

*Sacramento County
2021 Multi-jurisdictional Local Hazard Mitigation Plan Update
July 2021 Public Review Draft*



Executive Summary

This 2021 Local Hazard Mitigation Plan (LHMP) Update serves to update the 2016 Federal Emergency Management Agency (FEMA) approved Sacramento County LHMP. The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards. Sacramento County, 7 incorporated communities, and 24 special districts prepared this LHMP Update to the FEMA approved 2016 Sacramento County LHMP, in order to make the County and its residents less vulnerable to future hazard events.

This LHMP Update demonstrates the community's commitment to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources. This LHMP Update was also developed, among other things, to ensure Sacramento County and participating jurisdictions' continued eligibility for certain federal disaster assistance: specifically, the FEMA Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation Program (PDM), and the Flood Mitigation Assistance Program (FMA).

Each year in the United States, natural disasters take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the true cost of disasters, because additional expenses to insurance companies and nongovernmental organizations are not reimbursed by tax dollars. Many natural disasters are predictable, and much of the damage caused by these events can be alleviated or even eliminated. The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards.

LHMP Plan Development Process

Hazard mitigation planning is the process through which hazards that threaten communities are identified, likely impacts determined, mitigation goals set, and appropriate mitigation strategies determined, prioritized, and implemented. This LHMP Update documents the hazard mitigation planning process and identifies relevant hazards and vulnerabilities and strategies the County will use to decrease vulnerability and increase resiliency and sustainability in the community.

This is a multi-jurisdictional plan with the following seeking approval of the plan by FEMA:

- City of Elk Grove*
- City of Folsom*
- City of Galt*
- City of Isleton*
- City of Rancho Cordova*
- City of Sacramento*
- American River Flood Control District
- Citrus Heights Water District
- Cosumnes Community Services District Fire*
- Los Rios Community College*
- Reclamation District 3*
- Reclamation District 341*

- Reclamation District 349
- Reclamation District 369*
- Reclamation District 551*
- Reclamation District 554*
- Reclamation District 556*
- Reclamation District 563*
- Reclamation District 800*
- Reclamation District 1000*
- Reclamation District 1002*
- Reclamation District 1601*
- Reclamation District 2111*
- Sacramento County Water Agency
- Sac Metro Fire
- Sacramento Regional County Sanitation District*
- Sacramento Area Sewer District*
- Southgate Recreation and Park District*
- Twin Rivers School District*

* Participated in 2016 Sacramento County LHMP

This LHMP Update was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations set forth by the Interim Final Rule published in the Federal Register on February 26, 2002, (44 CFR §201.6) and finalized on October 31, 2007. The County and all participating jurisdictions followed a planning process prescribed by FEMA as detailed in Table ES-1.

Table ES-1 Local Hazard Mitigation Planning Process

DMA Process	Modified CRS Process
1) Organize Resources	
201.6(c)(1)	1) Organize the Planning Effort
201.6(b)(1)	2) Involve the Public
201.6(b)(2) and (3)	3) Coordinate with Other Departments and Agencies
2) Assess Risks	
201.6(c)(2)(i)	4) Identify the Hazards
201.6(c)(2)(ii)	5) Assess the Risks
3) Develop the Mitigation Plan	
201.6(c)(3)(i)	6) Set Goals
201.6(c)(3)(ii)	7) Review Possible Activities
201.6(c)(3)(iii)	8) Draft an Action Plan
4) Implement the Plan and Monitor Progress	
201.6(c)(5)	9) Adopt the Plan
201.6(c)(4)	10) Implement, Evaluate, and Revise the Plan

The planning process began with the organizational phase to establish the Hazard Mitigation Planning Committee (HMPC) comprised of key County representatives, and other local and regional stakeholders; to involve the public; and to coordinate with other departments and agencies. A detailed risk assessment was then conducted followed by the development of a focused mitigation strategy by all participating jurisdictions or the Sacramento County Planning Area. Once approved by Cal OES and FEMA, this LHMP Update will be adopted and implemented by the County and all participating jurisdictions over the next five years.

Risk Assessment

The HMPC conducted a risk assessment that identified and profiled hazards that pose a risk to the County and participating jurisdictions, assessed the vulnerability of the Sacramento County Planning Area to these hazards, and examined the existing capabilities to mitigate them.

The Sacramento County Planning Area is vulnerable to numerous hazards that are identified, profiled, and analyzed in this Plan. Floods, earthquakes, drought, levee failures, landslides, wildfires, and other severe weather events are among the hazards that can have a significant impact on the County. Table ES-2 details the hazards identified for this Sacramento County LHMP Update.

Table ES-2 Sacramento County Hazard Identification Assessment

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/Severity	Significance	Climate Change Influence
Climate Change	Extensive	Likely	Limited	Medium	–
Dam Failure	Significant	Occasional	Catastrophic	High	Medium
Drought & Water Shortage	Extensive	Likely	Limited	Medium	High
Earthquake	Extensive	Occasional	Catastrophic	Medium	Low
Earthquake Liquefaction	Limited	Occasional	Critical	Medium	Low
Floods: 1%/0.2% annual chance	Significant	Likely	Catastrophic	High	Medium
Floods: Localized Stormwater	Extensive	Highly Likely	Limited	Medium	Medium
Landslides, Mudslides, and Debris Flow	Limited	Occasional	Limited	Low	Medium
Levee Failure	Extensive	Occasional	Critical	High	Medium
Pandemic	Extensive	Likely	Catastrophic	Medium	Medium
Severe Weather: Extreme Cold and Freeze	Extensive	Highly Likely	Limited	Medium	Medium
Severe Weather: Extreme Heat	Extensive	Highly Likely	Limited	Medium	High
Severe Weather: Heavy Rains and Storms	Extensive	Highly Likely	Limited	Medium	Medium
Severe Weather: Wind and Tornado	Extensive	Highly Likely	Limited	Medium	Low
Subsidence	Significant	Highly Likely	Limited	Medium	Medium
Volcano	Extensive	Unlikely	Negligible	Low	Low
Wildfire	Significant	Highly Likely	Critical	High	High
Geographic Extent		Magnitude/Severity			
Limited: Less than 10% of planning area		Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths			
Significant: 10-50% of planning area		Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability			
Extensive: 50-100% of planning area		Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability			
Likelihood of Future Occurrences		Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid			
Highly Likely: Near 100% chance of occurrence in next year, or happens every year.		Significance			
Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less.		Low: minimal potential impact			
Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.		Medium: moderate potential impact			
Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.		High: widespread potential impact			
		Climate Change Influence			
		Low: minimal potential impact			
		Medium: moderate potential impact			
		High: widespread potential impact			

Mitigation Strategy

Based on the results of the risk assessment, the participating jurisdictions and the HMPC developed a mitigation strategy for reducing the County's and all participating jurisdictions' risk and vulnerability to hazards. The resulting Mitigation Strategy for the Sacramento County Planning Area is comprised of LHMP goals and objectives and a mitigation action plan which includes a series of mitigation action projects and implementation measures. Based on the risk assessment, the HMPC identified goals and objectives for reducing the Sacramento County Planning Area's vulnerability to hazards. The goals and objectives of this multi-hazard mitigation plan are:

GOAL 1: Minimize risk and vulnerability of the Sacramento County community to the impacts of natural hazards, including consideration of the exacerbation of natural hazards and unique hazards due to climate change; and protect lives and reduce damages and losses to property, public health, economy, and the environment.

Goal 2: Provide protection for critical facilities, infrastructure, utilities, and services from hazard impacts, to include hardening and other efforts to establish redundancy and reliability, to prevent or minimize loss, and to facilitate recovery.

GOAL 3: Enhance public outreach, education, awareness, and preparedness for all hazards to minimize hazard related losses and to include effective strategies for reaching underserved communities and vulnerable populations.

GOAL 4: Increase community capabilities and leverage interagency and public-private coordination and resources to mitigate losses and to be prepared for, respond to, and recover from a disaster event.

GOAL 5: Assure conformance to federal and state hazard mitigation initiatives and maximize potential for mitigation implementation.

Actions to support these goals are shown on Table ES-3.

Table ES-3 Sacramento County Planning Area Mitigation Actions

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Sacramento County						
Multi-Hazard Actions						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	Unincorporated Sacramento County	2016 Action	X	X		Prevention
Action 2. Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	Unincorporated Sacramento County	2016 Action	X	X		Public Information
Action 3. County-wide Mass Care and Shelter Plan Update	Unincorporated Sacramento County	New Action	X	X		Emergency Services
Action 4. County-wide Evacuation Annex Update	Unincorporated Sacramento County	New Action	X	X		Emergency Services
Climate Change and Pandemic Actions						
Action 5. Implement and improve telecommuting and remote work access for County operations	Unincorporated Sacramento County	New Action	X	X		Prevention
Action 6. Implement the actions contained within the Sacramento County Climate Action/Adaptation Plan	Unincorporated Sacramento County	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection Public Information Emergency Services
Action 7. Develop and incentivize carbon sequestration plans and programs	Unincorporated Sacramento County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 8. Update the Sacramento County Climate Action for carbon neutrality by 2030	Unincorporated Sacramento County	New Action	X	X		Prevention Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Dam Failure, Flood: 1%, 0.5%, 0.2% annual chance, Flood: Localized Flood, Levee Failure, Subsidence, and Severe Weather: Heavy Rains and Storms Actions						
Action 9. Bicycle/pedestrian bridge across Discovery Park connecting Garden Highway to the Jibboom Street bridge	Unincorporated Sacramento County	New Action	X	X	X	Prevention Structural Projects Natural Resource Protection Emergency Services
Action 10. Acquire Floodprone Properties	Unincorporated Sacramento County	New Action	X	X	X	Prevention Property Protection Structural Projects
Action 11. Maintain and improve railroad embankment levee from south of Freeport to south of Hood, a reach owned by CA Parks Department (Railroad Museum)	Unincorporated Sacramento County	New Action	X	X	X	
Action 12. McCormack Williamson flood control weir	Unincorporated Sacramento County	New Action	X	X	X	
Action 13. Flood risk mitigation for mobilehome and recreational vehicle parks	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 14. Plan for Public Information (PPI)	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 15. Mitigation of repetitive loss flood areas and properties	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 16. Flood risk mapping	Unincorporated Sacramento County	New Action	X	X	X	
Action 17. Storm Ready	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 18. Alder Creek flood hazard mitigation	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 19. Operational protocol for American River pump stations that are affected by the reoperation of Folsom Dam	Unincorporated Sacramento County	New Action	X	X	X	

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 20. Arcade Creek flood control	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 21. Beach Stone Lakes area flood risk reduction program	Unincorporated Sacramento County	New Action	X	X	X	
Action 22. Protect critical facilities from flooding	Unincorporated Sacramento County	New Action	X	X	X	
Action 23. Dam Safety (Activity 630)	Unincorporated Sacramento County	New Action	X	X	X	
Action 24. Flood fighting for Delta legacy communities: Hood, Courtland, Locke, Walnut Grove	Unincorporated Sacramento County	New Action	X	X	X	
Action 25. Implement Delta Small Communities	Unincorporated Sacramento County	New Action	X	X	X	
Action 26. Elevate houses to reduce flood risk	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 27. Flood emergency management exercises	Unincorporated Sacramento County	New Action	X	X	X	
Action 28. Flood evacuation mapping	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 29. Floodproofing non-residential structures	Unincorporated Sacramento County	New Action	X	X	X	
Action 30. Flood insurance studies (modeling and mapping the special flood hazard area)	Unincorporated Sacramento County	New Action	X	X	X	
Action 31. Update Hydrology Standards	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 32. Laguna Creek flood control, modeling, and mapping	Unincorporated Sacramento County	New Action	X	X	X	
Action 33. Update County GIS aerial photography and LiDAR topography	Unincorporated Sacramento County	New Action	X	X	X	

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 34. Maintain and improve Sacramento River levee from south of Freeport to south of Hood, a reach owned and operated by CA DWR Maintenance Area 9	Unincorporated Sacramento County	New Action	X	X	X	
Action 35. Acquire Flood Prone Properties	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 36. Use existing Aggregate Mining Pits for Flood Control	Unincorporated Sacramento County	New Action	X	X	X	
Action 37. Implement Storm Drain Capital Improvement Plan	Unincorporated Sacramento County	2016 Action	X	X	X	
Action 38. Woodside Condominiums Flood Risk Reduction	Unincorporated Sacramento County	2016 Action	X	X	X	
Drought & Water Shortage, Severe Weather: Extreme Heat, and Wildfire Actions						
Action 39. Reduce the urban heat island effect through the implementation of "cool communities" strategies, including but not limited to, increasing tree plantings, using cool/green roofs and cool/pervious pavements	Unincorporated Sacramento County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Earthquake and Earthquake Liquefaction Actions						
Action 40. NEED ACTIONS						
Severe Weather: Extreme Cold and Freeze and High Wind and Tornado Actions						
Action 41. NEED ACTIONS						
City of Citrus Heights						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Citrus Heights	2016 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Citrus Heights	New Action	X	X		Public Information
Action 3. Cable Trellis w/ Vines Shading Project	City of Citrus Heights	New Action	X	X	X	
Action 4. Trash Racks and Debris Cages Project	City of Citrus Heights	New Action	X	X	X	

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 5. Protection of Transportation Infrastructure Project	City of Citrus Heights	New Action	X	X	X	
Action 6. Neighborhood Storm Drain Project	City of Citrus Heights	New Action	X	X	X	
Action 7. Neighborhood Storm Drain Master Plan	City of Citrus Heights	New Action	X	X	X	
Action 8. Storm Drain Inlet Retrofit Project	City of Citrus Heights	New Action	X	X	X	
Action 9. Reduce Citrus Heights extreme heat events and associated hazards by Increase tree planting/canopy preservation/enhancement (this is in general plan) Project	City of Citrus Heights	New Action	X	X		
Action 10. Increase pedestrian and bicycle evacuation routes by constructing regional bike/pedestrian trail infrastructure, and expanding connection to neighborhoods (particularly in vulnerable areas) Project	City of Citrus Heights	New Action	X	X		
Action 11. Interconnected Transportation System Project	City of Citrus Heights	New Action	X	X	X	
Action 12. Critical Facility Generator Project	City of Citrus Heights	New Action	X	X	X	
Action 13. Critical Street Floodproofing Project	City of Citrus Heights	New Action	X	X	X	
Action 14. Creek Maintenance and Restoration Project	City of Citrus Heights	New Action	X	X	X	
Action 15. CMP Storm Drain Replacement Project	City of Citrus Heights	New Action	X	X	X	
City of Elk Grove						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Elk Grove	2016 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Elk Grove	New Action	X	X		Public Information
Action 3. Elk Grove Green Street Project: Repurposing Urban Runoff with Green Instructure Technologies	City of Elk Grove	2016 Action	X	X	X	
Action 4. Mutual Aid Agreements	City of Elk Grove	2016 Action	X	X	X	

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 5. City of Elk Grove's Storm Drainage Master Plan (SDMP)	City of Elk Grove	2016 Action	X	X	X	
Action 6. Create a Climate-Smart Stormwater Management System	City of Elk Grove	New Action	X	X	X	
Action 7. Implement a Comprehensive and Climate-Smart Green Infrastructure Strategy	City of Elk Grove	New Action	X	X	X	
Action 8. Upgrade the City's Laguna West Levee System to Mitigate Climate-Related Flood Impacts	City of Elk Grove	New Action	X	X	X	
Action 9. Establish a Resilient Pedestrian and Bicycle Infrastructure Network	City of Elk Grove	New Action	X	X		
City of Folsom						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Folsom	2016 Action	X	X		
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Folsom	2016 Action	X	X		
Action 3. Redevelopment Area Drainage Improvements	City of Folsom	2016 Action	X	X	X	
Action 4. Stormwater Basin Maintenance and Operation Project	City of Folsom	2016 Action	X	X	X	
Action 5. Stormwater Utility Fee	City of Folsom	2016 Action	X	X	X	
City of Galt						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Galt	2016 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Galt	New Action	X	X		Public Information
NEED ACTIONS						

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
City of Isleton						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Isleton	2016 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Isleton	New Action	X	X		Public Information
Action 3. Support climate change mitigation laws	City of Isleton	New Action	X	X		
Action 4. Support drought mitigation laws. Establish RWIP (Redundant Water for Isleton Plan)	City of Isleton	New Action	X	X		
Action 5. Levee Reinforcement Projects	City of Isleton	New Action	X	X	X	
Action 6. Implement IFIP (Isleton Flood Improvement Plan) and create and activate IFMA (Isleton Flood Management Agency)	City of Isleton	New Action	X	X	X	
Action 8. Activate Emergency Operation Plan (Cooling Center)	City of Isleton	New Action	X	X	X	
City of Sacramento						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Sacramento	2016 Action	X	X		
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Sacramento	New Action	X	X	X	
Action 3. Coordination with Relevant Organizations and Agencies to Consider the Impacts of Urbanization and Climate Change on Long-Term Natural Hazard Safety	City of Sacramento	2016 Action	X	X		
Action 4. Maintain and Identify Changes in Critical Facilities GIS Lay to Support Emergency Management Efforts	City of Sacramento	2016 Action	X	X	X	
Action 5. Community Outreach on Multi-Hazard Preparation & Pre-mitigation	City of Sacramento	2016 Action	X	X	X	

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 6. Evaluation and Mitigation of Critical Facilities in Identified Hazard Areas	City of Sacramento	2016 Action	X	X	X	
Action 7. Retrofit of Repetitive Loss Properties	City of Sacramento	2016 Action	X	X	X	
Action 8. Safeguard Essential Communication Services	City of Sacramento	2016 Action	X	X	X	
Action 9. Multi-lingual Disaster Education	City of Sacramento	2016 Action	X	X	X	
Action 10. Cal OES Safety Assessment Program Evaluators	City of Sacramento	2016 Action	X	X	X	
Action 11. National Flood Insurance Program & Community Rating System Continuation	City of Sacramento	2016 Action	X	X	X	
Action 12. Develop a Master Generation Plan for Pump Stations	City of Sacramento	2016 Action	X	X	X	
Action 13. Develop a Disaster Housing Plan	City of Sacramento	2016 Action	X	X		
Action 14. Disaster Resistant Business Program	City of Sacramento	2016 Action	X	X		
Action 15. Develop Enhanced Emergency Planning for Special Needs Populations in the City of Sacramento Emergency Operations Plan and Other Planning Documents	City of Sacramento	2016 Action	X	X		
Action 16. Establish a Post-Disaster Action Plan	City of Sacramento	2016 Action	X	X		
Action 17. Flood Recovery Plan	City of Sacramento	2016 Action	X	X	X	
Action 18. Public Information Flood Response Plan (Action #18 from 2016)	City of Sacramento	2016 Action	X	X	X	
Action 19. Construction of a New Emergency Operation Center (EOC) (Action 19 from 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 20. Emergency Operation Center (EOC) Expansion and Information Technology Upgrade (Action 20 from 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 21. Protection of Transportation Infrastructure (Action 21 from 2016 plan)	City of Sacramento	2016 Action	X	X		

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 22. Public Education Campaign for Everbridge System (Action 22 from 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 23. Regional Emergency and Disaster Preparedness Exercises to Test Operational & Emergency Plans (Action 23 from the 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 24. Special Needs and Critical Facilities Database and Advanced Warning System (Action 24 from 2016 plan)	City of Sacramento	2016 Action	X	X	X	
Action 25. Asset Inventory	City of Sacramento	2016 Action	X	X		
Action 26. Protection of City Information Technology Infrastructure (Action 27 from 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 27. Travel Time Model for Lower American and Sacramento Rivers and their Major Tributaries (Action 29 from 2016 plan)	City of Sacramento	2016 Action	X	X	X	
Action 28. Watershed Spill Contamination to Drinking Water Quality: Preparedness for Events and Recovery	City of Sacramento	2016 Action	X	X		
Action 29. Purchase Drones for Use in Disaster Preparedness, Mitigation, and Response	City of Sacramento	2016 Action	X	X	X	
Action 30. Map and Assess Vulnerability to Sea Level Rise (Action 32 from 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 31. Emission Study of City Sump and Pump Stations (Action 33 from 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 32. Climate Change Mitigation Actions/Climate Change Adaptation Plan for Drinking Water Quality (Action 34 from 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 33. Harmful Algal Bloom (HAB) Surveillance and Response Planning (Action 35 from 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 34. Perform a Groundwater Recharge Feasibility Study (Action 37 from 2016 plan)	City of Sacramento	2016 Action	X	X		
Action 35. Retrofit Historical Buildings	City of Sacramento	2016 Action	X	X		

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 36. Heating Centers in High Priority Locations	City of Sacramento	2016 Action	X	X		
Action 37. Cooling Centers in High Priority Locations	City of Sacramento	2016 Action	X	X		
Action 38. Extreme Weather Outreach Strategy	City of Sacramento	2016 Action	X	X		
Action 39. Severe Weather Action Plan	City of Sacramento	2016 Action	X	X		
Action 40. Coordinate with Stakeholder on Proposed Flood Control Project on Magpie Creek	City of Sacramento	2016 Action	X	X	X	
Action 41. Adopt Additional Floodplain Development Standards	City of Sacramento	2016 Action	X	X	X	
Action 42. Drainage Projects for Repetitive Loss Properties	City of Sacramento	2016 Action	X	X	X	
Action 43. Emergency Notification and Evacuation Planning	City of Sacramento	2016 Action	X	X	X	
Action 44. Historic Magpie Creek	City of Sacramento	2016 Action	X	X	X	
Action 45. Natomas Internal Drainage Canals/Levees	City of Sacramento	2016 Action	X	X	X	
Action 46. Drainage Projects from the City's Priority Drainage Project List	City of Sacramento	2016 Action	X	X	X	
Action 47. Projects Identified in the Combined Sewer System Improvement Plan Update	City of Sacramento	2016 Action	X	X	X	
Action 48. Easements for Open Land Along Levees	City of Sacramento	2016 Action	X	X	X	
Action 49. Emergency Management Planning and Levee Security	City of Sacramento	2016 Action	X	X	X	
Action 50. Flood Fighting Equipment	City of Sacramento	2016 Action	X	X	X	
Action 51. Flood Management Land Use Planning and Development	City of Sacramento	2016 Action	X	X	X	
Action 52. Florin Creek Pump at Pomegranate Avenue	City of Sacramento	2016 Action	X	X	X	
Action 53. Internal Drainage System Improvements	City of Sacramento	2016 Action	X	X	X	

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 54. Levee and Structural Flood Management Improvements	City of Sacramento	2016 Action	X	X	X	
Action 55. Master planning to identify facilities needed to prevent 10-year event street flooding and 100-year event structure flooding	City of Sacramento	2016 Action	X	X	X	
Action 56. Retrofit Pumping Plans with Discharge Monitoring Devices	City of Sacramento	2016 Action	X	X	X	
Action 57. Risk Communication and NFIP/CRS Projects	City of Sacramento	2016 Action	X	X	X	
Action 58. Trash Racks and Debris Cages	City of Sacramento	2016 Action	X	X	X	
Action 59. Multi-Jurisdictional Modeling for Drainage Watersheds Greater than 10 Square Miles	City of Sacramento	2016 Action	X	X	X	
Action 60. Post-Flood Water Treatment Facility Recovery	City of Sacramento	2016 Action	X	X	X	
Action 61. Tree Trimming & Debris Removal	City of Sacramento	2016 Action	X	X		
Action 62. Install redundancies and Loop Feeds for Power Lines & Infrastructure	City of Sacramento	2016 Action	X	X		
Action 63. Stabilization of Erosion Hazard Areas	City of Sacramento	2016 Action	X	X		
Action 64. Implement a Fire Education and Information Program	City of Sacramento	2016 Action	X	X		
Action 65. Fuels Reduction on the American River Parkway	City of Sacramento	2016 Action	X	X		
Action 66. Outreach on the Effects of Smoke on Air Quality	City of Sacramento	2016 Action	X	X		
City of Rancho Cordova						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Rancho Cordova	2016 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Rancho Cordova	New Action	X	X		Public Information

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 3. Sunrise Blvd Widening Kiefer to Jackson	City of Rancho Cordova	2016 Action	X	X	X	Property Protection Structural Projects
Action 4. City of Rancho Cordova Disaster Debris Management Plan	City of Rancho Cordova	New Action	X	X		Emergency Services
Action 5. Transportation Interconnectivity	City of Rancho Cordova	2016 Action	X	X		Emergency Services
Action 6. Intergovernmental Agreement between the County of Sacramento and the City of Rancho Cordova	City of Rancho Cordova	2016 Action	X	X		Prevention Emergency Services
Action 7. Land Use (Long Range)	City of Rancho Cordova	2016 Action	X	X		Prevention Natural Resource Protection
Action 8. Post disaster training for staff	City of Rancho Cordova	2016 Action	X	X		Emergency Services
Action 9. Update/Maintain Emergency Operation Plans (EOPs)	City of Rancho Cordova	2016 Action	X	X		Emergency Services
Action 10. Increase Everbridge Enrollment	City of Rancho Cordova	2016 Action	X	X		Emergency Services
Action 11. Developing and maintaining a database to track community vulnerability	City of Rancho Cordova	2016 Action	X	X		Prevention Emergency Services
Action 12. Landscape and Irrigation Requirements/Retro	City of Rancho Cordova	2016 Action	X	X		Prevention Public Information
Action 13. Landscape Ordinance and Model Water Efficient Landscape Ordinance Implementation	City of Rancho Cordova	2016 Action	X	X	X	Prevention Natural Resource Protection
Action 14. Restrict Impervious Surfaces in Front Yards	City of Rancho Cordova	2016 Action	X	X	X	Prevention Natural Resource Protection Public Information
Action 15. Porous pavement and vegetative buffers	City of Rancho Cordova	2016 Action	X	X	X	Prevention Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 16. Storm Water Pump Station Generator Purchase and Infrastructure Upgrades	City of Rancho Cordova	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 17. SB-5 Urban Level of Flood Protection	City of Rancho Cordova	2016 Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 18. Channel Vegetation Management and Erosion Control Projects	City of Rancho Cordova	2016 Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 19. Adoption of Hydromodification and Low Impact Development (LID) Standards	City of Rancho Cordova	2016 Action	X	X	X	Prevention Property Protection Natural Resource Protection
Action 20. Implement Projects in the Stormwater Capital Improvement Program Master Plan	City of Rancho Cordova	2016 Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 21. Sunrise Blvd. & Monier Circle Drainage Improvements	City of Rancho Cordova	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 22. Roundabouts	City of Rancho Cordova	2016 Action	X	X		Prevention Property Protection Structural Projects
American River Flood Control District						
Action 1. Arcade Creek Erosion Repair Project	ARFCD and unincorporated Sacramento County	New Action	X	X	X	Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 2. American River Emergency Rock Revetment Preparedness Stockpile	ARFCD and unincorporated Sacramento County	New Action	X	X	X	Property Protection Natural Resource Protection
Action 3. Highway 160 Bridge Gap Levee Access	ARFCD and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Citrus Heights Water District						
NEED ACTIONS						
Cosumnes Community Services District						
NEED ACTIONS						
Los Rios Community College						
Action 1. Pandemic Response Plan	Los Rios Community College	New Action	X	X		Prevention Emergency Services
Action 2. Emergency Operations Plan Update	Los Rios Community College	New Action	X	X		Prevention Emergency Services
Action 3. COVID-19 Education/Information Program	Los Rios Community College	New Action	X	X		Prevention Public Information
Action 4. Installing a Microgrid Project, at the Folsom Lake College, El Dorado Center (EDC) in Placerville, CA	Los Rios Community College	New Action	X	X		Prevention Emergency Service
Action 5. Backup Power for Police Dispatch	Los Rios Community College	New Action	X	X		Emergency Services
Action 6. Tree Mitigation – Districtwide	Los Rios Community College	New Action	X	X		Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
RD 800						
Action 1. Reclamation District 800 Emergency Levee Repair Project	RD 800 and unincorporated Sacramento County	2016 Action	X	X		Property Protection Structural Projects Natural Resource Protection
RD 1000						
Action 1. Asset Management Plan Update	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Action 2. Corporation Yard Improvements	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Action 3. Waterside Levee Inspection Capability	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Action 4. Culvert and Drain Replacement Program	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Action 5. Floodway Habitation	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Action 6. Update Natomas Flood Model	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Action 7. Pleasant Grove Area Levee Improvements	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Action 8. Plant 1 Emergency Generator Natural Gas Conversion	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 9. Plant 8 Improvements	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Action 10. Expanded SCADA System	RD 1000 and unincorporated Sacramento County	2016 Action	X	X	X	
Action 11. Security Improvements	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Action 12. Update Emergency Operations Plan and Staffing	RD 1000 and unincorporated Sacramento County	New Action	X	X	X	
Sacramento County Water Agency						
NEED ACTIONS						
Sac Metro Fire						
NEED ACTIONS						
Sacramento Regional Sanitation District						
Action 1. Develop Climate Change Resiliency Plan	Regional San and unincorporated Sacramento County	New Action	X	X		
Action 2. Replace current equipment with touchless technologies	Regional San and unincorporated Sacramento County	New Action	X	X		
Action 3. Complete I&I Study and Develop I&I Policy	Regional San and unincorporated Sacramento County	New Action	X	X		

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 4. Regional San Biogeneration Facility	Regional San and unincorporated Sacramento County	New Action	X	X		
Action 5. Reduction of Fire Hazard of Regional San Bufferlands	Regional San and unincorporated Sacramento County	2016 Action	X	X		
Action 6. Update GHG Emissions Inventory	Regional San and unincorporated Sacramento County	New Action	X	X		
Action 7. Study Telecommute Options and Enhanced Information Technology Needs to Support Workforce	Regional San and unincorporated Sacramento County	New Action	X	X		
Sacramento Area Sewer District						
Action 1. Flood Control	SASD and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 2. Pandemic Planning	SASD and unincorporated Sacramento County	New Action	X	X		Prevention
Southgate Recreation and Park District						
Action 1. Drought Mitigation Actions/Drought Contingency Plan	SRPD and unincorporated Sacramento County	2016 Action	X	X		
Action 2. Flood Mitigation Actions/Land Acquisition	SRPD and unincorporated Sacramento County	2016 Action	X	X		
Action 3. Conservation Easements	SRPD and unincorporated Sacramento County	2016 Action	X	X		
Action 4. Multi-jurisdictional Cooperation within Watersheds	SRPD and unincorporated Sacramento County	2016 Action	X	X		
Action 5. Storm Water Management Practices – Implement Storm Water Management Practices as identified in Stormwater Quality Design Manual	SRPD and unincorporated Sacramento County	2016 Action	X	X		

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 6. Severe Weather: Heavy Rains and Storms Mitigation Actions/Tree Management	SRPD and unincorporated Sacramento County	2016 Action	X	X		
Action 7. Integrate Local Hazard Mitigation Plan into District Master Plan	SRPD and unincorporated Sacramento County	New Action	X	X		
Action 8. Covid-19 Response Plan	SRPD and unincorporated Sacramento County	New Action	X	X		
Twin Rivers School District						
NEED ACTIONS						
BALMD						
NEED ACTIONS						
RD 3						
NEED ACTIONS						
RD 341						
Action 1. San Joaquin River Multi-Benefit Project	RD 341 and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
RD 349						
NEED ACTIONS						

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
RD 369						
NEED ACTIONS						
RD 551						
NEED ACTIONS						
RD 554						
NEED ACTIONS						
RD 556						
NEED ACTIONS						
RD 563						
Action 1. Rock Slope Protection Project	RD 563 and unincorporated Sacramento County	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 2. Levee Geometry Levee Improvement Project	RD 563 and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 3. Levee Failure Repair Project	RD 563 and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 4. Levee Seepage Repair Project	RD 563 and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 5. Backup Power Generator Project	RD 563 and unincorporated Sacramento County	New Action	X	X	X	Prevention Emergency Services
Action 6. Flood Exercise and Emergency Operations Plan Update	RD 563 and unincorporated Sacramento County	New Action	X	X	X	Prevention Emergency Services
RD 1002						
NEED ACTIONS						
RD 1601						
Action 1. Levee Improvement Project	RD 1601 and unincorporated Sacramento County	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 2. Rock Slope Protection Project	RD 1601 and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 3. San Joaquin River Setback Levee	RD 1601 and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 4. Backup Power Project	RD 1601 and unincorporated Sacramento County	New Action	X	X	X	Prevention Emergency Services

Action Title	Jurisdictions Benefitting from Action (s)	New Action/ 2016 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 5. Flood Safety Plan Updates, Training, and Exercises	RD 1601 and unincorporated Sacramento County	New Action	X	X	X	Prevention Emergency Services
RD 2111						
Action 1. Rock Slope Protection Project	RD 2111 and unincorporated Sacramento County	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 2. Levee Improvement Projects	RD 2111 and unincorporated Sacramento County	2016 Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 3. Overflow Weir Project	RD 2111 and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 4. Syphon Project	RD 2111 and unincorporated Sacramento County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 5. Backup Power Project	RD 2111 and unincorporated Sacramento County	New Action	X	X	X	Prevention Emergency Services
Action 6. Flood Safety Plan Updates, Training, and Exercises	RD 2111 and unincorporated Sacramento County	New Action	X	X	X	Prevention Emergency Services

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Appendix A: Planning Process

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Appendix C: Mitigation Strategy

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Appendix E: Threatened and Endangered Species

Appendix F: Critical Facilities

Appendix G: Survey

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Appendix I: Watershed Master Plan

Abbreviations and Acronyms **FINAL UPDATE AT END**

Acronym	Definition
AB	Assembly Bill
ACS	American Community Survey
APG	Adaptation Planning Guide
APN	Assessor Parcel Numbers
AQI	Air Quality Index
BAM	Best Available Map
BCEGS	Building Code Effectiveness Grading Schedule
BLM	Bureau of Land Management
BRACE	Building Resilience Against Climate Effects
BRIC	Building Resilient Infrastructure and Communities
CAC	Community Assistance Contact
CAISO	California Independent System Operator
CBC	California Building Code
Cal DWR	California Department of Water Resources
Cal OES	California Office of Emergency Services
CAS	Climate Adaptation Strategy
CAV	Community Assistance Visit
CCHPR	Climate Change and Health Profile Report
CCSM3	Community Climate System Model Version 3
CDAA	California Disaster Assistance Act
CDC SVI	Center for Disease Control Social Vulnerability Index
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Health
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CGS	California Geological Survey
CNNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CNRA	California Natural Resource Agency
CPUC	California Public Utilities Commission
CRS	Community Rating System
CRV	Contents Replacement Values
CVP	Central Valley Project

Acronym	Definition
DAC	Disadvantaged Community Status
DFIRM	Digital Flood Insurance Rate Map
DMA	Disaster Mitigation Act
DSOD	Division of Safety of Dams
EF	Enhanced Fujita
EOP	Emergency Operations Plan
ESF	Emergency Support Function
F	Fujita
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHSZ	Fire Hazard Severity Zones
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FMA	Flood Mitigation Assistance
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Responsibility Area
FRAP	Fire and Resource Assessment Program
GFDL	Geophysical Fluid Dynamics Laboratory
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GRASP	Geospatial Research, Analysis & Services Program
HMGP	Hazard Mitigation Grant Program
HMPC	Hazard Mitigation Planning Committee
IBC	International Building Code
ICC	Increased Cost of Compliance
IPCC	Intergovernmental Panel on Climate Change
IRC	International Residential Code
IRWM	Integrated Regional Water Management
LAFCO	Local Agency Formation Commission
LOMA	Letter of Map Amendment
LOMR	Letter of Map Revision
LHMP	Local Hazard Mitigation Plan
LRA	Local Responsibility Area
MERS	Middle East Respiratory Syndrome
MHDP	Multi-Hazards Demonstration Project
MHI	Median Household Income
MMI	Modified Mercalli Intensity

Acronym	Definition
MPH	Miles Per Hour
MSL	Mean Sea Level
MW	Megawatts
NBHCP	Natomas Basin Habitat Conservation Plan
NCDC	National Climactic Data Center
NDMC	National Drought Mitigation Center
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NIDIS	National Integrated Drought Information System
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NWS	National Weather Service
OES	Sacramento County Office of Emergency Services
OHP	Office of Historic Preservation
PA	Public Assistance
PDM	Pre-Disaster Mitigation
PG&E	Pacific Gas and Electric
PM	Particulate Matter
PNAS	Proceedings of the National Academy of Sciences
PSPS	Public Safety Power Shutoff
RCP	Representative Concentration Pathways
RL	Repetitive Loss
SAC-SJ	Sacramento-San Joaquin
SB	Senate Bill
SBA	Small Business Administration
SDAC	Severely Disadvantaged Community
SFHA	Special Flood Hazard Area
SGMA	Sustainable Groundwater Management Act
SH	State Highway
SR	State Route
SRA	State Responsibility Area
SRL	Severe Repetitive Loss
SWP	State Water Project
UBC	Uniform Building Code
UCERF	Uniform California Earthquake Rupture Forecast
ULOP	Urban Level of Flood Protection
URM	Unreinforced masonry

Acronym	Definition
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
WHO	World Health Organization
WSOC	Wildfire Safety Operations Center
WRCC	Western Regional Climate Center
WUI	Wildland Urban Interface