Orange County Program for Public Information



Executive Summary

Orange County Public Works (County) desires to increase public engagement, awareness, outreach, and communication related to flood risk reduction and education. As a FEMA Community Rating System (CRS) program participant, a Program for Public Information (PPI) plan and outreach schedule were developed in accordance with the 2025 FEMA CRS Coordinator's Manual and in partnership with community stakeholders. The County's PPI committee (the Committee) is comprised of internal County staff and external members of the public. The Committee's task was to review public information efforts that currently exist in the County, assess the County's needs, develop consistent messages, and identify projects to convey those messages. The Committee evaluated the current target areas and identified audiences to expand communication opportunities. The Committee then developed messages in alignment with the following ten PPI topics:

1. Know Your Flood Hazard
2. Insure Your Property for Your Flood Hazard
3. Protect People from the Hazard
4. Protect Your Property from the Hazard
5. Build Responsibly
6. Protect Natural Floodplain Function
7. Sign Up for Emergency Notifications
8. Know Your Evacuation Route
9. Relocate Vehicles to Higher Ground
10. After the Flood – Flood Insurance Best Practices

Specific messages were identified for each of these ten topics. The Committee leveraged already-established messages from stakeholders and Orange County's existing CRS Activity 330 - Outreach Projects. These existing projects will be revised and updated to reflect the new messaging developed by the Committee. The efforts of the Committee will have a long-term influence on community resilience to the impacts of flooding and highlight the importance of outreach efforts.

This PPI has been developed in compliance with the 2025 CRS Coordinator's Manual and under guidance provided by documentation through CRSResources.org. The CRS Activity 330 - Outreach Project (OP) Worksheet has been drafted to reflect anticipated credits awarded per project, pending review and approval from the FEMA CRS program administrator, Insurance Services Office (ISO).

Introduction

Well-informed residents make better decisions. When people understand the likely impacts of flooding, they are more likely to take protective actions – retrofitting homes, buying flood insurance, and preparing for future events – and to support local floodplain management and measures that preserve the floodplain's natural functions (CRS Coordinator's Manual 2025). The CRS program rewards a broad set of public information activities that help property owners reduce flood losses, such as mapping, outreach, real estate disclosure, library and website resources, technical assistance, and promotion of flood insurance. Research shows that coordinated, planned public information leads to greater individual preparedness; the CRS awards extra credit for outreach carried out through an adopted PPI. A PPI is an ongoing local process to identify, implement, monitor, and refine public information projects tailored to community needs, and the CRS recognizes the implementation and continual improvement of those projects (CRS Coordinator's Manual 2025).

Research Findings

The PPI is credited under CRS Activity 330, Outreach Projects, and built on findings initially published in the 2013 CRS Coordinator's Manual and reiterated in the 2025 *'CRS Credit for Developing a Program for Public Information (PPI)*'. These findings are as follows.

- Successful public information efforts change behavior. It is not enough that people know they are in a flood-prone area, they need to act. Public information efforts need to explain what action people should take to mitigate the hazards present.
- Outreach projects and other public information efforts bring results. Research has found that floodplain residents in communities with outreach projects know more about their flood risk and are more likely to implement protection measures and buy flood insurance.
- Messages need to be repeated many times before people absorb their meaning and act.
- Messages are more likely to be accepted if they are received from multiple different sources. Partnerships in message delivery are more effective than single source delivery. They often can be less expensive as well.
- Different approaches can vary among different audiences. Programs should be monitored, evaluated, and adjusted to ensure that they will be effective (CRS Coordinator's Manual 2025).

Program for Public Information Planning Process

For CRS credit, the PPI must be developed according to a seven-step planning and public involvement process (CRS Coordinator's Manual 2025). The steps to develop a PPI are as follows:

1. Establish a Committee for Public Information.
2. Assess the Community's Public Information Needs.
3. Formulate Messages.
4. Identify Outreach Projects to Convey Messages.
5. Examine Other Public Information Initiatives.
6. Prepare and Adopt the Public Information Program Document.
7. Implement, Monitor, and Evaluate the Program.

The following sections describe each of the seven steps listed above and the process by which the County carried out each step.

Step 1. Establish a Committee for Public Information

The basis for having a PPI developed by a committee is to ensure the PPI is comprehensive in scope, assesses all the community's needs for flood-related information, and coordinates all resources that can deliver information in a manner that is creditable in full under the CRS guidance. Furthermore, the PPI Committee structure ensures that public information and associated messaging stems from government staff as well as non-government stakeholder representatives. In this way, the needs of the community are inherently addressed through the targeted nature of messages developed by the PPI Committee.

Under CRS guidelines, a PPI can be developed by a single community, or multiple jurisdictions. Regardless of which type of PPI is developed, the Committee for the primary community must have a minimum of five (5) members, where one (1) member represents that community's floodplain management office, one (1) represents that community's public information office, and half (50%) of the total membership is not directly affiliated (employed) by that community (CRS Coordinator's Manual 2025).

Initially, consultant Staff and Orange County Public Works pursued a PPI under the multi-jurisdictional structure. In mid-July of 2024, consultant Staff sent out surveys to all 34 jurisdictions within Orange County asking if they were willing to participate in a multi-jurisdictional PPI, with unincorporated Orange County serving as the primary community. Responses were received between July 17th and August 18th, 2024. Once the survey closed, four (4) incorporated Cities were shown to have expressed their willingness to join unincorporated Orange County in the PPI effort, those being the City of Fountain Valley, City of Huntington Beach, City of Newport Beach, and City of San Juan Capistrano. Over the next couple of months, the PPI committee ran parallel with the 2026 Orange County Floodplain Management Plan (FMP), which was in its planned development stages. During this phase of the PPI, flood risk was being assessed for unincorporated Orange County as well as those jurisdictions participating in the FMP. To this end, several other jurisdictions began to express interest in serving in the County multi-jurisdictional PPI, those being the City of Anaheim, City of Irvine, City of Laguna Woods, and City of Mission Viejo.

While the FMP and PPI processes were underway, consulting staff observed that several jurisdictions that had initially expressed interest in the multi-jurisdictional PPI were subsequently expressing interest to withdraw from the PPI efforts. The reasons cited included limited staff resources, staff turnover, and the assessment that participating would not provide sufficient additional CRS credit to change their community's classification. Table 1 below summarizes the timeline for multi-jurisdictional PPI participation finalization by jurisdiction.

TABLE 1. PPI PARTICIPATION SUMMARY – JULY 2024 THROUGH NOVEMBER 2025

Community Name	Formal Opt-Out of PPI Participation Date
Anaheim, City of	September 26th, 2025 (E-mail)
Fountain Valley, City of	September 26th, 2025 (E-mail)
Huntington Beach, City of	September 26th, 2025 (E-mail)
Irvine, City of	May 19th, 2025 (E-mail)
Laguna Woods, City of	September 23rd, 2025 (E-mail)
Mission Viejo, City of	May 12th, 2025 (E-mail)
Newport Beach, City of	Unable to meet PPI participation requirements as of November 2025
Orange, County of	CONTINUED PARTICIPATION
San Juan Capistrano, City of	September 22nd, 2025 (E-mail)

As of late September 2025, only the City of Newport Beach remained a jurisdictional member of the proposed multi-jurisdictional PPI. However, given the capabilities for the City, they were unable to meet the PPI

participation requirements as of November 2025. To this end, a PPI Committee (the Committee) was developed for unincorporated Orange County as a single PPI program that meets the CRS PPI committee requirements. The Committee reviewed current public information efforts, assessed the community outreach needs, developed consistent outreach messages, and identified projects to deliver those messages to identified audiences. Table 2 lists the PPI Committee membership, along with their agency and title.

The completed PPI applies exclusively to Orange County, California (CID 060212). Following the 2024–2025 review of a multi-jurisdictional approach, it was decided to proceed with a single-jurisdiction PPI for Orange County. This PPI documents Outreach Projects and Program for Public Information elements that contribute to CRS Activity 330 credit enhancement.

TABLE 2. ORANGE COUNTY PPI COMMITTEE

Representative Name	Title / Position	Department / Agency / Organization	Representative Status
Joyce Drysdale	Floodplain Management Plan Coordinator / Civil Engineer	Orange County Public Works	Primary / Gov
Giatho Tran	Senior Civil Engineer	Orange County Public Works	Alternate / Gov
Denice Paxton	Strategic Communication Specialist	Orange County Public Works	Primary / Gov
John McCarthy	Citizen / Stormwater Engineering Consultant	Q3 Consulting	Primary / Non-Gov
Monica Ruzich	Red Cross / Southern CA Regional Communications Coordinator	Red Cross / Southern California Region	Primary / Non-Gov
Eva Marie Martin	Citizen / PhD Student	University of California, Irvine	Primary / Non-Gov
Alex Tardy	Citizen / Weather and Climate Consultant	Weather Echo	Alternate / Non-Gov
Bill Caiazzo	Citizen / Realtor - Huntington Beach	Caiazzo Real Estate	Alternate / Non-Gov

The PPI committee was supported by Orange County Public Works and their consultant staff. Consultant staff drafted the community needs assessment, outreach messages, outreach projects, and all reports made available for review at the PPI committee meetings (see Table 3). The PPI program was developed over the course of five committee meetings. Meeting agendas and notes are included in Appendix D.

TABLE 3. PPI COMMITTEE MEETINGS

Meeting Date	Planning Meeting Description for PPI Committee Development
April 29, 2025	Establish the PPI Committee and stakeholder engagement
May 28, 2025	Establish outreach projects (OP) and messages.
September 23, 2025	Discuss stakeholder engagement and PPI outreach topic (OP) multipliers
September 24, 2025	Review draft list of outreach projects (OP).
November 20, 2025	Finalize list of outreach projects (OP) and conduct a PPI committee vote of OP, PPI projects.

The Committee was supported by the 2026 Orange County Floodplain Management Plan (FMP) Steering Committee. While the FMP committee met on April 30, 2025, to perform their regular review of the County's floodplain management program, they also made meaningful contributions to the PPI development process by

helping to identify outreach projects currently performed by the communities and outside organizations. The FMP committee also helped identify potential avenues to explore for the improvement of outreach messaging and potential stakeholder delivered outreach projects.

Step 2. Assess the Community's Public Information Needs

The Committee must assess the flood problem areas and identify the audience who needs to be informed and what outreach projects are already underway for communities (CRS Coordinator's Manual 2025).

Identify Priority Areas

For planning purposes, priority areas are those areas within the unincorporated Orange County with common concerns related to floods or floodplains. They can be neighborhoods, districts, or other parts of the community with similar flooding, building, and population characteristics. These priority areas can also consist of subsets of population groups that are identified as having unique risks that warrant formulating specific flood mitigation messaging. It is useful to assign names or labels to these 'areas' or 'groups' which can be thought of as audience types. Further, some of these areas or audiences may be combined should they overlap with similar or related flood risks characteristics (CRS Coordinator's Manual 2025). Example 'areas' and/or 'audiences' include:

- Rental Units and/or Properties.
- College Associated Rental Units and/or Properties (Off-Campus - Student Rental Unit Housing).
- A waterfront business district, beachfront hotels and rental units.
- Repetitive Loss areas.
- Property Owners / Seasonal Property Owners / Tourist Population.
- An area protected by a levee or subject to flooding by a dam failure.

Located along the coast of southern California and encompassing approximately 948 square miles, Orange County was first incorporated in 1889. The County is heavily developed, with the unincorporated portions comprised of less than 35 percent of the total land area (Orange County Sheriff's Department 2021) (Orange County Public Works 2024). Orange County is bounded by Los Angeles County to the north, San Bernadino County and Riverside County to the east, and San Diego County to the south. The County has approximately 42 miles of coastline along its western border with the Pacific Ocean. However, much of the unincorporated areas are located in the central and southern inland portions of the County. Some major landmarks for the unincorporated portions of the County include portions of the Santa Ana Mountain Range (Silverado and Modjeska Canyon) and the Cleveland National Forest.

The topography of Orange County as a whole is dominated by the Los Angeles Basin and the Santa Ana Mountains. The Los Angeles Basin covers much of the northern and western portion of the County and the topography increases in elevation in the southwest toward the Santa Ana Mountains (Orange County Sheriff's Department 2021). The elevation ranges from sea level, where the County meets the Pacific Ocean, to 5,689 feet in the Santa Ana Mountains which includes portions of unincorporated Orange County (Orange County Sheriff's Department 2021). Much of the unincorporated areas of the County encompass the transitional zones, such as the foothills, canyons, and open spaces, rather than the flat, urbanized coastal plain included in other areas of the County. There are two major fault lines that surround unincorporated Orange County including the Elsinore Fault Zone and the Puente Hills Through Fault (Orange County Sheriff's Department 2021). Orange County overall is highly urbanized and equipped with extensive stormwater and flood control systems (Orange County Sheriff's Department 2021). In contrast, its unincorporated areas feature numerous waterways, including the Santa Ana River, Santiago Creek, San Juan Creek, and Aliso Creek, that carry water through these communities.

While many of these channels have been engineered or altered in urban regions, some portions remain natural in unincorporated zones, particularly within the Santa Ana Mountains.

Orange County is comprised of 34 incorporated cities (Orange County Sheriff's Department 2021). Based on the landcover classification data from the National Landcover Database (NLCD), the County, including unincorporated areas, is 61 percent urban which includes all types of developed lands, with the next highest being rangelands at 32 percent. If one examines only the unincorporated County, rangelands become the dominant land cover classification at 74 percent, while urbanized areas only make up 13 percent of the total land cover (NLCD-MRLCC n.d.).

Understanding the population and demographics of a community provides a foundation for understanding the impacts flooding on a community. Comparing population counts from the 2010 and 2020 U.S. Decennial Census (Table 4), the entire County population has increased to 3,170,345, representing an increase of 6.91 percent during the ten-year period. In contrast, the unincorporated areas of Orange County have increased to 128,057 representing an increase of 10.46 percent during the same ten-year period.

TABLE 4. ORANGE COUNTY 2010 AND 2020 U.S. DECENNIAL CENSUS POPULATION STATISTICS

Jurisdiction	2010 Population	2020 Population	2010 – 2020 Population Change (percent)
Orange County (All)	2,965,525	3,170,345	6.91%
Unincorporated Orange County	115,933	128,057	10.46%

Source: U.S Census Bureau n.d.

The 2023 American Community Survey (ACS) from the U.S. Census Bureau was used to gather the demographic data for Orange County to show population characteristics shown in Table 5 to Table 9. Based on the 2023 ACS data, 49.6 percent of the entire County population identifies as male and 50.4 percent of the population identifies as female. The median age of the entire County population is 39 years-old, with males having a median age of 38 years-old and females having a median age of 40 years-old. Orange County has a population of 674,833 under the age of 18 which is 21.3 percent of the total population (2023 ACS data). The County also has a population of 498,997 that is 65 and older, which is 15.8 percent of the total population (2023 ACS data). This data suggests that most of the population is of working age.

TABLE 5. DEMOGRAPHICS OF ORANGE COUNTY – AGE AND SEX 2023 AMERICAN COMMUNITY SURVEY (ACS)

Age and Sex			
Sex	**Male**	**Female**	**Total Population**
	1,568,200 (49.6 percent)	1,595,863 (50.4 percent)	3,164,063
Median Age	**Male**	**Female**	**Average / Median**
	37.7	39.8	38.7
Population Under 18	**Male**	**Female**	**Total Under 18**
	345,770	329,063	674,833 (21.3 percent)
Population 65 and Older	**Male**	**Female**	**Total 65 and Older**
	224,571	274,426	498,997 (15.8 percent)

Source: U.S. Census Bureau n.d.

TABLE 6. DEMOGRAPHICS OF ORANGE COUNTY – RACE 2023 AMERICAN COMMUNITY SURVEY (ACS)

Race		
Total	**3,164,063**	**% of Total**
White	1,468,454	46.4 percent
Black or African American	51,952	1.6 percent
American Indian and Alaska Native	23,889	0.8 percent
Asian	694,189	21.9 percent
Native Hawaiian and Other Pacific Islander	9,954	0.3 percent
Other Races	444,982	14.1 percent
Two or More Races	470,643	14.9 percent
Hispanic and Latino		
Total	**3,164,063**	**% of Total**
Not Hispanic or Latino	2,083,583	65.9 percent
Hispanic or Latino	1,080,480	34.1 percent

Source: U.S. Census Bureau n.d.

TABLE 7. DEMOGRAPHICS OF ORANGE COUNTY - EDUCATIONAL ATTAINMENT 2023 AMERICAN COMMUNITY SURVEY (ACS)

Educational Attainment (Population Over 25 Years Old)		
Total	2,205,127	% of Total
Less than High School Graduate	287,900	13.1 percent
High School Graduate and Equivalency	379,386	17.2 percent
College/Associate Degree	580,793	26.3 percent
Bachelor Degree	601,466	27.3 percent
Graduate or Professional Degree	355,582	16.1 percent

Source: U.S. Census Bureau n.d.

TABLE 8. DEMOGRAPHICS OF ORANGE COUNTY – MEDIAN INCOME 2023 AMERICAN COMMUNITY SURVEY (ACS)

Median Income	
Median Income - Household	$113,702
Median Income - Families	$128,689
Median – Married Coupled Families	$149,866
Median – Non-Family Households	$72,852

Source: U.S. Census Bureau n.d.

TABLE 9. DEMOGRAPHICS OF ORANGE COUNTY – LANGUAGE SPOKEN AT HOME 2023 AMERICAN COMMUNITY SURVEY (ACS)

Language Spoken at Home (Population 5 Years and Over)		
Total	2,993,848	100 percent
Speak Only English	1,618,958	54.1 percent
Spanish	728,952	24.3 percent
French, Haitian, or Cajun	9,535	0.3 percent
German or Other West Germanic	12,362	0.4 percent
Russian, Polish, Slavic	17,591	0.6 percent
Other Indo-European Languages	103,632	3.5 percent
Korean	77,223	2.6 percent
Chinese	95,961	3.2 percent
Vietnamese	185,662	6.2 percent
Tagalog (include Filipino)	48,144	1.6 percent

Language Spoken at Home (Population 5 Years and Over)		
Other Asian and Pacific Island	56,467	1.9 percent
Arabic	29,566	1.0 percent
Other and unspecified languages	9,795	0.3 percent

Source: U.S. Census Bureau n.d.

When looking at the race and ethnicity characteristics of Orange County, 46.4 percent of the population identifies as White, 29.0 percent of the population identifies as some other race or two or more races, 21.9 percent of the population identifies as Asian, 1.8 percent of the population identifies as Black or African American, less than 1 percent of the population identifies as American Indian or Native Alaskan, and less than 1 percent identifies as Native Hawaiian or Other Pacific Islander. 34.1 percent of the population identifies as Hispanic or Latino. For the languages spoken by the population of 5-years or older, 54.1 percent of the population speak only English and 24.3 percent speak Spanish.

Examining the educational attainment of the population over 25 years old according to the 2023 ACS data, 69.7 percent of the population has at least some college or more with 26.3 percent of the population having some college or an associate's degree, 27.3 percent of the population having a bachelor's degree, and 16.1 percent of the population have a graduate or professional degree. Median household income in Orange County is $113,702, whereas the median family income is $128,689. For married couple families, the median income is $149,866, with the non-family household median income is $72,852. These values are higher than the median income for the State of California and would suggests overall that the County population is highly educated with a higher median income relative to the corresponding State median income (U.S. Census Bureau n.d.).

The 2026 Floodplain Management Plan (FMP), which was developed in concert with the with PPI, identifies community characteristics (flood hazards, demographics, land use trends, critical facilities, and infrastructure) of Orange County as well as the FMP participant jurisdictions. FMP participant jurisdictions include the Cities of Anaheim, Laguna Woods, Newport Beach, San Juan Capistrano, and Santa Ana.

Flooding has the potential to happen anywhere in Orange County and unincorporated areas, ranging from stormwater runoff overwhelming the local drainage conveyance system network, to earthquake generated tsunamis that can impact coastal portions of the County. The 2026 Floodplain Management Plan addresses five types of flooding that impact Orange County and unincorporated areas. These flooding types include riverine, coastal, dam failure, tsunami, and sea level rise. For riverine flooding, Orange County has a FEMA Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) to show the flood hazard throughout all areas of the County. The FIS shows the 10 percent, 2 percent, 1 percent, and 0.2 percent annual chance flood elevation while the FIRM shows the 1 percent and 0.2 percent annual chance floods graphically.

Orange County is a county which is vulnerable to coastal flooding especially in communities near the ocean, such as Seal Beach, Sunset Beach, Huntington Beach, Newport Beach, and Laguna Beach. Unincorporated areas of the County that are located on or near the coast include Emerald Bay, along the coast between Laguna Beach and Crystal Cove State Park. Coastal flooding can result from wind driven storm surges from nearby severe weather, high tide flooding, and sea level rise due to climate change. Coastal flooding, such as storm surges and high tides, can be forecasted and warned prior to the flooding. Sea level rise modeling can also highlight areas that have the potential to be inundated with increasing sea levels.

A tsunami is a large wave, or series of waves, triggered by seismic or geological events such as undersea earthquakes, undersea volcanoes, or landslides that happen both above and below the water. Although it is a

rare occurrence, the coastal areas of Orange County remain vulnerable to tsunami related flooding events. The State Geologic Survey developed tsunami hazard maps that show areas of the County that in tsunami inundation risk zones.

The County contains several dams, and some of these are located within its unincorporated areas. Notable dams that are located within unincorporated Orange County include, but are not limited to, Santiago Dam (Irvine Lake), Villa Park Dam, Peters Canyon Dam, and Sulphur Creek Dam. Some of these dams are very large and hold a large volume of water that can cause extensive flooding and damage downstream should they fail. Dams are regulated in California based on hazard potential. California requires dams with a Significant Hazard Potential and above to submit an inundation map and Emergency Action Plan (EAP). These inundation maps and EAPs are used to understand what areas would be impacted by the flooding caused by the dam failure and provide the pre-planned actions to be followed to minimize property damage and loss of life. The California Department of Water Resources has a web viewer that shows the inundation mapping for the dams regulated by the state.

Assess Flood Insurance Coverage

An assessment of flood insurance coverage is needed if a community wants to earn credit under CRS Activity 370 (Flood Insurance Promotion). The flood insurance coverage assessment (FIA) involves reviewing all of the communities' current flood insurance policies and then identifying areas, or certain types of properties where coverage could be improved (CRS Coordinator's Manual 2025). Performing this analysis entails the review of flood insurance policies in force based on occupancy type, flood zone, repetitive loss properties, and the percent building coverage. During the development of the 2026 Orange County FMP, an accompanying Repetitive Loss Area Analysis (RLAA) was performed for those areas within the County unincorporated areas that qualify as repetitive loss areas (RLA) under CRS guidelines. Accordingly, a Flood Insurance Assessment (FIA) is provided in this PPI document for Unincorporated Orange County, with supporting data provided in Tables 11 through 13.

According to the unincorporated Orange County FIA, there are 159 structures within the FEMA mapped Special Flood Hazard Area (SFHA), with 63 policies in force among them as of May 2, 2025. This equates to an insurance coverage rate of approximately 39.6 percent for structures in the SFHA. When looking at repetitive loss properties, unincorporated Orange County has a total of 37 repetitive loss properties, with 30 located in the SFHA (Zones A and V) and seven located outside of the SFHA. Only one of the repetitive loss structures is insured. When looking at the claims, unincorporated Orange County has 81 claims, with 65 of them located in the SFHA and 16 located outside of the SFHA. There are four insured claims, and those are located outside of the SFHA. Note that the data in this report is specific to NFIP policyholders and does not represent private flood insurance policies. The NFIP policies in force data denote current policies within the designated Special Flood Hazard Area, X-Zone, and Preferred Risk Policies as of May 2, 2025. Refer to Table 10. through Table 13.

TABLE 10. POLICIES BY OCCUPANCY FOR UNINCORPORATED ORANGE COUNTY

Occupancy	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	227	$220,712	$71,085,000	323	$1,887,799.88
2-4 Family	12	$6,745	$3,044,00	19	$79,658.45
All Other Residential	4	$2,724	$1,847,000	17	$67,250.65
Non-Residential	11	$19,851	$2,572,000	71	$1,460,774.00
Total	254	$250,032	$78,548,000	430	$3,495,482.98

Note: Insurance Overview as of 5/2/2025 from FEMA's Community Information System

TABLE 11. INSURANCE BY FLOOD ZONE FOR UNINCORPORATED ORANGE COUNTY

Flood Zone	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
SFHA Zones					
A01-30 & AE Zones	51	$84,553	$12,036,000	103	$1,287,695.80
A Zones	7	$5,475	$1,392,000	42	$300,780.80
AO Zones	0	$0	$0	7	$8,929.14
AH Zones	0	$0	$0	4	$155,883.63
A99 Zones	5	$7,331	$994,000	18	$27,017.70
V Zones	0	$0	$0	26	$197,002.63
D Zones	0	$0	$0	1	$2,358.29
B, C, & X Zones					
Standard	191	$152,673	$64,126,000	108	$860,321.30
Preferred	0	$0	$0	83	$585,915.29
Total	254	$250,032	$78,548,000	392	$3,425,904.58

Note: Insurance Overview as of 5/2/2025 from FEMA's Community Information System.

TABLE 12. UNINCORPORATED ORANGE COUNTY REPETITIVE LOSS BY FLOOD ZONE

RL Buildings, Losses, and Payments	Zone AE, A1-30, AO, AH, A	Zone VE, V1-30, V	Zone B, C, X	Total
RL Building (Total)	28	2	7	37
RL Building (Insured)	0	0	1	1
RL Losses (Total)	61	4	16	81
RL Losses (Insured)	0	0	4	4
RL Payments (Total)	$1,236,366.90	$54,863.27	$551,746.01	$1,842,976.18
Building	$962,577.72	$50,913.37	$485,810.07	$1,499,301.16
Contents	$273,789.18	$3,949.90	$65,935.94	$343,675.02
RL Payments (Insured)	$0.00	$0.00	$358,906.34	$358,906.34
Standard	$0.00	$0.00	$314,540.70	$314,540.70
Preferred	$0.00	$0.00	$44,365.64	$44,365.64

Note: Insurance Overview as of 5/2/2025 from FEMA's Community Information System.

TABLE 13. PERCENT OF UNINCORPORATED ORANGE COUNTY BUILDINGS INSURED IN THE SFHA

Flood Zone	Number of Policies in Force	Number of Buildings	Percent Insured
SFHA	63	159	39.6 percent

Note: Insurance Overview as of 5/2/2025 from FEMA's Community Information System.

Determine Priority Audiences

A priority audience is a group of people who needs information on one or more flood-related topics. Priority audiences can be based on the priority areas, such as residents of flood-prone neighborhoods, waterfront businesses, or beachfront hotel and condominium managers (CRS Coordinator's Manual 2025).

The PPI Committee discussed potential groups in need of education and outreach on flood-related topics and identified the following priority audiences.

TABLE 14. PRIORITY AUDIENCES

Audience	Description	CRS/PPI message categories
All	All residents within the communities are considered a priority area audience due to flash flooding, localized flooding, and other sources of flooding and the need to share awareness.	The flood hazard; flood insurance (especially contents coverage); warning, evacuation, and safety precautions; protecting natural floodplain functions; financial assistance for mitigation
College and/or Off-Campus Population	Cyclical population groups, particularly college students living off-campus or rental property occupants, are often unaware of flooding risks in their surrounding living environment and in their neighborhood.	The flood hazard; warning, evacuation, and safety precautions; Understand the flood information signs.
Tourists	Visitors to Orange County are considered a priority area audience due to the fact they may not understand the flood hazard for the County, so they will need awareness and information.	The flood hazard; warning, evacuation, and safety precautions; Understand the flood information signs.
Business owners	Businesses are considered a priority area audience since businesses will be interrupted during flooding events leading to lost revenues and damages.	The flood hazard; flood insurance (especially contents coverage); warning, evacuation, and safety precautions.
Repetitive loss property owners	Properties located in repetitive loss areas have experienced flood damage in previous years. The owners are considered a priority area audience due to previous flood damages, and outreach projects are needed to increase awareness and share mitigation information.	The flood hazard; flood insurance; the relation between insurance rates and level of protection; building protection measures; financial assistance for mitigation; construction regulations
Non-English Speakers	Orange County recognizes Spanish as a priority language within the community. Portions of the population are Spanish speaking and/or bilingual speaking languages other than English. While speaking proficiency will vary, non-English speakers are a priority audience for sharing flood awareness and information.	The flood hazard; flood insurance, the relation between insurance rates and level of protection; building protection measure; financial assistance for mitigation; construction regulations

Inventory Other Public Information Efforts

The Orange County Program for Public Information builds on work already being done to avoid duplication of efforts. This includes outreach and communication efforts conducted by the following Orange County agencies directly and indirectly associated with floodplain and/or stormwater management:

- Orange County Public Works
- Orange County Sheriff's Office - Emergency Management Division

TABLE 15. EXISTING PUBLIC INFORMATION EFFORTS

Orange County	Project	Subject Matter	Frequency
Orange County Public Works	Social Media	Communication to the public via Facebook, Instagram, X, and YouTube,	Year-round
	ReadyOC	Emergency readiness and preparedness resource for Orange County	
	AlertOC	Register to receive mass notification emergency alerts	
	Flood Protection Page	Floodplain management and flood readiness resources	
	County of Orange Newsroom	Subscribe to County newsletters and read news and press releases	
Orange County Sheriff's Department	Emergency management webpage	Emergency readiness and resources.	Year-round
	AlertOC	Register to receive mass notification emergency alerts	

Orange County	Project	Subject Matter	Frequency
	Social Media	Communication with the public via Facebook, X, Instagram, and YouTube	
	ReadyOC	Emergency readiness and preparedness resource for Orange County	

Step 3. Formulate Messages

For each priority audience, the PPI committee determined what public information message is needed, taking into consideration the hazards the audience faces, the natural floodplain functions in their priority areas, and the characteristics of the audience. Messages are specific statements or directions that Orange County Public Works considers important for its audiences.

SIX PRIORITY TOPICS

Messages for CRS credit are based on one or more of six priority floodplain management topics:

1. Know Your Flood Hazard
2. Insure Your Property for Your Flood Hazard
3. Protect People from the Hazard
4. Protect Your Property from the Hazard
5. Build Responsibly
6. Protect Natural Floodplain Function

ADDITIONAL PRIORITY TOPICS

A Program for Public Information committee may develop four additional messages for the audience. For CRS credit, the additional messages must be related to flooding, drainage, stormwater, natural floodplain functions, or flood-related hazards. For each audience, the public information program document can identify up to four messages in addition to or instead of the messages under the six priority topics.

The Orange County PPI Committee developed the following additional priority topics:

7. Sign up for Emergency Notifications
8. Know Your Evacuation Route
9. Relocate Vehicles to Higher Ground
10. After the Flood – Flood Insurance Best Practices

OUTCOMES

The Orange County PPI Committee identified specific outcome goals resulting from the targeted messages for each flood mitigation topic. Table 16 lists the topics, messages and desired outcomes sought by the PPI Committee.

TABLE 16. ORANGE COUNTY PPI TOPICS, MESSAGES, AND OUTCOMES

Topic	Message	Outcome(s)
1. Know Your Flood Hazard	Your property is subject to flooding	Increase number of FIRM and flood related inquiries.
	Your property is in a repetitively flooded area	Increase awareness and reduce future repetitive loss properties.
	Orange County can be impacted by coastal flooding, flash flooding,	Increase number of FIRM and flood related inquiries.

Topic	Message	Outcome(s)
	riverine flooding, dam failure inundation, or tsunami flooding	
2. Insure Your Property for Your Flood Hazard	Residents should purchase flood insurance	Increase number of flood insurance policies and increase protection of contents.
	Renters should protect contents with flood insurance	Increase number of flood insurance policies and increase protection of contents.
	Your homeowner's policy does not cover flood damage	Increase number of flood insurance policies and increase protection of contents.
3. Protect People from the Hazard	Turn around, don't drown	Reduce vehicle damage, emergency rescues, and potential deaths during flood hazard events.
	Know the flood warning signals	Reduce number of rescues and potential deaths during flood hazard events.
4. Protect Your Property from the Hazard	Elevate exterior HVAC equipment and other utilities and machinery	Reduce machinery and equipment damage from flood hazard events.
	Grant funds are available to help elevate your home	Increase awareness of potential funding sources for property protection mitigation actions.
5. Build Responsibly	Get a permit before you start construction	Increase code compliance and number of floodplain development permits issued.
	Know substantial damage/improvement rules	Increase resident knowledge of building regulations and requirements prior to construction.
	Maintain proper setbacks and limit impervious coverage	Reduce runoff from impervious areas to improve onsite drainage.
6. Protect Natural Floodplain Function	Do not dump in storm drains, flood channels or streams	Improve downstream water quality and keep flood infrastructure clear of debris.
	Report illegal dumping into waterways and/or drainage systems	Increase resident knowledge of importance to keeping conveyance system clear of debris and contaminants.
	Green infrastructure may reduce flooding	Increase low-impact development (LID) projects, reduce runoff from impervious coverage, and increase stormwater storage with vegetative detention systems.
7. Sign Up for Emergency Notifications	Sign up for the County's emergency notification system	Increase the number of people signed up for notifications and increase the number of informed residents during flood hazard events.
8. Know Your Evacuation Route	Have an evacuation plan in place	Increase number of prepared residents and speed of evacuations during flood hazard events.
	Be prepared to evacuate	Increase number of residents ready to evacuate during flood hazard events.
9. Relocate Vehicles to Higher Ground	Move your vehicles to higher ground to prevent loss and maintain access for first responders	Reduce potential loss of vehicles during flood hazard events and ensure access for first responders during flood hazard events.
10. After the Flood – Flood Insurance Best Practices	Prepare an inventory of all household valuables, and document the value of household items	Increase informational awareness that may support the processing of insurance claims by having policy holders prepare an inventory prior to loss event.

Step 4. Identify Outreach Projects to Convey the Messages

Once the outreach messages and desired outcomes were finalized, the Orange County PPI Committee considered which delivery media would best convey each message(s) to the priority audience(s). For each message, the Program for Public Information document lists the projects, who will deliver the project, and when the project will be delivered. All identified outreach projects will be implemented over a one-year period.

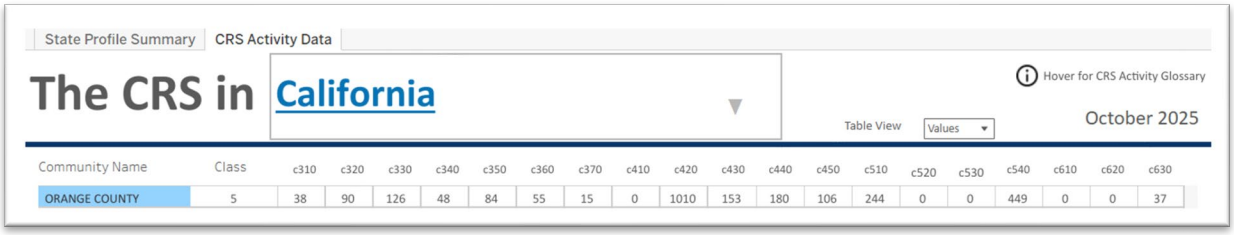
STAKEHOLDER PROJECTS

Research has shown that the credibility and visibility of outreach messages are enhanced if they are sent by a variety of sources (CRS Coordinator's Manual 2025). While the Orange County PPI Committee did consider stakeholder enhanced messaging, ultimately, stakeholder (STK) credit multipliers were not pursued under the Orange County single-jurisdictional PPI at this time. However, the PPI committee may choose to develop additional outreach projects to be delivered specifically by stakeholders during the PPI review and update process.

Step 5. Examine Other Public Information Initiatives

The Orange County Program for Public Information considers all activities that inform people and motivate them to protect life and property, buy insurance, and protect natural floodplain functions. Per CRSViz.com, the following CRS Activities are active within the County's current CRS program.

FIGURE 1. SUMMARY CRS DATA FOR ORANGE COUNTY



Community Name	Class	c310	c320	c330	c340	c350	c360	c370	c410	c420	c430	c440	c450	c510	c520	c530	c540	c610	c620	c630
ORANGE COUNTY	5	38	90	126	48	84	55	15	0	1010	153	180	106	244	0	0	449	0	0	37

Source: https://crsviz.com/CrsViz/Details/807

- Activity 320 (Map Information Service): The PPI committee should consider what map information should be conveyed to inquirers. For example, if protecting wetlands is a concern of the committee, the PPI document should note that the Activity 320 service should advise inquirers of the location of wetlands. Brochures or flyers that explain the hazard or the flood insurance purchase requirement can be credited as informational projects. If these brochures or flyers are given to inquirers, they can be credited as general outreach projects.
- Activity 340 (Hazard Disclosure): If real estate disclosure practice(s) and/or informational brochures are described in the PPI document, along with recommendations on their composition or use, then extra PPI credit is provided.
- Activity 350 (Flood Protection Information): As with outreach projects, credit for the website (WEB1) is based on the number of topics covered. If there is a credited PPI, the community can receive additional CRS credit for covering up to four additional messages, instead of just six.
- Activity 360 (Flood Protection Assistance): The CRS credits for the first three elements, property protection advice (PPA), advice after a site visit (PPV), and financial assistance advice (FAA), can all be increased if the services, recommended protection measures, and how the services should be delivered are described in the PPI document. The County currently receives credit in this Activity for offering one-on-one advice regarding property protection and making site visits before providing advice.
- Activity 370 (Flood Insurance Promotion): It is recommended that the plan to improve insurance coverage be part of the PPI and be prepared by the same committee, provided that the committee meets the membership criteria for Activity 370 credit. To date, all submittals from communities for Activity 370 coverage improvement plans (CP) have been part of a PPI document.

- Activity 502 (Repetitive Loss Area Outreach Project): Every community with one or more Repetitive Loss properties must map its Repetitive Loss Areas and send an annual notice to those areas. Such mailing qualifies as a targeted outreach project. The public information program document could identify messages in addition to those required in Section 504. The County currently sends annual outreach notices to each of its Repetitive Loss area properties in unincorporated areas.
- Activity 540 (Drainage System Maintenance) provides credit for publicizing stream dumping regulations. The PPI bonus credit is provided if the public information program document specifies the message and recommends the best way to disseminate it.

Step 6. Prepare and adopt the Public Information Program Document

The Orange County PPI Committee recorded their work in this document. The document was adopted by the Orange County Board of Supervisors on TBD. Appendix C provides the adopted resolution formalizing the multi-jurisdictional Program for Public Information (PPI).

Step 7. Implement, Monitor, and Evaluate the Program

As with all planning efforts, the projects need to be implemented, monitored, evaluated, and adjusted as needed. The Orange County PPI Committee will meet virtually two times per year to evaluate the PPI Program. Membership of the Committee may change in the future, but the composition will continue to meet CRS program requirements. The Committee will be responsible for reviewing the progress of the PPI and agreeing to make any changes.

EVALUATION REPORT

This review process will be captured in the annual evaluation report. The report will be submitted to the Board of Supervisors and be included with the County's annual CRS recertification.

A template for the report is included in Appendix B, and entails the following elements:

- The priority audiences, the messages, and the desired outcomes.
- The projects in the public information program used to convey the messages.
- Which projects were implemented.
- Why were some projects not implemented (if any).
- What progress was made toward the desired outcomes.
- What should be changed (including what messages, outcomes, and projects should be revised or dropped, and what new ones should be initiated).

UPDATING THE PROGRAM FOR PUBLIC INFORMATION

To ensure the PPI is up to date, includes the most effective outreach strategies, and continues to earn CRS credit, the PPI document will be updated once every five years, or more frequently if significant changes in the outreach strategy are needed. The PPI update may be a new document or an addendum to the existing document that updates the needs assessment and all sections that should be changed based on project evaluations. The PPI update will be reviewed for CRS credit according to the CRS Coordinator's Manual currently in effect at the time of adoption. The updated PPI document must be adopted utilizing the same process as adoption of the original document. The update can qualify as the annual evaluation report for the year it was prepared.

Outreach Projects

The following projects have been identified and voted on by the PPI Committee (see Appendix E) for inclusion in the Orange County CRS Activity 330 - Outreach Projects. These projects are not all-inclusive of the outreach efforts completed by Orange County. The CRS Annual Recertification schedule was taken into consideration for the delivery of outreach projects. The CRS Annual Recertification notice is typically distributed to Orange County on June 15th of each year and is due August 1st to Insurance Services Office (ISO) (CRS n.d.).

It is recommended to complete all outreach projects by the April to May window of each calendar year so projects can be verified during the Annual Recertification by ISO. Outreach projects can be located below and in Appendix A.

Table 17 identifies credit multipliers that the County may realize for credit enhancements based on the incorporation of the PPI messages to existing CRS annual credit criteria by specific CRS elements.

TABLE 17. ORANGE COUNTY OP/ PPI/STK CREDIT MULTIPLIER SUMMARY

CRS Activities	
330 Outreach Projects	Up to 200 points
330 PPI OP	Up to an additional 80 points
350 Flood Protection Website	Up to an additional 28 points
360 Flood Protection Assistance	Up to an additional 15 points
540 Stream Dumping Regulations	Up to an additional 15 points

Figure 2 illustrates the Orange County CRS Activity 330 – Outreach Project Worksheet. This worksheet outlines the County's PPI projects and credit opportunities for achieving the full 200 points available under CRS Activity 330 for outreach projects, as well as credit opportunities for the Program for Public Information multiplier. OP#7-OP#10 are recognized as CRS Activities maintained by Orange County Public Works that require annual publicity. These elements are captured in the Activity 330 Outreach Project Worksheet to acknowledge them in the PPI for their individual credit multipliers.

FIGURE 2. ORANGE COUNTY CRS ACTIVITY 330 OUTREACH PROJECT (OP) WORKSHEET

330 Outreach Project (OP) Worksheet																				
	Outreach Projects	Points per Topic	Topics Covered						PPI Messages				Times per Year	OP	Multipliers					
			1. Hazard	2. Insure	3. People	4. Property	5. Build	6. Natural	7. PPI Msg 1	8. PPI Msg 2	9. PPI Msg 3	10. PPI Msg 4			PPI?	PPI (OP)	STK?	STK (OP)	OP + PPI + STK	
OP#1	Annual disaster expo booth Flood information brochure	1	x	x	x	x	x	x	x	x	x	x	1	10	y	4.0		0.0	14.0	
OP#2	Be Ready brochure Mailed to all in SFHA	6	x	x	x	x	x	x	x	x	x	x	1	60	y	24.0		0.0	84.0	
OP#3	502 RL Annual Mailer	6	x	x	x	x	x	x	x	x	x	x	1	60	y	24.0		0.0	84.0	
OP#4	502 RL Annual Mailer FEMA Spanish	6		x	x	x	x						1	24	y	9.6		0.0	33.6	
OP#5	Social Media Be Ready Brochure	2	x	x	x	x	x	x	x	x	x	x	5	100	y	40.0		0.0	140.0	
OP#6	Social Media Spanish FEMA Flood Prep and Safety Spanish	2		x	x	x	x						5	40	y	16.0		0.0	56.0	
OP#7	320 MI Annual Publicity (no additional credit under 320, under 330)													0	y	0.0		0.0	0.0	
OP#8	350 WEB1 (up to additional 28 points)													0	y	0.0		0.0	0.0	
OP#9	360 PPA/PPV Annual Publicity (no additional credit under 360, under 330)													0	y	0.0		0.0	0.0	
OP#10	540 SDR Annual Publicity (up to 10-15 additioinal points)													0	y	0.0		0.0	0.0	
	c330 =	cOP:	280.00	+	cFRP:	0.00	=	0.00					∑OP:	200	∑PPI:	80.00	∑STK:	0.00	280.00	

Table 18 outlines the Orange County PPI projects and establishes the schedule for project delivery.

TABLE 18. ORANGE COUNTY PPI PROJECTS

Project	Stakeholder Delivery	Target Audience	Frequency
OP#1 – Annual South County Disaster Preparedness Expo	N	Al	Annual occurring in Fall.
OP#2 – FEMA Informational Brochure	N	All property owners/rental properties/businesses within the SFHA of unincorporated Orange County	Mailed to properties in the SFHA of the unincorporated portions of Orange County 1 time per year, typically targeted for Summer.
OP#3 – Repetitive Loss Annual Mailer	N	All property owners/rental properties/businesses with properties within Repetitive Loss Areas in unincorporated Orange County	Mailed to Repetitive Loss Area properties of the unincorporated portions of Orange County 1 time per year, typically targeted for Summer.
OP#4- FEMA Flood Preparation and Safety Brochure in Spanish	N	All property owners/rental properties/businesses within the SFHA of unincorporated Orange County	Mailed to Repetitive Loss Area properties of the unincorporated portions of Orange County 1 time per year, typically targeted for Summer.
OP#5 – Social Media	N	All	5 social media posts of the Be Flood Ready brochure, 5x per year. Example platforms: Facebook, Instagram, and Twitter (X). These social media posts are published throughout the year.
OP#6 – Social Media – Spanish	N	All	5 social media posts of the Spanish FEMA Flood Preparation and Safety Brochure, 5x per year. Example platforms: Facebook, Instagram, and Twitter (X). These social media posts are published throughout the year.

OP#1 Annual South County Disaster Preparedness Expo

The last annual South County Disaster Preparedness Expo was hosted by the City of Mission Viejo on October 18th of 2025. This was a free event for the public to speak with local professionals in the disaster and emergency management groups. Staff from Orange County Public Works attended the expo and distributed FEMA brochures on flood insurance, map changes, and more.

This outreach project will be an in-person expo/booth event commitment of one time per year for the next five years. It is paired with Orange County Public Works' FEMA Flood Information Brochure (Be Ready Brochure), which contains the six CRS priority topics. This outreach project also includes the four additional PPI messages as outlined in Table 16.

OP#2 FEMA Flood Informational Brochure

Orange County Public Works' FEMA Flood Informational Brochure (Be Flood Ready Brochure) is mailed out to all properties in the floodplain as a hard copy. This outreach project will be disseminated once per year for the next five years. This brochure contains all six CRS priority topics. The distribution list is obtained from the Orange County Public Works geospatial group, who use GIS to query for parcels located in the SFHA within the unincorporated areas of the County. This outreach project also includes the four additional PPI messages: (7.)

Sign up for emergency notifications; (8.) Know your evacuation route; (9.) Move your vehicles!; (10.) Understanding insurance claim information (pre/post). It is also paired with the CRS 502 Repetitive Loss Annual Mailer (OP#3).

OP#3 Repetitive Loss Annual Mailer

This hard copy letter is mailed out to all Repetitive Loss Area properties in unincorporated Orange County once per year for the next five years. The distribution list is derived from FEMA Repetitive Loss list and the Orange County Public Works geospatial group, who use GIS to query for parcels located in the Repetitive Loss Areas within the unincorporated areas of the County. It is paired with the FEMA Flood Preparation and Safety Brochure in Spanish and addresses the six CRS topics. This outreach project also includes the four additional PPI messages: (7.) Sign up for emergency notifications; (8.) Know your evacuation route; (9.) Move your vehicles!; (10.) Understanding insurance claim information (pre/post).

OP#4 FEMA Flood Preparation and Safety Brochure in Spanish

The FEMA Flood Preparation and Safety Brochure in Spanish is a hard copy mailer paired with the CRS 502 Repetitive Loss Annual Mailer. This outreach project will be disseminated once per year for the next five years. This brochure contains CRS topics two through five.

OP#5 Social Media

Five social media posts which contain the six CRS priority topics as outlined in Orange County Public Works' FEMA Flood Informational Brochure (Be Flood Ready Brochure) are posted five times per year on the following social media platforms: Facebook, Instagram, and Twitter (X). This outreach project also includes the four additional PPI messages: (7.) Sign up for emergency notifications; (8.) Know your evacuation route; (9.) Move your vehicles!; (10.) Understanding insurance claim information (pre/post).

OP#6 Social Media - Spanish

Five social media posts which contain CRS priority topics two through five as outlined in the FEMA Flood Preparation and Safety Brochure in Spanish are posted five times per year on the following social media platforms: Facebook, Instagram, and Twitter (X).

APPENDIX A – OUTREACH PROJECTS

OP#1 Annual South County Disaster Preparedness Expo

The Orange County Public Works' Be Flood Ready brochure (FEMA Flood Informational Brochure) is available as a hard copy at the Annual South County Disaster Preparedness Expo. CRS priority topics 1-6 and PPI messages 7-10 are highlighted in orange.

This is a reference for the Be Flood Ready Brochure, which is reviewed and updated annually.



TSUNAMIS

Tsunamis have been documented extensively in California since 1806. Although the majority of tsunamis have occurred in Northern California, Southern California has been and can be impacted as well.

Upon receipt of a Tsunami Watch/Warning Bulletin, an immediate evaluation will be made of the potential threat to the coastal areas of Orange County. After a thorough evaluation, a determination will be made as to the degree of evacuation necessary to eliminate any threats to residents and visitors.

Once the degree of evacuation has been determined, officers will block all movements on Pacific Coast Highway except those necessary to gain access to the nearest arterial highway leading away from the ocean. The population will be directed inland using the closest available northbound or eastbound arterial highway. It is imperative that the evacuation routes be kept open and clear at all times.

Additionally, if a large tsunami were to hit the Orange County coastline, approximately 89,000 local residents would have to be evacuated to neighboring cities such as Costa Mesa. Neighboring jurisdictions along with the American Red Cross would be called upon for care and shelter duties.

HISTORY OF FLOODING IN ORANGE COUNTY

Prior to the major channel improvements and construction of Seven Oaks Dam and Prado Dam, the Santa Ana River was the most significant flood threat in Orange County. The severe winter storms of 1969 resulted in record-breaking damages in Orange County.

Despite extensive flood control protection efforts by OCFCD, portions of the County could still be subject to flooding from deficient regional facilities or overflow from local storm drains. New flooding challenges have emerged as fires in canyon areas have created vulnerability to dangerous post-fire debris flows.

1930s

Four tsunamis strike the Los Angeles, Orange County and San Diego coastal areas. In Orange County, the tsunami wave reached heights of 20-feet or more above sea level.

1964

Following a 8.2 earthquake in Alaska, tidal surges of approximately 4-feet to 5-feet hit the Huntington Harbour area causing moderate damage.

NATURAL AND BENEFICIAL FUNCTIONS OF FLOODPLAINS

Floodplains are a natural component of the Orange County environment. When flooding spreads out across the floodplain, its energy is dissipated which results in lower flood flows downstream, reduced erosion of the streambank and channel, deposition of sediments higher in the watershed and improved groundwater recharge. Floodplains are scenic, valued wildlife habitat, and suitable for farming. Poorly planned development in floodplains can lead to streambank erosion, loss of valuable property, increased risk of flooding to downstream properties and degradation of water quality.

Help wildlife flourish by not dumping pollutants into storm drains!

1969

In Silverado Canyon, days of rain averaging 7-inches per day caused major flooding and mudslides, resulting in loss of life, injuries and significant property damage.

2010

On February 27, 2010, a magnitude 8.8 earthquake off Chile generated a tsunami that produced 3-foot high waves in Orange County 13 hours later. The tsunami, which traveled about 6,000 miles to arrive here, led officials to close virtually every beach in Orange County as well as most piers.

2021

In the last few months of 2020, the Silverado and Bond fires burned over 20,000 acres combined in Orange County's canyon communities. Rain storms that followed in 2021 caused post-fire debris material to flow into canyon basin and drainage areas. In the emergency response effort, OC Operations and Maintenance crews removed over 28,000 cubic yards of debris flow material.

Para ver este documento en Español, visite ...
Muốn xem văn kiện này bằng tiếng Việt, xin bấm vào ...
要查看此告示之中文版，請登入 ...
이 문서를 한국어로 보고 싶다면 ...
pwp.oc.gov/be-flood-ready

COUNTY OF ORANGE RESOURCES

Stay One Step Ahead of Emergencies With AlertOC

AlertOC is a mass notification system designed to keep Orange County residents and businesses informed of emergencies and certain community events. By registering with AlertOC, time-sensitive messages from the County or City in which you live or work may be sent to your home, cell or business phone. Text messages may also be sent to cell phones, e-mail accounts and hearing-impaired receiving devices.

For more information, please visit: AlertOC.com

OC Public Works

County Service Center, 1st Floor
601 North Ross Street
Santa Ana 92701

pw.oc.gov
ocpublicworks

OC Development Services ..... (714) 667-8888
OC Operations & Maintenance ..... (714) 955-0200
Department Operations Center ..... (714) 955-0333

myOCeServices
myOCeServices.ocgov.com
→ Apply for permits
→ Report illegal dumping
→ Make payments
...and more!

OC Public Libraries
For general FEMA documents and maps, use the search term "National Flood Insurance Program" at: catalog.ocpl.org.

ADDITIONAL RESOURCES

United States Geological Survey
usgs.gov

National Oceanic and Atmospheric Administration
noaa.gov

Federal Emergency Management Agency
fema.gov
fema.gov/nfip

National Flood Insurance Program
floodsmart.gov
877-336-2627

OC Public Works

BE FLOOD READY!

FLOOD SAFETY & AWARENESS

It is the mission of Orange County Flood Control District (OCFCD) to "reduce risk of Orange County life and property from the threat and damage of floods."

ocflood.com/safety

REVISED JULY 18, 2022



THE COUNTY OF ORANGE IS WORKING TO REDUCE YOUR FLOODING RISK

OC Public Works' comprehensive approach to reducing your flooding risk in Orange County:

- ✓ **Repairs** drain gates, catch basins, inlets, and roadways in unincorporated Orange County and OCFCD flood channels to ensure storm water flows freely and to the intended facility
- ✓ **Removes** debris, vegetation, sediment and trash buildup from roadways in unincorporated areas and all OCFCD flood facilities
- ✓ **Disseminates** flood prevention information to residents
- ✓ **Installs** preventative barriers, such as sandbags, hay bales, silt boards and K-rails to redirect flow
- ✓ **Inspects** flood and road facilities with heightened focus on canyon burn areas
- ✓ **Tests** gates, maintains dams and retarding basins
- ✓ **Monitors** National Weather Service weather forecasts
- ✓ **Maintains** and monitors the ALERT (Automated Local Evaluation in Real Time) flood warning system consisting of numerous automated rain gages, water level sensors and computer base stations

Even with these measures in place, it is important for Orange County residents to consider whether or not they are ready for a flood in their neighborhood. Post-fire flooding and debris flows are another source of flood hazards. Review these recommended actions before, during and after a flood to prepare your household.

WHAT SHOULD YOU DO...?

BEFORE A FLOOD

Determine if your property is located in an area subject to flooding. There are Federal Emergency Management Agency (FEMA) Special Flood Hazard Areas (SFHAs) identified on the Federal Insurance Rate Maps (FIRM) with known potential for flooding.

For properties located within unincorporated Orange County, County staff can make flood zone determinations. If located in an "A" Zone, your property is within the SFHA, which is an area that has been determined to have the potential for flooding caused by a 100-year storm. If located in a "V" Zone, your property is within the SFHA and could also be subject to velocity wave action. County staff can also provide property owners in unincorporated County with information regarding if a property is located in a floodway, near a choke point, flood depths in AE or AO FIRM zones, special flood-related hazards, historical flooding, or natural floodplain functions.

Elevation certificates for unincorporated Orange County properties and FEMA maps are available for review at the County Service Center and at the following websites:

Elevation Certificates	pwds.oc.gov/elevation-certificates
FEMA Maps	msc.fema.gov pwip.oc.gov/firm

Purchase flood insurance for your property and contents.

Many communities within Orange County participate in the National Flood Insurance Program (NFIP) which provides federally backed flood insurance for all structures located inside or outside of the SFHA. Visit floodsmart.gov to learn more and contact your insurance agency to get your policy. Flooding is not covered by a standard homeowner's insurance policy. A separate flood insurance policy is required to cover damages incurred by flooding. Also, there is a 30-day waiting period before flood insurance coverage goes into effect.

More than 25% of the NFIP claims are filed for properties located outside the SFHA.

Protect your property from the hazards of flooding.

1. If the floor level of your property is lower than the "Base Flood Elevation" (elevation of the 100-year flood, based on FEMA maps), consider elevating your structure.
2. Make sure gutters are clear of leaves and debris and roof repairs are complete before the rainy season.
3. Have weakened trees inspected by an arborist. Downed trees and branches can cause significant damage.

Brochures discussing flood proofing and other mitigation measures are available in Orange County Public Libraries and from OC Public Works at the County Service Center. If a flood is imminent, property can be protected by sandbagging areas. Valuables and furniture may also be moved to higher areas to minimize damages.

From October - April of each year, free, empty sandbags for the protection of homes from rain and mud are available at 2390 N. Glassell St., Orange, CA 92867. This service is for unincorporated Orange County residents and proof of residency will be required.

Keep channels free of obstructions and debris.

Residents are encouraged to assist in maintaining the drainage in their areas by removing or reporting obstructions (such as shopping carts, leaves, debris, trash, etc.). Keeping drainage channels free of obstructions reduces flooding in the event of heavy rains.

According to County Ordinance Article 3, Sec. 4-13-52, it is illegal to dump trash, leaves, landscape debris, paint, grease, or any other material into any portion of the County's drainage system.

To report obstructions or illegal dumping, for questions regarding drainage system maintenance, or for property protection advice or site visits regarding flooding and drainage issues, visit myOCeServices.ocgov.com or contact OC Operations & Maintenance.

Meet improvement and permitting requirements.

The NFIP requires that if the cost of reconstruction, additions, or other improvements to a building equals or exceeds 50% of the building's market value, then the building must meet the same construction requirements as a new building. Substantially damaged buildings must also be brought up to the same standards as a new building. For example, a residence damaged where the cost of repairs equals or exceeds 50% of the building's value before it was damaged must be elevated above the base flood elevation.

All development within unincorporated Orange County requires a permit. Always check and fulfill permitting requirements with OC Development Services before you build, alter, fill, or re-grade any portion of your property, or if you suspect permitting violations.

Keep an emergency supply and have an evacuation plan.

Non-perishable food, water, batteries, flashlights, a manual can opener, and a battery-operated radio should be kept available.

DURING A FLOOD

If your property is in imminent danger of flooding, please contact your electric and gas provider to request that your power and natural gas be shut off, or for guidance on how to do it yourself.

Tune-in to local commercial radio, television stations, or NOAA Weather Radio (frequencies 162.450 or 162.550) for **Watch and Warning** bulletins and any corresponding emergency instructions. The Orange County Sheriff will order evacuations if conditions warrant this action.

- ➔ If dangerous flooding conditions are imminent, avoid driving a vehicle.
- ➔ Do not attempt to drive or wade through deep pockets of water or running washes. Avoid unstable banks.
- ➔ Avoid low-lying areas. Seek shelter in the highest areas possible.

OC Public Works' Department Operations Center (DOC) may be activated when heavy to extreme rainfall is predicted or occurs, when storm runoff conditions are such that there is a possibility of flood damage, and/or other hazardous weather conditions or emergency events. When activated, the DOC will monitor the emergency situation on a 24-hour basis. Flood control channels will be patrolled, and if needed, emergency equipment and personnel will be deployed to reinforce the levees. If you see alarming conditions on any County-maintained road or flood control facility during an active event, please call the DOC. If you are in an emergency or disaster-related situation and need immediate assistance, please call 9-1-1.

AFTER A FLOOD

1. If your home, apartment, or business has suffered flood damage, immediately call the agent or company who handles your flood insurance policy.
2. Prior to entering a building, check for structural damage. Turn off outside gas lines at the meter or tank.
3. Follow established procedures for property damage repairs. Require your contractors to obtain the proper permits for work being performed. Permits are required for any permanent improvement (including painting, roofing, siding, additions, alterations, etc.) to a structure and for site work such as grading, filling, etc. Permits are required even if a homeowner is doing the work themselves.

Select a contractor who is licensed in their trade. The County of Orange requires contractors to be licensed and/or registered with Orange County and to have a County of Orange Business License.

You need to verify that contractors are licensed before signing or agreeing to any repair contracts. It is also recommended that you verify certification of liability and worker's compensation insurance. Complaints against licensed contractors may be referred to the appropriate licensing agency.

Questions about permits or contractor licensing may be addressed to OC Development Services.

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- OC Development Services — Elevation Certificates | FEMA Maps | Permits — **(714) 667-8888**
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OP#2 FEMA Flood Informational Brochure

Orange County Public Works' FEMA Flood Informational Brochure (Be Flood Ready Brochure) is mailed out to all properties in the floodplain as a hard copy. CRS priority topics 1-6 and PPI messages 7-10 are highlighted in orange.

This is a reference for the Be Flood Ready Brochure, which is reviewed and updated annually.



TSUNAMIS

Tsunamis have been documented extensively in California since 1806. Although the majority of tsunamis have occurred in Northern California, Southern California has been and can be impacted as well.

Upon receipt of a Tsunami Watch/Warning Bulletin, an immediate evaluation will be made of the potential threat to the coastal areas of Orange County. After a thorough evaluation, a determination will be made as to the degree of evacuation necessary to eliminate any threats to residents and visitors.

Once the degree of evacuation has been determined, officers will block all movements on Pacific Coast Highway except those necessary to gain access to the nearest arterial highway leading away from the ocean. The population will be directed inland using the closest available northbound or eastbound arterial highway. It is imperative that the evacuation routes be kept open and clear at all times.

Additionally, if a large tsunami were to hit the Orange County coastline, approximately 89,000 local residents would have to be evacuated to neighboring cities such as Costa Mesa. Neighboring jurisdictions along with the American Red Cross would be called upon for care and shelter duties.

HISTORY OF FLOODING IN ORANGE COUNTY

Prior to the major channel improvements and construction of Seven Oaks Dam and Prado Dam, the Santa Ana River was the most significant flood threat in Orange County. The severe winter storms of 1969 resulted in record-breaking damages in Orange County.

Despite extensive flood control protection efforts by OCFCD, portions of the County could still be subject to flooding from deficient regional facilities or overflow from local storm drains. New flooding challenges have emerged as fires in canyon areas have created vulnerability to dangerous post-fire debris flows.

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Four tsunamis strike the Los Angeles, Orange County and San Diego coastal areas. In Orange County, the tsunami were reached heights of 20-feet or more above sea level.

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Following a 9.2 earthquake in Alaska, tidal surges of approximately 4-feet to 5-feet hit the Huntington Harbour area causing moderate damage.

NATURAL AND BENEFICIAL FUNCTIONS OF FLOODPLAINS

Floodplains are a natural component of the Orange County environment. When flooding spreads out across the floodplain, its energy is dissipated which results in lower flood flows downstream, reduced erosion of the streambank and channel, deposition of sediments higher in the watershed and improved groundwater recharge. Floodplains are scenic, valued wildlife habitat, and suitable for farming. Poorly planned development in floodplains can lead to streambank erosion, loss of valuable property, increased risk of flooding to downstream properties and degradation of water quality.

Help wildlife flourish by not dumping pollutants into storm drains!

1969

In Silverado Canyon, days of rain averaging 7-inches per day caused major flooding and mudslides, resulting in loss of life, injuries and significant property damage.

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On February 27, 2010, a magnitude 8.8 earthquake off Chile generated a tsunami that produced 3-foot high waves in Orange County 13 hours later. The tsunami, which traveled about 6,000 miles to arrive here, led officials to close virtually every beach in Orange County as well as most piers.

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Para ver este documento en Español, visite ...
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要查看此告示之中文版，請登入 ...
이 문서를 한국어로 보고 싶다면 ...
pwip.oc.gov/be-flood-ready

COUNTY OF ORANGE RESOURCES

Stay One Step Ahead of Emergencies With AlertOC

AlertOC is a mass notification system designed to keep Orange County residents and businesses informed of emergencies and certain community events. By registering with AlertOC, time-sensitive messages from the County or City in which you live or work may be sent to your home, cell or business phone. Text messages may also be sent to cell phones, e-mail accounts and hearing-impaired receiving devices.

For more information, please visit: AlertOC.com

OC Public Works
County Service Center, 1st Floor
601 North Ross Street
Santa Ana 92701
pw.oc.gov
ocpublicworks

OC Development Services ..... (714) 667-8888
OC Operations & Maintenance ..... (714) 955-0200
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myOCeServices
myOCeServices.ocgov.com
➔ Apply for permits
➔ Report illegal dumping
➔ Make payments
...and more!

OC Public Libraries
For general FEMA documents and maps, use the search term "National Flood Insurance Program" at: catalog.ocpl.org.

ADDITIONAL RESOURCES

United States Geological Survey
usgs.gov

National Oceanic and Atmospheric Administration
noaa.gov

Federal Emergency Management Agency
fema.gov
fema.gov/nfip

National Flood Insurance Program
floodsmart.gov
877-336-2627

OC Public Works

BE FLOOD READY!

FLOOD SAFETY & AWARENESS

It is the mission of Orange County Flood Control District (OCFCD) to "reduce risk of Orange County life and property from the threat and damage of floods."

ocflood.com/safety

REVISED JULY 18, 2022



THE COUNTY OF ORANGE IS WORKING TO REDUCE YOUR FLOODING RISK

OC Public Works' comprehensive approach to reducing your flooding risk in Orange County:

- ✓ **Repairs** drain gates, catch basins, inlets, and roadways in unincorporated Orange County and OCFCD flood channels to ensure storm water flows freely and to the intended facility
- ✓ **Removes** debris, vegetation, sediment and trash buildup from roadways in unincorporated areas and all OCFCD flood facilities
- ✓ **Disseminates** flood prevention information to residents
- ✓ **Installs** preventative barriers, such as sandbags, hay bales, silt boards and K-rails to redirect flow
- ✓ **Inspects** flood and road facilities with heightened focus on canyon burn areas
- ✓ **Tests** gates, maintains dams and retarding basins
- ✓ **Monitors** National Weather Service weather forecasts
- ✓ **Maintains** and monitors the ALERT (Automated Local Evaluation in Real Time) flood warning system consisting of numerous automated rain gages, water level sensors and computer base stations

Even with these measures in place, it is important for Orange County residents to consider whether or not they are ready for a flood in their neighborhood. Post-fire flooding and debris flows are another source of flood hazards. Review these recommended actions before, during and after a flood to prepare your household.

WHAT SHOULD YOU DO...?

BEFORE A FLOOD

Determine if your property is located in an area subject to flooding. There are Federal Emergency Management Agency (FEMA) Special Flood Hazard Areas (SFHAs) identified on the Federal Insurance Rate Maps (FIRM) with known potential for flooding.

For properties located within unincorporated Orange County, County staff can make flood zone determinations. If located in an "A" Zone, your property is within the SFHA, which is an area that has been determined to have the potential for flooding caused by a 100-year storm. If located in a "V" Zone, your property is within the SFHA and could also be subject to velocity wave action. County staff can also provide property owners in unincorporated County with information regarding if a property is located in a floodway, near a choke point, flood depths in AE or AO FIRM zones, special flood-related hazards, historical flooding, or natural floodplain functions.

Elevation certificates for unincorporated Orange County properties and FEMA maps are available for review at the County Service Center and at the following websites:

Elevation Certificates	pwds.oc.gov/elevation-certificates
FEMA Maps	msc.fema.gov pwip.oc.gov/firm

Purchase flood insurance for your property and contents.

Many communities within Orange County participate in the National Flood Insurance Program (NFIP) which provides federally backed flood insurance for all structures located inside or outside of the SFHA. Visit floodsmart.gov to learn more and contact your insurance agency to get your policy. Flooding is not covered by a standard homeowner's insurance policy. A separate flood insurance policy is required to cover damages incurred by flooding. Also, there is a 30-day waiting period before flood insurance coverage goes into effect.

More than 25% of the NFIP claims are filed for properties located outside the SFHA.

Protect your property from the hazards of flooding.

1. If the floor level of your property is lower than the "Base Flood Elevation" (elevation of the 100-year flood, based on FEMA maps), consider elevating your structure.
2. Make sure gutters are clear of leaves and debris and roof repairs are complete before the rainy season.
3. Have weakened trees inspected by an arborist. Downed trees and branches can cause significant damage.

Brochures discussing flood proofing and other mitigation measures are available in Orange County Public Libraries and from OC Public Works at the County Service Center. If a flood is imminent, property can be protected by sandbagging areas. Valuables and furniture may also be moved to higher areas to minimize damages.

From October – April of each year, free, empty sandbags for the protection of homes from rain and mud are available at 2301 N. Glassell St., Orange, CA 92867. This service is for unincorporated Orange County residents and proof of residency will be required.

Keep channels free of obstructions and debris.

Residents are encouraged to assist in maintaining the drainage in their areas by removing or reporting obstructions (such as shopping carts, leaves, debris, trash, etc.). Keeping drainage channels free of obstructions reduces flooding in the event of heavy rains.

According to County Ordinance Article 3, Sec. 4-13-52, it is illegal to dump trash, leaves, landscape debris, paint, grease, or any other material into any portion of the County's drainage system.

To report obstructions or illegal dumping, for questions regarding drainage system maintenance, or for property protection advice or site visits regarding flooding and drainage issues, visit myOCeServices.ocgov.com or contact OC Operations & Maintenance.

Meet improvement and permitting requirements.

The NFIP requires that if the cost of reconstruction, additions, or other improvements to a building equals or exceeds 50% of the building's market value, then the building must meet the same construction requirements as a new building. Substantially damaged buildings must also be brought up to the same standards as a new building. For example, a residence damaged where the cost of repairs equals or exceeds 50% of the building's value before it was damaged must be elevated above the base flood elevation.

All development within unincorporated Orange County requires a permit. Always check and fulfill permitting requirements with OC Development Services before you build, alter, fill, or re-grade any portion of your property, or if you suspect permitting violations.

Keep an emergency supply and have an evacuation plan.

Non-perishable food, water, batteries, flashlights, a manual can opener, and a battery-operated radio should be kept available.

DURING A FLOOD

If your property is in imminent danger of flooding, please contact your electric and gas provider to request that your power and natural gas be shut off, or for guidance on how to do it yourself.

Tune-in to local commercial radio, television stations, or NOAA Weather Radio (frequencies 162.450 or 162.550) for **Watch and Warning** bulletins and any corresponding emergency instructions. The Orange County Sheriff will order evacuations if conditions warrant this action.

- ➔ If dangerous flooding conditions are imminent, avoid driving a vehicle.
- ➔ Do not attempt to drive or wade through deep pockets of water or running washes. Avoid unstable banks.
- ➔ Avoid low-lying areas. Seek shelter in the highest areas possible.

OC Public Works' Department Operations Center (DOC) may be activated when heavy to extreme rainfall is predicted or occurs, when storm runoff conditions are such that there is a possibility of flood damage, and/or other hazardous weather conditions or emergency events. When activated, the DOC will monitor the emergency situation on a 24-hour basis. Flood control channels will be patrolled, and if needed, emergency equipment and personnel will be deployed to reinforce the levees. If you see alarming conditions on any County-maintained road or flood control facility during an active event, please call the DOC. If you are in an emergency or disaster-related situation and need immediate assistance, please call 9-1-1.

AFTER A FLOOD

1. If your home, apartment, or business has suffered flood damage, immediately call the agent or company who handles your flood insurance policy.
2. Prior to entering a building, check for structural damage. Turn off outside gas lines at the meter or tank.
3. Follow established procedures for property damage repairs. Require your contractors to obtain the proper permits for work being performed. Permits are required for any permanent improvement (including painting, roofing, siding, additions, alterations, etc.) to a structure and for site work such as grading, filling, etc. Permits are required even if a homeowner is doing the work themselves.

Select a contractor who is licensed in their trade. The County of Orange requires contractors to be licensed and/or registered with Orange County and to have a County of Orange Business License.

You need to verify that contractors are licensed before signing or agreeing to any repair contracts. It is also recommended that you verify certification of liability and worker's compensation insurance. Complaints against licensed contractors may be referred to the appropriate licensing agency.

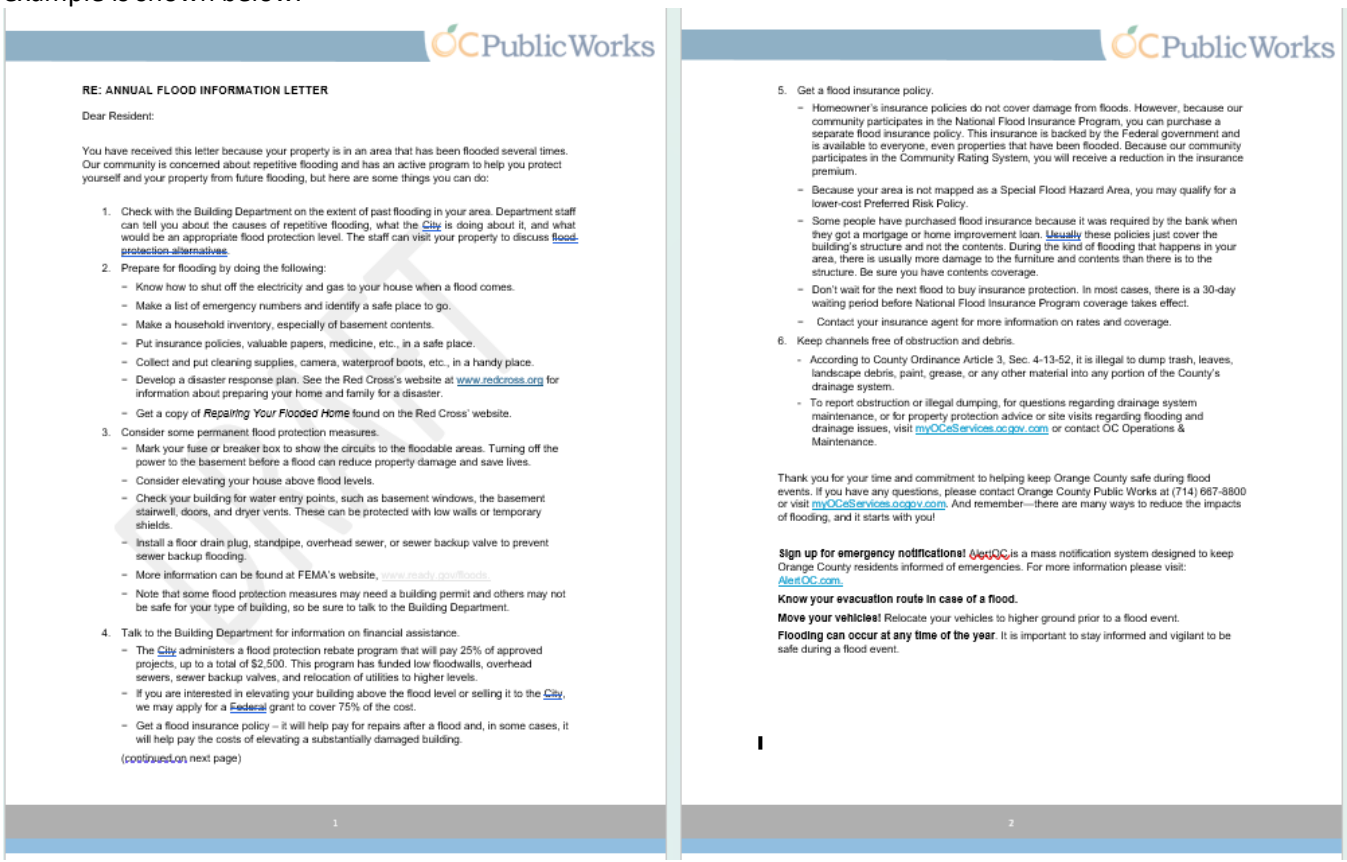
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OP#3 Repetitive Loss Annual Mailer

This hard copy letter is mailed out to all Repetitive Loss Area properties in unincorporated Orange County. An example is shown below.



OC Public Works

RE: ANNUAL FLOOD INFORMATION LETTER

Dear Resident:

You have received this letter because your property is in an area that has been flooded several times. Our community is concerned about repetitive flooding and has an active program to help you protect yourself and your property from future flooding, but here are some things you can do:

1. Check with the Building Department on the extent of past flooding in your area. Department staff can tell you about the causes of repetitive flooding, what the City is doing about it, and what would be an appropriate flood protection level. The staff can visit your property to discuss flood protection alternatives.
2. Prepare for flooding by doing the following:
   - Know how to shut off the electricity and gas to your house when a flood comes.
   - Make a list of emergency numbers and identify a safe place to go.
   - Make a household inventory, especially of basement contents.
   - Put insurance policies, valuable papers, medicine, etc., in a safe place.
   - Collect and put cleaning supplies, camera, waterproof boots, etc., in a handy place.
   - Develop a disaster response plan. See the Red Cross's website at www.redcross.org for information about preparing your home and family for a disaster.
   - Get a copy of *Repairing Your Flooded Home* found on the Red Cross' website.
3. Consider some permanent flood protection measures.
   - Mark your fuse or breaker box to show the circuits to the floodable areas. Turning off the power to the basement before a flood can reduce property damage and save lives.
   - Consider elevating your house above flood levels.
   - Check your building for water entry points, such as basement windows, the basement stairwell, doors, and dryer vents. These can be protected with low walls or temporary shields.
   - Install a floor drain plug, standpipe, overhead sewer, or sewer backup valve to prevent sewer backup flooding.
   - More information can be found at FEMA's website, www.ready.gov/floods.
   - Note that some flood protection measures may need a building permit and others may not be safe for your type of building, so be sure to talk to the Building Department.
4. Talk to the Building Department for information on financial assistance.
   - The City administers a flood protection rebate program that will pay 25% of approved projects, up to a total of $2,500. This program has funded low floodwalls, overhead sewers, sewer backup valves, and relocation of utilities to higher levels.
   - If you are interested in elevating your building above the flood level or selling it to the City, we may apply for a Federal grant to cover 75% of the cost.
   - Get a flood insurance policy – it will help pay for repairs after a flood and, in some cases, it will help pay the costs of elevating a substantially damaged building.

(continues on next page)

OC Public Works

5. Get a flood insurance policy.
   - Homeowner's insurance policies do not cover damage from floods. However, because our community participates in the National Flood Insurance Program, you can purchase a separate flood insurance policy. This insurance is backed by the Federal government and is available to everyone, even properties that have been flooded. Because our community participates in the Community Rating System, you will receive a reduction in the insurance premium.
   - Because your area is not mapped as a Special Flood Hazard Area, you may qualify for a lower-cost Preferred Risk Policy.
   - Some people have purchased flood insurance because it was required by the bank when they got a mortgage or home improvement loan. Usually these policies just cover the building's structure and not the contents. During the kind of flooding that happens in your area, there is usually more damage to the furniture and contents than there is to the structure. Be sure you have contents coverage.
   - Don't wait for the next flood to buy insurance protection. In most cases, there is a 30-day waiting period before National Flood Insurance Program coverage takes effect.
   - Contact your insurance agent for more information on rates and coverage.
6. Keep channels free of obstruction and debris.
   - According to County Ordinance Article 3, Sec. 4-13-52, it is illegal to dump trash, leaves, landscape debris, paint, grease, or any other material into any portion of the County's drainage system.
   - To report obstruction or illegal dumping, for questions regarding drainage system maintenance, or for property protection advice or site visits regarding flooding and drainage issues, visit myOCeServices.ocgov.com or contact OC Operations & Maintenance.

Thank you for your time and commitment to helping keep Orange County safe during flood events. If you have any questions, please contact Orange County Public Works at (714) 667-8800 or visit myOCeServices.ocgov.com. And remember—there are many ways to reduce the impacts of flooding, and it starts with you!

Sign up for emergency notifications! AlertOC is a mass notification system designed to keep Orange County residents informed of emergencies. For more information please visit: AlertOC.com.

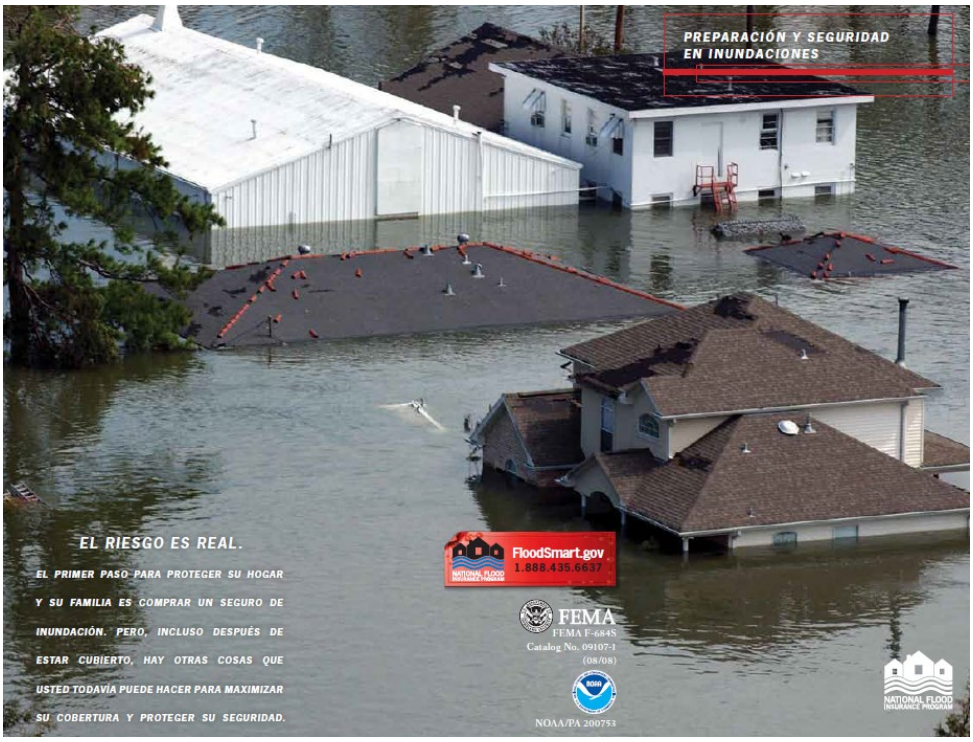
Know your evacuation route in case of a flood.

Move your vehicles! Relocate your vehicles to higher ground prior to a flood event.

Flooding can occur at any time of the year. It is important to stay informed and vigilant to be safe during a flood event.

OP#4 FEMA Flood Preparation and Safety Brochure in Spanish

The FEMA Flood Preparation and Safety Brochure in Spanish is a hard copy mailer paired with the CRS 502 Repetitive Loss Annual Mailer.





OP#5 Social Media

Social media posts containing the six CR1S priority topics as outlined in Orange County Public Works' Be Flood Ready Brochure (FEMA Flood Informational Brochure) and four PPI messages are posted on the Orange County Public Works' social media accounts. CRS priority topics 1-6 and PPI messages 7-8 are highlighted in orange.

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All development within unincorporated Orange County requires a permit. Always check and fulfill permitting requirements with OC Development Services before you build, alter, fill, or re-grade any portion of your property, or if you suspect permitting violations.

Keep an emergency supply and have an evacuation plan.

Non-perishable food, water, batteries, flashlights, a manual can opener, and a battery-operated radio should be kept available.

DURING A FLOOD

If your property is in imminent danger of flooding, please contact your electric and gas provider to request that your power and natural gas be shut off, or for guidance on how to do it yourself.

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- ➔ Do not attempt to drive or wade through deep pockets of water or running washes. Avoid unstable banks.
- ➔ Avoid low-lying areas. Seek shelter in the highest areas possible.

OC Public Works' Department Operations Center (DOC) may be activated when heavy to extreme rainfall is predicted or occurs, when storm runoff conditions are such that there is a possibility of flood damage, and/or other hazardous weather conditions or emergency events. When activated, the DOC will monitor the emergency situation on a 24-hour basis. Flood control channels will be patrolled, and if needed, emergency equipment and personnel will be deployed to reinforce the levees. If you see alarming conditions on any County-maintained road or flood control facility during an active event, please call the DOC. If you are in an emergency or disaster-related situation and need immediate assistance, please call 9-1-1.

AFTER A FLOOD

1. If your home, apartment, or business has suffered flood damage, immediately call the agent or company who handles your flood insurance policy.
2. Prior to entering a building, check for structural damage. Turn off outside gas lines at the meter or tank.
3. Follow established procedures for property damage repairs. Require your contractors to obtain the proper permits for work being performed. Permits are required for any permanent improvement (including painting, roofing, siding, additions, alterations, etc.) to a structure and for site work such as grading, filling, etc. Permits are required even if a homeowner is doing the work themselves.

Select a contractor who is licensed in their trade. The County of Orange requires contractors to be licensed and/or registered with Orange County and to have a County of Orange Business License.

You need to verify that contractors are licensed before signing or agreeing to any repair contracts. It is also recommended that you verify certification of liability and worker's compensation insurance. Complaints against licensed contractors may be referred to the appropriate licensing agency.

Questions about permits or contractor licensing may be addressed to OC Development Services.

OCPublicWorks PHONE LIST

OC Development Services — Elevation Certificates | FEMA Maps | Permits — (714) 667-8888

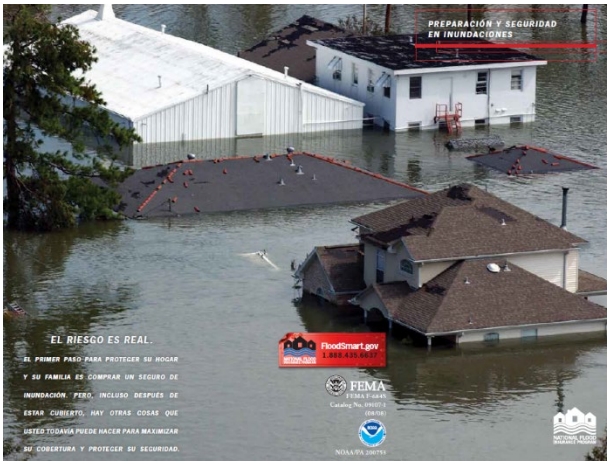
OC Operations & Maintenance — For Drainage System Maintenance questions. — (714) 955-0200

Department Operations Center — To report alarming conditions during active events. — (714) 955-0333

Click here to view the Orange County Public Works' Be Flood Ready Brochure! It includes information on how you can protect your family and property from the flood hazard.

OP#6 Social Media - Spanish

The FEMA Flood Preparation and Safety Brochure in Spanish is posted on the Orange County Pubic Works' social media accounts.





¡Haga clic aquí para ver el folleto 'Orange County Public Works Be Flood Ready'! Incluye información sobre cómo puede proteger a su familia y su propiedad contra el riesgo de inundación.

APPENDIX B – PPI ANNUAL EVALUATION EXAMPLE QUESTIONAIRE

Annual PPI Committee meeting date 1 of 2 (January – February timeframe):	
Annual PPI Committee meeting date of 2 of 2 (August – September timeframe):	
PPI Plan and Projects are available through:	Orange County Public Works

Examples of topics to engage during the annual evaluation of PPI projects.

- ✓ Recorded dates of PPI meetings, recorded committee participation.
- ✓ The priority audiences, the messages, and the desired outcomes.
- ✓ The projects in the public information program used to convey the messages.
- ✓ Which projects were implemented.
- ✓ Why were some projects not implemented (if any).
- ✓ What progress was made toward the desired outcomes.
- ✓ What should be changed (including what messages, outcomes, and projects should be revised or dropped, and what new ones should be initiated).

Example status tracker to record annual progress of outreach projects.

Project	2026 Status & Notes	2027 Status & Notes	2028 Status & Notes	2029 Status & Notes	2030 Status & Notes
OP#1 – Annual South County Disaster Preparedness Expo					
OP#2 – FEMA Informational Brochure					
OP#3 – Repetitive Loss Annual Mailer					
OP#4 – FEMA Flood Preparation and Safety Brochure in Spanish					
OP#5 – Social Media					
OP#6 – Social Media – Spanish					

APPENDIX C – ADOPTION RESOLUTION EXAMPLE

Intentionally left blank for adopting resolution.

RESOLUTION OF THE BOARD OF SUPERVISORS OF

ORANGE COUNTY, CALIFORNIA

DATE

WHEREAS, the Community Rating System (CRS) is a voluntary program for National Flood Insurance Program (NFIP) participating communities and the goals of the CRS are to reduce flood damages, strengthen and support the insurance aspects of the NFIP, and encourage a comprehensive approach to floodplain management; and

WHEREAS, the CRS was developed to provide incentives in the form of premium discounts for communities that go beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding; and

WHEREAS, pursuant to Resolution No. XXX, the County entered into an agreement with Tetra Tech, Inc., ADDRESS, for a thorough review of the floodplain management program in effect for the County, including a scoring evaluation in accordance with the 2025 Community Rating System (CRS) Manual and 2021 Addendum to the 2017 CRS Coordinator's Manual; and

WHEREAS, the County is an active participant in the CRS program and is presently a Class 5 community, which equates to a 25% reduction in flood insurance premiums for unincorporated County residents; and

WHEREAS, A proposal was received by the Orange County Public Works of MONTH, DAY, YEAR from Tetra Tech, Inc., ADDRESS to provide the above services, at a cost of $XXX; and

WHEREAS, the Program for Public Information is to be adopted by DATE;

NOW, THEREFORE, be it RESOLVED, by the Orange County Board of Supervisors, California that the TITLE be and hereby is authorized to enter into an agreement with Tetra Tech, Inc., ADDRESS for professional consulting services to assist the County with the CRS Cycle Verification and to develop a Program for Public Information, at a cost of $XXX Funds are available at Account No. XXX (NAME).

NOW, THEREFORE, BE IT RESOLVED that

1. The County of Orange Program for Public Information is hereby adopted.
2. The Director of Public Works or designee is authorized, after review and approval by County Counsel, to make minor, non-substantive amendments to the County of Orange Program for Public Information that do not materially alter the intent or scope of the Plan.

APPENDIX D - PPI Committee Meeting Materials

Program for Public Information (PPI)
Orange County County, California

ORANGE COUNTY PPI COMMITTEE MEETING

AGENDA
04/29/2025 @ 1:00 P.M. PST

1. Opening Remarks
2. PPI Committee Responsibilities
   - Annual Activities
3. PPI Committee Organization
   - Requirements / Stakeholder (STK) Engagement
4. Summary of Common Outreach Projects and STK Engagement Activities
5. Next Steps
6. Questions / Wrap Up

PAGE | 1

TETRA TECH

1. Summary	
Meeting title	**Orange County CRS - PPI Committee Meeting 1**
Attended participants	13
Start time	**4/29/25, 3:52:10 PM**
End time	**4/29/25, 4:46:22 PM**
Meeting duration	54m 12s
Average attendance time	38m 22s

2. Participants

Name	First Join	Last Leave	In-Meeting Duration	Email	Role
Altenburg, Grace	4/29/25, 3:52:13 PM	4/29/25, 4:46:19 PM	54m 5s	GRACE.ALTENBURG@tetratech.com	Organizer
Mitchell, Melissa	4/29/25, 3:52:44 PM	4/29/25, 4:46:20 PM	53m 35s	MELISSA.MITCHELL@tetratech.com	Presenter
Gambrill, Kevin	4/29/25, 3:56:33 PM	4/29/25, 4:46:22 PM	49m 49s	KEVIN.GAMBRILL@tetratech.com	Presenter
Shawn Mousavi	4/29/25, 3:59:56 PM	4/29/25, 4:27:29 PM	27m 33s	smousavi@sanjuancapistrano.org	Presenter
Cortez, Joanna (External)	4/29/25, 4:00:12 PM	4/29/25, 4:39:17 PM	39m 5s	Joanna.Cortez@surfcity-hb.org	Presenter
Matisse Reischl	4/29/25, 4:00:12 PM	4/29/25, 4:29:39 PM	29m 26s	MReischl@sanjuancapistrano.org	Presenter
Parker, Steve	4/29/25, 4:00:50 PM	4/29/25, 4:39:31 PM	38m 40s	Steve.Parker@tetratech.com	Presenter
Drysdale, Joyce	4/29/25, 4:01:32 PM	4/29/25, 4:39:28 PM	37m 55s	Joyce.Drysdale@ocpw.ocgov.com	Presenter
Paxton, Denice	4/29/25, 4:01:44 PM	4/29/25, 4:39:29 PM	37m 45s	denice.paxton@ocpw.ocgov.com	Presenter
Carey, Jennifer (External)	4/29/25, 4:01:47 PM	4/29/25, 4:18:56 PM	17m 8s	Jennifer.Carey@surfcity-hb.org	Presenter
Stan Ng (External)	4/29/25, 4:01:51 PM	4/29/25, 4:36:54 PM	35m 3s	shng@cityofirvine.org	Presenter
Tran, Giatho	4/29/25, 4:03:06 PM	4/29/25, 4:39:31 PM	36m 25s	Giatho.Tran@ocpw.ocgov.com	Presenter
Welch, Lynn	4/29/25, 4:04:08 PM	4/29/25, 4:46:22 PM	42m 13s	LYNN.WELCH@tetratech.com	Presenter

Program for Public Information (PPI)
Orange County County, California

ORANGE COUNTY PPI COMMITTEE MEETING

AGENDA
05/28/2025 @ 1:00 P.M. PST

1. Opening Remarks
2. Final PPI Committee Development
3. Introduction to PPI Outreach Projects (OP)
    - Overview of CRS OP Worksheet / CRS Scoring
    - Common OP's and Deliverables
4. Next Steps
5. Questions / Wrap Up

1. Summary

Meeting title	**Orange County - PPI Committee Meeting II**
Attended participants	12
Start time	**5/28/25, 3:57:27 PM**
End time	**5/28/25, 4:42:42 PM**
Meeting duration	45m 14s
Average attendance time	40m 40s

2. Participants

Name	**First Join**	**Last Leave**	**In-Meeting Duration**	**Email**	**Role**
Altenburg, Grace	5/28/25, 4:00:43 PM	5/28/25, 4:42:05 PM	41m 21s	GRACE.ALTENBURG@tetratech.com	Organizer
Mitchell, Melissa	5/28/25, 3:57:29 PM	5/28/25, 4:42:05 PM	44m 35s	MELISSA.MITCHELL@tetratech.com	Presenter
Welch, Lynn	5/28/25, 3:57:43 PM	5/28/25, 4:42:11 PM	44m 27s	LYNN.WELCH@tetratech.com	Presenter
Gambrill, Kevin	5/28/25, 3:59:02 PM	5/28/25, 4:42:14 PM	43m 12s	KEVIN.GAMBRILL@tetratech.com	Presenter
Drysdale, Joyce	5/28/25, 4:01:33 PM	5/28/25, 4:42:06 PM	40m 32s	Joyce.Drysdale@ocpw.ocgov.com	Presenter
Keith Linker	5/28/25, 4:01:33 PM	5/28/25, 4:42:06 PM	40m 32s	Klinker@anaheim.net	Presenter
Paxton, Denice	5/28/25, 4:01:34 PM	5/28/25, 4:42:14 PM	40m 40s	denice.paxton@ocpw.ocgov.com	Presenter
Widor, Shannon	5/28/25, 4:01:34 PM	5/28/25, 4:42:05 PM	40m 31s	Shannon.Widor@ocpw.ocgov.com	Presenter
Toledo, Julie (External)	5/28/25, 4:01:34 PM	5/28/25, 4:42:02 PM	40m 27s	Julie.Toledo@surfcity-hb.org	Presenter
Tran, Giatho	5/28/25, 4:01:34 PM	5/28/25, 4:41:59 PM	40m 25s	Giatho.Tran@ocpw.ocgov.com	Presenter
matt jenkins (Unverified)	5/28/25, 4:06:01 PM	5/28/25, 4:42:42 PM	36m 41s		Presenter
Parker, Steve	5/28/25, 4:07:33 PM	5/28/25, 4:42:07 PM	34m 33s	Steve.Parker@tetratech.com	Presenter

Program for Public Information (PPI)
Orange County County, California

ORANGE COUNTY PPI COMMITTEE MEETING

AGENDA
09/23/2025 @ 1:30 P.M. PST

1. Opening Remarks
2. Final PPI Committee Development
3. Stakeholder (STK) Members
    - Non-Government PPI Committee / Stakeholder
4. PPI Topic Multipliers
    - Must have an adopted PPI document
    - Outreach is monitors, evaluated and revised regularly
    - Topics must meet local needs
5. Next Steps
6. Questions / Wrap Up

1. Summary

Meeting title	**Orange County - PPI Committee Meeting #3**
Attended participants	10
Start time	**9/23/25, 4:26:37 PM**
End time	**9/23/25, 5:20:37 PM**
Meeting duration	54m
Average attendance time	51m 18s

2. Participants

Name	**First Join**	**Last Leave**	**In-Meeting Duration**	**Email**	**Role**
Altenburg, Grace	9/23/25, 4:28:03 PM	9/23/25, 5:20:28 PM	52m 24s	GRACE.ALTENBURG@tetratech.com	Organizer
Mitchell, Melissa	9/23/25, 4:27:17 PM	9/23/25, 5:20:30 PM	53m 13s	MELISSA.MITCHELL@tetratech.com	Presenter
Parker, Steve	9/23/25, 4:27:24 PM	9/23/25, 5:20:32 PM	53m 8s	Steve.Parker@tetratech.com	Presenter
Gambrill, Kevin	9/23/25, 4:27:51 PM	9/23/25, 5:20:29 PM	52m 38s	KEVIN.GAMBRILL@tetratech.com	Presenter
Young, James1	9/23/25, 4:28:09 PM	9/23/25, 5:18:19 PM	50m 9s	JAMES.YOUNG1@tetratech.com	Presenter
Drysdale, Joyce (Guest)	9/23/25, 4:29:17 PM	9/23/25, 5:20:30 PM	51m 13s	Joyce.Drysdale@ocpw.ocgov.com	Presenter
Kubischta, Melissa (External)	9/23/25, 4:29:43 PM	9/23/25, 5:20:29 PM	50m 46s	MKubischta@newportbeachca.gov	Presenter
Tran, Giatho	9/23/25, 4:29:53 PM	9/23/25, 5:20:32 PM	50m 38s	Giatho.Tran@ocpw.ocgov.com	Presenter
Pope, John (External)	9/23/25, 4:30:26 PM	9/23/25, 5:20:24 PM	49m 58s	JPope@newportbeachca.gov	Presenter
Paxton, Denice	9/23/25, 4:31:44 PM	9/23/25, 5:20:37 PM	48m 52s	denice.paxton@ocpw.ocgov.com	Presenter

Program for Public Information (PPI)
Orange County County, California

ORANGE COUNTY PPI COMMITTEE MEETING

AGENDA
09/24/2025 @ 9:30 A.M. PST

1. Opening Remarks
2. Overview of Outreach Projects
   - CRS Credit Overview / Potential
   - CRS Credit Multipliers
3. Finalize Draft Outreach Projects (OP)
   - Summary of OP#1 through OP#6
4. Next Steps
5. Questions / Wrap Up

1. Summary

Meeting title	**Orange County - PPI Committee Meeting #4**
Attended participants	9
Start time	**9/24/25, 1:29:03 PM**
End time	**9/24/25, 2:21:47 PM**
Meeting duration	52m 43s
Average attendance time	51m 14s

2. Participants

Name	**First Join**	**Last Leave**	**In-Meeting Duration**	**Email**	**Role**
Altenburg, Grace	9/24/25, 1:29:54 PM	9/24/25, 2:21:39 PM	51m 45s	GRACE.ALTENBURG@tetratech.com	Organizer
Mitchell, Melissa	9/24/25, 1:29:07 PM	9/24/25, 2:21:40 PM	52m 33s	MELISSA.MITCHELL@tetratech.com	Presenter
Young, James1	9/24/25, 1:29:17 PM	9/24/25, 2:21:44 PM	52m 26s	JAMES.YOUNG1@tetratech.com	Presenter
Gambrill, Kevin	9/24/25, 1:29:21 PM	9/24/25, 2:21:47 PM	52m 25s	KEVIN.GAMBRILL@tetratech.com	Presenter
Drysdale, Joyce (Guest)	9/24/25, 1:29:34 PM	9/24/25, 2:21:42 PM	52m 7s	Joyce.Drysdale@ocpw.ocgov.com	Presenter
Tran, Giatho	9/24/25, 1:30:20 PM	9/24/25, 2:21:46 PM	51m 25s	Giatho.Tran@ocpw.ocgov.com	Presenter
Kubischta, Melissa (External)	9/24/25, 1:30:53 PM	9/24/25, 2:21:40 PM	50m 46s	MKubischta@newportbeachca.gov	Presenter
Pope, John (External)	9/24/25, 1:32:03 PM	9/24/25, 2:21:40 PM	49m 36s	JPope@newportbeachca.gov	Presenter
Parker, Steve	9/24/25, 1:33:35 PM	9/24/25, 2:21:41 PM	48m 5s	Steve.Parker@tetratech.com	Presenter

Program for Public Information (PPI)
Orange County County, California

ORANGE COUNTY PPI COMMITTEE MEETING

AGENDA
11/20/2025 @ 9:30 A.M. PST

1. Welcome & Introductions
2. Finalize PPI Committee
   - Review of PPI Committee Duties
3. Finalize Draft Outreach Projects (OP)
   - Vote on Ops – OP#1 through OP#6
   - Finalize County PPI Program
4. Next Steps
5. Questions & Conclusion

1. Summary

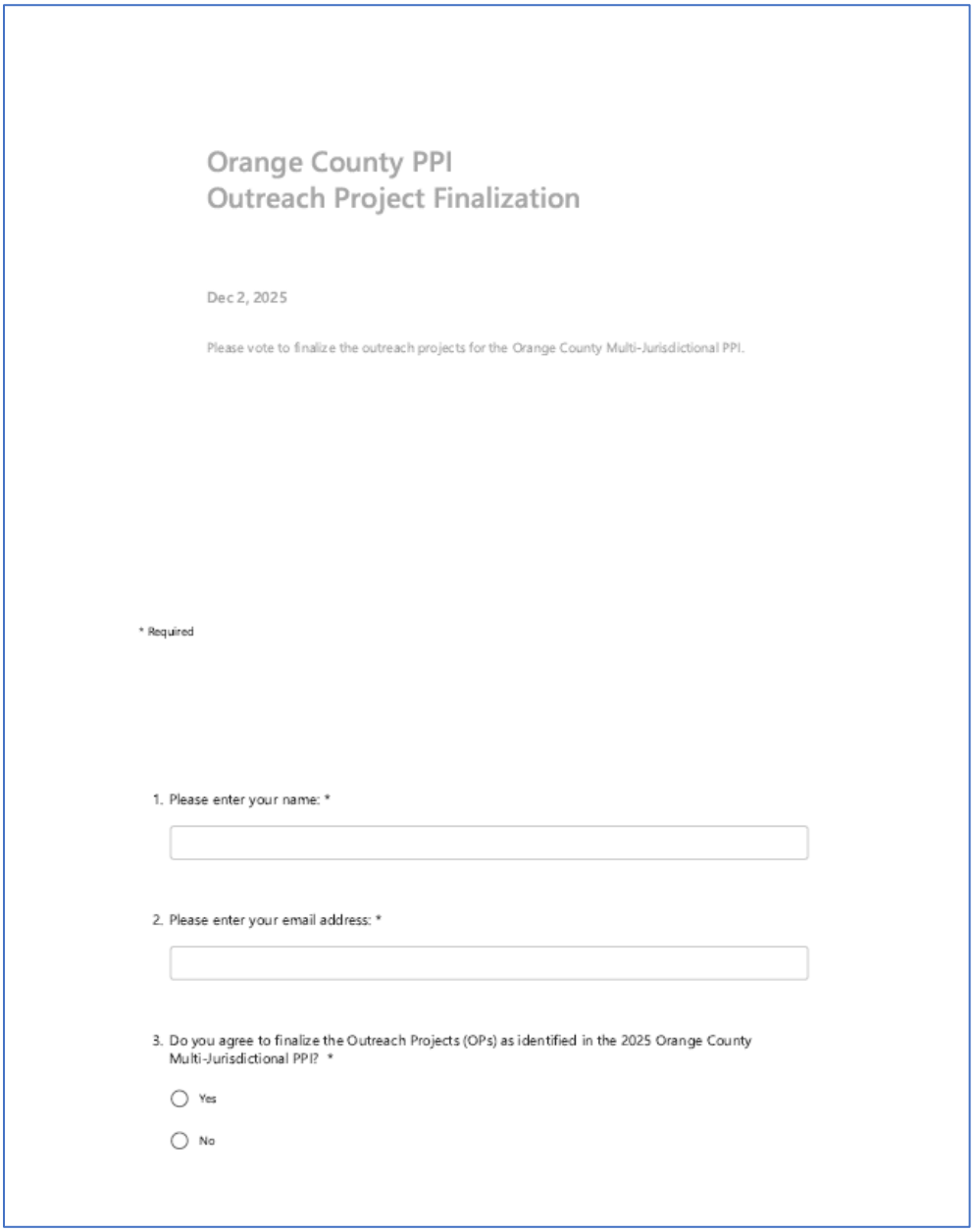
Meeting title	**Orange County - Final PPI Committee Meeting**
Attended participants	9
Start time	**11/20/25, 12:23:57 PM**
End time	**11/20/25, 12:59:29 PM**
Meeting duration	35m 32s
Average attendance time	28m 4s

2. Participants

Name	First Join	Last Leave	In-Meeting Duration	Email	Role
Altenburg, Grace	11/20/25, 12:29:12 PM	11/20/25, 12:59:29 PM	30m 17s	GRACE.ALTENBURG@tetratech.com	Organizer
Mitchell, Melissa	11/20/25, 12:28:00 PM	11/20/25, 12:59:26 PM	31m 25s	MELISSA.MITCHELL@tetratech.com	Presenter
Drysdale, Joyce (Guest)	11/20/25, 12:30:02 PM	11/20/25, 12:59:27 PM	29m 25s	Joyce.Drysdale@ocpw.ocgov.com	Presenter
John McCarthy (q3consulting)	11/20/25, 12:30:13 PM	11/20/25, 12:59:26 PM	29m 12s	JMcCarthy@q3consulting.net	Presenter
Paxton, Denice	11/20/25, 12:30:14 PM	11/20/25, 12:59:28 PM	29m 14s	denice.paxton@ocpw.ocgov.com	Presenter
Bill Caiazzo (Unverified)	11/20/25, 12:30:15 PM	11/20/25, 12:59:27 PM	29m 12s		Presenter
Tran, Giatho	11/20/25, 12:30:19 PM	11/20/25, 12:59:27 PM	29m 7s	Giatho.Tran@ocpw.ocgov.com	Presenter
Tardy, Alex	11/20/25, 12:34:57 PM	11/20/25, 12:59:16 PM	24m 19s	atardy@UCSD.EDU	Presenter
Eva-Marie H. Martin (External)	11/20/25, 12:39:01 PM	11/20/25, 12:59:26 PM	20m 25s	evamarih@exchange.uci.edu	Presenter

APPENDIX E – PPI Committee Vote for Outreach Projects

Start time	Completion time	Please enter your na	Please enter your em	Do you agree to final
11/20/25 12:49:47	11/20/25 12:50:14	Bill Caiazzo	CaiazzoRealEstate@gm	Yes
11/20/25 12:50:22	11/20/25 12:50:47	Denice Paxton	denice.paxton@ocpw.o	Yes
11/20/25 12:49:52	11/20/25 12:51:08	Eva-Marie Martin	evamarih@uci.edu	Yes
11/20/25 12:51:07	11/20/25 12:51:42	Tho Tran	Giatho.Tran@ocpw.ocg	Yes
11/20/25 12:51:03	11/20/25 12:52:00	Joyce Drysdale	Joyce.drysdale@ocpw.c	Yes
11/20/25 12:50:06	11/20/25 12:52:01	John McCarthy	jmccarthy@q3consultin	Yes
11/20/25 12:57:24	11/20/25 13:08:05	Alex Tardy	Alex@weatherecho.con	Yes



Orange County PPI
Outreach Project Finalization

Dec 2, 2025

Please vote to finalize the outreach projects for the Orange County Multi-Jurisdictional PPI.

* Required

1. Please enter your name: *

2. Please enter your email address: *

3. Do you agree to finalize the Outreach Projects (OPs) as identified in the 2025 Orange County Multi-Jurisdictional PPI? *

- ○ Yes
- ○ No

References

CRS Coordinator's Manual. 2025. Accessed 2025. https://www.fema.gov/sites/default/files/documents/fema_crs_coordinators-manual_082025.pdf.

CRS. n.d. *Recertification & Annual Construction Certificate Review.* Accessed 2025. https://crsresources.org/recert/.

NLCD-MRLCC. n.d. *National Land Cover Data (NLCD).* https://www.mrlc.gov/.

Orange County Public Works. 2024. *General Plan - Chapter 3 - Land Use Element.* https://ocds.ocpublicworks.com/sites/ocpwocds/files/2024-07/Adopted%20Land%20Use%20Element%20Amendment%20-%20June%202024.pdf.

Orange County Sheriff's Department. 2021. *Hazard Mitigation Plan.* https://ocsheriff.gov/commands-divisions/investigations-special-operations-command/emergency-management/hazard-mitigation.

U.S. Census Bureau. n.d. *U.S. Census Bureau - 2023 American Community Survey - California.* https://data.census.gov/table/ACSST5Y2023.S1901?g=040XX00US06.