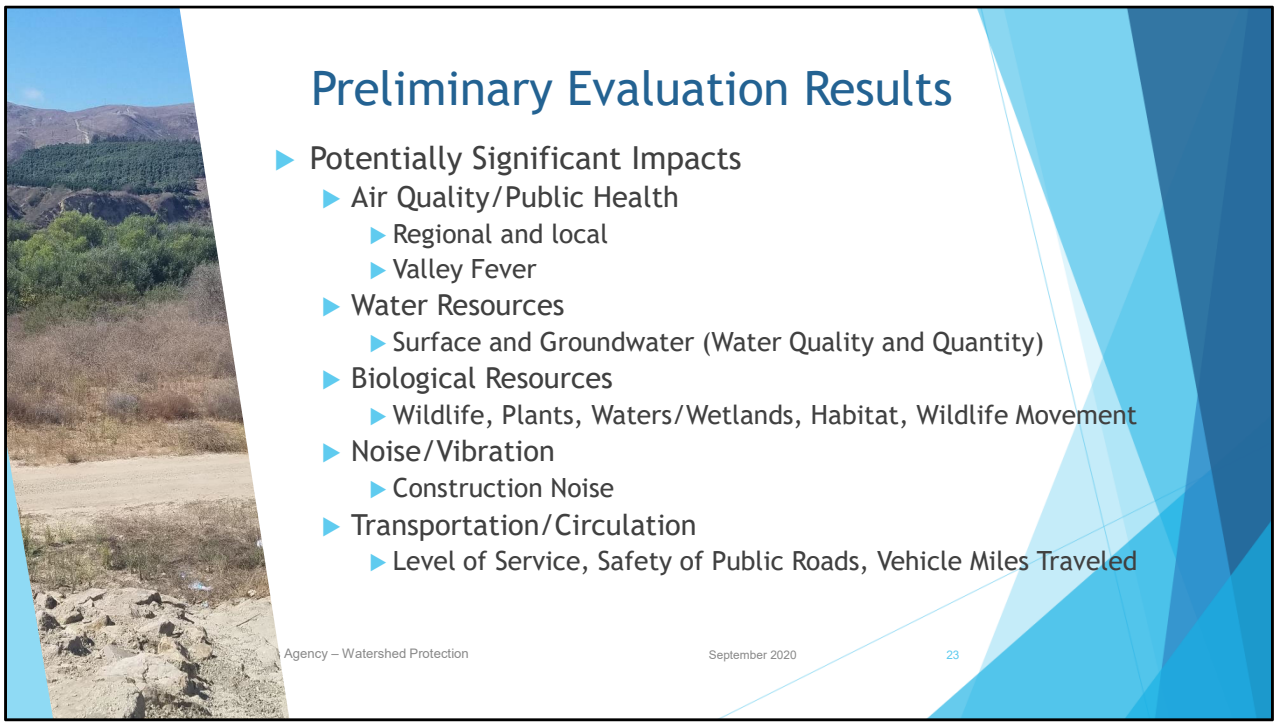
Various biological surveys were completed in 2018, including an assessment of the quality of the Ventura River through use of the California Rapid Assessment Method, which determined that the attributes of the Ventura River are generally of high quality.

The jurisdictional waters and wetlands delineation determined that the project vicinity supports California Department of Fish and Wildlife or CDFW State jurisdictional habitat, Regional Water Quality Control Board Waters of the State, Corps jurisdictional wetlands, and Corps non-wetland waters. Impacts to these components are regulated by their respective state and federal agencies.

Vegetation and wildlife surveys were conducted, which found several special-status bird species, but no federal or State-listed plants.



Based on a preliminary evaluation, Watershed Protection determined the proposed project may result in significant impacts to the environment. Therefore, an Environmental Impact Report or EIR is the appropriate document under CEQA. The EIR will evaluate in detail the issue areas of Air Quality, Water Resources, Biological Resources, Noise, and Transportation. We will provide a few examples of potential impacts now.

For example, regarding Air Quality, the EIR will address construction, operation, and maintenance of the proposed project , which would generate pollutant emissions and fugitive dust. The proposed project has the potential to violate regional air quality standards or contribute to an existing or projected air quality violation. In addition, there may be a risk to construction workers of contracting Valley Fever. This is a respiratory illness caused by inhalation of disturbed soil containing a species of fungus that is suspected to occur in Ventura County.

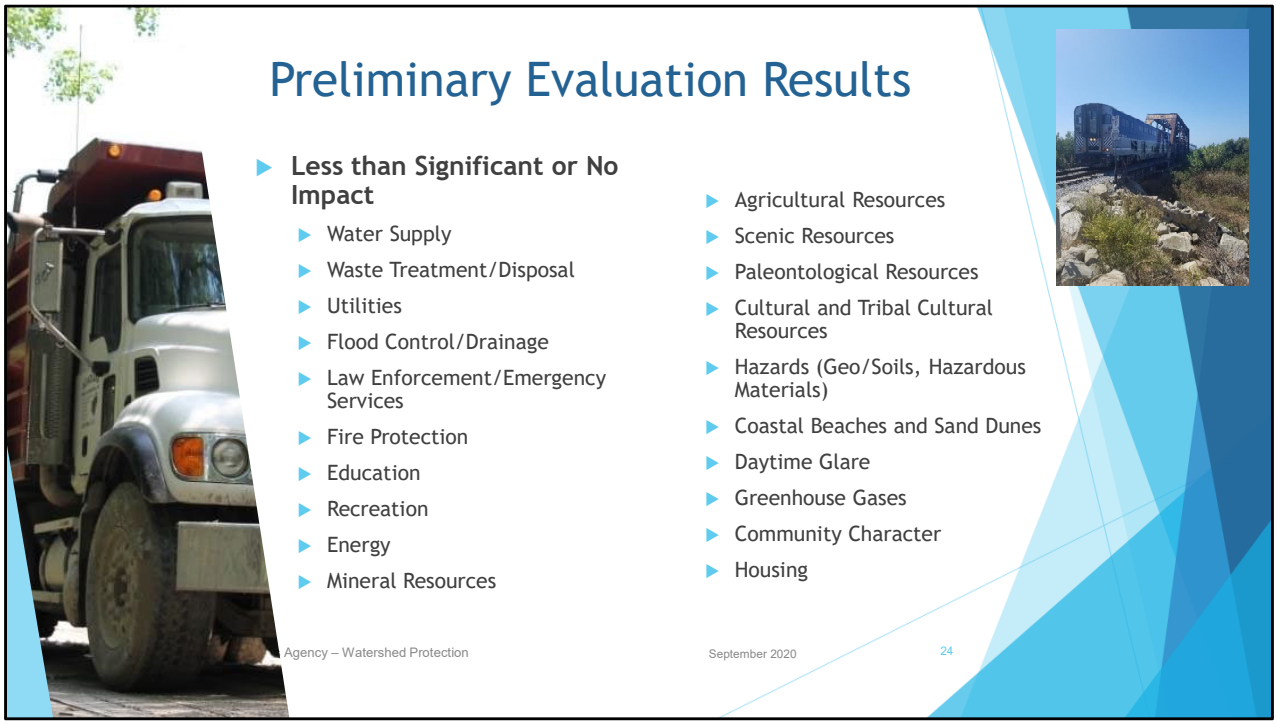
Water resources include the quantity and quality of groundwater and surface water. The proposed construction and operation activities would occur adjacent to the Ventura River, where potential impacts to surface or groundwater quality could result from contaminated runoff from accidental spills or leaks from construction equipment.

With respect to biological resources, the proposed project would include construction and

operation activities adjacent to the Ventura River, which could result in significant impacts to common wildlife, nesting birds, and special-status or rare wildlife species. Construction and operation could directly or indirectly impact jurisdictional waters, wetlands, Environmentally Sensitive Habitat Areas, Critical Habitat, and wildlife movement.

Noise caused by construction equipment could potentially exceed existing noise levels at sensitive receptors such as residential areas and schools. Operations may also involve similar activities and equipment as construction; therefore, these activities may also have the potential to exceed noise thresholds.

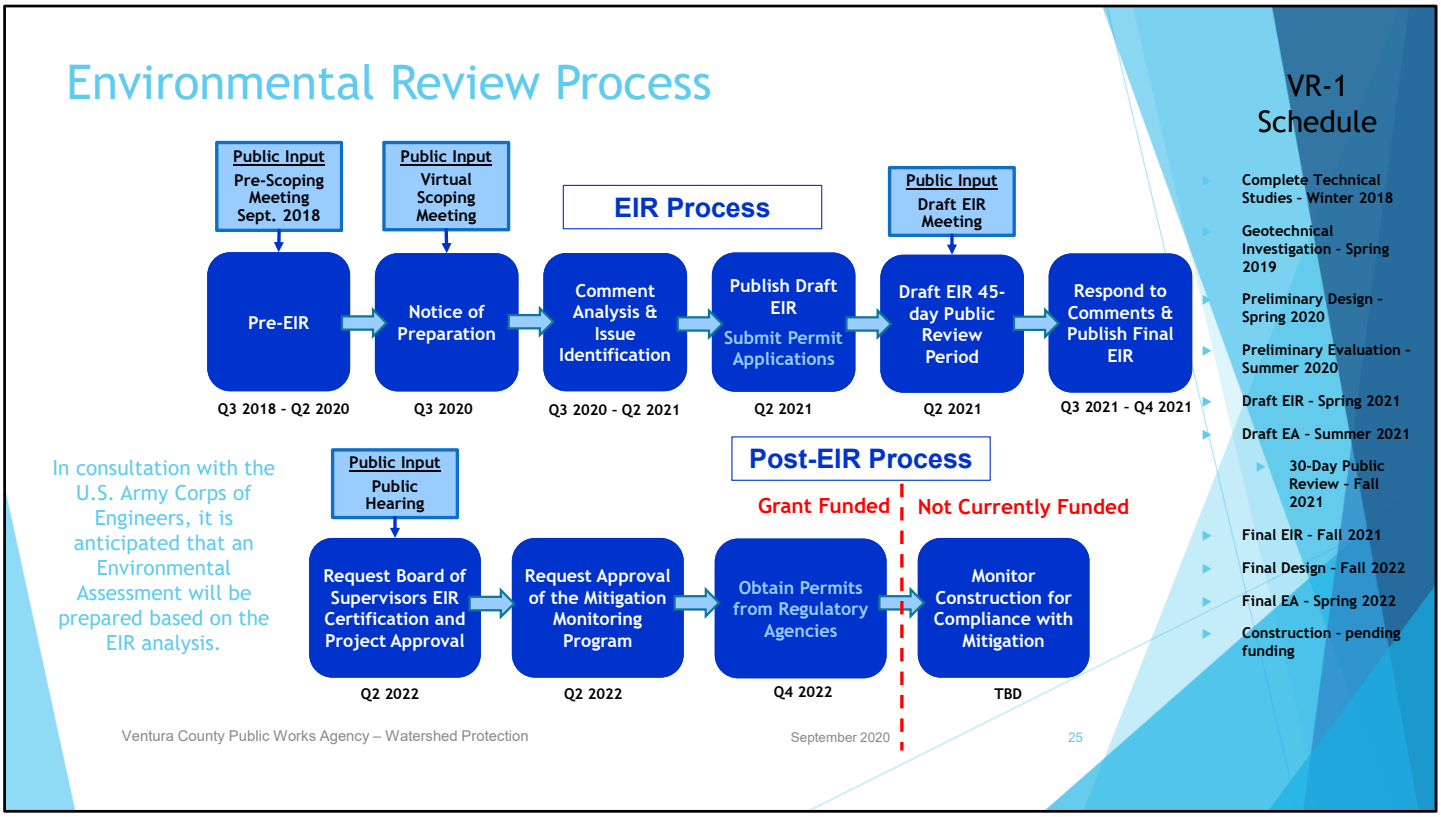
The proposed project may also have significant impacts on the level of service for roads within the project area, reduce the safety of public roads, and increase the vehicle miles traveled due to the extent of heavy equipment and vehicles required for construction. The construction of Segment 5, which is the northernmost segment, would require phased lane closures of SR-33, causing traffic delays.



The EIR will also include the evaluation of all of these other environmental issues expected to have less-than-significant or no impacts, and will include the justification for the conclusions.

For many of these issue areas, impacts are expected to be localized or short-term, or not occur at all. For example, the proposed project would not result in any impacts to education because no schools would be relocated, removed, or experience changes in demand.

Please note that some of these issues are not necessarily related to the natural environment, such as utilities, law enforcement, and transportation. These issues are still analyzed as part of the environmental review process because they are related to the human built environment and the well-being of the public.

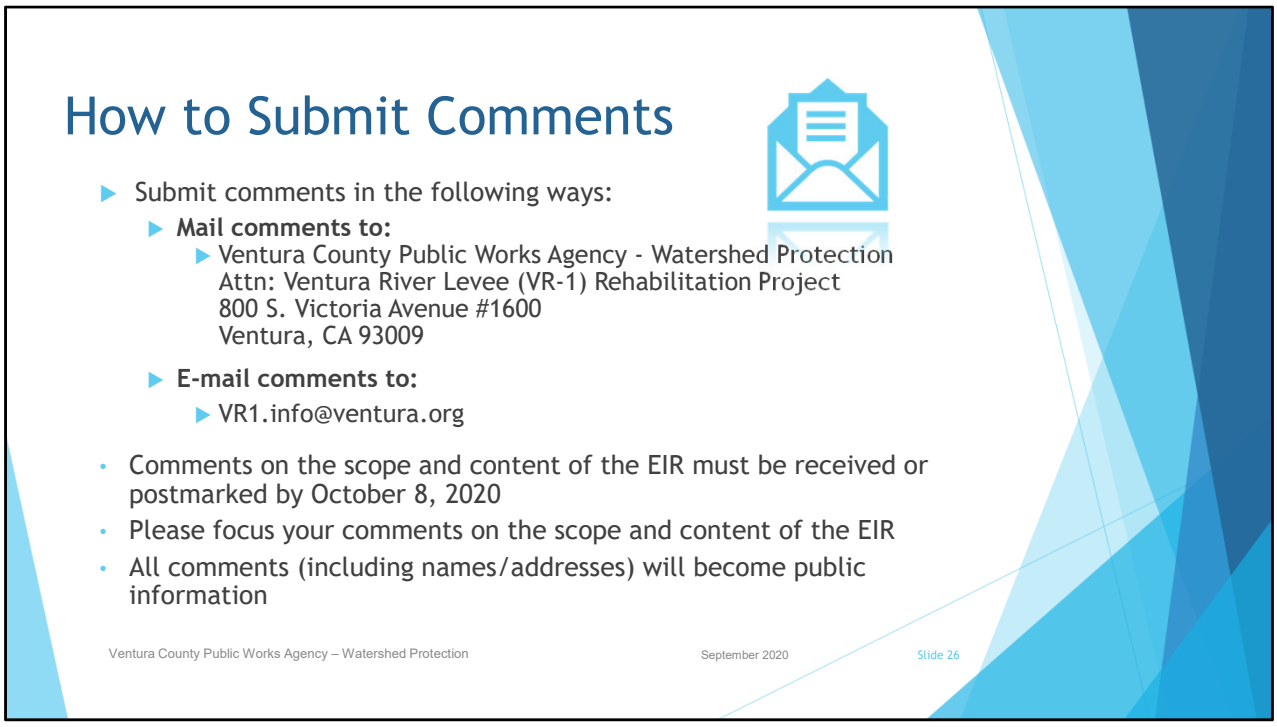


This flow chart presents the environmental review process under CEQA and the anticipated schedule. The initial pre-scoping meeting was held in September 2018 before the preliminary evaluation of potential impacts. Watershed Protection is currently at the second step of the EIR process having issued a Notice of Preparation for an EIR and conducting a virtual scoping meeting. After this step, all public comments received during the 30-day public scoping period will be considered, and substantive comments will be integrated into the Draft EIR analysis. Another public meeting will be held after publication of the Draft EIR, with a public review period of 45 days. Finally, the last step of the EIR process will involve responding to those public comments and publishing the Final EIR, including a Mitigation Monitoring Program.

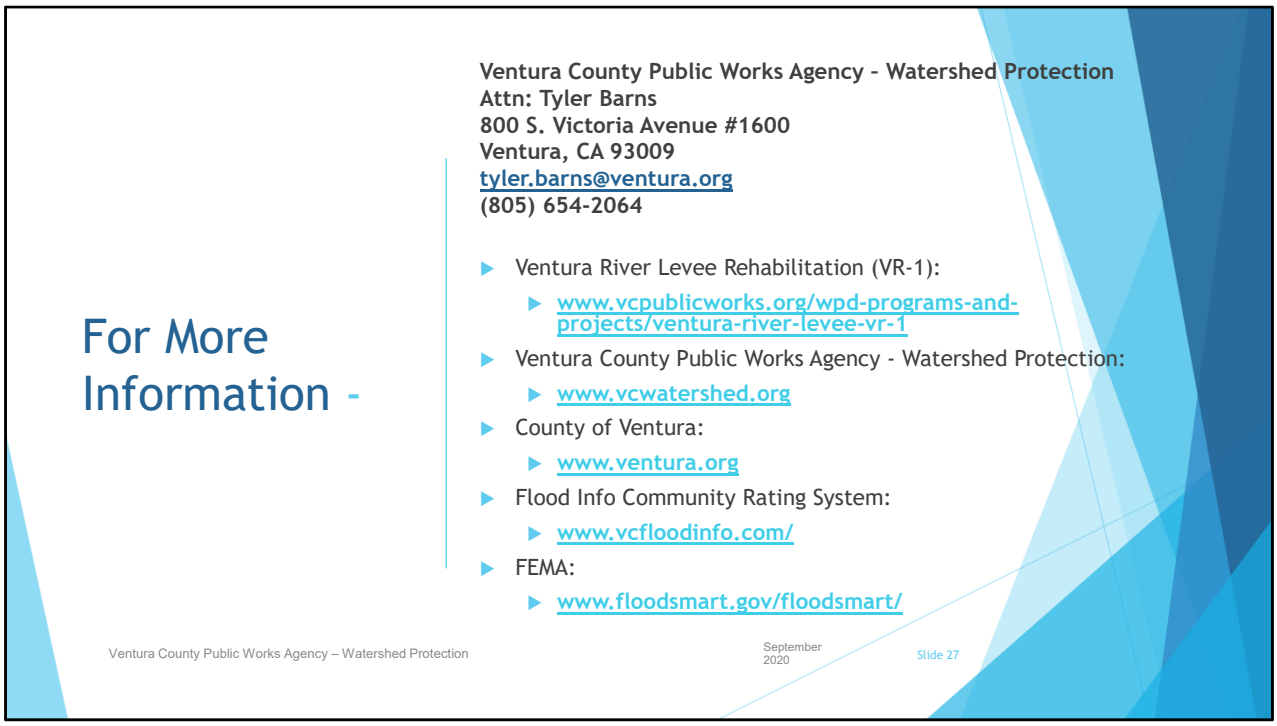
Following publication of the Final EIR, the Ventura County Board of Supervisors will hold a public hearing to consider public input and ultimately decide if the VR-1 Project will be approved or denied, and adopt the Final EIR and Mitigation Monitoring Program as being in compliance with CEQA. If the proposed project is approved, construction can begin after all permits have been obtained. Construction would be monitored to ensure compliance with all adopted mitigation measures. Currently, Watershed Protection is seeking grant funds for construction.

Because the VR-1 levee was originally built by the U.S. Army Corps of Engineers and federal permits are required to alter the levee, an environmental review process will also be completed to satisfy the National Environmental Policy Act, or NEPA.

The Corps has determined that an Environmental Assessment, or EA, will be the appropriate document under NEPA. It is anticipated the Draft EA will be prepared following completion of the Draft EIR and much of the analysis will mirror or rely on the information contained in the Draft EIR.



Public comments may be sent by mail or email to the addresses shown in this slide and on the Notice of Preparation. Comments must be received or postmarked by **October 8, 2020.** Please focus all comments on the scope and content of the EIR, including environmental concerns, mitigation, and alternatives to project components. All comments, names, and addresses provided will become public information.



For more information on the scoping process or environmental review process, please contact Watershed Protection at the address, email address, or phone number provided in this slide.