RECLAMATION DISTRICT 108

Reclamation District 108
Sacramento River West Side Levee District
Knights Landing Ridge Drainage District

Special District Profile Information

Addendum to the 2018 Yolo County Operational Area Multi-Jurisdictional Hazard Mitigation Plan

December 2018

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A1.b. & A1.c. PARTICIPATION IN THE HAZARD MITIGATION PLAN

The jurisdictions participating in the Yolo County Hazard Mitigation Plan include:

County of Yolo
David M. Block, OES Emergency Services Planner, Office of Emergency Services, County of Yolo

City of Davis
Daryl C. Arbuthnott, Fire Chief, Fire Department, City of Davis

City of West Sacramento
Bryan Jonson, Fire Marshal, Fire Department, City of West Sacramento

City of Winters
Dan McGuire, Executive Assistant, City Manager's Office, City of Winters

City of Woodland
Becky Ramirez, Fire Chief, Woodland Fire Department, City of Woodland

Yocha Dehe Wintun Nation
Gary Fredericksen, Fire Chief, Yocha Dehe Fire Department, Yocha Dehe Wintun Nation

Housing Authority of Yolo County
Janis Holt, General Managing Director, Housing Authority of Yolo County

Reclamation District 108 (including sister Districts: Sacramento River West Side Levee District and Knights Landing Ridge Drainage District)
Meegan Nagy, Deputy Manager, RD 108

Reclamation District 900
Kenric Jameson, District Manager, RD 900

Reclamation District 2035
Mike Hall, CPG Farm Manager, RD 2035

Yolo County Flood Control & Water Conservation District
Kristin Sicke, Assistant General Manager, YCFCWCD

For those Reclamation Districts that were unable to physically be present at meetings, the Yolo County Office of Emergency Services talked with each of them throughout the planning process on their mitigation strategies. They provided information directly to help build and update their respective profiles.

B1.a. & B3.b. HAZARD DESCRIPTION and VULNERABILITY

Reclamation District 108 and sister Districts identified hazards that affect the Districts based upon the countywide risk assessment, past events and their impacts. Definitions for the rankings and a detailed explanation of the hazards can be found in Element B: Hazard Identification and Risk Assessment of the Yolo County MHMP Base Plan.

RD 108, SRWSLD, KRDD —Hazard Profiles

Hazard	Probability of Occurrence	Geographic Extent & Potential Magnitude
Flood	Likely	Catastrophic
Levee Failure	Unlikely	Catastrophic
Drought	Likely	Critical

Flooding

Flooding is the rising and overflowing of a body of water onto normally dry land. History clearly highlights floods as the most frequent natural hazard impacting Yolo County. Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes, and utilities as well as life safety issues. Floodwaters can transport large objects downstream, which can damage or remove stationary structures. Ground saturation can result in instability, collapse, or other damage. Objects can also be buried or destroyed through sediment deposition. Floodwaters can also break utilities lines and interrupt services. Standing water can cause damage to crops, road, foundations, and electrical circuits. Certain health hazards are also common to flood events. Standing water can also cause septic tank failure and well contamination. Standing water and wet structures can become breeding grounds for microorganisms such as bacteria, mold, and viruses. This can cause disease, trigger allergic reactions, and damage materials long after the flood. When floodwaters contain sewage or decaying animal carcasses, infections become a concern. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Where flooding occurs in populated areas, warning and evacuation will be of critical importance to reduce life and safety impacts from any type of flooding.

Certain health hazards are also common to flood events. While such problems are often not reported, three general types of health hazards accompany floods. The first comes from the water itself. Floodwaters carry anything that was on the ground that the upstream runoff picked up, including dirt, oil, animal waste, and lawn, farm and industrial chemicals. Pastures and areas where cattle and other livestock are kept or their wastes are stored can contribute polluted waters to the receiving streams. Floodwaters also saturate the ground, which leads to infiltration into sanitary sewer lines. When wastewater treatment plants are flooded, there is nowhere for the sewage to flow. Infiltration and lack of treatment can lead to overloaded sewer lines that can back up into low-lying areas and homes. Even when it is diluted by flood waters, raw sewage can be a breeding ground for bacteria such as e. coli and other disease causing agents.

The area adjacent to a channel is the floodplain. Floodplains are illustrated on inundation maps, which show areas of potential flooding and water depths. In its common usage, the floodplain most often refers to that area that is inundated by the 100-year flood, the flood that has a one percent chance in any given year of being equaled or exceeded. The 100-year flood is the national minimum standard to which communities regulate their floodplains through the National Flood Insurance Program. The 200-year flood is one that has 0.5% chance of being equaled or exceeded each year. The 500-year flood is the flood that has a 0.2 percent chance of being equaled or exceeded in any given year. The potential for flooding can change and increase through various land use changes and changes to land surface, which result in a change to the floodplain. A change in environment

can create localized flooding problems inside and outside of natural floodplains by altering or confining natural drainage channels. These changes are most often created by human activity. Yolo County and its Reclamation Districts are susceptible to various types of flood events:

Riverine flooding – Riverine flooding, defined as when a watercourse exceeds its "bank-full" capacity, generally occurs as a result of prolonged rainfall, or rainfall that is combined with snowmelt and/or already saturated soils from previous rain events. This type of flood occurs in river systems whose tributaries may drain large geographic areas and include one or more independent river basins. The onset and duration of riverine floods may vary from a few hours to many days and is often characterized by high peak flows combined with a large volume of runoff. Factors that directly affect the amount of flood runoff include precipitation amount, intensity and distribution, the amount of soil moisture, seasonal variation in vegetation, snow depth, and water-resistance of the surface due to urbanization. In Yolo County, riverine flooding can occur anytime from November through April and is largely caused by heavy and continued rains, sometimes combined with snowmelt, increased outflows from upstream dams, and heavy flow from tributary streams. These intense storms can overwhelm the local waterways as well as the integrity of flood control structures. Flooding is more severe when antecedent rainfall has resulted in saturated ground conditions. The warning time associated with slow rise riverine floods assists in life and property protection

Flash flooding – Flash flooding describes localized floods of great volume and short duration. This type of flood usually results from a heavy rainfall on a relatively small drainage area. Precipitation of this sort usually occurs in the winter and spring. Flash floods often require immediate evacuation within the hour and thus early threat identification and warning is critical for saving lives.
Localized/Stormwater flooding – Localized flooding problems are often caused by flash flooding, severe weather, or an unusual amount of rainfall. Flooding from these intense weather events usually occurs in areas experiencing an increase in runoff from impervious surfaces associated with development and urbanization as well as inadequate storm drainage systems.

A weather pattern called the "Atmospheric River" contributes to the flooding potential of the area. An Atmospheric River brings warm air and rain to West. A relatively common weather pattern brings southwest winds to the Pacific Northwest or California, along with warm, moist air. The moisture sometimes produces many days of heavy rain, which can cause extensive flooding. The warm air also can melt the snow pack in the mountains, which further aggravates the flooding potential. In the colder parts of the year, the warm air can be cooled enough to produce heavy, upslope snow as it rises into the higher elevations of the Sierra Nevada or Cascades. Forecasters and others on the West Coast often used to refer to this warm, moist air as the "Pineapple Express" because it comes from around Hawaii where pineapples are grown.

Levee Failure
Levee failure flooding can occur as the result of partial or complete collapse or underseepage of an impoundment, and often results from prolonged rainfall and flooding. The primary danger associated with dam or levee failure is the high velocity flooding of those properties downstream of the breach. Table B-12 describes the levees and their location in Yolo County.
A levee failure can range from a small, uncontrolled release to a catastrophic failure. Vulnerability to levee failures is generally confined to the areas subject to inundation downstream of the facility. Secondary losses would include loss of the multi-use functions of the facility and associated revenues that accompany those functions.

Approximately 150 years ago, the levees of the Sacramento-San Joaquin Delta were raised to prevent flooding on what remains some of the most fertile farmland in the nation. While the peat soils were excellent for agriculture, they were not the best choice to create strong foundations for levee barriers meant to contain a constant flow of river water. Nevertheless, it was these native soils that were primarily used to create the levee system.

Levee failure flooding would vary in the County depending on which structure fails and the nature and extent of the failure and associated flooding. This flooding presents a threat to life and property, including buildings, their contents, and their use. Large flood events can affect lifeline utilities (e.g., water, sewerage, and power), transportation, jobs, tourism, the environment, agricultural industry, and the local and regional economies.

Lands within the Levee Flood Protection Zones may be subject to flooding due to various factors, including the failure or overtopping of project or non-project levees, flows that exceed the design capacity of project or non-project levees, and flows from water sources not specifically protected against by project levees. Project levees are part of the Federal Flood Control Project and are built to higher standards that comply with U.S. Army Corps of Engineers guidelines. Lands not mapped within a Levee Flood Protection Zone are not invulnerable to flood risk, and some may also experience flooding from these or other related events.

Characteristics of Primary Waterways
The Sacramento River runs along the east side of the Colusa Basin and Knights Landing Basin in a single meandering channel. In general, the ground elevation descends from the Sacramento River southwestward toward the Colusa Basin Drain and the Yolo Bypass in the west. Floodwaters from a breach along the Sacramento River levees will, therefore, flow generally southwest or southeast toward the Knights Landing Ridge Cut and the Yolo Bypass rather than directly parallel along the river. One relief structure, the Fremont Weir connects the Sacramento River with the Yolo Bypass. The Fremont Weir is intended to remove water from the Sacramento River in order to lower water elevations downstream. On the north side of the Town of Knights Landing, the Knights Landing Outfall Gates and channel allows water to pass between the Sacramento River and the Colusa Drain. These gates protect the lower Colusa Drainage Basin from backwater of the Sacramento River and assist with agricultural irrigation operations during the dry season. High flows from the American River at its confluence with Sacramento River in Sacramento can cause the Sacramento River to flow backwards.

The Colusa Drain runs along the western side of the Knights Landing Ridge Drainage District Levee and receives water flows from streams and creeks originating in the Coast Range along with local drainage from the north. Flood waters in the Colusa Drain are contained by levees on its east side maintained from north to south by Maintenance Area 12, Reclamation District 108, and Reclamation District 787. At the south end of the Drain, flood waters pool at the Knights Landing Ridge and flow through the Knights Landing Ridge Cut into the Yolo Bypass. The Knights Landing Outfall Structure and channel connects the Colusa Drain with the Sacramento River at this point to allow controlled water flow between those two waterways.

Reclamation District 108
Reclamation District (RD) 108 is located along the western edge of the Sacramento River and delivers water to nearly 48,000 acres of farmland within southern Colusa County and northern Yolo County. RD 108 receives water from the Sacramento River under riparian water rights, licenses for appropriation of surface water, and a Settlement Contract with the US Bureau of Reclamation. The

first irrigated crops were grains, mostly barley but today include rice, wheat, corn, safflower, tomatoes, beans, vineseeds, cotton, walnuts and fruit.

The District was formed in 1870 under the Reclamation District Law of 1868 for the purpose of forming a district to build levees and "reclaim" land subject to periodic overflow from neighboring rivers and water bodies. At this time the Government was promoting reclamation to develop swamp lands for the improvement and cultivation of the thousands of acres in California. On October 4, 1870 the landowners submitted a petition to the Colusa and Yolo County Boards of Supervisors authorizing the formation of a new Reclamation District and assigned it the number 108.

RD 108 is surrounded on three sides by levees, that include the west-side levees from Colusa to Knights Landing along the Sacramento River, a Back Levee along the District's western boundary to prevent flooding from the Colusa Basin, and then along the slough in the South that at one time took drainage water from the Colusa Basin back to the Sacramento River. The District works in coordination with the Sacramento River West Side Levee District and the Knights Landing Ridge Drainage District to provide maintenance to over 90 miles of levees. All of the levees were originally built by the local landowners using whatever materials available and whatever criteria they chose, but have since become part of the federally sponsored Sacramento River Flood Control Project. The levees protect the rural communities in Yolo and Colusa Counties. These levees are integral to the system-wide performance of the Sacramento River Flood Control Project and provide indirect protection to the cities of Sacramento and West Sacramento. Since formation of the levee districts, Sacramento River West Side Levee District, Knights Landing Ridge Drainage District have shared management, personnel and equipment with RD 108. The flood control districts reimburse RD 108 for management and work performed.

Sacramento River West Side Levee District
The levees south of Colusa were initially maintained by Reclamation District No. 108, but the costs for levee construction and maintenance were high and borne by few landowners whereas the benefits of flood protection extended beyond RD 108 boundaries. In 1915 the legislature created the Sacramento River West Side Levee District to more accurately reflect the lands benefited. All of the levees were originally built by landowners and have become part of the federally authorized Sacramento River Flood Control Project. The levee system protects the City of Colusa, town of Grimes while also protecting approximately 194,000 acres of farmland.

Knights Landing Ridge Drainage District
In 1913 the legislature created the Knights Landing Ridge Drainage District . The Knights Landing Ridge Drainage District area is protected by an interdependent levee system, is approximately 4000 acres, and is managed by RD 108 staff. This interdependent system is an integral part of the Sacramento River Flood Control Project and provides protection to the Town of Knights Landing, which is the community most vulnerable to a levee threat along the Sacramento River in this area. The Knights Landing Levee System is bounded by three major waterways: the Sacramento River on the east, the Yolo Bypass on the southeast, and the Colusa Drain on the west. The basin protected by this levee system is primarily agricultural with one rural community, the Town of Knights Landing. The protected area is within Yolo County.

Drought
A drought is a deficiency in precipitation over an extended period, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people. It is a normal recurrent feature of climate that occurs in virtually all climate zones, from very wet to very

dry. Drought is a temporary aberration from normal climatic conditions and can thus vary significantly from one region to another. Droughts occur slowly, over a multi-year period, and it is often not obvious or easy to quantify when a drought begins and ends. Drought is a complex issue involving many factors—it occurs when a normal amount of moisture is not available to satisfy an area's usual water-consuming activities.

There are several types of drought which can often be defined regionally based on its effects:

- Meteorological drought is usually defined by a period of below average water supply, based on the degree of dryness (in comparison to normal or average) and the duration of the dry period. Drought onset generally occurs with a meteorological drought.
- Agricultural drought occurs when there is an inadequate water supply to meet the needs of the state's crops and other agricultural operations such as livestock. Agricultural drought links various characteristics of meteorological (or hydrological) drought to agricultural impacts, focusing on precipitation shortages, soil water deficits, reduced ground water or reservoir levels needed for irrigation.
- Hydrological drought is defined as deficiencies in surface and subsurface water supplies. It is generally measured as stream flow, snowpack, and as lake, reservoir, and groundwater levels. Hydrological drought usually occurs following periods of extended precipitation shortfalls.
- Socioeconomic drought occurs when a drought impacts health, well-being, and quality of life, or when a drought starts to have an adverse economic impact on a region.

In Yolo County, the Yolo County Flood Control and Water Conservation District is the General Maintaining Agency under the Sustainable Groundwater Management Act (SGMA). Through SGMA, the groundwater user community will decide what types of rules will, or will not, be enacted to protect groundwater resources.

Reclamation District 108 has numerous groundwater wells that are at risk of drying up from drought.

B.4. & C.2. PARTICPATION IN THE NATIONAL FLOOD INSURANCE PROGRAM

Yolo County has participated in the National Flood Insurance Program (NFIP) since December 16, 1980 and continues to comply but there are no National Flood Insurance Program insured structures within RD 108, the Sacramento River West Side Levee District, or the Knights Landing Ridge Drainage District that are managed by RD 108.

To address participation and continued compliance with the NFIP the participating jurisdictions in the Yolo County HMP will continue to enforce and adopt floodplain management requirements, regulate new construction in special flood hazard areas, update maps for better identification of floodplains and floodplain management programs and activities.

C.1.a. & C.1.b. EXISTING AUTHORITIES, POLICIES, PROGRAMS, AND RESOURCES

A number of federal, state and local regulations and policies form the legal framework to implement Yolo County's and its participating jurisdictions hazard mitigation goals and projects.

Federal Laws

- "The Federal Civil Defense Act of 1950"
- Public Law 96-342 "The Improved Civil Defense Act of 1980"

- Public Law 91-606 “Disaster Relief Act"
- Public Law 93-288 “The Robert T. Stafford Disaster Relief Act of 1974”
- Section 322, Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act
- Public Law 106-390 enacted by Section 104 of the Disaster Mitigation Act of 2000 (DMA)
- Interim Final Rule for DMA 2002 as published in the February 26,2002, at 44 CFR Part 201

State Laws & Plans
California Government Code, Section 3100, Title 1, Division 4, Chapter 4.
States those public employees are disaster service workers, subject to such disaster service activities as may be assigned to them by their superiors or by law. The term "public employees" includes all persons employed by the state or any county, city, city and county, state agency or public district, excluding aliens legally employed.
The law applies when:

- A local emergency has been proclaimed.
- A state of emergency has been proclaimed.
- A federal disaster declaration has been made.

This Section: Provides the basic authorities for conducting emergency operations following a proclamation of *Local Emergency*, *State of Emergency*, or *State of War Emergency*, by the Governor and/or appropriate local authorities, consistent with the provisions of this Act.

The California Emergency Plan - Revised
Promulgated by the Governor, and published in accordance with the Emergency Services Act, the Plan provides overall statewide authorities and responsibilities, and describes the functions and operations of government at all levels during extraordinary emergencies, including wartime. Section 8568 of the Act states, in part, that "...the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof." Local emergency plans are, therefore, considered to be extensions of the California Emergency Plan.

California Civil Code, Chapter 9, Section 1799.102
This section of the California Civil Code provides for "Good Samaritan Liability" for those providing emergency care at the scene of an emergency. Specifically: "No person, who, in good faith and not for compensation, renders emergency care at the scene of an emergency, shall be liable for any civil damages resulting from any act or omission. The scene of an emergency shall not include emergency departments and other places where medical care is usually offered."

Operational Area Governmental Authorities - Local Codes and Ordinances
Local and tribal government codes, ordinances, and executive policies are identified within individual community information profiles. Reclamation Districts are covered under Division 15 of the California Water Code.

The County CAO and jurisdictional City Managers noted in this document serve as the Directors of Emergency Services for their respective areas by law, ordinance and Municipal Code. The Board of Supervisors, City Councils, Tribal Council or Special District Board of Directors serve as the administering agency and the promulgation authority for all plans, policies and procedures within Yolo County and its member jurisdictions. The county and participating jurisdictions recognizes the enhanced Hazard Mitigation Plan of the State of California, the California Emergency Services Act,

and the appropriate Federal Regulations including 44 CFR 201. Yolo County is subject to the State of California Uniformed Building Code (UBC), which dictates standards on all current and future construction within Yolo County.

In support of expanding on and improving their existing policies and programs, Yolo County and each of its participating jurisdictions will continue to review and assess local hazard mitigation needs and capacities in conjunction with this plan and other supporting documents and information. RD 108 will work with the Yolo County HMP Steering Committee to identify new hazard mitigation strategies to be pursued on an operational area and local basis, and to review the progress and implementation of those policies and programs already identified. Yolo County and each of its participating jurisdictions will continue to process supplemental and supporting hazard mitigation reference information and guidance as released by the state and/or FEMA in support of its hazard mitigation goals and objectives.

C.6.a., C6.b., & C6.c. REVIEW and INCORPORATION of EXISTING PLANS

Yolo County planning efforts are supportive of each other. Information from the Yolo County HMP is incorporated into and used to support the Yolo County General Plan, Yolo County Climate Action Plan, Yolo County Emergency Operations Plan, and the continuity plans for each County and jurisdictional department. Many of these planning efforts incorporate all Yolo County jurisdictions and special districts (i.e. flood response plans for each city and Reclamation District with their input). Yolo County provides emergency planning services to all four cities in Yolo County, the Yocha Dehe Wintun Nation, and the Housing Authority of Yolo County; information from the HMP (including the risk assessment) is incorporated into each of their Emergency Operations Plans and accompanying annexes as well as their continuity plans. Information from several of these plans were used to support the Yolo County HMP as well.

State Hazard Mitigation Plan (SHMP) - 2018
The State Hazard Mitigation Plan (SHMP) identifies policy, establishes goals, and stipulates actions associated with the implementation of enhanced hazard mitigation strategies for California. The SHMP is foundational for local government hazard mitigation planning efforts, and provides inter-organizational guidance and direction based upon established state agency actions and principles.

Yolo County Operational Area Governmental Plans
The Yolo County HMP will be used to focus project prioritization. Mitigation projects will be considered for funding through federal and state grant programs, and when other funds are made available through the County and or federal government. The Yolo County OES will be the coordinating agency for project implementation. Individual jurisdictions have the capacity to organize resources, prepare grant applications, and oversee project implementation, monitoring, and evaluation. Coordinating organizations may include local, county, or regional agencies that are capable of, or responsible for, implementing activities and programs. Yolo County OES will be responsible for mitigation project administration with Yolo County and will assist each submitting jurisdiction named in this plan with their mitigation project administration.

2030 General Plan
The 2030 General Plan provides comprehensive and long-term policies for the physical development of the county and is often referred to as “the constitution” for local government. This is only the third time in the county’s history that the General Plan has been comprehensively updated, and the first time since 1983. While the fundamental goals of promoting agriculture, enhancing open space, and creating sustainable communities are the same as they have been over the past 50 years, the circumstances facing the county have changed. Issues such as the global

economy, climate change, and the role of local government create new challenges to maintaining the county's historic vision. The 2030 General Plan charts a course for the county over the next twenty years that will achieve its goals and address these concerns. The General Plan separates action items that will implement the variety of programs needed to realize the county's vision, this plan works in coordination with the 2012 revision of the Operational Area Multi-jurisdictional Hazard Mitigation Plan.

Climate Change Action Plan
The Climate Action Plan represents a significant milestone for Yolo County, which has a long history of being in the forefront of the green movement with land use policies that emphasize growth management, open space preservation and agricultural protection. In 1982, Yolo County adopted an Energy Plan, which was one of the first of its kind. In 1985, the county landfill completed a gas-to-energy facility, which generates 20,000 kilowatt hours per year and captures 90% of methane emissions.

In 2007, Yolo County became one of 12 charter members from throughout the country to sponsor the Cool Counties Initiative, which pledges each county collectively to reduce greenhouse gas emissions by 80% by 2050. That same year, the county organized local cities, special districts and UC Davis to form the Yolo County Climate Change Compact, providing an ongoing forum for exchanging information on how best to analyze and address greenhouse gas emissions.

In 2009, Yolo County adopted its 2030 General Plan, which contains more than 350 policies that deal with climate change, including the requirement to develop a Climate Action Plan. In addition to implementing General Plan policy, the Climate Action Plan also fulfills the requirements of state legislation, including Assembly Bill 32, Senate Bills 97 and 375, and Executive Order S-3-05.

The Climate Action Plan estimates that in 2008, the unincorporated area (excluding UC Davis, the Yocha Dehe Wintun Nation and special districts) produced 651,470 metric tons of carbon dioxide equivalents, or greenhouse gasses. Approximately 48% of those emissions are created by agriculture. Transportation and energy account for an additional 47%, with the remainder made up by such sectors as the landfill, wastewater treatment, construction, mining and stationary sources.

A target is established in the Climate Action Plan to reduce the 2008 emissions back to the levels estimated for 1990, or 613,651 metric tons. To achieve this target, 15 programs are proposed, including such measures as increasing renewable energy production, enhancing energy and water conservation, expanding alternative transportation, planting trees and reducing fertilizer application. In order to meet the reductions envisioned in the Cool Counties Initiative and state legislation, the Climate Action Plan also includes voluntary goals to reduce greenhouse emissions to 447,965 metric tons by 2030, and 122,730 metric tons by 2050.

C.4.a., C.5.b., & D.2 PROJECT LIST

The Yolo County HMP was revised to reflect progress in local mitigation efforts. Mitigation projects were selected for each hazard and for each jurisdiction based off the hazard risk assessment. The projects are supported by the mitigation goals and objectives, and are ranked using the following criteria; approximate cost, timeframe of completion, whether the project requires Board of Supervisors regulatory action, and an assumption as to whether or not the project would be subject

to CEQA or NEPA requirements. Funding sources are identified for all projects. All projects consider new, future, and existing development.

A cost benefit review process will be completed for each project that will be submitted during a given fiscal year as part of the grant application. The general priorities of the cost benefit risk analysis will focus on projects that are lifesaving, life safety, property protection and lastly environmental protection. A ratio of at least on dollar of benefit for each dollar invested will be considered the minimum cost benefit ratio for any projects submitted within Yolo County and its participating jurisdictions.

Full descriptions of each mitigation project are found in the table below.

MITIGATION PROJECTS					
Mitigation Project	**Jurisdiction/ Responsible Agency**	**New/ Existing or Completed/ Deleted**	**Estimated Cost and Potential Funding Source**	**Timeframe of Completion**	**Comments/ Progress**
ALL HAZARDS					
Emergency Generator – District Office	Yolo County (RD108)	NEW (2017)	$65,000 PDM, HMGP	2019	Design complete
FLOODING/LEVEE FAILURE					
Emergency Generator – Pump Stations	Yolo County (RD108)	NEW (2017)	$70,000 PDM, HMGP	2020	Design Initiated
Stabilization of Colusa Basin Drain Levee	Yolo County (RD108)	NEW (2017)	$3M DWR grant PDM, HMGP	2022	Problem identification
Seepage Mitigation of Sacramento River Levee	Yolo County (Sacramento River West Side Levee District)	NEW (2017)	$8M DWR grant, local cost share PDM, HMGP	2019	Design and Permitting initiated
Hardening of Sacramento River Levee	Yolo County (Sacramento River West Side Levee District)	NEW (2017)	$5M DWR grant PDM, HMGP	2022	Problem identification
Hardening of Knights Landing Ridge Cut Levee	Yolo County (Knights Landing Ridge Drainage District)	NEW (2017)	$3M DWR grant PDM, HMGP	2022	Problem identification
Hardening of Colusa Basin Drain Levee	Yolo County (RD 108)	NEW (2017)	$1M DWR grant PDM, HMGP	2023	Problem identification

MITIGATION PROJECTS					
Mitigation Project	**Jurisdiction/ Responsible Agency**	**New/ Existing or Completed/ Deleted**	**Estimated Cost and Potential Funding Source**	**Timeframe of Completion**	**Comments/ Progress**
Invasive Species Removal in Canals	Yolo County (RD108)	NEW (2017)	$100,000 PDM, HMGP	Ongoing	Ongoing
Flood Basin Segmentation	Yolo County (Knights Landing Ridge Drainage District)	NEW (2017)	$10M DWR grant PDM, HMGP	2022	Study initiated
DROUGHT					
Groundwater Wells	Yolo County (RD108)	NEW (2017)	$1M USBR, PDM, HMGP	2019	Study initiated

RESOLUTION NO. 18-05

A RESOLUTION OF THE BOARD OF TRUSTEES
OF RECLAMATION DISTRICT NO. 108

In the Matter of: Adopting the 2018 Yolo County Operational Area Multi-Jurisdiction Hazard Mitigation Plan

WHEREAS, the Federal Disaster Mitigation Act of 2000 (DMA 2000) requires all jurisdictions to be covered by a Pre-Disaster All Hazards Mitigation Plan in order to be eligible for Federal Emergency Management Agency pre- and post-disaster mitigation grants and funding; and

WHEREAS, the Reclamation District No. 108 recognizes that no jurisdiction is immune from natural, technological or human-caused hazards, and recognizes the importance of enhancing its ability to withstand hazards as well as the importance of reducing human suffering, property damage, interruption of public services and economic losses caused by those hazards; and

WHEREAS, Reclamation District No. 108 staff participated in a collaborative effort, led by the County of Yolo, involving various local and tribal government jurisdiction, public authorities, special districts and selected community-based organizations; and

WHEREAS, the 2018 Yolo County Operational Area Multi-Jurisdiction Hazard Mitigation Plan focuses on the potential impacts from natural, technological and human-caused hazards and disasters, and includes an assessment of these hazards, a plan to mitigate them and methods of monitoring, evaluating and updating the plan at least once every five years.

NOW, THEREFORE, BE IT RESOLVED that the Board of Trustees of Reclamation District No. 108 hereby adopts the 2018 Yolo County Operational Area Multi-Jurisdiction Hazard Mitigation Plan.

PASSED AND ADOPTED by Reclamation District No. 108 this 15th day of November 2018, by the following vote:

AYES: 3
NOES: 0
ABSENT: 2

Lewis Bair

Lewis Bair, Secretary

CERTIFICATION OF DISTRICT SECRETARY

I, Lewis Bair, hereby certify that I am, and at all times mentioned herein was the duly-elected qualified and acting Secretary of Reclamation District No. 108, organized and existing under and by virtue of the laws of the State of California; the foregoing is a full, true and correct copy of a Resolution duly adopted at a Regular Meeting of the District's Board of Trustees held on November 15, 2018, a quorum of the members of the Board of Trustees being present and voting in favor of the Resolution as specified above; and the Resolution has not been modified, altered, or amended.

Lewis Bair, Secretary

RESOLUTION NO. 18-09

A RESOLUTION OF THE BOARD OF COMMISSIONERS
OF SACRAMENTO RIVER WEST SIDE LEVEE DISTRICT
ADOPTING THE 2018 YOLO COUNTY OPERATIONAL AREA
MULTI-JURISDICTION HAZARD MITIGATION PLAN

WHEREAS, the Federal Disaster Mitigation Act of 2000 (DMA 2000) requires all jurisdictions to be covered by a Pre-Disaster All Hazards Mitigation Plan in order to be eligible for Federal Emergency Management Agency pre- and post-disaster mitigation grants and funding; and

WHEREAS, the Sacramento River West Side Levee District recognizes that no jurisdiction is immune from natural, technological or human-caused hazards, and recognizes the importance of enhancing its ability to withstand hazards as well as the importance of reducing human suffering, property damage, interruption of public services and economic losses caused by those hazards; and

WHEREAS, Sacramento River West Side Levee District staff participated in a collaborative effort, led by the County of Yolo, involving various local and tribal government jurisdiction, public authorities, special districts and selected community-based organizations; and

WHEREAS, the 2018 Yolo County Operational Area Multi-Jurisdiction Hazard Mitigation Plan focuses on the potential impacts from natural, technological and human-caused hazards and disasters, and includes an assessment of these hazards, a plan to mitigate them and methods of monitoring, evaluating and updating the plan at least once every five years.

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of Sacramento River West Side Levee District hereby adopts the 2018 Yolo County Operational Area Multi-Jurisdiction Hazard Mitigation Plan.

PASSED AND ADOPTED by Sacramento River West Side Levee District this 24th day of October 2018, by the following vote:

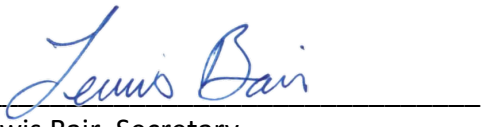
AYES: 5
NOES: 0
ABSENT: 0

Lewis Bair

Lewis Bair, Secretary

CERTIFICATION OF DISTRICT SECRETARY

I, Lewis Bair, hereby certify that I am, and at all times mentioned herein was the duly-elected qualified and acting Secretary of Sacramento River West Side Levee District, organized and existing under and by virtue of the laws of the State of California; the foregoing is a full, true and correct copy of a Resolution duly adopted at a Regular Meeting of the District's Board of Commissioners held on October 24, 2018, a quorum of the members of the Board of Commissioners being present and voting in favor of the Resolution as specified above; and the Resolution has not been modified, altered, or amended.



Lewis Bair, Secretary

RESOLUTION NO. 18-05

A RESOLUTION OF THE BOARD OF COMMISSIONERS
OF KNIGHTS LANDING RIDGE DRAINAGE DISTRICT
ADOPTING THE 2018 YOLO COUNTY OPERATIONAL AREA
MULTI-JURISDICTION HAZARD MITIGATION PLAN

WHEREAS, the Federal Disaster Mitigation Act of 2000 (DMA 2000) requires all jurisdictions to be covered by a Pre-Disaster All Hazards Mitigation Plan in order to be eligible for Federal Emergency Management Agency pre- and post-disaster mitigation grants and funding; and

WHEREAS, the Knights Landing Ridge Drainage District recognizes that no jurisdiction is immune from natural, technological or human-caused hazards, and recognizes the importance of enhancing its ability to withstand hazards as well as the importance of reducing human suffering, property damage, interruption of public services and economic losses caused by those hazards; and

WHEREAS, Knights Landing Ridge Drainage District staff participated in a collaborative effort, led by the County of Yolo, involving various local and tribal government jurisdiction, public authorities, special districts and selected community-based organizations; and

WHEREAS, the 2018 Yolo County Operational Area Multi-Jurisdiction Hazard Mitigation Plan focuses on the potential impacts from natural, technological and human-caused hazards and disasters, and includes an assessment of these hazards, a plan to mitigate them and methods of monitoring, evaluating and updating the plan at least once every five years.

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of Knights Landing Ridge Drainage District hereby adopts the 2018 Yolo County Operational Area Multi-Jurisdiction Hazard Mitigation Plan.

PASSED AND ADOPTED by Knights Landing Ridge Drainage District this 24th day of October 2018, by the following vote:

AYES: 4
NOES: 0
ABSENT: 1

Lewis Bair

_____
Lewis Bair, Secretary

CERTIFICATION OF DISTRICT SECRETARY

I, Lewis Bair, hereby certify that I am, and at all times mentioned herein was the duly-elected qualified and acting Secretary of Knights Landing Ridge Drainage District, organized and existing under and by virtue of the laws of the State of California; the foregoing is a full, true and correct copy of a Resolution duly adopted at a Regular Meeting of the District's Board of Commissioners held on October 24, 2018, a quorum of the members of the Board of Commissioners being present and voting in favor of the Resolution as specified above; and the Resolution has not been modified, altered, or amended.

Lewis Bair, Secretary

Reclamation District 900

Special District Profile Information

Addendum to the 2018 Yolo County Operational Area Multi-Jurisdictional Hazard Mitigation Plan

December 2018

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A1.b. & A1.c. PARTICIPATION IN THE HAZARD MITIGATION PLAN

The jurisdictions participating in the Yolo County Hazard Mitigation Plan include:

County of Yolo
David M. Block, OES Emergency Services Planner, Office of Emergency Services, County of Yolo

City of Davis
Daryl C. Arbuthnott, Fire Chief, Fire Department, City of Davis

City of West Sacramento
Bryan Jonson, Fire Marshal, Fire Department, City of West Sacramento

City of Winters
Dan McGuire, Executive Assistant, City Manager's Office, City of Winters

City of Woodland
Becky Ramirez, Fire Chief, Woodland Fire Department, City of Woodland

Yocha Dehe Wintun Nation
Gary Fredericksen, Fire Chief, Yocha Dehe Fire Department, Yocha Dehe Wintun Nation

Housing Authority of Yolo County
Janis Holt, General Managing Director, Housing Authority of Yolo County

Reclamation District 108 (including sister Districts: Sacramento River West Side Levee District and Knights Landing Ridge Drainage District)
Meegan Nagy, Deputy Manager, RD 108

Reclamation District 900
Kenric Jameson, District Manager, RD 900

Reclamation District 2035
Mike Hall, CPG Farm Manager, RD 2035

Yolo County Flood Control & Water Conservation District
Kristin Sicke, Assistant General Manager, YCFCWCD

For those Reclamation Districts that were unable to physically be present at meetings, the Yolo County Office of Emergency Services talked with each of them throughout the planning process on their mitigation strategies. They provided information directly to help build and update their respective profiles.

B1.a. & B3.b. HAZARD DESCRIPTION and VULNERABILITY

Reclamation District 900 identified hazards that affect District based upon the countywide risk assessment, past events and their impacts. Definitions for the rankings and a detailed explanation of the hazards can be found in Element B: Hazard Identification and Risk Assessment of the Yolo County MHMP Base Plan.

RD 900—Hazard Profiles

Hazard	Probability of Occurrence	Geographic Extent & Potential Magnitude
Flood	Likely	Catastrophic
Levee Failure	Unlikely	Catastrophic

Flooding

Flooding is the rising and overflowing of a body of water onto normally dry land. History clearly highlights floods as the most frequent natural hazard impacting Yolo County. Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes, and utilities as well as life safety issues. Floodwaters can transport large objects downstream, which can damage or remove stationary structures. Ground saturation can result in instability, collapse, or other damage. Objects can also be buried or destroyed through sediment deposition. Floodwaters can also break utilities lines and interrupt services. Standing water can cause damage to crops, road, foundations, and electrical circuits. Certain health hazards are also common to flood events. Standing water can also cause septic tank failure and well contamination. Standing water and wet structures can become breeding grounds for microorganisms such as bacteria, mold, and viruses. This can cause disease, trigger allergic reactions, and damage materials long after the flood. When floodwaters contain sewage or decaying animal carcasses, infections become a concern. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Where flooding occurs in populated areas, warning and evacuation will be of critical importance to reduce life and safety impacts from any type of flooding.

Certain health hazards are also common to flood events. While such problems are often not reported, three general types of health hazards accompany floods. The first comes from the water itself. Floodwaters carry anything that was on the ground that the upstream runoff picked up, including dirt, oil, animal waste, and lawn, farm and industrial chemicals. Pastures and areas where cattle and other livestock are kept or their wastes are stored can contribute polluted waters to the receiving streams. Floodwaters also saturate the ground, which leads to infiltration into sanitary sewer lines. When wastewater treatment plants are flooded, there is nowhere for the sewage to flow. Infiltration and lack of treatment can lead to overloaded sewer lines that can back up into low-lying areas and homes. Even when it is diluted by flood waters, raw sewage can be a breeding ground for bacteria such as e. coli and other disease causing agents.

The area adjacent to a channel is the floodplain. Floodplains are illustrated on inundation maps, which show areas of potential flooding and water depths. In its common usage, the floodplain most often refers to that area that is inundated by the 100-year flood, the flood that has a one percent chance in any given year of being equaled or exceeded. The 100-year flood is the national minimum standard to which communities regulate their floodplains through the National Flood Insurance Program. The 200-year flood is one that has 0.5% chance of being equaled or exceeded each year. The 500-year flood is the flood that has a 0.2 percent chance of being equaled or exceeded in any given year. The potential for flooding can change and increase through various land use changes and changes to land surface, which result in a change to the floodplain. A change in environment can create localized flooding problems inside and outside of natural floodplains by altering or confining natural drainage channels. These changes are most often created by human activity.

Yolo County and its Reclamation Districts are susceptible to various types of flood events:
Riverine flooding – Riverine flooding, defined as when a watercourse exceeds its "bank-full" capacity, generally occurs as a result of prolonged rainfall, or rainfall that is combined with snowmelt and/or already saturated soils from previous rain events. This type of flood occurs in river systems whose tributaries may drain large geographic areas and include one or more independent river basins. The onset and duration of riverine floods may vary from a few hours to many days and is often characterized by high peak flows combined with a large volume of runoff. Factors that directly affect the amount of flood runoff include precipitation amount, intensity and distribution, the amount of soil moisture, seasonal variation in vegetation, snow depth, and water-resistance of the surface due to urbanization. In Yolo County, riverine flooding can occur anytime from November through April and is largely caused by heavy and continued rains, sometimes combined with snowmelt, increased outflows from upstream dams, and heavy flow from tributary streams. These intense storms can overwhelm the local waterways as well as the integrity of flood control structures. Flooding is more severe when antecedent rainfall has resulted in saturated ground conditions. The warning time associated with slow rise riverine floods assists in life and property protection

Flash flooding – Flash flooding describes localized floods of great volume and short duration. This type of flood usually results from a heavy rainfall on a relatively small drainage area. Precipitation of this sort usually occurs in the winter and spring. Flash floods often require immediate evacuation within the hour and thus early threat identification and warning is critical for saving lives.
Localized/Stormwater flooding – Localized flooding problems are often caused by flash flooding, severe weather, or an unusual amount of rainfall. Flooding from these intense weather events usually occurs in areas experiencing an increase in runoff from impervious surfaces associated with development and urbanization as well as inadequate storm drainage systems.

A weather pattern called the "Atmospheric River" contributes to the flooding potential of the area. An Atmospheric River brings warm air and rain to West. A relatively common weather pattern brings southwest winds to the Pacific Northwest or California, along with warm, moist air. The moisture sometimes produces many days of heavy rain, which can cause extensive flooding. The warm air also can melt the snow pack in the mountains, which further aggravates the flooding potential. In the colder parts of the year, the warm air can be cooled enough to produce heavy, upslope snow as it rises into the higher elevations of the Sierra Nevada or Cascades. Forecasters and others on the West Coast often used to refer to this warm, moist air as the "Pineapple Express" because it comes from around Hawaii where pineapples are grown.

Levee Failure
Levee failure flooding can occur as the result of partial or complete collapse or underseepage of an impoundment, and often results from prolonged rainfall and flooding. The primary danger associated with dam or levee failure is the high velocity flooding of those properties downstream of the breach.

A levee failure can range from a small, uncontrolled release to a catastrophic failure. Vulnerability to levee failures is generally confined to the areas subject to inundation downstream of the facility. Secondary losses would include loss of the multi-use functions of the facility and associated revenues that accompany those functions.

Approximately 150 years ago, the levees of the Sacramento-San Joaquin Delta were raised to prevent flooding on what remains some of the most fertile farmland in the nation. While the peat

soils were excellent for agriculture, they were not the best choice to create strong foundations for levee barriers meant to contain a constant flow of river water. Nevertheless, it was these native soils that were primarily used to create the levee system.

Levee failure flooding would vary in the County depending on which structure fails and the nature and extent of the failure and associated flooding. This flooding presents a threat to life and property, including buildings, their contents, and their use. Large flood events can affect lifeline utilities (e.g., water, sewerage, and power), transportation, jobs, tourism, the environment, agricultural industry, and the local and regional economies.

Lands within the Levee Flood Protection Zones may be subject to flooding due to various factors, including the failure or overtopping of project or non-project levees, flows that exceed the design capacity of project or non-project levees, and flows from water sources not specifically protected against by project levees. Project levees are part of the Federal Flood Control Project and are built to higher standards that comply with U.S. Army Corps of Engineers guidelines. Lands not mapped within a Levee Flood Protection Zone are not invulnerable to flood risk, and some may also experience flooding from these or other related events.

Reclamation District 900 is an independent special district that maintains the majority of the levees that surround West Sacramento. The district overlies approximately two-thirds of the City and has an estimated population of 40,000 people that would be vulnerable to a levee failure. This area includes several city fire stations and schools as well as the city police station and the Port of West Sacramento. RD 900 is bound by the Southern Pacific Railroad embankment on the north, the Sacramento River on the east, Shangri-La Slough on the south, and the Deep Water Ship Channel (DWSC) on the west. The DWSC also bisects RD 900 into two district areas.

B.4. & C.2. PARTICPATION IN THE NATIONAL FLOOD INSURANCE PROGRAM

Yolo County has participated in the National Flood Insurance Program (NFIP) since December 16, 1980 and the City of West Sacramento has participated in the NFIP since 1987; both continue to comply but there are no National Flood Insurance Program insured structures within RD 900 that are managed by the District.

To address participation and continued compliance with the NFIP the participating jurisdictions in the Yolo County HMP will continue to enforce and adopt floodplain management requirements, regulate new construction in special flood hazard areas, update maps for better identification of floodplains and floodplain management programs and activities.

C.1.a. & C.1.b. EXISTING AUTHORITIES, POLICIES, PROGRAMS, AND RESOURCES

A number of federal, state and local regulations and policies form the legal framework to implement Yolo County's and its participating jurisdictions hazard mitigation goals and projects.

Federal Laws

- "The Federal Civil Defense Act of 1950"
- Public Law 96-342 "The Improved Civil Defense Act of 1980"
- Public Law 91-606 "Disaster Relief Act"
- Public Law 93-288 "The Robert T. Stafford Disaster Relief Act of 1974"
- Section 322, Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act

- Public Law 106-390 enacted by Section 104 of the Disaster Mitigation Act of 2000 (DMA)
- Interim Final Rule for DMA 2002 as published in the February 26,2002, at 44 CFR Part 201

State Laws & Plans
California Government Code, Section 3100, Title 1, Division 4, Chapter 4.
States those public employees are disaster service workers, subject to such disaster service activities as may be assigned to them by their superiors or by law. The term "public employees" includes all persons employed by the state or any county, city, city and county, state agency or public district, excluding aliens legally employed.
The law applies when:

- A local emergency has been proclaimed.
- A state of emergency has been proclaimed.
- A federal disaster declaration has been made.

This Section: Provides the basic authorities for conducting emergency operations following a proclamation of *Local Emergency*, *State of Emergency*, or *State of War Emergency*, by the Governor and/or appropriate local authorities, consistent with the provisions of this Act.

The California Emergency Plan - Revised
Promulgated by the Governor, and published in accordance with the Emergency Services Act, the Plan provides overall statewide authorities and responsibilities, and describes the functions and operations of government at all levels during extraordinary emergencies, including wartime. Section 8568 of the Act states, in part, that "...the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof." Local emergency plans are, therefore, considered to be extensions of the California Emergency Plan.

California Civil Code, Chapter 9, Section 1799.102
This section of the California Civil Code provides for "Good Samaritan Liability" for those providing emergency care at the scene of an emergency. Specifically: "No person, who, in good faith and not for compensation, renders emergency care at the scene of an emergency, shall be liable for any civil damages resulting from any act or omission. The scene of an emergency shall not include emergency departments and other places where medical care is usually offered."

Operational Area Governmental Authorities - Local Codes and Ordinances
Local and tribal government codes, ordinances, and executive policies are identified within individual community information profiles. Reclamation Districts are covered under Division 15 of the California Water Code.

The County CAO and jurisdictional City Managers noted in this document serve as the Directors of Emergency Services for their respective areas by law, ordinance and Municipal Code. The Board of Supervisors, City Councils, Tribal Council or Special District Board of Directors serve as the administering agency and the promulgation authority for all plans, policies and procedures within Yolo County and its member jurisdictions. The county and participating jurisdictions recognizes the enhanced Hazard Mitigation Plan of the State of California, the California Emergency Services Act, and the appropriate Federal Regulations including 44 CFR 201. Yolo County is subject to the State of California Uniformed Building Code (UBC), which dictates standards on all current and future construction within Yolo County.

In support of expanding on and improving their existing policies and programs, Yolo County and each of its participating jurisdictions will continue to review and assess local hazard mitigation needs and capacities in conjunction with this plan and other supporting documents and information. RD 900 will work with the Yolo County HMP Steering Committee to identify new hazard mitigation strategies to be pursued on an operational area and local basis, and to review the progress and implementation of those policies and programs already identified. Yolo County and each of its participating jurisdictions will continue to process supplemental and supporting hazard mitigation reference information and guidance as released by the state and/or FEMA in support of its hazard mitigation goals and objectives.

C.6.a., C6.b., & C6.c. REVIEW and INCORPORATION of EXISTING PLANS

Yolo County planning efforts are supportive of each other. Information from the Yolo County HMP is incorporated into and used to support the Yolo County General Plan, Yolo County Climate Action Plan, Yolo County Emergency Operations Plan, and the continuity plans for each County and jurisdictional department. Many of these planning efforts incorporate all Yolo County jurisdictions and special districts (i.e. flood response plans for each city and Reclamation District with their input). Yolo County provides emergency planning services to all four cities in Yolo County, the Yocha Dehe Wintun Nation, and the Housing Authority of Yolo County; information from the HMP (including the risk assessment) is incorporated into each of their Emergency Operations Plans and accompanying annexes as well as their continuity plans. Information from several of these plans were used to support the Yolo County HMP as well.

State Hazard Mitigation Plan (SHMP) - 2018
The State Hazard Mitigation Plan (SHMP) identifies policy, establishes goals, and stipulates actions associated with the implementation of enhanced hazard mitigation strategies for California. The SHMP is foundational for local government hazard mitigation planning efforts, and provides inter-organizational guidance and direction based upon established state agency actions and principles.

Yolo County Operational Area Governmental Plans
The Yolo County HMP will be used to focus project prioritization. Mitigation projects will be considered for funding through federal and state grant programs, and when other funds are made available through the County and or federal government. The Yolo County OES will be the coordinating agency for project implementation. Individual jurisdictions have the capacity to organize resources, prepare grant applications, and oversee project implementation, monitoring, and evaluation. Coordinating organizations may include local, county, or regional agencies that are capable of, or responsible for, implementing activities and programs. Yolo County OES will be responsible for mitigation project administration with Yolo County and will assist each submitting jurisdiction named in this plan with their mitigation project administration.

2030 General Plan
The 2030 General Plan provides comprehensive and long-term policies for the physical development of the county and is often referred to as "the constitution" for local government. This is only the third time in the county's history that the General Plan has been comprehensively updated, and the first time since 1983. While the fundamental goals of promoting agriculture, enhancing open space, and creating sustainable communities are the same as they have been over the past 50 years, the circumstances facing the county have changed. Issues such as the global economy, climate change, and the role of local government create new challenges to maintaining the county's historic vision. The 2030 General Plan charts a course for the county over the next twenty years that will achieve its goals and address these concerns. The General Plan separates action items that will implement the variety of programs needed to realize the county's vision, this

plan works in coordination with the 2012 revision of the Operational Area Multi-jurisdictional Hazard Mitigation Plan.

Climate Change Action Plan
The Climate Action Plan represents a significant milestone for Yolo County, which has a long history of being in the forefront of the green movement with land use policies that emphasize growth management, open space preservation and agricultural protection. In 1982, Yolo County adopted an Energy Plan, which was one of the first of its kind. In 1985, the county landfill completed a gas-to-energy facility, which generates 20,000 kilowatt hours per year and captures 90% of methane emissions.

In 2007, Yolo County became one of 12 charter members from throughout the country to sponsor the Cool Counties Initiative, which pledges each county collectively to reduce greenhouse gas emissions by 80% by 2050. That same year, the county organized local cities, special districts and UC Davis to form the Yolo County Climate Change Compact, providing an ongoing forum for exchanging information on how best to analyze and address greenhouse gas emissions.

In 2009, Yolo County adopted its 2030 General Plan, which contains more than 350 policies that deal with climate change, including the requirement to develop a Climate Action Plan. In addition to implementing General Plan policy, the Climate Action Plan also fulfills the requirements of state legislation, including Assembly Bill 32, Senate Bills 97 and 375, and Executive Order S-3-05.

The Climate Action Plan estimates that in 2008, the unincorporated area (excluding UC Davis, the Yocha Dehe Wintun Nation and special districts) produced 651,470 metric tons of carbon dioxide equivalents, or greenhouse gasses. Approximately 48% of those emissions are created by agriculture. Transportation and energy account for an additional 47%, with the remainder made up by such sectors as the landfill, wastewater treatment, construction, mining and stationary sources.

A target is established in the Climate Action Plan to reduce the 2008 emissions back to the levels estimated for 1990, or 613,651 metric tons. To achieve this target, 15 programs are proposed, including such measures as increasing renewable energy production, enhancing energy and water conservation, expanding alternative transportation, planting trees and reducing fertilizer application. In order to meet the reductions envisioned in the Cool Counties Initiative and state legislation, the Climate Action Plan also includes voluntary goals to reduce greenhouse emissions to 447,965 metric tons by 2030, and 122,730 metric tons by 2050.

C.4.a., C.5.b., & D.2 PROJECT LIST

The Yolo County HMP was revised to reflect progress in local mitigation efforts. Mitigation projects were selected for each hazard and for each jurisdiction based off the hazard risk assessment. The projects are supported by the mitigation goals and objectives, and are ranked using the following criteria; approximate cost, timeframe of completion, whether the project requires Board of Supervisors regulatory action, and an assumption as to whether or not the project would be subject to CEQA or NEPA requirements. Funding sources are identified for all projects. All projects consider new, future, and existing development.

A cost benefit review process will be completed for each project that will be submitted during a given fiscal year. The general priorities of the cost benefit risk analysis will focus on projects that

are lifesaving, life safety, property protection and lastly environmental protection. A ratio of at least one dollar of benefit for each dollar invested will be considered the minimum cost benefit ratio for any projects submitted within Yolo County and its participating jurisdictions.

Full descriptions of each mitigation project are found in the table below.

MITIGATION PROJECTS					
Mitigation Project	**Jurisdiction/ Responsible Agency**	**New/ Existing or Completed/ Deleted**	**Estimated Cost and Potential Funding Source**	**Timeframe of Completion**	**Comments/ Progress**
ALL HAZARDS					
Backup Generator	Yolo County (RD 900)	NEW (2017)	$1,700,000 HMGP	2020	Timeframe dependent upon HMGP grant award
FLOODING/LEVEE FAILURE					
Hardening of Blacker Canal Bank	Yolo County (RD 900)	NEW (2017)	$1,500,000 HMGP	2021	Timeframe dependent upon HMGP grant award
SCADA Implementation	Yolo County (RD 900)	NEW (2017)	$900,000 HMGP	2020	Timeframe dependent upon HMGP grant award
Hardening of Bridgeway Lakes Drainage Canal	Yolo County (RD 900)	NEW (2017)	Cost being developed HMGP	2018	Timeframe dependent upon HMGP grant award

RECLAMATION DISTRICT NO. 900

RESOLUTION 2018-11-01

RESOLUTION ADOPTING THE YOLO COUNTY OPERATIONAL AREA MULTI-JURISDICTION HAZARD MITIGATION PLAN UPDATE

WHEREAS, the Federal Disaster Mitigation Act of 2000 (DMA 2000) requires all jurisdictions to be covered by a Pre-Disaster All Hazards Mitigation Plan in order to be eligible for Federal Emergency Management Agency pre- and post-disaster mitigation grants and funding; and

WHEREAS, the RECLAMATION DISTRICT 900 (RD 900) recognizes that no jurisdiction is immune from natural, technological or human-caused hazards, and recognizes the importance of enhancing its ability to withstand hazards as well as the importance of reducing human suffering, property damage, interruption of public services and economic losses caused by those hazards; and

WHEREAS, RD 900 staff participated in a collaborative effort, led by the County of Yolo, involving various local and tribal government jurisdictions, public authorities, special districts and selected community-based organizations; and

WHEREAS, the Yolo County Operational Area Multi-Jurisdiction Hazard Mitigation Plan Update focuses on the potential impacts from natural, technological and human-caused hazards and disasters, and includes an assessment of these hazards, a plan to mitigate them and methods of monitoring, evaluating and updating the plan at least once every five years.

NOW, THEREFORE, BE IT RESOLVED, as follows:

1. The above recitals are true and correct.

2. The Board of Trustees of RD 900 hereby adopts the Yolo County Operational Area Multi-Jurisdiction Hazard Mitigation Plan update, incorporated herein by reference.

ADOPTED as a resolution of the Board of Trustees of Reclamation District No. 900 on November 8, 2018.

Dan Ramos, President

Kenric Jameson, Secretary

Reclamation District 2035

Special District Profile Information

Addendum to the 2018 Yolo County Operational Area Multi-Jurisdictional Hazard Mitigation Plan

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B1.a. & B3.b. HAZARD DESCRIPTION and VULNERABILITY

Reclamation District 2035 identified hazards that affect District based upon the countywide risk assessment, past events and their impacts. Definitions for the rankings and a detailed explanation of the hazards can be found in Element B: Hazard Identification and Risk Assessment of the Yolo County MHMP Base Plan.

RD 2035—Hazard Profiles

Hazard	Probability of Occurrence	Geographic Extent & Potential Magnitude
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Flash flooding – Flash flooding describes localized floods of great volume and short duration. This type of flood usually results from a heavy rainfall on a relatively small drainage area. Precipitation of this sort usually occurs in the winter and spring. Flash floods often require immediate evacuation within the hour and thus early threat identification and warning is critical for saving lives.
Localized/Stormwater flooding – Localized flooding problems are often caused by flash flooding, severe weather, or an unusual amount of rainfall. Flooding from these intense weather events usually occurs in areas experiencing an increase in runoff from impervious surfaces associated with development and urbanization as well as inadequate storm drainage systems.

A weather pattern called the "Atmospheric River" contributes to the flooding potential of the area. An Atmospheric River brings warm air and rain to West. A relatively common weather pattern brings southwest winds to the Pacific Northwest or California, along with warm, moist air. The moisture sometimes produces many days of heavy rain, which can cause extensive flooding. The warm air also can melt the snow pack in the mountains, which further aggravates the flooding potential. In the colder parts of the year, the warm air can be cooled enough to produce heavy, upslope snow as it rises into the higher elevations of the Sierra Nevada or Cascades. Forecasters and others on the West Coast often used to refer to this warm, moist air as the "Pineapple Express" because it comes from around Hawaii where pineapples are grown.

Levee Failure
Levee failure flooding can occur as the result of partial or complete collapse or underseepage of an impoundment, and often results from prolonged rainfall and flooding. The primary danger associated with dam or levee failure is the high velocity flooding of those properties downstream of the breach.

A levee failure can range from a small, uncontrolled release to a catastrophic failure. Vulnerability to levee failures is generally confined to the areas subject to inundation downstream of the facility. Secondary losses would include loss of the multi-use functions of the facility and associated revenues that accompany those functions.

Approximately 150 years ago, the levees of the Sacramento-San Joaquin Delta were raised to prevent flooding on what remains some of the most fertile farmland in the nation. While the peat soils were excellent for agriculture, they were not the best choice to create strong foundations for

levee barriers meant to contain a constant flow of river water. Nevertheless, it was these native soils that were primarily used to create the levee system.

Levee failure flooding would vary in the County depending on which structure fails and the nature and extent of the failure and associated flooding. This flooding presents a threat to life and property, including buildings, their contents, and their use. Large flood events can affect lifeline utilities (e.g., water, sewerage, and power), transportation, jobs, tourism, the environment, agricultural industry, and the local and regional economies.

Lands within the Levee Flood Protection Zones may be subject to flooding due to various factors, including the failure or overtopping of project or non-project levees, flows that exceed the design capacity of project or non-project levees, and flows from water sources not specifically protected against by project levees. Project levees are part of the Federal Flood Control Project and are built to higher standards that comply with U.S. Army Corps of Engineers guidelines. Lands not mapped within a Levee Flood Protection Zone are not invulnerable to flood risk, and some may also experience flooding from these or other related events.

Reclamation District 2035 – Conaway Tract comprises 12.1 miles of levee. The District is responsible for the levee maintenance and drainage services for approximately 20,500 acres of privately owned agricultural land. The Tract is located adjacent to the Yolo Bypass on the east and receives some inflow from the Cache Creek Settling Basin (CCSB) on the north. The District works in partnership with the City of Woodland to address flood issues that could impact the periphery of the City of Woodland. A breach on the northern segments of the Tract (north of County Road 25) may encroach on the east end of the City of Woodland, but is not expected to have severe impacts west of County Road 102. Floodwaters will generally flow south east and may begin to expand and backup against the southern Bypass levees near the junction with County Road 29.

Between 2011 and 2015, the DWR evaluated the West Levee of the Yolo Bypass as part of its Urban Levee Evaluation (ULE) and Non-Urban Levee Evaluation (NULE) Programs. These evaluations documented that the levee has seepage, slope stability and other deficiencies. Without remediation, the levee does not meet current USACE and DWR levee standards. A breach of the Yolo Bypass West Levee during a 200-year event would result in the floodplain depicted on the map in this document. Industrial and commercial properties (including the Walgreens Distribution Center, La Tourangelle, and Hewitt Packard) would be inundated at shallow depths. City of Woodland infrastructure, including the East Main Pump Station, South Canal Pump Station, Water Pollution Control Facility (WPCF), and East Regional Pond would also be inundated. Many of these facilities provide flood protection against interior flooding.

While a breach of the West Bypass Levee would not directly threaten the City of Davis, the City of Davis Wastewater Treatment Plant is particularly vulnerable. The plant is located less than a mile from the levee and is currently not protected by a berm, as the City of Woodland Wastewater Treatment Plant is. Inundation of the City of Davis Wastewater Treatment Plant would result in the loss of wastewater services for the City of Davis for several weeks.

B.4. & C.2. PARTICPATION IN THE NATIONAL FLOOD INSURANCE PROGRAM

Yolo County has participated in the National Flood Insurance Program (NFIP) since December 16, 1980 but there are no National Flood Insurance Program insured structures within RD 2035 that are managed by the District.

To address participation and continued compliance with the NFIP the participating jurisdictions in the Yolo County HMP will continue to enforce and adopt floodplain management requirements, regulate new construction in special flood hazard areas, update maps for better identification of floodplains and floodplain management programs and activities.

C.1.a. & C.1.b. EXISTING AUTHORITIES, POLICIES, PROGRAMS, AND RESOURCES

A number of federal, state and local regulations and policies form the legal framework to implement Yolo County's and its participating jurisdictions hazard mitigation goals and projects.

Federal Laws

- "The Federal Civil Defense Act of 1950"
- Public Law 96-342 "The Improved Civil Defense Act of 1980"
- Public Law 91-606 "Disaster Relief Act"
- Public Law 93-288 "The Robert T. Stafford Disaster Relief Act of 1974"
- Section 322, Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act
- Public Law 106-390 enacted by Section 104 of the Disaster Mitigation Act of 2000 (DMA)
- Interim Final Rule for DMA 2002 as published in the February 26,2002, at 44 CFR Part 201

State Laws & Plans

California Government Code, Section 3100, Title 1, Division 4, Chapter 4.
States those public employees are disaster service workers, subject to such disaster service activities as may be assigned to them by their superiors or by law. The term "public employees" includes all persons employed by the state or any county, city, city and county, state agency or public district, excluding aliens legally employed.
The law applies when:

- A local emergency has been proclaimed.
- A state of emergency has been proclaimed.
- A federal disaster declaration has been made.

This Section: Provides the basic authorities for conducting emergency operations following a proclamation of *Local Emergency*, *State of Emergency*, or *State of War Emergency*, by the Governor and/or appropriate local authorities, consistent with the provisions of this Act.

The California Emergency Plan - Revised

Promulgated by the Governor, and published in accordance with the Emergency Services Act, the Plan provides overall statewide authorities and responsibilities, and describes the functions and operations of government at all levels during extraordinary emergencies, including wartime. Section 8568 of the Act states, in part, that "...the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof." Local emergency plans are, therefore, considered to be extensions of the California Emergency Plan.

California Civil Code, Chapter 9, Section 1799.102

This section of the California Civil Code provides for "Good Samaritan Liability" for those providing emergency care at the scene of an emergency. Specifically: "No person, who, in good faith and not for compensation, renders emergency care at the scene of an emergency, shall be liable for any civil

damages resulting from any act or omission. The scene of an emergency shall not include emergency departments and other places where medical care is usually offered."

Operational Area Governmental Authorities - Local Codes and Ordinances
Local and tribal government codes, ordinances, and executive policies are identified within individual community information profiles. Reclamation Districts are covered under Division 15 of the California Water Code.

The County CAO and jurisdictional City Managers noted in this document serve as the Directors of Emergency Services for their respective areas by law, ordinance and Municipal Code. The Board of Supervisors, City Councils, Tribal Council or Special District Board of Directors serve as the administering agency and the promulgation authority for all plans, policies and procedures within Yolo County and its member jurisdictions. The county and participating jurisdictions recognizes the enhanced Hazard Mitigation Plan of the State of California, the California Emergency Services Act, and the appropriate Federal Regulations including 44 CFR 201. Yolo County is subject to the State of California Uniformed Building Code (UBC), which dictates standards on all current and future construction within Yolo County.

In support of expanding on and improving their existing policies and programs, Yolo County and each of its participating jurisdictions will continue to review and assess local hazard mitigation needs and capacities in conjunction with this plan and other supporting documents and information. RD 2035 will work with the Yolo County HMP Steering Committee to identify new hazard mitigation strategies to be pursued on an operational area and local basis, and to review the progress and implementation of those policies and programs already identified. Yolo County and each of its participating jurisdictions will continue to process supplemental and supporting hazard mitigation reference information and guidance as released by the state and/or FEMA in support of its hazard mitigation goals and objectives.

C.6.a., C6.b., & C6.c. REVIEW and INCORPORATION of EXISTING PLANS

Yolo County planning efforts are supportive of each other. Information from the Yolo County HMP is incorporated into and used to support the Yolo County General Plan, Yolo County Climate Action Plan, Yolo County Emergency Operations Plan, and the continuity plans for each County and jurisdictional department. Many of these planning efforts incorporate all Yolo County jurisdictions and special districts (i.e. flood response plans for each city and Reclamation District with their input). Yolo County provides emergency planning services to all four cities in Yolo County, the Yocha Dehe Wintun Nation, and the Housing Authority of Yolo County; information from the HMP (including the risk assessment) is incorporated into each of their Emergency Operations Plans and accompanying annexes as well as their continuity plans. Information from several of these plans were used to support the Yolo County HMP as well.

State Hazard Mitigation Plan (SHMP) - 2018
The State Hazard Mitigation Plan (SHMP) identifies policy, establishes goals, and stipulates actions associated with the implementation of enhanced hazard mitigation strategies for California. The SHMP is foundational for local government hazard mitigation planning efforts, and provides inter-organizational guidance and direction based upon established state agency actions and principles.

Yolo County Operational Area Governmental Plans
The Yolo County HMP will be used to focus project prioritization. Mitigation projects will be considered for funding through federal and state grant programs, and when other funds are made available through the County and or federal government. The Yolo County OES will be the

coordinating agency for project implementation. Individual jurisdictions have the capacity to organize resources, prepare grant applications, and oversee project implementation, monitoring, and evaluation. Coordinating organizations may include local, county, or regional agencies that are capable of, or responsible for, implementing activities and programs. Yolo County OES will be responsible for mitigation project administration with Yolo County and will assist each submitting jurisdiction named in this plan with their mitigation project administration.

2030 General Plan
The 2030 General Plan provides comprehensive and long-term policies for the physical development of the county and is often referred to as "the constitution" for local government. This is only the third time in the county's history that the General Plan has been comprehensively updated, and the first time since 1983. While the fundamental goals of promoting agriculture, enhancing open space, and creating sustainable communities are the same as they have been over the past 50 years, the circumstances facing the county have changed. Issues such as the global economy, climate change, and the role of local government create new challenges to maintaining the county's historic vision. The 2030 General Plan charts a course for the county over the next twenty years that will achieve its goals and address these concerns. The General Plan separates action items that will implement the variety of programs needed to realize the county's vision, this plan works in coordination with the 2012 revision of the Operational Area Multi-jurisdictional Hazard Mitigation Plan.

Climate Change Action Plan
The Climate Action Plan represents a significant milestone for Yolo County, which has a long history of being in the forefront of the green movement with land use policies that emphasize growth management, open space preservation and agricultural protection. In 1982, Yolo County adopted an Energy Plan, which was one of the first of its kind. In 1985, the county landfill completed a gas-to-energy facility, which generates 20,000 kilowatt hours per year and captures 90% of methane emissions.

In 2007, Yolo County became one of 12 charter members from throughout the country to sponsor the Cool Counties Initiative, which pledges each county collectively to reduce greenhouse gas emissions by 80% by 2050. That same year, the county organized local cities, special districts and UC Davis to form the Yolo County Climate Change Compact, providing an ongoing forum for exchanging information on how best to analyze and address greenhouse gas emissions.

In 2009, Yolo County adopted its 2030 General Plan, which contains more than 350 policies that deal with climate change, including the requirement to develop a Climate Action Plan. In addition to implementing General Plan policy, the Climate Action Plan also fulfills the requirements of state legislation, including Assembly Bill 32, Senate Bills 97 and 375, and Executive Order S-3-05.

The Climate Action Plan estimates that in 2008, the unincorporated area (excluding UC Davis, the Yocha Dehe Wintun Nation and special districts) produced 651,470 metric tons of carbon dioxide equivalents, or greenhouse gasses. Approximately 48% of those emissions are created by agriculture. Transportation and energy account for an additional 47%, with the remainder made up by such sectors as the landfill, wastewater treatment, construction, mining and stationary sources.

A target is established in the Climate Action Plan to reduce the 2008 emissions back to the levels estimated for 1990, or 613,651 metric tons. To achieve this target, 15 programs are proposed, including such measures as increasing renewable energy production, enhancing energy and water

conservation, expanding alternative transportation, planting trees and reducing fertilizer application. In order to meet the reductions envisioned in the Cool Counties Initiative and state legislation, the Climate Action Plan also includes voluntary goals to reduce greenhouse emissions to 447,965 metric tons by 2030, and 122,730 metric tons by 2050.

C.4.a., C.5.b., & D.2 PROJECT LIST

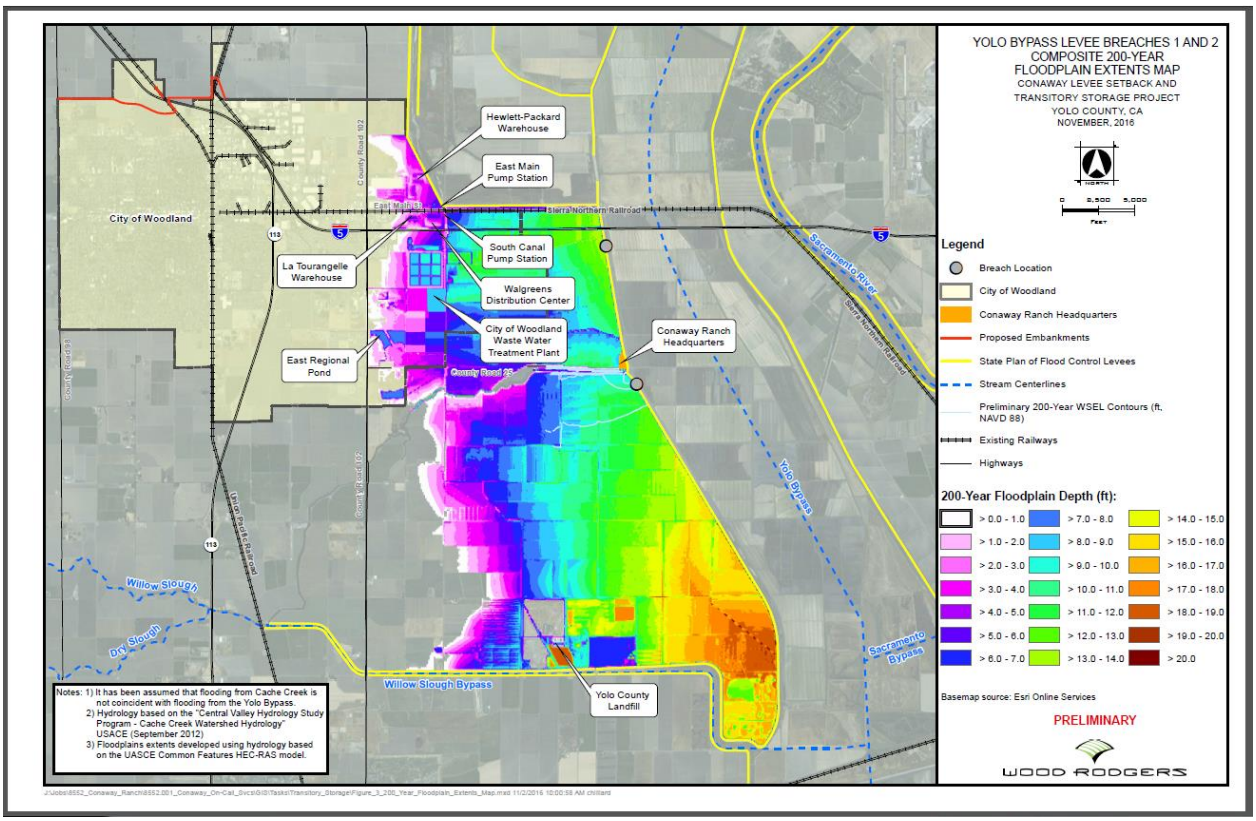
The Yolo County HMP was revised to reflect progress in local mitigation efforts. Mitigation projects were selected for each hazard and for each jurisdiction based off the hazard risk assessment. The projects are supported by the mitigation goals and objectives, and are ranked using the following criteria; approximate cost, timeframe of completion, whether the project requires Board of Supervisors regulatory action, and an assumption as to whether or not the project would be subject to CEQA or NEPA requirements. Funding sources are identified for all projects. All projects consider new, future, and existing development.

A cost benefit review process will be completed for each project that will be submitted during a given fiscal year. The general priorities of the cost benefit risk analysis will focus on projects that are lifesaving, life safety, property protection and lastly environmental protection. A ratio of at least two dollars of benefit for each dollar invested will be considered the minimum cost benefit ratio for any projects submitted within Yolo County and its participating jurisdictions.

Full descriptions of each mitigation project are found in the table below.

MITIGATION PROJECTS					
Mitigation Project	**Jurisdiction/ Responsible Agency**	**New/ Existing or Completed/ Deleted**	**Estimated Cost and Potential Funding Source**	**Timeframe of Completion**	**Comments/ Progress**
FLOODING/LEVEE FAILURE					
Hardening of Cross Levee	Yolo County (RD 2035)	NEW (2017)	$250,000 PDM, HMGP	2018	Ongoing
Siphon Upgrade	Yolo County (RD2035)	NEW (2017)	$177,000 PDM, HMGP	2018	Ongoing

MAP


YOLO BYPASS LEVEE BREACHES 1 AND 2
COMPOSITE 200-YEAR
FLOODPLAIN EXTENTS MAP
CONAWAY LEVEE SETBACK AND
TRANSITORY STORAGE PROJECT
YOLO COUNTY, CA
NOVEMBER, 2016
Hewlett-Packard Warehouse
East Main Pump Station
South Canal Pump Station
Walgreens Distribution Center
City of Woodland Waste Water Treatment Plant
East Regional Pond
La Tourangelle Warehouse
Conaway Ranch Headquarters
Yolo County Landfill
City of Woodland
East Main St
Sierra Northern Railroad
County Road 102
County Road 98
County Road 25A
Willow Slough
Dry Slough
Willow Slough Bypass
Yolo Bypass
Sacramento Bypass
Sacramento River
Legend
Breach Location
City of Woodland
Conaway Ranch Headquarters
Proposed Embankments
State Plan of Flood Control Levees
Stream Centerlines
Preliminary 200-Year WSEL Contours (ft, NAVD 88)
Existing Railways
Highways
200-Year Floodplain Depth (ft):
> 0.0 - 1.0
> 1.0 - 2.0
> 2.0 - 3.0
> 3.0 - 4.0
> 4.0 - 5.0
> 5.0 - 6.0
> 6.0 - 7.0
> 7.0 - 8.0
> 8.0 - 9.0
> 9.0 - 10.0
> 10.0 - 11.0
> 11.0 - 12.0
> 12.0 - 13.0
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> 15.0 - 16.0
> 16.0 - 17.0
> 17.0 - 18.0
> 18.0 - 19.0
> 19.0 - 20.0
> 20.0
Basemap source: Esri Online Services
PRELIMINARY
WOOD RODGERS
Notes: 1) It has been assumed that flooding from Cache Creek is not coincident with flooding from the Yolo Bypass.
2) Hydrology based on the "Central Valley Hydrology Study Program - Cache Creek Watershed Hydrology" USACE (September 2012)
3) Floodplains extents developed using hydrology based on the UASCE Common Features HEC-RAS model.

RESOLUTION No. 22
A RESOLUTION OF THE RECLAMATION DISTR ICT 2035
ADOPTING THE YOLO COUNTY OPERATIONAL AREA 2018 MULTI- JURISDICTION
HAZARD MITIGATION PLAN

WHEREAS, the Federal Disaster Mitigation Act of 2000 (OMA 2000) requires all jurisdictions to be covered by a Pre-Disaster All Hazards Mitigation Plan in order to be eligible for Federal Emergency Management Agency pre- and post-disaster mitigation grants and funding; and

WHEREAS, the RD 2035 recognizes that no jurisdiction is immune from natural, technological or human-caused hazards, and recognizes the importance of enhancing its ability to withstand hazards as well as the importance of reducing human suffering, property damage, interruption of public services and economic losses caused by those hazards; and

WHEREAS, RD 2035 staff participated in a collaborative effort, led by the County of Yolo, involving various local and tribal government jurisdictions , public authorities, special districts and selected community-based organizations; and

WHEREAS, the Yolo County Operational Area 2018 Multi-Jurisdiction Hazard Mitigation Plan focuses on the potential impacts from natural, technological and human-caused hazards and disasters, and includes an assessment of these hazards, a plan to mitigate them and methods of monitoring, evaluating and updating the plan at least once every five years.

NOW, THEREFORE, BE IT RESOLVED that the Board of Trustees of the RD 2035 hereby adopts the Yolo County Operational Area 2018 Multi-Jurisdiction Hazard Mitigation Plan, incorporated herein by reference.

PASSED AND ADOPTED by the Board of Trustees of the RD 2035 this 20th day of, Sept 2018, by the following vote:

AYES: 2

NOES: 0

ABSENT: 1

ATTEST: Marie Holland
Reclamation District 2035 clerk

Yolo County Flood Control & Water Conservation District

Special District Profile Information

Addendum to the 2018 Yolo County Operational Area Multi-Jurisdictional Hazard Mitigation Plan

December 2018

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A1.b. & A1.c. PARTICIPATION IN THE HAZARD MITIGATION PLAN

The jurisdictions participating in the Yolo County Hazard Mitigation Plan include:

County of Yolo
David M. Block, OES Emergency Services Planner, Office of Emergency Services, County of Yolo

City of Davis
Daryl C. Arbuthnott, Fire Chief, Fire Department, City of Davis

City of West Sacramento
Bryan Jonson, Fire Marshal, Fire Department, City of West Sacramento

City of Winters
Dan McGuire, Executive Assistant, City Manager's Office, City of Winters

City of Woodland
Becky Ramirez, Fire Chief, Woodland Fire Department, City of Woodland

Yocha Dehe Wintun Nation
Gary Fredericksen, Fire Chief, Yocha Dehe Fire Department, Yocha Dehe Wintun Nation

Housing Authority of Yolo County
Janis Holt, General Managing Director, Housing Authority of Yolo County

Reclamation District 108 (including Sacramento West Side Levee District and Knights Landing Ridge Drainage District)
Meegan Nagy, Deputy Manager, RD 108

Reclamation District 900
Kenric Jameson, District Manager, RD 900

Reclamation District 2035
Mike Hall, CPG Farm Manager, RD 2035

Yolo County Flood Control & Water Conservation District
Kristin Sicke, Assistant General Manager, YCFCWCD

For those Special Districts that were unable to physically be present at meetings, the Yolo County Office of Emergency Services talked with each of them throughout the planning process on their mitigation strategies. They provided information directly to help build and update their respective profiles.

B1.a. & B3.b. HAZARD DESCRIPTION and VULNERABILITY

The Yolo County Flood Control & Water Conservation District (YCFCWCD) identified hazards that affect District based upon the countywide risk assessment, past events and their impacts. Definitions for the rankings and a detailed explanation of the hazards can be found in Element B: Hazard Identification and Risk Assessment of the Yolo County MHMP Base Plan.

YCFCWCD—Hazard Profiles

Hazard	Probability of Occurrence	Geographic Extent & Potential Magnitude
Dam Failure	Unlikely	Catastrophic
Flood	Likely	Catastrophic
Levee Failure	Unlikely	Catastrophic
Wildfire	Likely	Critical
Drought	Likely	Critical

Dam Failure

Dams are manmade structures built for a variety of uses including flood protection, power generation, agriculture, water supply, and recreation. When dams are constructed for flood protection, they are usually engineered to withstand a flood with a computed risk of occurrence. For example, a dam may be designed to contain a flood at a location on a stream that has a certain probability of occurring in any one year. If prolonged periods of rainfall and flooding occur that exceed the design requirements, that structure may be overtopped and fail. Overtopping is the primary cause of earthen dam failure in the United States.

Dam failure is the uncontrolled release of impounded water from behind a dam. Flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation, poor construction, vandalism, and terrorism can all cause a dam to fail. Dam failure causes downstream flooding that can affect life and property. Dam failures can result from any one or a combination of the following causes:

Earthquake
Inadequate spillway capacity resulting in excess overtopping flows
Internal erosion caused by embankment or foundation leakage, or piping or rodent activity
Improper design
Improper maintenance
Negligent operation
Failure of upstream dams on the same waterway

Water released by a failed dam generates tremendous energy and can cause a flood that is catastrophic to life and property. A catastrophic dam failure could challenge local response capabilities and require evacuations to save lives. Impacts to life safety will depend on the warning time and the resources available to notify and evacuate the public. Major loss of life could result as well as potentially catastrophic effects to roads, bridges, and homes. Electric generating facilities and transmission lines could also be damaged and affect life support systems in communities outside the immediate hazard area. Associated water supply, water quality and health concerns could also be an issue. Factors that influence the potential severity of a full or partial dam failure

are the amount of water impounded; the density, type, and value of development and infrastructure located downstream; and the speed of failure.

In general, there are three types of dams: concrete arch or hydraulic fill, earth and rockfill, and concrete gravity. Each type of dam has different failure characteristics. A concrete arch or hydraulic fill dam can fail almost instantaneously; the flood wave builds up rapidly to a peak then gradually declines. An earth-rockfill dam fails gradually due to erosion of the breach; a flood wave will build gradually to a peak and then decline until the reservoir is empty. And, a concrete gravity dam can fail instantaneously or gradually with a corresponding buildup and decline of the flood wave.

The California Department of Water Resources (DWR) Division of Safety of Dams (DSOD) has jurisdiction over impoundments that meet certain capacity and height criteria. Embankments that are less than six feet high and impoundments that can store less than 15 acre-feet are non-jurisdictional. Additionally, dams that are less than 25 feet high can impound up to 50 acre-feet without being jurisdictional. The Cal DWR DSOD assigns hazard ratings to large dams within the State. The following two factors are considered when assigning hazard ratings: existing land use and land use controls (zoning) downstream of the dam. Dams are classified in three categories that identify the potential hazard to life and property:

High hazard indicates that a failure would most probably result in the loss of life

Significant hazard indicates that a failure could result in appreciable property damage

Low hazard indicates that failure would result in only minimal property damage and loss of life is unlikely

Since 1929, the state has supervised all non-federal dams in California to prevent failure for the purpose of safeguarding life and protecting property. Supervision is carried out through the state's Dam Safety Program under the jurisdiction of DWR. The legislation requiring state supervision was passed in response to the St. Francis Dam failure and concerns about the potential risks to the general populace from a number of water storage dams. The law requires:

Examination and approval or repair of dams completed prior to August 14, 1929, the effective date of the statute.

Approval of plans and specifications for and supervision of construction of new dams and the enlargement, alteration, repair, or removal of existing dams.

Supervision of maintenance and operation of all dams under the state's jurisdiction.

The 1963 failure of the Baldwin Hills Dam in Southern California led the Legislature to amend the California Water Code to include within state jurisdiction both new and existing off-stream storage facilities.

Dams and reservoirs subject to state supervision are defined in California Water Code §6002 through §6004, with exemptions defined in §6004 and §6025. In administering the Dam Safety Program, DWR must comply with the provisions of the California Environmental Quality Act

(CEQA). As such, all formal dam approval and revocation actions must be preceded by appropriate environmental documentation.

In 1972, Congress moved to reduce the hazards from the 28,000 non-federal dams in the country by passing Public Law 92-367, the National Dam Inspection Act. With the passage of this law, Congress authorized the U.S. Army Corps of Engineers (USACE) to inventory dams located in the United States. The action was spurred by two disastrous earthen dam failures during the year, in West Virginia and South Dakota that caused a total of 300 deaths.

The Water Resources Development Act of 1986 (P.L 99-662) authorized USACE to maintain and periodically publish an updated National Inventory of Dams (NID). The Water Resources Development Act of 1996 (P.L. 104-303), Section 215, re-authorized periodic updates of the NID by USACE.

Flooding

Flooding is the rising and overflowing of a body of water onto normally dry land. History clearly highlights floods as the most frequent natural hazard impacting Yolo County. Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes, and utilities as well as life safety issues. Floodwaters can transport large objects downstream, which can damage or remove stationary structures. Ground saturation can result in instability, collapse, or other damage. Objects can also be buried or destroyed through sediment deposition. Floodwaters can also break utilities lines and interrupt services. Standing water can cause damage to crops, roads, foundations, and electrical circuits. Certain health hazards are also common to flood events. Standing water can also cause septic tank failure and well contamination. Standing water and wet structures can become breeding grounds for microorganisms such as bacteria, mold, and viruses. This can cause disease, trigger allergic reactions, and damage materials long after the flood. When floodwaters contain sewage or decaying animal carcasses, infections become a concern. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Where flooding occurs in populated areas, warning and evacuation will be of critical importance to reduce life and safety impacts from any type of flooding.

Certain health hazards are also common to flood events. While such problems are often not reported, three general types of health hazards accompany floods. The first comes from the water itself. Floodwaters carry anything that was on the ground that the upstream runoff picked up, including dirt, oil, animal waste, and lawn, farm and industrial chemicals. Pastures and areas where cattle and other livestock are kept, or their wastes are stored can contribute polluted waters to the receiving streams. Floodwaters also saturate the ground, which leads to infiltration into sanitary sewer lines. When wastewater treatment plants are flooded, there is nowhere for the sewage to flow. Infiltration and lack of treatment can lead to overloaded sewer lines that can back up into low-lying areas and homes. Even when it is diluted by flood waters, raw sewage can be a breeding ground for bacteria such as e. coli and other disease-causing agents.

The area adjacent to a channel is the floodplain. Floodplains are illustrated on inundation maps, which show areas of potential flooding and water depths. In its common usage, the floodplain most often refers to that area that is inundated by the 100-year flood, the flood that has a one percent chance in any given year of being equaled or exceeded. The 100-year flood is the national minimum standard to which communities regulate their floodplains through the National Flood Insurance

Program. The 200-year flood is one that has 0.5% chance of being equaled or exceeded each year. The 500-year flood is the flood that has a 0.2 percent chance of being equaled or exceeded in any given year. The potential for flooding can change and increase through various land use changes and changes to land surface, which result in a change to the floodplain. A change in environment can create localized flooding problems inside and outside of natural floodplains by altering or confining natural drainage channels. These changes are most often created by human activity.

Yolo County and its Water Conservation Districts are susceptible to various types of flood events:

Riverine flooding – Riverine flooding, defined as when a watercourse exceeds its "bank-full" capacity, generally occurs as a result of prolonged rainfall, or rainfall that is combined with snowmelt and/or already saturated soils from previous rain events. This type of flood occurs in river systems whose tributaries may drain large geographic areas and include one or more independent river basins. The onset and duration of riverine floods may vary from a few hours to many days and is often characterized by high peak flows combined with a large volume of runoff. Factors that directly affect the amount of flood runoff include precipitation amount, intensity and distribution, the amount of soil moisture, seasonal variation in vegetation, snow depth, and water-resistance of the surface due to urbanization. In Yolo County, riverine flooding can occur anytime from November through April and is largely caused by heavy and continued rains, sometimes combined with snowmelt, increased outflows from upstream dams, and heavy flow from tributary streams. These intense storms can overwhelm the local waterways as well as the integrity of flood control structures. Flooding is more severe when antecedent rainfall has resulted in saturated ground conditions. The warning time associated with slow rise riverine floods assists in life and property protection

Flash flooding – Flash flooding describes localized floods of great volume and short duration. This type of flood usually results from a heavy rainfall on a relatively small drainage area. Precipitation of this sort usually occurs in the winter and spring. Flash floods often require immediate evacuation within the hour and thus early threat identification and warning is critical for saving lives.

Localized/Stormwater flooding – Localized flooding problems are often caused by flash flooding, severe weather, or an unusual amount of rainfall. Flooding from these intense weather events usually occurs in areas experiencing an increase in runoff from impervious surfaces associated with development and urbanization as well as inadequate storm drainage systems.

A weather pattern called the "Atmospheric River" contributes to the flooding potential of the area. An Atmospheric River brings warm air and rain to West. A relatively common weather pattern brings southwest winds to the Pacific Northwest or California, along with warm, moist air. The moisture sometimes produces many days of heavy rain, which can cause extensive flooding. The warm air also can melt the snow pack in the mountains, which further aggravates the flooding potential. In the colder parts of the year, the warm air can be cooled enough to produce heavy, upslope snow as it rises into the higher elevations of the Sierra Nevada or Cascades. Forecasters and others on the West Coast often used to refer to this warm, moist air as the "Pineapple Express" because it comes from around Hawaii where pineapples are grown.

YCFCWCD's 160 miles of canals can become damaged in flooding events from farm fields draining into canals, canals overtopping, and sediment and debris deposits accumulating and attenuating through the canal system. In February and March 2017, YCFCWCD's canal systems sustained significant damage to canal banks, culverts, and conveyance infrastructure. Additionally, in the 2017 storm events, a tree jammed into the Capay Diversion Dam apron and north bank of Cache

Creek just downstream of the Dam eroded significantly threatening YCFCWCD's West Adams Canal (the north diversion off the Dam that delivers a third of the District's surface water supplies to farmers). The financial impact of large storm events continues to challenge YCFCWCD's economic sustainability.

Levee Failure

Levee failure flooding can occur as the result of partial or complete collapse or underseepage of an impoundment, and often results from prolonged rainfall and flooding. The primary danger associated with dam or levee failure is the high velocity flooding of those properties downstream of the breach.

A levee failure can range from a small, uncontrolled release to a catastrophic failure. Vulnerability to levee failures is generally confined to the areas subject to inundation downstream of the facility. Secondary losses would include loss of the multi-use functions of the facility and associated revenues that accompany those functions.

Approximately 150 years ago, the levees of the Sacramento-San Joaquin Delta were raised to prevent flooding on what remains some of the most fertile farmland in the nation. While the peat soils were excellent for agriculture, they were not the best choice to create strong foundations for levee barriers meant to contain a constant flow of river water. Nevertheless, it was these native soils that were primarily used to create the levee system.

Levee failure flooding would vary in the County depending on which structure fails and the nature and extent of the failure and associated flooding. This flooding presents a threat to life and property, including buildings, their contents, and their use. Large flood events can affect lifeline utilities (e.g., water, sewerage, and power), transportation, jobs, tourism, the environment, agricultural industry, and the local and regional economies.

Lands within the Levee Flood Protection Zones may be subject to flooding due to various factors, including the failure or overtopping of project or non-project levees, flows that exceed the design capacity of project or non-project levees, and flows from water sources not specifically protected against by project levees. Project levees are part of the Federal Flood Control Project and are built to higher standards that comply with U.S. Army Corps of Engineers guidelines. Lands not mapped within a Levee Flood Protection Zone are not invulnerable to flood risk, and some may also experience flooding from these or other related events.

As discovered in the March and April 2017 storm events, YCFCWCD's West Adams Canal is vulnerable to high flow events in Cache Creek. Bank erosion can threaten the West Adams Canal road and the Canal directly. Road access to the headworks of the West Adams Canal is important because the Canal is responsible for conveying a third of YCFCWCD's surface water flows to agricultural users. Creek erosion can encroach on the Canal road and cause a safety issue for YCFCWCD staff. Additionally, levees along Cache Creek that provide protection to agricultural users and residential property is of importance to YCFCWCD and the community at large.

Wildfire

A wildfire is a fire that occurs in an area of combustible vegetation. The three conditions necessary for a wildfire to burn are fuel, heat, and oxygen. Fuel is any flammable material that can burn, including vegetation, structures, and cars. The more fuel that exists and the drier that fuel is, the more intense the fire can be. Wildfires can be started naturally through lighting or combustion or can be set by humans. There are many sources of human-caused wildfires including arson, power

lines, a burning campfire, an idling vehicle, trains, and escaped controlled burns. On average, four out of five wildfires are started by humans. Uncontrolled wildfires fueled by wind and weather can burn acres of land and everything in their path in mere minutes and can reach speeds up to 15 miles per hour. On average, more than 100,000 wildfires burn 4 to 5 million acres of land in the United States every year. Although wildfires can occur in any state, they are most common in the Western states including California where heat, drought, and thunderstorms create perfect wildfire conditions.

Wildfires are of primary concern when they occur in the Wildland Urban Interface (WUI), which is defined as areas where homes are built near or among lands prone to wildfire. Most structures in the WUI are not destroyed from direct flame impingement, but from embers carried by wind. With continued growth in the WUI throughout California, wildfire risk will only increase.

The Indian Valley Dam and Cache Creek Dam infrastructure is highly susceptible to wildfire; YCFCWCD has had to replace its power poles numerous times due to damage from wildfire in Lake County. YCFCWCD has a hydroelectric facility at Indian Valley Dam, which relies on the power lines for controlling the outlet works and hydropower turbines and for transmission of power to PG&E's grid. Consistent power is important for daily operational changes at Indian Valley and Cache Creek Dams and for ensuring remote emergency operations can be performed.

Drought

A drought is a deficiency in precipitation over an extended period, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people. It is a normal recurrent feature of climate that occurs in virtually all climate zones, from very wet to very dry. Drought is a temporary aberration from normal climatic conditions and can thus vary significantly from one region to another. Droughts occur slowly, over a multi-year period, and it is often not obvious or easy to quantify when a drought begins and ends. Drought is a complex issue involving many factors—it occurs when a normal amount of moisture is not available to satisfy an area's usual water-consuming activities.

There are several types of drought which can often be defined regionally based on its effects:

- Meteorological drought is usually defined by a period of below average water supply, based on the degree of dryness (in comparison to normal or average) and the duration of the dry period. Drought onset generally occurs with a meteorological drought.
- Agricultural drought occurs when there is an inadequate water supply to meet the needs of the state's crops and other agricultural operations such as livestock. Agricultural drought links various characteristics of meteorological (or hydrological) drought to agricultural impacts, focusing on precipitation shortages, soil water deficits, reduced ground water or reservoir levels needed for irrigation.
- Hydrological drought is defined as deficiencies in surface and subsurface water supplies. It is generally measured as stream flow, snowpack, and as lake, reservoir, and groundwater levels. Hydrological drought usually occurs following periods of extended precipitation shortfalls.
- Socioeconomic drought occurs when a drought impacts health, well-being, and quality of life, or when a drought starts to have an adverse economic impact on a region.

In drought years, YCFCWCD cannot provide surface water supplies to the agricultural community of Yolo County; during drought years farmers must rely completely on groundwater supplies. The multi-year droughts can cause significant decline of groundwater levels and can ultimately result in

subsidence or sinking of the nearby land. YCFCWCD monitors 14 real-time groundwater wells to track groundwater levels and to better understand local patterns and correlations between drought and wet years in Yolo County. Droughts place a significant financial strain on YCFCWCD's economic sustainability and can affect YCFCWCD's ability to implement necessary maintenance and improvement projects for continued operations and surface water deliveries.

In Yolo County, the Yolo Subbasin Groundwater Agency (YSGA) is the Groundwater Sustainability Agency under the Sustainable Groundwater Management Act (SGMA). The YSGA is comprised of 24 members and was created to plan for and guarantee sustainable groundwater resources in the future. YCFCWCD is assisting the YSGA in developing a Yolo Subbasin Groundwater Sustainability Plan (GSP) to comply with the State's January 31, 2022 deadline. The Yolo Subbasin GSP will outline sustainability management criteria necessary for conjunctive management of water resources in Yolo County, and will list projects and management actions for YSGA and stakeholder's implementation to ensure drought resiliency.

B.4. & C.2. PARTICPATION IN THE NATIONAL FLOOD INSURANCE PROGRAM

Yolo County has participated in the National Flood Insurance Program (NFIP) since December 16, 1980 but there are no National Flood Insurance Program insured structures within YCFCWCD that are managed by the District.

To address participation and continued compliance with the NFIP the participating jurisdictions in the Yolo County HMP will continue to enforce and adopt floodplain management requirements, regulate new construction in special flood hazard areas, update maps for better identification of floodplains and floodplain management programs and activities.

C.1.a. & C.1.b. EXISTING AUTHORITIES, POLICIES, PROGRAMS, AND RESOURCES

A number of federal, state and local regulations and policies form the legal framework to implement Yolo County's and its participating jurisdictions hazard mitigation goals and projects.

Federal Laws

- "The Federal Civil Defense Act of 1950"
- Public Law 96-342 "The Improved Civil Defense Act of 1980"
- Public Law 91-606 "Disaster Relief Act"
- Public Law 93-288 "The Robert T. Stafford Disaster Relief Act of 1974"
- Section 322, Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act
- Public Law 106-390 enacted by Section 104 of the Disaster Mitigation Act of 2000 (DMA)
- Interim Final Rule for DMA 2002 as published in the February 26,2002, at 44 CFR Part 201

State Laws & Plans

California Government Code, Section 3100, Title 1, Division 4, Chapter 4.
States those public employees are disaster service workers, subject to such disaster service activities as may be assigned to them by their superiors or by law. The term "public employees" includes all persons employed by the state or any county, city, city and county, state agency or public district, excluding aliens legally employed.
The law applies when:

- A local emergency has been proclaimed.

- A state of emergency has been proclaimed.
- A federal disaster declaration has been made.

This Section: Provides the basic authorities for conducting emergency operations following a proclamation of *Local Emergency*, *State of Emergency*, or *State of War Emergency*, by the Governor and/or appropriate local authorities, consistent with the provisions of this Act.

The California Emergency Plan - Revised
Promulgated by the Governor, and published in accordance with the Emergency Services Act, the Plan provides overall statewide authorities and responsibilities, and describes the functions and operations of government at all levels during extraordinary emergencies, including wartime. Section 8568 of the Act states, in part, that "...the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof." Local emergency plans are, therefore, considered to be extensions of the California Emergency Plan.

California Civil Code, Chapter 9, Section 1799.102
This section of the California Civil Code provides for "Good Samaritan Liability" for those providing emergency care at the scene of an emergency. Specifically: "No person, who, in good faith and not for compensation, renders emergency care at the scene of an emergency, shall be liable for any civil damages resulting from any act or omission. The scene of an emergency shall not include emergency departments and other places where medical care is usually offered."

Operational Area Governmental Authorities - Local Codes and Ordinances
Local and tribal government codes, ordinances, and executive policies are identified within individual community information profiles. Reclamation Districts are covered under Division 15 of the California Water Code.

The County CAO and jurisdictional City Managers noted in this document serve as the Directors of Emergency Services for their respective areas by law, ordinance and Municipal Code. The Board of Supervisors, City Councils, Tribal Council or Special District Board of Directors serve as the administering agency and the promulgation authority for all plans, policies and procedures within Yolo County and its member jurisdictions. The county and participating jurisdictions recognizes the enhanced Hazard Mitigation Plan of the State of California, the California Emergency Services Act, and the appropriate Federal Regulations including 44 CFR 201. Yolo County is subject to the State of California Uniformed Building Code (UBC), which dictates standards on all current and future construction within Yolo County.

In support of expanding on and improving their existing policies and programs, Yolo County and each of its participating jurisdictions will continue to review and assess local hazard mitigation needs and capacities in conjunction with this plan and other supporting documents and information. YCFCWCD will work with the Yolo County HMP Steering Committee to identify new hazard mitigation strategies to be pursued on an operational area and local basis, and to review the progress and implementation of those policies and programs already identified. Yolo County and each of its participating jurisdictions will continue to process supplemental and supporting hazard mitigation reference information and guidance as released by the state and/or FEMA in support of its hazard mitigation goals and objectives.

C.6.a., C6.b., & C6.c. REVIEW and INCORPORATION of EXISTING PLANS

Yolo County planning efforts are supportive of each other. Information from the Yolo County HMP is incorporated into and used to support the Yolo County General Plan, Yolo County Climate Action Plan, Yolo County Emergency Operations Plan, and the continuity plans for each County and jurisdictional department. Many of these planning efforts incorporate all Yolo County jurisdictions and special districts (i.e. flood response plans for each city and Reclamation District with their input). Yolo County provides emergency planning services to all four cities in Yolo County, the Yocha Dehe Wintun Nation, and the Housing Authority of Yolo County; information from the HMP (including the risk assessment) is incorporated into each of their Emergency Operations Plans and accompanying annexes as well as their continuity plans. Information from several of these plans were used to support the Yolo County HMP as well.

State Hazard Mitigation Plan (SHMP) - 2018
The State Hazard Mitigation Plan (SHMP) identifies policy, establishes goals, and stipulates actions associated with the implementation of enhanced hazard mitigation strategies for California. The SHMP is foundational for local government hazard mitigation planning efforts, and provides inter-organizational guidance and direction based upon established state agency actions and principles.

Yolo County Operational Area Governmental Plans
The Yolo County HMP will be used to focus project prioritization. Mitigation projects will be considered for funding through federal and state grant programs, and when other funds are made available through the County and or federal government. The Yolo County OES will be the coordinating agency for project implementation. Individual jurisdictions have the capacity to organize resources, prepare grant applications, and oversee project implementation, monitoring, and evaluation. Coordinating organizations may include local, county, or regional agencies that are capable of, or responsible for, implementing activities and programs. Yolo County OES will be responsible for mitigation project administration with Yolo County and will assist each submitting jurisdiction named in this plan with their mitigation project administration.

2030 General Plan
The 2030 General Plan provides comprehensive and long-term policies for the physical development of the county and is often referred to as "the constitution" for local government. This is only the third time in the county's history that the General Plan has been comprehensively updated, and the first time since 1983. While the fundamental goals of promoting agriculture, enhancing open space, and creating sustainable communities are the same as they have been over the past 50 years, the circumstances facing the county have changed. Issues such as the global economy, climate change, and the role of local government create new challenges to maintaining the county's historic vision. The 2030 General Plan charts a course for the county over the next twenty years that will achieve its goals and address these concerns. The General Plan separates action items that will implement the variety of programs needed to realize the county's vision, this plan works in coordination with the 2012 revision of the Operational Area Multi-Jurisdictional Hazard Mitigation Plan.

Climate Change Action Plan
The Climate Action Plan represents a significant milestone for Yolo County, which has a long history of being in the forefront of the green movement with land use policies that emphasize growth management, open space preservation and agricultural protection. In 1982, Yolo County adopted an Energy Plan, which was one of the first of its kind. In 1985, the county landfill completed a gas-to-

energy facility, which generates 20,000 kilowatt hours per year and captures 90% of methane emissions.

In 2007, Yolo County became one of 12 charter members from throughout the country to sponsor the Cool Counties Initiative, which pledges each county collectively to reduce greenhouse gas emissions by 80% by 2050. That same year, the county organized local cities, special districts and UC Davis to form the Yolo County Climate Change Compact, providing an ongoing forum for exchanging information on how best to analyze and address greenhouse gas emissions.

In 2009, Yolo County adopted its 2030 General Plan, which contains more than 350 policies that deal with climate change, including the requirement to develop a Climate Action Plan. In addition to implementing General Plan policy, the Climate Action Plan also fulfills the requirements of state legislation, including Assembly Bill 32, Senate Bills 97 and 375, and Executive Order S-3-05.

The Climate Action Plan estimates that in 2008, the unincorporated area (excluding UC Davis, the Yocha Dehe Wintun Nation and special districts) produced 651,470 metric tons of carbon dioxide equivalents, or greenhouse gasses. Approximately 48% of those emissions are created by agriculture. Transportation and energy account for an additional 47%, with the remainder made up by such sectors as the landfill, wastewater treatment, construction, mining and stationary sources.

A target is established in the Climate Action Plan to reduce the 2008 emissions back to the levels estimated for 1990, or 613,651 metric tons. To achieve this target, 15 programs are proposed, including such measures as increasing renewable energy production, enhancing energy and water conservation, expanding alternative transportation, planting trees and reducing fertilizer application. In order to meet the reductions envisioned in the Cool Counties Initiative and state legislation, the Climate Action Plan also includes voluntary goals to reduce greenhouse emissions to 447,965 metric tons by 2030, and 122,730 metric tons by 2050.

C.4.a., C.5.b., & D.2 PROJECT LIST

The Yolo County HMP was revised to reflect progress in local mitigation efforts. Mitigation projects were selected for each hazard and for each jurisdiction based off the hazard risk assessment. The projects are supported by the mitigation goals and objectives, and are ranked using the following criteria; approximate cost, timeframe of completion, whether the project requires Board of Supervisors regulatory action, and an assumption as to whether or not the project would be subject to CEQA or NEPA requirements. Funding sources are identified for all projects. All projects consider new, future, and existing development.

A cost benefit review process will be completed for each project that will be submitted during a given fiscal year. The general priorities of the cost benefit risk analysis will focus on projects that are lifesaving, life safety, property protection and lastly environmental protection. A ratio of at least two dollars of benefit for each dollar invested will be considered the minimum cost benefit ratio for any projects submitted within Yolo County and its participating jurisdictions.

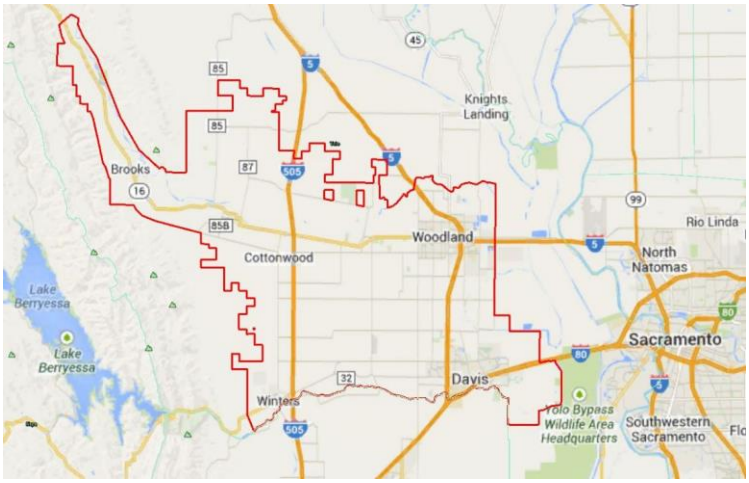
Full descriptions of each mitigation project are found in the table below.

MITIGATION PROJECTS					
Mitigation Project	**Jurisdiction/ Responsible Agency**	**New/ Existing or Completed/ Deleted**	**Estimated Cost and Potential Funding Source**	**Timeframe of Completion**	**Comments/ Progress**
DAM FAILURE					
Indian Valley Dam Upgrades	Yolo County / YCFCWCD	NEW (2017)	PDM, HMGP	Ongoing	Ongoing
Capay Valley Diversion Dam (West Adam and Winters Headworks) Upgrades	Yolo County / YCFCWCD	EXISTING (2018)	YCFCWCD Capital Job Funding	October 2018	Ongoing
FLOODING					
Forbes Ranch Regulating Pond*	Yolo County/ YCFCWCD	NEW (2018)	PDM, HMGP	Ongoing	Ongoing
North Winters Retention Pond*	Yolo County/ YCFCWCD/ City of Winters	NEW (2018)	PDM, HMGP	Ongoing	Ongoing
LEVEE FAILURE					
West Adams Canal Road and Cache Creek Bank Erosion Emergency Repair Project	Yolo County/ YCFCWCD	COMPLETED (2017)	$250,000 CDAA/FEMA Funding and YCFCWCD Capital Job Funding	June 2017	
WILDFIRE					
Indian Valley Dam Power Pole Upgrade	Yolo County / YCFCWCD	NEW (2018)	PDM, HMGP	Ongoing	Ongoing
DROUGHT					
Forbes Ranch Regulating Pond*	Yolo County/ YCFCWCD	NEW (2018)	PDM, HMGP	Ongoing	Ongoing
North Winters Retention Pond*	Yolo County/ YCFCWCD/ City of Winters	NEW (2018)	PDM, HMGP	Ongoing	Ongoing
*Multi-benefit project – assists with slowing storm flow conveyance and capturing water for recharge					

MAP

The YCFCWCD territory encompasses approximately 200,000 acres, nearly 40 percent of the valley lands in Yolo County, including the cities of Woodland, Davis and Winters, and the towns of Capay, Esparto, Madison and other small communities within the Capay Valley. The distribution system is

comprised of over 160 miles of canals and laterals. Three dams, Cache Creek Dam, Indian Valley Dam and the Capay Diversion Dam are managed by the District.



YOLO COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT

November 21, 2018

County of Yolo - Office of Emergency Services
David Block, Emergency Service Planner
625 Court Street, Room 202
Woodland, CA 95695

Re: YCFC&WCD Board of Directors' Adoption of Yolo Hazard Mitigation Plan

Mr. Block:

On November 6, 2018, the Yolo County Flood Control and Water Conservation District (District) Board of Directors' adopted the Yolo County Operational Area Multi-Jurisdictional Hazard Mitigation Plan (Yolo Hazard Mitigation Plan). The draft meeting minutes from the November 6, 2018 Board meeting will be available on the District's website on November 30, 2018 at the following link: http://www.ycfcwcd.org/agendas.html. The Board meeting minutes should be finalized by December 4, 2018; please let me know if you would like a copy of the final November 6, 2018 Board meeting minutes.

Thank you for the opportunity to participate in the Yolo Hazard Mitigation Plan.

Thank you,

Kristin Sicke
Assistant General Manager

Tim O'Halloran
General Manager

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