



Sonoma County Operational Area Emergency Operations Plan Annex

Russian River Flood Plan

DEPARTMENT OF EMERGENCY MANAGEMENT



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This document is subject to revision at any time. This document is an Annex to the Sonoma County Emergency Operations Plan. Comments and suggestions should be directed to:

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I. PURPOSE AND SCOPE

Purpose

This plan establishes general procedures and organizational structures for emergency response to flood conditions on the Russian River and its tributaries. This is a functional annex to the Sonoma County/Operational Area Emergency Operations Plan (EOP).

Floods are the most frequent natural hazard impacting Sonoma County. A flood occurs when the existing channel and banks of a stream, river, or other watercourse cannot contain excess runoff from rainfall resulting in overflow onto adjacent lands. In Sonoma County, flooding occurs in conjunction with severe winter or spring storms which deliver high concentrations of rainfall and often result in wind damages and widespread power outages.

The Operational Area response during a flood emergency will be to monitor the weather and river depth to best predict if, when and where flooding will impact the community; to translate this information into timely and usable warnings to the public and government agencies; to assist in the timely evacuation of threatened members of the public and prevent, where possible, damage to property; to provide life safety measures for the public and livestock trapped on islands created by rising floodwaters; and to provide guidance and coordination of re-entry efforts. Due to the lack of a single public safety organization covering the entire flood region, the response coordination effort will be facilitated through the use of an Incident Command Post (ICP) to organize the tactical response while the Emergency Operations Center (EOC) will coordinate the broader Operational Area response.

Scope

All response activities will take place within the general guidance provided by the Sonoma County Operational Area EOC upon its activation.

This plan is limited to:

- An incremental activation of emergency response to the flood condition and its effect upon the people living in the area. This plan does not encompass either mitigation or recovery efforts.
- The Russian River floodplain in Sonoma County. Because of significant differences in hydrology and geography, the response effort is broken into two major regions, the Middle Russian River (from Cloverdale to the Mirabel area) and the Lower Russian River (from the Mirabel area to Jenner).
- The general activities of the emergency response agencies and the Standardized Emergency Management System (SEMS), National Incident Management System

(NIMS) and/or Incident Command System (ICS) structure when alerted to handle a flood response. Detailed tactical procedures are beyond the scope of this plan.

Routine command and response structures that exist and functions that are practiced by the responding units on a day-to-day basis are not included and, if not superseded by this plan, may be considered to continue.

The primary responding entities identified in this plan include:

County

- Sonoma County Sheriff's Office (SCSO)
- Department of Emergency Management (DEM)
- General Services (GS)
- Health Services (DHS)
- Permit Sonoma (PRMD)
- Sonoma County Operational Area Emergency Operations Center (EOC)
- Transportation and Public Works (TPW)
- Human Services (HSD)

Non-County

- Sonoma County Water Agency (Sonoma Water)
- Russian River County Sanitation District (Operated by Sonoma Water)
- Fire Protection Districts (FPD)
- California Governor's Office of Emergency Services (CalOES)
- National Weather Service (NWS)
- California Highway Patrol (CHP)
- CalTrans (CalTrans)
- California National Guard (CNG)
- Cities
- American Red Cross (ARC)
- CA Department of Water Resources (DWR)
- Sweetwater Springs Water District

Situation Overview

Hazard Analysis

Floods are the most frequent natural hazard impacting Sonoma County, causing the greatest property losses and accounting for the highest number of local, Gubernatorial, and Presidential disasters. The Sonoma County Operational Area Emergency Operations Center (EOC) has been activated ten times due to flood related local emergencies since 1995.

A flood occurs when the existing stream channels cannot contain excess runoff from rainfall resulting in overflow onto adjacent lands. Flooding can result from storm surges, excessive rainfall, tsunamis, dam failure, and sea level rise. Drought conditions can cause isolated flooding in the estuary of the Russian River due to excess sand disposition at the bar of the estuary, blocking the path to the Pacific Ocean.

Despite frequent flooding, most flooding does not present a significant threat to life. Weather and river forecasting provide ample warning, while flood control from the Coyote and Warm Springs dams significantly mitigate the effects of heavy rains. With advanced notice, residents along the Russian River have adequate time to emplace sandbags and to evacuate. However, in some cases, residents are unable or unwilling to evacuate before the waters reach flood stage and often need assistance in evacuating with high-water capable vehicles.

In unusually heavy flooding some communities may be isolated to the point that it is unsafe for high-water vehicles to ford the water, and swift water may make boat usage unsafe as well. This situation occurs only in the highest level of flooding (greater than 44' at the Guerneville Bridge) and requires pre-planning to provide emergency services to all remaining in the isolated areas and pre-positioning of airlift resources.

A corollary danger to flooding may include debris flows. These may be small, localized flows that further impede traffic, or may be more significant debris flows that are a threat to life and property. The most significant debris flow in recent history was the 1998 Rio Nido mudslide that destroyed 6 homes and forced the evacuation of 300 residents. Mudslides require additional resources for the location and recovery of victims.

As the river levels rise, sewer overflows within the Russian River County Sanitation District may arise. This may lead to a release of raw sewage in the surrounding community and the Russian River, potentially leading to public health, environmental, and water quality impacts. Additionally, sections of the collections system may be isolated when the river hits flood stage, temporarily reducing or eliminating sanitation services to residences.

Heavy rains can also cause small, localized flooding. This is usually due to either local terrain naturally being slow draining, or may be due to temporary conditions such as clogged culverts or log jams. While these can create nuisances or even hazardous situations, they are usually considered Type 1 emergencies and do not trigger a large-scale disaster response in the operational area.

For a more detailed hazard analysis including inundation predictions and landslide predictions, see Appendix A to this Annex, or the [Sonoma County Hazard Mitigation Plan](#).

Capability Analysis

Sonoma County Operational Area has sufficient Fire, Law, Public Works, and Health resources to handle a standard flooding situation with the exception of high-water vehicles and aviation assets. In minor flooding incidents, there are often stranded motorists and homeowners that are unable to evacuate using their own resources. In these situations, local fire engines are often used for rescue, as well as National Guard high-water capable vehicle. Swift water rescue capability is rarely needed, but when the need arises, select fire crews do have swift water rescue capability and the Sheriff does have a maritime unit for rescues on the river. At the minor flooding level, the use of local fire crews for water rescue does not significantly impact the overall response capability, as mutual aid and resource shifting are able to handle most ordinary emergencies.

In the event of major flooding, however, resources can become strained. Specific identified shortfalls include:

- Swift Water Rescue. Although the County does have swift water rescue capability, in a major flooding incident, this resource will likely be taxed. Further, most swift water rescue teams are comprised of firefighters from river communities. During a major flood event, they would be unavailable for emergency response calls while engaged in water rescue.
- Aviation. The County has only one helicopter available for response operations. It is insufficient for prolonged operations or for large-scale airlift. In the event of major floods, out-of-county airlift capability will likely be required.
- Urban Search and Rescue. USAR teams will be required to find victims of landslides. Although the County has USAR capability, it would be insufficient for a large-scale landslide and would require mutual aid.

Mitigation Overview

Mitigation efforts fall into two broad categories for flood: prediction and water control. The Sonoma County Operational Area benefits greatly from two flood control dams constructed from the 1950s and 1980s, the Coyote and Warm Springs Dams. Although they cannot completely control the floodwaters, it has been estimated that the dams reduce the elevation of flooding by as much as 4'. Since 1995, the County has undergone a program of elevating flood-prone homes on the Russian River. Finally, there are levees along the Russian River in northern Sonoma County to prevent the flooding of agricultural lands including a small number of homes.

In addition to the water control methods, the Sonoma County Operational Area benefits greatly from the NOAA flood prediction models to mitigate flood effects by receiving warning to allow for alert, evacuation, road closure, and flood-proofing infrastructure.

Planning Assumptions

The following planning assumptions were made with regards to this plan:

- River will crest at less than 52' at the Guerneville Bridge.
- OA will receive at least 24 hour notice prior to reaching flood stage.
- There will be a Proclamation of Emergency by local or state officials, or a Declaration of Emergency by the federal government.

II. CONCEPT OF OPERATION / COORDINATION

Incident Objectives

The mission of the Sonoma County Operational Area during flooding is to preserve life, property, and the environment.

To accomplish this, the following are the Sonoma County Operational Area jurisdictions', agencies', and organizations' Incident Objectives. These flood-related incident objectives will normally take precedence over the routine day-to-day mission objectives of the involved agencies:

- Aggressively warn the public of flood threats and provide timely and actionable information.
- Coordinate and assist the mobilization and employment of OA resources to respond to flooding.
- Conduct evacuation operations from threatened areas and provide care and shelter as needed.
- Conduct rescue operations for individuals trapped by flood or in the water.
- Restrict non-resident access to the area to prevent threats to life safety.
- Provide appropriate security to evacuated areas.
- Isolate portions of the sanitary sewer system to prevent floodwater inflows.
- Limit damage to property through salvage and security.

- Integrate fire, law enforcement, emergency medical services, and public works to operate under a Unified Command Structure per the Incident Command System when flood conditions exist.

Concept of Operation

The Sonoma County Operational Area flood response is a multi-phased operation designed to meet the incident objectives. The initiation of each phase is based on predicted or observed flood levels at the Healdsburg or Guerneville bridges, but formal declaration of phases is made by the Sonoma County Operational Area EOC Director.

Operational control of the response will be conducted by one or more Incident Command Posts (ICP) responsible for designated geographical branches. The ICP will be commanded by a qualified public safety officer and provided support staff in accordance with Appendix B of this plan. The focus of the ICP is coordination of field activities to include law enforcement, search and rescue, coordinating road closure and repair, evacuation, and utility operations.

The Sonoma County Operational Area EOC will provide overall direction and logistic support to the ICP. Alert and Warning and Public Information are coordinated through the EOC.

The phases of the response operation begin when flooding is predicted and culminate on the completion of a safe re-entry and a transition to the recovery phase when the operation is handed over to the Recovery Operations Center (ROC).

Phases

The phases of the response operation begin when flooding is predicted and culminate on the completion of a safe re-entry and a transition to the recovery phase when the operation is handed over to the Recovery Operations Center. For detailed actions at each stage, see Appendix B (Master Operational Checklists)

Flood Monitor

Triggering criteria: Russian River at 29 feet or less at the Guerneville Bridge or 22 feet or less at the Healdsburg Gauge, but predicted to exceed flood stage by NWS within 48 hours.

Actions:

- Activation of a second DEM Watch Officer
- Issue activation warning to EOC staff
- Optional minimal activation of the EOC (Level 3 per CalOES)

- Issue activation warning to ICP staff
- Develop situational awareness
- Commence public information operations and Alert and Warning.
- Pre-positioning of resources

I: Minor Flooding

Triggering criteria: Russian River predicted to crest at 35 feet or less at the Guerneville Bridge and/or 26 feet or less at the Healdsburg Gauge by NWS within 24 hours.

Actions:

- Partial activation of the EOC (Level 2 per CalOES)
- Activation of the Graton ICP >12 hours before flood stage (32') to coordinate and organize response of partner agencies. See Appendix B for organization.
- Conduct evacuation operations
- Alert and Warning response
- Safety and security operations
- Road closure, as necessary
- Public information operations increases in tempo
- Commitment of resources, as needed
- Isolate low lying areas of the sanitation system

II: Major Flooding

Triggering criteria: Russian River predicted to crest at 36 feet or greater at the Guerneville Bridge and/or 27 feet or greater at the Healdsburg Gauge by NWS within 36 hours.

Actions:

- Full activation of the EOC (Level 1 per CalOES)
- Activation of the Graton ICP >12 hours before flood stage (32') to coordinate and organize response of partner agencies. See Appendix B for organization.
- Conduct evacuation operations

- If warranted by conditions that will create “islands”, the ICP will activate the Island Task Forces to provide Law, Fire and EMS support on areas isolated by rising water. See Appendix B, figure 3 for organization.
- If the flood is predicted to crest above 50', an additional ICP may be activated for the Middle Russian River at the Cloverdale Fire Station.
- Safety and security operations
- Road closure, as necessary
- Public information operations continue
- Commitment of resources, as needed
- Alert the Recovery Operations Center for activation
- Respond to sanitary sewer overflows as necessary

III: Re-Entry and Recovery

Triggering criteria: Russian river crested and predicted to continue falling for foreseeable future.

Actions:

- Safety and security operations
- Public information operations continue
- Coordination of safety inspections
- Repairs and clearance of roads and infrastructure commence
- Assessment of sanitary sewer system and opening of valves to restore service to low lying areas
- Once safety inspections are completed, coordinate the safe re-entry of general public into affected area.
- Activation of the Recovery Operations Center
- Transition to Recovery Operations
- De-activation of the EOC and ICP(s)

Direction, Control and Coordination

Primary coordination of the flood response effort in the field will be coordinated by an Incident Command Post (ICP) which will report directly to the Emergency Operations Center. Under normal conditions, only one ICP will be established at the pre-designated location at the Graton Fire Station. If the situation warrants, a second ICP may be

established at the Cloverdale Fire Station, if operations in the Middle Russian River region (Cloverdale-Mirabel) dictate.

All Flood Response activities undertaken by Operational Area partners will be coordinated through the Incident Command Post.

The structure and composition of the ICPs are located in Appendix B to this plan. The structures in Appendix B represent a “full activation” authorization. The Incident Commander, when alerted for activation, will assess the situation and modify the structure to meet the needs of the situation. The Incident Commander must receive the explicit authorization of the EOC Director before activating ICP staff.

The structure and composition of the ICP outlined in Appendix B of this plan are for use if the Operational Area activates the ICP using internal assets. The OA may, at the direction of the EOC Director, request a CalFire or other source Incident Management Team (IMT) to assume the ICP responsibilities. Outsourced IMTs determine their own structure.

Operational Considerations

The EOC, ICP, and select County Agencies will refer to the operational checklists (see Appendix B) for generalized operational guidance.

The EOC and ICP will refer to the resources matrix (see Appendix B) for recommended special resources requests based on projected flood levels.

III. ROLES AND RESPONSIBILITIES

Specific roles and responsibilities during flood response is as follows:

County Agencies

Sonoma County Sheriff

- Coordinate Evacuation with EOC and ICP, as necessary.
- Coordinate evacuated area security.

Department of Emergency Management (DEM)

- Activate a second Watch Officer to monitor the situation 24/7, as needed
- Organize and disseminate threat intelligence prior to activation of EOC
- Prepare EOC and ICP for activation

- Conduct Operational Area meetings and teleconferences
- Assist in emergency notification as needed
- Facilitate the operation of the EOC and ICP
- Facilitate closure of EOC and ICP
- Facilitate the After Action meeting, production of the AAR and Improvement Plan.

Sonoma County Operational Area Emergency Operations Center

- Activate in accordance with EOC activation procedures no less than 12 hours prior to river reaching flood stage.
- Coordinate Operational Area response to flooding to include alert and warning, evacuation, care and sheltering, re-entry, and recovery.
- Coordinate Proclamation of Local Emergency
- Coordinate resource procurement and allocation
- Coordinate Common Operating Picture for the Operational Area
- Coordinate with State and Federal Emergency Organizations
- Coordinate public information messaging

Incident Command Post

- Activate in accordance with ICP activation procedures no less than 12 hours prior to river reaching flood stage.
- Coordinate Operational Area response to flooding and re-entry within assigned geographical area.
- Identify, validate, request, and distribute resources, as needed, in coordination with the EOC Logistics section.
- Develop Common Operating Picture for the assigned area.
- Coordinate public information messaging with EOC.

Transportation and Public Works

- Deploy teams, as necessary, to conduct maintenance on roads
- Per county SOP, distribute sandbags and other flood protection materials
- Close flooded County roads and erect barricades as necessary
- Provide TPW representative to EOC

- Update road closure map
- Conduct safety inspection of roads and bridges before re-entry

Human Services (HSD)

- Alert designated shelter teams
- Coordinate shelter location with the EOC Care and Shelter Task Force
- Coordinate pre-deployment of County Shelter Kit including AFN Shelter Kit to designated evacuation shelters
- Be prepared to conduct “warm opening” of designated shelters
- Open designated evacuation shelter in partnership or coordination with American Red Cross.
- Conduct shelter operations to include providing bedding, food, health services, and survivor assistance, as needed, in partnership or coordination with ARC
- Identify IHSS vulnerable populations in evacuated areas and work with transportation to assist with evacuations, if needed.
- Deploy Functional Assessment Service Team (FAST) to shelters.

General Services (GS)

- Through all phases, provide logistical support to response effort to include maintenance, procurement and supply, facilities, and telecommunications support.
- Submit resource requests through CalOES for state resources.

Health Services (DHS)

- Provide health services in evacuation shelters, as needed
- Conduct post-flood health assessments of evacuated areas prior to re-entry
- Assist shelter operations by providing health services

Permit Sonoma (PRMD)

- Staff EOC and ICP with planning staff, as necessary
- Provide GIS support to aid in threat assessment and emergency notification
- Conduct damage assessment in unincorporated areas

Information Service Department (ISD)

- Staff EOC with GIS staff, as necessary
- Provide desk top support, as necessary, when EOC is activated
- Deploy computer support package to ICP, on request, and provide technical support during setup
-

Other Agencies

Fire Protection Districts (FPD)

- In affected areas, perform first responder duties
- In affected areas, coordinate with the ICP for additional resources and to provide situation reports.
- Outside affected areas, be prepared to provide mutual aid.

California Governor's Office of Emergency Services (CalOES)

- Receive and process proclamation from city or county.
- Receive and process resource requests and provide mission tasking guidance and support
- Assist in coordination with other state and federal agencies.
- Assist in development of situation status, Initial Damage Estimate (IDE)
- Assist with transition to recovery and LAC opening
- Assist with Preliminary Damage Assessment and IDE validation

National Weather Service (NWS)

- During all phases, the NWS will be the primary agency for issuing weather warning products.

California Highway Patrol (CHP)

- During all phases, the CHP will be the primary agency for conducting traffic control as needed. Responsible for closures on any state highway.

California National Guard (CNG)

- Provide assistance when requested through OA EOC and CalOES to:
 - provide high water vehicles to assist in evacuation
 - provide personnel to assist in security and safety operations,
 - provide air operations to assist in evacuation and reconnaissance,
 - support all other missions, as requested.

Sonoma County Water Agency/ Russian River County Sanitation District (Sonoma Water)

- At all phases, provide technical expertise in hydrology
- Provide current information on river state and rainfall data
- Ensure messaging is issued to residents regarding public health impacts associated with sanitary sewer overflows
- Manage response within Russian River County Sanitation District

Red Cross

- Alert designated ARC shelter teams >12 Hours prior to shelter opening.
- Coordinate shelter location with County Human Services and EOC.
- If requested through EOC, conduct “warm opening” of designated shelters.
- If requested through EOC, open designated evacuation shelters

California Department of Water Resources (DWR)

- Provide location and access to pre-positioned flood fight materials
- Provide technical assistance to requesting jurisdiction

Cities

- Conduct safety and security operations within own jurisdictions
- Provide situation reports to the Emergency Operations Center
- Provide mutual aid as requested.
-

IV. INFORMATION COLLECTION, ANALYSIS, AND DISSEMINATION

Information	Source	EOC Responsibility	Dissemination
Situation Status	ICP, Operations	Plans/Situation Analysis	All EOC staff OA Cooperators CalOES
Weather and Flood Prediction	NWS	Plans/Situation Analysis	All EOC staff OA Cooperators
Shelter Status	Care & Shelter	Care & Shelter	Director, ICPs, and Section Chiefs
Road Closure	TPW, Sheriff, CalTrans, CHP	TPW	Situation Status
Resource Request Status	Resource Management	Logistics	Director, ICPs, and Section Chiefs
Obligated funds	Finance section	Finance section	Director
Public Messaging	PIO	PIO Section	Public and media

V. ADMINISTRATION, FINANCE, AND LOGISTICS

Administration, finance, and logistics are to function per the Sonoma County Operational Area Emergency Operations Plan.

Law, fire and EMS costs incurred by agencies within their normal jurisdictions are the responsibility of their respective jurisdictions. Outside their jurisdictions, costs are in accordance with existing mutual aid agreement procedures. The exception is if a jurisdiction is specifically tasked with a mission outside their normal jurisdiction and outside the existing mutual aid agreements.

The Incident Command Post may request additional resources not covered by Law, Fire and EMS mutual aid agreements through the EOC. Costs associated with the operation of the Incident Command Post are the responsibility of the Department of Emergency Management. These additional resources will be paid for by the Department of Emergency Management.

All agencies may seek reimbursement for response expenses only with a gubernatorial or presidential declaration using the regular process.

VI. REFERENCES, AUTHORITIES, AND POLICIES

References

The following references are available for clarification and further information:

- Sonoma County Operational Area Emergency Operations Plan, October 2014
- Sonoma County Hazard Mitigation Plan, October 2016, prepared by Sonoma County Permit & Resource Management Department under the direction of Sonoma County Fire & Emergency Services
- Repetitive Loss Report for Sonoma County, June 2005, prepared by URS Corporation for FEMA
- Sonoma County General Plan 2020, Public Safety Element, September 2008
- Implementing California Flood Legislation into Local Land Use Planning: A Handbook for Local Communities, October 2010
- Informational Sheet, State-Federal Flood Operations Center, Department of Water Resources, January 2012
- Sample Flood Safety Plan, Department of Water Resources, June 2011
- NWS Hydrologic Web Products Manual, Version 1.1, January 2012
- NWS Manual 10-950, Definitions and General Terminology, November 2010
- Sonoma Water 2012 Update, Local Hazard Mitigation Plan, December 2012
- Department of Transportation, Federal Aviation Administration, Air Traffic Organization Policy – Order JO 7210.3X, February 9, 2012

Authorities and Policies

The following ordinances and code extracts provide authority to the Operational Area to take specific actions during flooding:

River closure during floods and receding floods

(Excerpt from Sonoma County Code, Article III, Chapter 23, Sec. 23-15):

(a) In order to ensure public health and safety, the public waterways (as defined in Section 100 of the California Harbors and Navigation Code) and navigable waters (as defined in Section 36 of the California Harbors and Navigation Code) of the Russian River will be closed to all vessel traffic, except authorized emergency rescue and patrol vessels operated by public safety or peace officers, from the Mendocino County line to the mouth of the Russian River when the river flows reach thirty-two feet (32') as measured at the Guerneville Bridge (Hwy 116) and shall remain closed until the river flows recede to twenty-five feet (25') as measured at the Guerneville Bridge (Hwy 116).

(b) Every passenger, operator or person in command of any vessel (other than an authorized emergency rescue or patrol vessels described above) upon the Russian River when it has been declared closed pursuant to subsection (a) of this section is guilty of a misdemeanor. (Ord. No. 5137 § 1, 1999.)

Protective Action Authority

The decision to warn the public of a hazardous incident, restriction, or closed access corridor and/or to evacuate an affected area is made by the Incident Commander or the Emergency Operations Center (EOC). However, the authority necessary to carry out these actions usually rest with law enforcement. The California Penal Code 409.5 provides law enforcement and health officers the legal authority to “close and/or evacuate” an area.

California 409.5 P.C. states:

- a. “Whenever a menace to the public health or safety is created by a calamity such as flood, storm, fire, earthquake, explosion, accident, or other disasters, police officers, lifeguards, publicly employed full-time marine safety officers or local health officers may close the area where the menace exists for the duration thereof by means of ropes, markers or guards to any and all persons not authorized by the lifeguard or officers to enter or remain within the enclosed area.”
- b. “Law enforcement may close the immediate area surrounding any emergency field command post activated for the purpose of abating any calamity enumerated in this section or any riot or other civil disturbance to any and all unauthorized persons pursuant to the conditions which are set forth in this section whether or not the field command post or other command post is located near to the actual calamity or riot or other civil disturbance.”
- c. “Any unauthorized person who willfully and knowingly enters an area closed pursuant to subdivision (a) or (b) and who willfully remains within the area after receiving notice to evacuate or leave shall be guilty of a misdemeanor.”
- d. “Nothing in this section shall prevent a duly authorized representative of any news service, newspaper or radio or television station or network from entering the areas closed pursuant to this section.”

Simply stated, whenever law enforcement/health officials feel that an area must be closed and/or evacuated to protect the public, 409.5 P.C. provides the legal authority to do so. If residents refuse to comply, that refusal should be noted and the Incident Commander advised of a non-compliance of the evacuation order. It should be noted that specifically under 409.5.d, the media can still have access to these areas unless another code is enacted.

Sandbag Distribution Policy: Use of County Owned Sandbags and Other Resources

Purpose

To establish policies and procedures for the use of sand and sandbags for public infrastructure protection during a proclaimed disaster or emergency, including specific instances where public stocks of sand and/or sandbags can be provided for private property protection efforts.

Background

During past winter seasons, due to high demand, citizens in the flood prone areas of the County, were unable to purchase sandbags for flood protection. Subsequently, various groups of citizens have requested that the County furnish them with sandbags so that they can protect their homes.

Policy

For normal operations and for annual preparedness efforts, on-hand stocks of sand and sandbags under County control are intended for public infrastructure protection only. The Director of Emergency Services (County Administrator) or the Board of Supervisors may, upon a "Proclamation of a Local Emergency in Sonoma County", and/or during any period in which an imminent threat of imminent flooding is identified for specific locations, take action to make available sand and/or sandbags to the residents of the unincorporated areas of the County. Any public assistance to private persons will be based on the need to mitigate the immediate effects of the emergency or disaster, will be limited to stocks not needed for public assets and for public safety, and will terminate upon cessation of the immediate threat.

Primary responsibility for the prevention of flood damage to private property rests with the individual property owner. Information on the techniques of flood damage prevention shall be made available by County Fire & Emergency Services Department.

General Procedures

During a proclaimed emergency and/or at the discretion of the Director of Emergency Services (County Administrator), or the Board of Supervisors, sand and/or sandbags, in excess of that which is needed for protection of public assets and for public safety, may be provided to the general public for emergency use. The provision of sand and/or sandbags will be terminated upon cessation of the immediate threat created by the proclaimed emergency or disaster. Sand and/or sandbags will be provided from available County stocks and distributed at predetermined locations. Sufficient stocks of sand and/or sandbags will be procured by the Department of Transportation and Public Works prior to the winter months to handle their expected use by the County for public infrastructure protection during proclaimed emergency flooding events.

In circumstances described in the previous paragraph, sand and sandbags will be provided free of charge to County residents. Sand and sandbags may be positioned in pre-determined areas in flood-affected areas of the County and would be available on a self-serve basis. Residents will assume all risk and liability for the use of the sand and sandbags, and will be expected to bring appropriate equipment to fill and transport sandbags to their area of need. Proof of residence may be required. Limitations may be

placed upon the amount of sand and sandbags made available to the public. Sand and sandbags will be provided by the Department of Transportation and Public Works.

The costs associated with any distribution of County purchased and supplied sand bags or sand to the public outside of this stated policy, will be borne directly by the department authorizing the distribution.

VII. APPENDICES

A. Intelligence

- History
- Threat Assessment
- Intelligence Resources
- Flood Elevation Matrix
- Maps [(Public Safety Use Only (PSUO))]

B. Operations

- ICP Organization and Structure
- Checklists
- Resource Deployment Matrix
- Communications (PSUO)

APPENDIX A: INTELLIGENCE

History

The United States Geological Survey (USGS) has maintained stream-gauge stations to record floods on the Russian River since 1911. Since 1955, gauges have indicated that flood stage was exceeded at Guerneville 35 out of the last 64 years. Historically, the earliest major flood recorded on the river occurred in 1862. This flood had an estimated discharge of 100,000 cubic feet per second (cfs) and is considered a 1% chances flood event.

Following several floods in the 1930s, the United States Army Corps of Engineers (USACE) concluded that two dams were necessary to control flood flows on the Russian River. Coyote Valley Dam, which holds back the East Fork of the Russian River and created Lake Mendocino, was constructed in the late 1950s. Warm Springs Dam was constructed in the 1980s to hold back Dry Creek and create Lake Sonoma. These facilities, which have a combined drainage area of 235 square miles and storage capacity of 450,230 acre-feet, artificially augment low summer flows and diminish peak winter flows. In fact, these facilities have been credited with reducing floodwaters by 4 feet in the Guerneville area during the February 1986 storm. Additionally, Warm Springs Dam has significantly reduced the risk posed by the 1% chances flood downstream of the dam on Dry Creek.

Floods along the Russian River are also attenuated by the Laguna de Santa Rosa. This complex of wetlands, a natural waterway and overflow basin of Mark West Creek, contains flow from approximately 250 square miles (approximately 10 percent of the Russian River watershed). During floods, the Laguna acts as a natural reservoir, storing up to 80,000 acre-feet of water, potentially reducing the river's downstream flood levels by more 10 feet. However, increased sedimentation and development in the Laguna have decreased its capacity for flood attenuation, with some estimates reducing as much as 60 acre feet per year.

The largest flood in recent history occurred between February 14 - 18, 1986, when a peak discharge of 102,000 cfs was recorded and the flood reached a gauge height of 48.6 feet at Guerneville. A 1995 flood also topped 48 feet and had a peak discharge of 93,900 cfs. The 1997 New Year's flood, while reaching 45 feet and a peak discharge of 82,100 cfs is considered to be a major flood.

Since 1993, the Sonoma County Operational Area Emergency Operations Center (EOC) has been activated on nine different occasions for flooding associated with large storms. Each of these events was federally declared, allowing federal assistance to be made available within the disaster area.

Threat Assessment

The Russian River watershed is the largest in Sonoma County, draining a total of 1,485 square miles. It originates in Mendocino County, flows southward through eastern Sonoma County from Cloverdale to Healdsburg, where it turns west; then flows into the Pacific Ocean at Jenner. Nearly 90 percent of the drainage basin lies upstream of the flood-prone lower reach of the Russian River, which includes the unincorporated communities of Monte Rio, Guerneville, Rio Nido and Forestville. The watershed contains much of the County's prime agricultural land, including the Alexander Valley and Dry Creek areas, and has been greatly influenced by urbanization in the vicinity of Santa Rosa. As the river meanders west, just south of Windsor and past the confluence of the Mark West Creek and the Laguna de Santa Rosa, the river's floodplain narrows significantly as it flows through the Coast Range to the Pacific Ocean. Flows in the watershed are regulated at Coyote Dam near Ukiah and at Warm Springs Dam on Dry Creek (a tributary) in northeastern Sonoma County.

Damaging floods in Sonoma County occur most frequently along the Russian River, the Petaluma River, and Sonoma Creek; the tributaries to these flooding sources; and along the coastal areas, including the San Pablo Bay. Floods in the Russian River basin tend to be short in duration. The most common floods in this area develop within 24 to 48 hours after the beginning of a storm and will recede within 3 days after the end of the storm.

Downstream of Healdsburg, these floods are characterized by high velocity and significant depth of flow due to the relatively narrow floodplain. Areas of concern include Mirabel Park; lower Fife Creek at its confluence with the Russian river, which includes the commercial district and residential areas in Guerneville; and Duncans Mills (southwest of the mouth of Austin Creek).

At the Guerneville Bridge, the Russian River is considered to be at flood stage when it reaches a height of 32.0 feet. For those who have lived along the banks of the Russian River for some time, floods of less than 34 feet are a routine inconvenience that can happen more than once during a typical winter. High water less than 34 feet does not usually present a significant problem for emergency service organizations.

Generally speaking, once the ground water has been recharged and is saturated by prior storms, and there is a prediction of significant rainfall for five or more straight days, the risk of potential flooding is greatly increased. Warmer storms, such as a "Pineapple Express" can produce periods of significant rainfall that could cause flood conditions. New predictive ability to identify "Atmospheric River" conditions may increase the accuracy in determining possible flood events.

Physical damage from floods can include the following:

- Inundation of structures causes water damage to structural elements and contents.

- Erosion or scouring of stream banks, roadway embankments, foundations, footings for bridge piers and other features.
- Impact damage to structures, roads, bridges, culverts, and other features from high-velocity flow and from debris carried by floodwaters. Such debris may also accumulate on bridge piers and in culverts, increasing loads on these features or causing overtopping or backwater effects.
- Destruction of crops, erosion of topsoil, and deposition of debris and sediment on croplands.
- Release of sewage and hazardous or toxic materials as wastewater treatment plants are inundated, storage tanks are damaged, and pipelines are severed.

Floods also cause economic damage losses through closure of businesses and government facilities; disrupt communications; interrupt the provision of utilities such as power, water and sewer; result in excessive expenditures for emergency response; and generally disrupt the normal function of a community.

There are a number of residential areas with significant populations (greater than 100 people) that frequently become isolated when stretches of road become inundated. These areas include neighborhoods accessed by Neeley Road and Drake Road (both near Guerneville). If stream depths on the Russian River exceed 42 feet, important bridges and stretches of road along Highway 116 and River Road are at risk of being flooded. These roads provide vital access to the communities of Guerneville and Monte Rio. This flood depth has been exceeded four times between 1984 and 2019.

In addition to the slow-rise flood on the Russian River, storms can also cause other emergency conditions throughout the County including: creek and stream flooding, localized and spot flooding from the inability of run-off to keep up with periods of heavy rainfall; clogged or blocked culverts; trees and wires down; landslides or debris flows blocking roadways or waterways, etc. See Flood Related Hazard Zones Map of Lower Russian River Area for specific flood and landslide areas on page 34. These events are directly related to immediate rainfall and affect the more urban areas and the cities and may occur several hours or days earlier than a slow rise flood on the Russian River.

Agencies and jurisdictions with countywide or local responsibility must also remain alert to slow-rise flooding at other locations, including: the upper reaches of the Russian River, the Alexander and Knights Valleys, the Laguna de Santa Rosa, the Petaluma River, and Sonoma Creek. Flooding on these waterways will likely occur before floods on the Lower Russian River, and may require consideration to determine whether to open an Emergency Operations Center.

Flood Intelligence Resources

The key to preservation of life during a flood is the timely warning of the flood threat, the notification of the public, and the preparation of emergency response resources. To accomplish this timely warning, it is imperative to use a variety of flood intelligence resources that must be diligently exploited to maintain an accurate and timely situational awareness. The key components of Flood Intelligence includes the following:

Weather Forecasts

The advent of satellite imagery and sophisticated computer models have significantly improved the ability to forecast times and intensities of rainfall. Managing flood response requires knowledge and understanding of the implications of weather predictions for the local area as well as other parts of the watershed. The National Weather Service (NWS) provides daily briefings on upcoming incidents. The Sonoma County Op Area participates in these briefings when potential flood conditions begin to materialize. When conditions warrant, NWS will also provide customized forecast products as requested from the Op Area.

River Forecasts

In addition to precipitation forecasts, it is important to know how resulting runoff will affect reservoir storage, releases from dams, and ultimately the amount of water flowing in the river. Hydrologists for DWR work with the National Weather Service in the California-Nevada River Forecast Center (CNRFC) to provide twice daily forecasts of river height at various points. In the Russian River basin, forecasts are made at Hopland, Healdsburg and Guerneville. *Note: For planning purposes, the crest at Hacienda Bridge occurs 8 hours after the crest at Hopland Bridge.* These forecasts are issued as “River Bulletins” normally at 0800 and 1500 each day.

When this plan reaches “Phase 1”, the DEM Staff Duty Officer regularly reviews the website of the California Data Exchange Center (CDEC), which provides data on reservoirs, rivers, and rainfall. (<http://cdec.water.ca.gov/>) More specifically, CDEC provides information on precipitation, river forecasts, river stages, snowfall, and reservoir storage. The information is presented as tables, but is also available in graphical format that compares current conditions to historical data.

Flood Alerts

Flood alert terminology for flood warnings are standardized by the NWS and any alerts and warnings should use this terminology when communicating flood information to the public. These warnings use the following terms:

- **Flood Watch**

Issued to inform the public and cooperating agencies that current and developing hydrometeorological conditions are such that there is a threat of flooding within the next 48 hours, but the occurrence is neither certain nor imminent.

- **Advisory (ADVY)-**

Highlights special weather conditions that are less serious than a warning. They are for events that may cause significant inconvenience, and if caution is not exercised, it could lead to situations that may threaten life and/or property.

- **Flood Warning (FLW)**

In hydrologic terms, a release by the NWS to inform the public of flooding along larger streams and rivers in which there is a serious threat to life or property. A flood warning will usually contain river stage (level) forecasts.

Notifications

Notifications can be from many potential sources. Predictive flood conditions are relayed to key emergency management personnel by NWS Monterey, the California – Nevada River Forecast Center, CalOES and DWR, oftentimes through direct methods. Flood alerts can be disseminated through the Wireless Emergency Alert (WEA) system, NOAA Weather Radio, weather apps, alert services and the Emergency Alert System (EAS). Moreover, the increased capability of information on the internet to be pushed to individuals is another source of notification.

Once the information is received locally, it is analyzed and evaluated, and in some cases, independently confirmed. Emergency management personnel will then make specific phone calls, contact the agencies outlined in this plan, ask the Public Safety Answering Point (PSAP) to assist in notifications and use an email list (Gov Delivery) to send information and assessments to the wider emergency management community in the Operational Area.

Public Information will be performed in accordance with the Sonoma County Op Area Emergency Public Information Plan. In specific circumstances, it may be appropriate to activate Sonoma County Alerts (SoCoAlert) to notify individual residents by telephone that there is flooding forecasted or occurring.

Coyote Valley and Warm Springs Dam Releases

The U. S. Army Corps of Engineers (USACE) operates the Coyote Valley and Warm Springs Dams. During normal conditions most of the year, the Sonoma County Water Agency has rights to control the releases from the water supply pool from Warm Springs Dam and Coyote Valley Dam. When water levels rise above the top of the water supply pool and into the flood control pool, USACE assumes control of releases. Both dams are operated

to make minimal/zero releases once the downstream control points are projected to reach/exceed a specific target:

Coyote Valley Dam Hopland \geq 8,000 cfs (roughly 12+ ft)

Warm Springs Dam Guerneville \geq 35,000 cfs (roughly 28.5+ ft)

Although both of these dams have ungated spillways, they each have an Emergency Release Schedule. Both schedules are designed such that the sum of the reservoir release plus uncontrolled flow is restricted to limit the maximum release for as long as possible. Uncontrolled flow occurs when water capacity exceeds spillway crest. Water is released as quickly as possible (Uncontrolled) regardless of river conditions to prevent water from cresting the dam.

	<u>Spillway Crest</u>	<u>Uncontrolled flow</u>
Warm Springs Dam	502.0 ft (381,000 acre ft.)	\geq 504.7 ft
Coyote Valley Dam	764.5 ft (116,500 acre ft.)	\geq 773 ft

The USACE provides release data to the CNRFC which incorporates the data into their river forecast.

Hydrological Modelling Forecast

As the weather and river forecasts are received, that data needs to be analyzed into useful and actionable information. A key tool in conducting an accurate prediction of flood effects is the web-based hydrological model of the Russian River. The hydrological model is reasonably accurate at showing the inundation from 32' through 52' in one foot increments. However, local weather variations and changes in the river geography can change accuracy, so this should only be used as a planning tool and not interpreted as a perfect model. NOTE: This map is not for publication to the general public. It is for planning purposes only. The Hydrological model access can be given by the EOC GIS Section.

Flood-Related Events

As important as it is to anticipate the potential situation, it is equally vital to be aware of current conditions and sudden shifts in those conditions. Maintaining regular contact with field responders is imperative to maintaining accurate situational awareness. Frequent contact ensures a prompt response when field conditions change. Field information, in conjunction with river, weather and modelling forecasts, provides the basis for determining the appropriate response stages of this plan.

Flood Elevations, Landmarks and Roadways¹

All elevation levels based upon river height at the Guerneville Bridge

Time:	Level:	Event:
	28.0	Lower county roads such as Trenton-Healdsburg Road under the Laguna bridge, Wohler Road at the bridge by River Road, Eastside Road at 5325. Guerneville: J's Amusements takes on water, road is still passable.
	29.0	Monitor Stage
	32.0	Flood Stage
	32.0	Guerneville: Mill Court; Mill St. Monte Rio: Old Bohemian Hwy closes by tennis courts.
	32.5	Guerneville: Hwy 116 at Neeley Rd; Mays Canyon closed at old rodeo grounds.
	33.0	Guerneville: Pee Wee golf at Hwy 116 at Drake Road; behind the River Inn & River Theater; Mirabel Trailer Park begins to flood. Monte Rio: Willow and Alder begin flooding.
	34.0	Guerneville: Cabins closest to the river on the south side of the bridge; Johnson's Resort behind the substation; Drake Road at the tennis courts; Drake Road & Guerne Way; lower cabins at Creekside and Parker's Resorts on Neeley Road; up Mill St. almost to 5th; Murphy's Circle; yard at Noonan's garage; 5th and Church Streets; Old Sycamore Court. Monte Rio: Bottom of Redwood Drive in Northwood.
	35.0	Moderate Flooding
	35.0	Guerneville: 4th St. by Fife's Creek; more of Parker's Resort. Forestville: Summerhome Park Road.
	36.0	Forestville: Mirabel Park Resort and the Trailer Park (ground level). Guerneville: Fern Inn Resort lower cabins; Buena Vista Road; River Drive.
	36.5	Guerneville: Brookside Resort lower cabins (Brookside & 4th).
	37.0	Guerneville: Imperial Lodge; 5th and Mill Streets; River Auto Parts; Shell Station; River Road at Orchard.
	37.5	Hacienda: Rio Nido Lodge and other low areas. Monte Rio: River Blvd. by Angelo's Restaurant. Crest in 1/93
	38.0	Guerneville: Low area between River & Old River Roads filling up: Robin's & Sons Excavating, Perry's Furniture, the Laundromat; and Dada's Hardware. Monte Rio: Freeze Out Road (off Moscow Road).
	38.5	Monte Rio: Hwy 116 at D. St.; Hwy 116 west of Duncans Mills. Hacienda: One lane open on River Road at Hacienda.
	39.0	Guerneville: Some water coming over River Road between bridge and Rio Nido; North side of River Road still filling; Triple R Resort on Mill St.; Armstrong Woods Road between Russian River Gas & Paradise Cove. Rio Nido: Miniature golf course area on Canyon 7 in Rio Nido. Forestville: Summerhome Park Road; River Road (Mirabel to Cooke's Fort) begins to flood.
	39.5	Guerneville: Northern Ave. off Drake's Road; Vacation Beach area at end of Neeley Road; Fire Mountain Lodge and Brookside Lodge; Guerneville School yard. Cazadero: Cazadero Highway closes as Austin Creek floods. Forestville: Rio Dell area; Joe Cooke's fort.

¹ * This list is a guide – Use for planning purposes only. Each storm is unique and affects watershed runoff differently. Flooding at creeks occurs at different times than on the Russian River. Landslides, debris, and new construction may change runoff patterns.

Time:	Level:	Event:
	40.0	Major Flooding
	40.0	Guerneville: Travel on River Road is becoming a problem; River Road at Korbel Monte Rio: Upper Redwood Dr. in Northwood. Cazadero: Austin Creek Road closes. Crest on 3/10/95
	40.5	Guerneville: River Road between Rio Nido & Guerneville closes; Redwood Chapel on Mill St.; Buck's Restaurant. Monte Rio: Main St. begins to inundate. Forestville: River Road at Martinelli.
	41.5	Guerneville: Mill Street at 4th closed; businesses on high side of River Road start going under; Old River Road on Guerneville end closed. Monte Rio: Main St. intersection impassable. Elementary school begins to flood. Forestville: River Road at Mirabel closed. Crest on 1/3/06
	42.0	Guerneville/Rio Nido: DuBrava starts flooding; Neeley Road across from DuBrava closed; Rio Nido post Office; Burdon's Restaurant on River Road; Hwy 116 at Gabe's Rock Road getting wet; Sweetwater Springs Water District office. Monte Rio: Bohemian Hwy in town.
	43.0	Guerneville: Safeway parking lot; Main St.; Guerneville school old buildings.
	44.0	Guerneville: Guerneville now isolated: Hwy 116 closed at Drums by Fife Creek.
	44.5	Guerneville: Old Noonan's property at 4th and Church under; River Lane in Vacation Beach.
	45.0	Guerneville: DuBrava under; most of Fife's under; Hwy 116 west of Safeway to Old Cazadero Road under. Monte Rio: Bartlett's store and surrounding area.
	45.3	Crest on 2/27/19
	46.0	Disastrous Flooding Guerneville: River Road at Rio Nido, the River Club, River Theater, River Inn and Chevron service station going under. Crest on 1/10/95
	47.0	Guerneville: Businesses on North side of Main Street: King's, Pat's, Rainbow Cattle Co., Bakery, etc. Crest on 2/28/40
	47.4	Crest on 12/23/64
	47.6	Crest on 12/13/55
	48.5	Guerneville: Veteran's Building begins to flood.
	48.9	Crest on 2/18/86
	49.0	Guerneville: 4 feet of water in parking lot; boat needed to travel down Main St.
	50.0	Guerneville: Water enters door of Sheriff's Substation.

For Public Safety Use Only

OPERATIONS PLANNING MAPS

- County of Sonoma Flood Related Hazard Zones
- Russian River Incident Planning Map
- Guerneville Branch Division Map
- Helicopter Landing Zones

For the latest Hazard Model maps,
please reference the Sonoma County Hazard Mitigation Plan at:

<https://sonomacounty.ca.gov/PRMD/Long-Range-Plans/Hazard-Mitigation/>

For inundation modeling at specific expected flood levels,
the Flood Model Maps are available at:

<http://sonomamap.maps.arcgis.com/apps/webappviewer/index.html?id=b78edb375de6457f97869703bd368f35>

APPENDIX B: OPERATIONS

Incident Command Post Organization and Structure

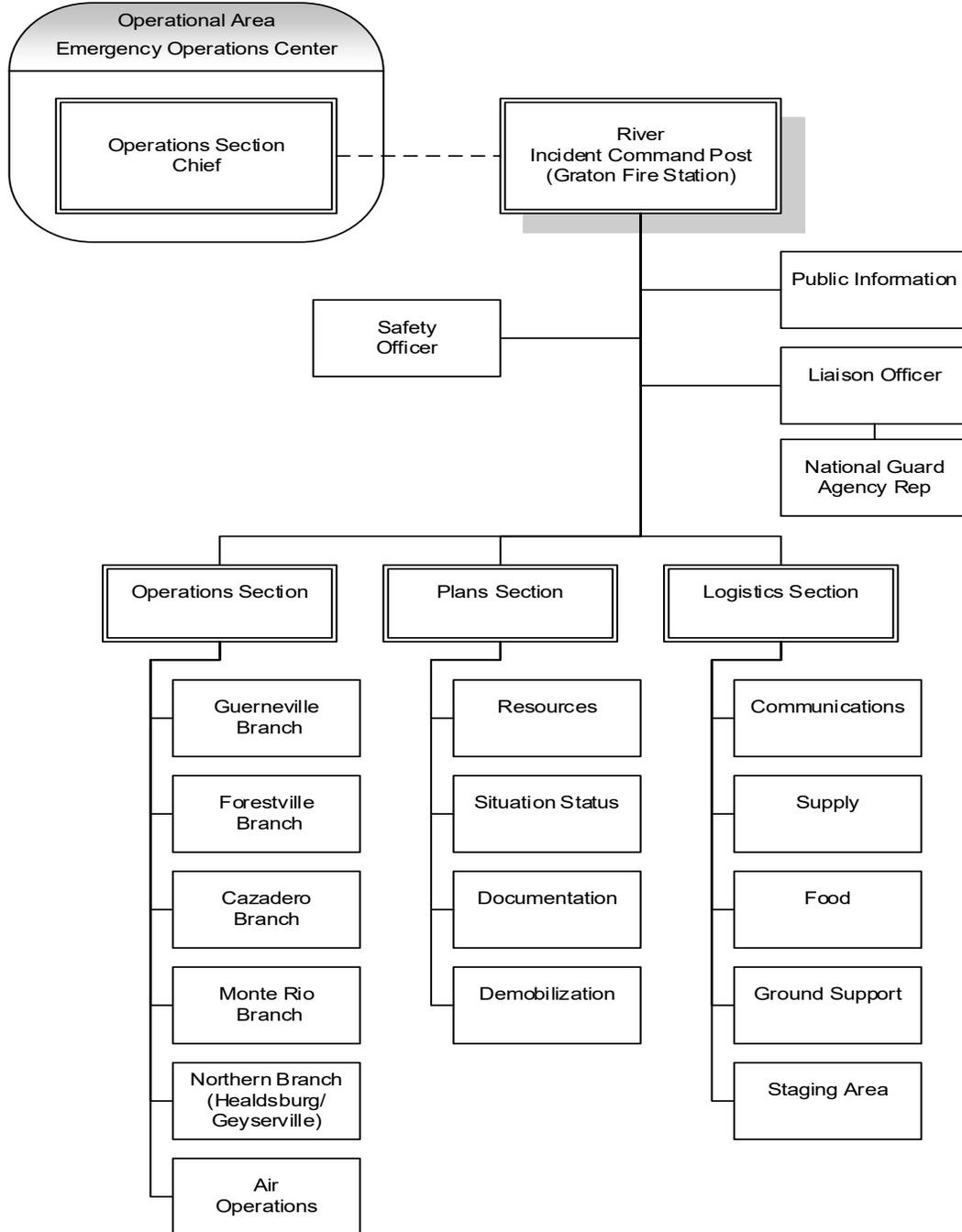
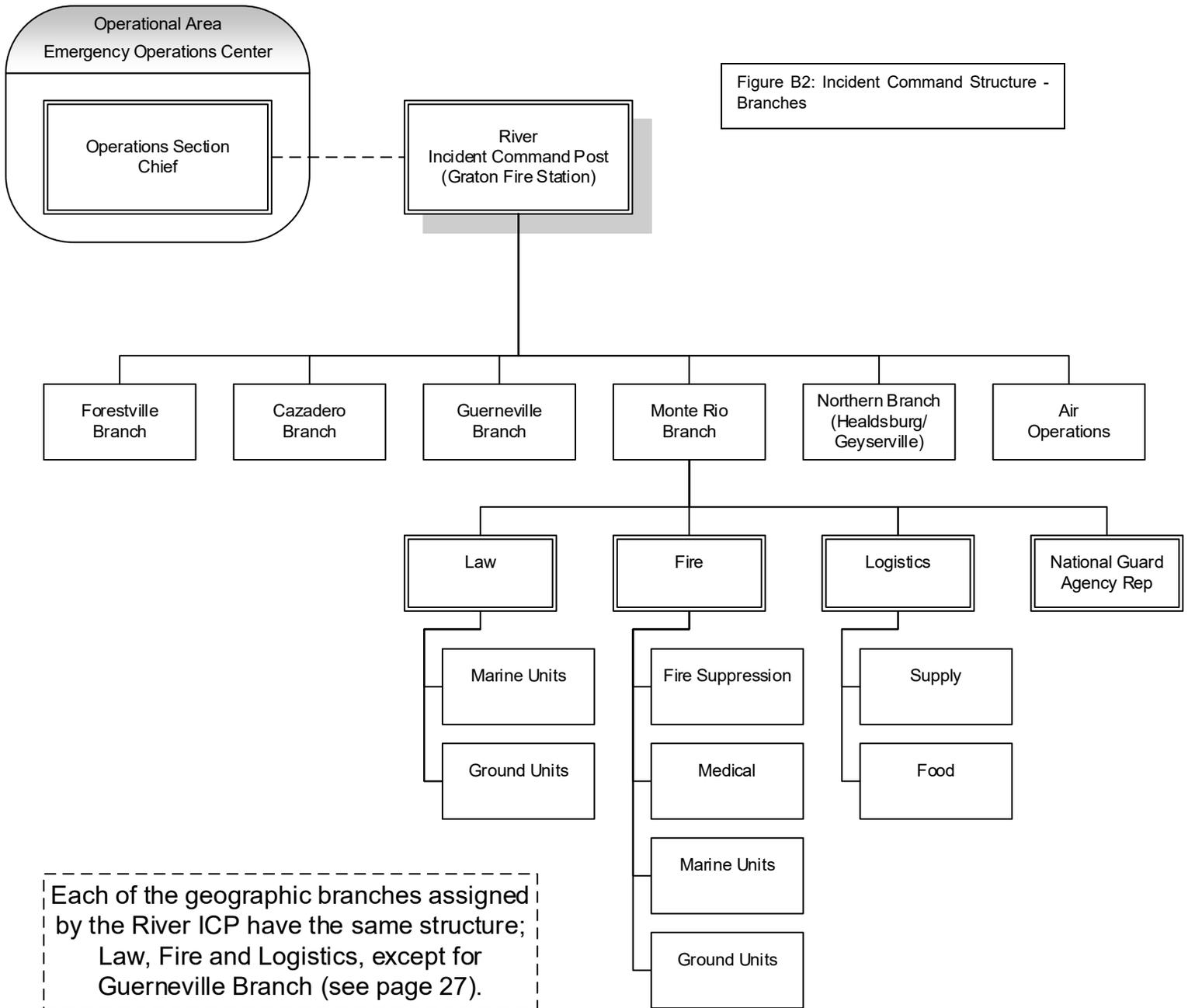


Figure B1: Incident Command Post Structure



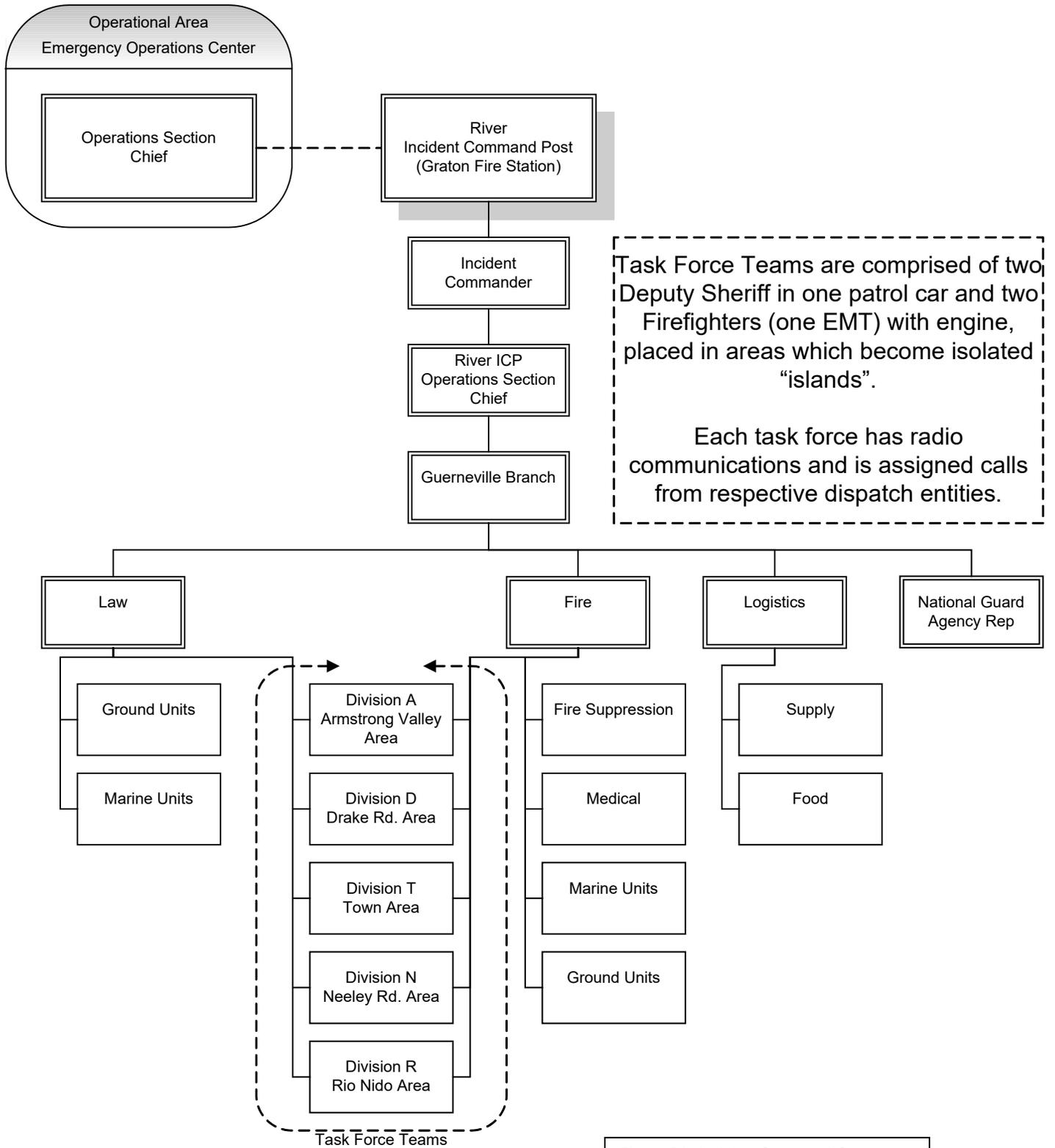


Figure B3: Incident Command Structure – Guerneville Branch

Position	Phase				Source
	Pre-Flood	Minor Flood	Major Flood	Re-Entry	
Management					
Commander	n	a	a	a	Op Are Coord
PIO	n	a	a	a	CAO
Safety	n	a	a	a	
Liaison	n	a	a	a	
Operations					
Operations Chief	n	a	a	a	Fire
Fire & Rescue Branch		n	a	x	Fire
Law Branch		n	a	a	Sheriff
Air Ops		n	a	x	Sheriff
CHP		n	a	a	CHP
National Guard		n	a	x	Guard
Plans					
Plans Chief	n	a	a	a	PRMD
Situation		n	a	a	PRMD
Documentation		n	a	a	PRMD
Logistics					
Logistics Chief	n	a	a	a	GS
Communications	n	a	a	a	ACS
Tactical Dispatch	n	a	a	a	REDCOM
Supply		n	a	a	GS
Food		n	a	a	GS
Ground Support		n	a	a	GS
Staging Area Manager		n	a	a	GS

Legend:

a= Activated

n=Notified for possible activation

x=deactivated (note: All deactivated at the end of re-entry phase)

Figure B4: ICP Staffing by phase

Master Operational Checklists

Sheriff's Office Checklist

Phase 1: FLOOD MONITOR

River 25'+ at Guerneville

- Receive forecast of flooding, notify the following:
 - Watch Commander
 - Staff Duty Officer – Department of Emergency Management
 - Notify key department personnel, verify they are available, and if not, designate an alternate.
- Alert campgrounds that are subject to flooding along the river to move to higher ground.
- In conjunction with the Community Development Commission (CDC), alert homeless encampments that are subject to flooding along the river to move to higher ground.

Department of Emergency Management Checklist

Phase 1: FLOOD MONITORING

River 25'+ at Guerneville with Likelihood of Rising

- Receive forecast of flooding, contact the following to brief the local conditions and discuss current situation:
 - Op Area Fire Coordinator
 - Sheriff's Office Dispatch Bureau
 - Sheriff's Office Watch Commander
 - REDCOM
 - Graton Fire Chief (for possible activation of ICP)
 - County Administrator
 - County Public Information Officer

- Transportation and Public Works Department

- Conduct intelligence gathering activities with local first responder agencies to determine conditions in the field.
- Prepare County/Op Area EOC for possible activation to include clean-up, function check of computer and telecommunications systems and supplies.
- Prepare Incident Command Post for possible activation to include:
 - Identify and notify initial ICP Commander
 - Contact Permit Sonoma, GS and ACS and issue warning for activation
 - Contact ISD to have ICP Computer package put on standby
 - Contact Sheriff Telecommunications Bureau to prepare radio allocation
 - Contact REDCOM and issue warning for activation of Tactical Dispatch Unit.
 - Check ICP supplies.
 - Conduct functions check of phone lines.
- Maintain communication with EOC staff, Sheriff's Dispatch and REDCOM of current and predicted conditions.
- If situation warrants, conduct Op Area Phone Call(s) to develop situational awareness and disseminate information. If possible, include a National Weather Service representative to provide briefing.
- Establish communication with Coastal Region – California Office of Emergency Services, Sonoma Water, National Weather Service, and California/Nevada River Forecast Center.
- If it appears that conditions may require evacuation orders immediately or into the future based on current forecasts, notify Human Resources and American Red Cross so they can begin preparations for sheltering with at least 12 hours lead time.
- Notify response partners of current situation through an email message using Gov Delivery.
- Coordinate with PIO to disseminate information including to remind residents to make necessary preparations for potential flooding and landslides including arrangements for their animals.
- If situation warrants based on river flood predictions, consult with CAO or Sheriff to authorize EOC activation, and to determine scope and size of activation and activation time.

- Alert EOC Section Chiefs of anticipated EOC activation time. Section Chiefs alert their staff for EOC activation.
- Activate the EOC at the scope, size and time authorized 12-24 hours prior to flood stage (32') being reached.
- At direction of the EOC Director, facilitate the activation of the Incident Command Post at the size and time authorized 12-24 hours prior to flood stage being reached.
 - o Notify ICP Commander
 - o Contact Permit Sonoma, GS and ACS to activate support staff
 - o Contact ISD to have ICP Computer package delivered and installed
 - o Contact Sheriff Telecommunication Bureau to deliver radio allocation

Incident Command Post Checklist

Phase 1: Flood Monitoring

River 25'+ at Guerneville

- Identify and notify key staff.
- Disseminate forecast and all other pertinent information to key staff.
- Schedule a preparation meeting/phone call.
- Verify that the Incident Command Post facility is prepared for possible activation.
- Develop staffing schedules for ICP staff. As necessary, request Logistics, Communications, and PIO personnel from the DEM (EOC if activated).
- Alert staff of anticipated ICP activation time and staffing schedule.

Phase 2a: Minor Flooding

Prediction of River less than 36 Feet at Guerneville

Note: Ordinarily the ICP will not be activated at 36' or less. Therefore there are no checklist items for this phase. However, if conditions warrant the ICP may be activated during Phase 2a at the direction of the EOC director.

Phase 2b: Major Flooding

Prediction of River equal to or greater than 36 Feet at Guerneville Bridge

Prior to flood stage being reached:

- At direction of the EOC Director, activate the Incident Command Post 12-24 hours prior to flood stage (32').
- Notify EOC of preparations.
- Request any additional personnel, equipment, or supplies as needed. Prepare ICP facility for activation:
 - Set configuration of chairs and tables; bring out ICP supplies and equipment.
 - If not done by DEM, request Sheriff Telecommunications Bureau to set up radios.
 - If not done by DEM, request ISD to set up computer package.
 - Prepare Logistics storeroom to receive and distribute supplies.
 - Check all equipment and facilities; verify everything needed is available and functioning.
- Request tactical dispatchers from Sheriff/REDCOM
- Request UHF portable radio cache for California Highway Patrol (CHP) and CNG.
- Prepare for an influx of news media personnel and equipment.
- Notify the EOC when the ICP is operational.
- Assume operational control of all emergency operations in area of responsibility.
- Activate affected geographical branches per Appendix B. Assume operational control of all mutual aid responders assigned to the incident command post.
- Evaluate operational need for fixed or rotary wing aircraft from mutual aid resources as necessary. If aviation assets are requested, consider closure of air space in accordance with aviation plan.
- Have field personnel warn residents in affected areas as the flooding progresses.
- Based upon the forecasted flood levels and guidance from the EOC, determine the extent of the area that will need to be evacuated.
 - Number of people
 - Number and type of special needs

- Amount and type of security that will be required in evacuated areas.
- Evacuation routes and means (open roads, helicopter landing zones, etc.)
- Coordinate with the EOC to request activation of notification systems including SoCoAlert, Nixle, WEA and EAS.
- In coordination with the EOC, evacuate low-lying flooding areas.
 - Conduct evacuation in accordance with the Emergency Operation Plan Evacuation Annex.
 - Coordinate the movement of persons removed from the flooded areas.
 - Coordinate with EOC to implement mass evacuation procedures, and coordinate transportation, care and shelter needs
 - Conduct emergency rescue when appropriate.
 - Coordinate helicopter rescue and evacuation with Helibase Manager.
 - Only conduct non-emergency removal of persons from flooded areas during daylight hours.
 - Implement evacuated area security.
- Activate Law, Fire and Logistics units associated with each geographical branch.
- Close flood area access to all non-essential persons.
 - Verify California Highway Patrol has placed units in accordance with road closure plan.
 - Where possible verify traffic control points utilize sufficient standoff to facilitate U-turns and public safety.
- If islands are predicted, ensure each populated island includes appropriate law/fire/EMS team to assist any non-evacuated people
- If needed, establish staging areas for incoming mutual aid, disaster supplies, water trucks, field kitchens, etc.
- Based on forecasts and field reports, evaluate the need for activating the Guerneville Branch Task Force Teams. Staff as appropriate.
- Request additional resources from EOC as needed.
- Develop and implement emergency response personnel rotation schedule.
- Maintain and expand as necessary, logistical support for emergency workers.
- Maintain staging areas for both re-supply and demobilization.

- Maintain and support ICP branches for staffing and supplies.
- Coordinate with EOC on official visitors and overflights of the closed area.
- Activate Demobilization Branch.
 - Prepare demobilization plan.
 - Initiate demobilization actions for non-essential personnel and equipment.

Phase 3: Re-Entry

River Crested and Receding

This checklist assumes that all items in Checklist 2b have been conducted.

- Transition from response phase to recovery phase.
- Coordinate operational period(s) for inspection teams and recovery assets (PG&E, TPW, RESA, PDA, Fire Dept., etc) to access the incident area in order to ensure public safety and reestablish services before allowing the general public to re-enter.
- Recommend to the EOC date and time to begin re-entry. Implement EOC re-entry decisions.
- Recommend to the EOC area(s) to be allowed re-entry. Implement EOC re-entry decisions.
- Reposition/remove traffic control points based on re-entry decisions.
- Increase security in affected areas as the public is allowed to re-enter.
- Continue to provide security.
- Increase demobilization actions for non-essential personnel and equipment.
 - Demobilize Guerneville Task Force Teams and geographical Branches.
- Consider lifting temporary flight restrictions over affected airspace based on operational need.
- Transition operational control from the Russian River Incident Command Post to the Op Area EOC and other appropriate agencies:
 - Re-establish Guerneville Sheriff's operations as a full-service substation.
 - Release operational control of all fire departments.
 - Demobilize all mutual aid responders.
- Complete demobilization of ICP after the last operational units have departed. Ensure the following:
 - All documentation of event is provided to the EOC.
 - Replenish resources.
 - Update rosters, media lists, and other contact information.
 - Maintain/update equipment.
 - Conduct After Action Meeting to include recommendations for future events/exercises. Submit written AAR to the EOC.

Emergency Operations Center (EOC) Checklist

Phase 2a: Minor Flooding

Prediction of River Less than 36 Feet at Guerneville

Management Checklist

- At direction of the EOC Director, activate the Emergency Operations Center 12-24 hours prior to flood stage (32').
- At direction of the EOC Director, activate the Incident Command Post 12-24 hours prior to flood stage (32').
- Inform support agencies of County/Op Area EOC activation and collect situation summaries (Cities, CalOES, PG&E, CalFire, etc.).
- Inform Red Cross of potential sheltering needs 12-24 hours prior to flood stage (32')..
- Determine Operational Period. Begin planning staffing schedules for EOC staff.
- In consultation with EOC staff, determine appropriate protective actions to order. If ordered:
 - Communicate decision and areas to be evacuated to the ICP (if activated) and with the entire operational area.
 - Coordinate with Human Resources and Red Cross to determine the location of shelter(s) for evacuated personnel.
 - Arrange for transportation of evacuated persons out of the river area.
- As necessary, utilize SoCo Alert, the Wireless Emergency Alert System, Nixle and/or the Emergency Alert System (EAS), to notify residents of affected areas.
- As appropriate, obtain a Proclamation of Local Emergency from the Director of Emergency Services.
 - Send to CalOES representative to process
 - Send to California State Warning Center (CASWC)

Plans Checklist

- Develop a water level timetable in conjunction with the CA NV River Forecast Center, National Weather Service, and the Sonoma Water.
- Coordinate with Operations to be aware of anticipated times of road closures.
- Develop and distribute a forecast of anticipated road and area closure times.
- Develop and maintain a digital situation maps for public and internal use.
- Develop and maintain situational awareness. Produce a Situational Status Summary at least daily and distribute to Operational Area partners.

- Develop the Emergency Action Plan (EAP) for each operational period.
- Develop evacuation plan in conjunction with the ICP (if activated) to include:
 - Notification of public
 - Evacuation routes and transportation
 - Sheltering
 - Safety and Security of evacuated areas
 - Include the AFN Coordinator to ensure AFN communities needs are met through all phases of the operation.
- Coordinate with ICP (if activated) to prepare demobilization plan
- Establish documentation for extent of flood, begin to assess damages. Determine priority inspection areas.

Operations Checklist

- Establish communications with all agencies operating in the affected area to include law enforcement, fire and rescue, public works and health agencies.
- If activated, establish communications with the Incident Command Post(s) and function as the primary conduit of information and resource requests between the ICP and EOC.
- In conjunction with the ICP and/or other operating agencies, determine additional resource needs and request through appropriate mutual aid coordinators or EOC Logistics section.
- Determine if available air resources are sufficient for emergency air operations.
 - As needed, request from State mutual aid fixed or rotary wing resources to assist with transport of materiel and personnel, intelligence gathering or to provide a platform for rescue.
 - Determine need for assistance to manage Air Operations over airspace. If needed, request CalFire Santa Rosa Air Attack Base Facility to assist in managing Air Operations.
 - If conditions warrant, consider a temporary flight restriction of airspace in accordance with FAA Regulation 91.137 (see Air Operations Annex to EOP).
- As needed, request mutual aid for high water transport vehicles and crews authorized for independent operations from CA National Guard (CNG).
- Close river to all recreational boating (Sonoma County Code, Art. III, Ch. 23, Sec. 23-15). Inform EOC, all law enforcement agencies and the PIO. See the text of the relevant code in the Authorities section of this Annex.

Logistics Checklist

- Coordinate and provide required logistical support for transportation and care and shelter of persons from the evacuated areas.
- Provide required logistical support for ICP (if activated) and other emergency service workers in flooded areas.

Finance Checklist

- Prepare and disseminate disaster-specific accounting codes
- Advise the EOC Director on cost recovery issues
- Validate expenditures of funds
- Provide regular summary of obligated funds to the EOC Director

Public Information Officer Checklist

- Prepare appropriate media releases and social media content on evacuation instructions, public health concerns, area closures, school closures, shelter locations, locating missing relatives, and other relevant information.
- As needed, activate field PIOs for handling on scene media relations, and coordination of visiting officials and dignitaries.
- Deploy a PIO to any activated Incident Command Post.

Phase 2b: Major Flooding

Prediction of River Greater than 36 Feet at Guerneville

In the event of Major Flooding, all items on the Minor Flooding checklist will be executed. Additionally the following actions will be taken:

Management Checklist

- As appropriate, request a Proclamation of Gubernatorial Emergency from the Governor.
- As appropriate, request the Governor request a Presidential Declaration of Disaster from the President. Send proclamation of local emergency to CalOES representative to process to CASWC.

Plans Checklist

- Based on forecasts and field reports, evaluate the need to expand evacuation areas.
- In conjunction with Air Operations, conduct aerial survey of affected area to:
 - Aid in identification, disposal or mitigation of flood-borne hazardous material.
 - Conduct Initial Damage Estimate
 - Identify special hazards or damage created by floods prior to re-entry
- Assess the need for County-led Local Assistance Center (LAC).
- Prepare for recovery operations, including developing a debris removal plan

Logistics Checklist

- Develop a demobilization plan.

Phase 3: Re-Entry

River Crested and Receding

This checklist assumes that all items in Checklist 2a and/or 2b have been conducted.

Management Checklist

- Transition from emergency response to recovery actions.
- If applicable, transition daily operations to the Recovery Operations Center
- Conduct After Action Meeting to include recommendations for future events/exercises. Publish written AAR and Improvement Plan.*

Plans Checklist

- Analyze and validate suggested ICP (if activated) recommendations for re-entry
- Coordinate Initial Damage Estimate (IDE) efforts with Permit Sonoma, Fire Dept, TPW & ARC.
- Prepare IDE for Op Area and submit to CalOES.
- Coordinate utility repairs with PG&E, local water agencies and tele-communication vendors.

- Coordinate PDA with State/Federal Agencies as applicable
- Receive documentation of incident from the ICP (if activated).

Operations Checklist

- In coordination with the ICP (if activated), determine times and areas to be opened. Communicate decisions to ICP.
- Coordinate and prioritize road repairs/blockages with TPW.
- Implement Debris Removal plan.
 - Establish locations for debris removal containers and publicize.
 - Verify public safety field units disclose ad hoc debris piles established during response and route clearing operations
- Assist ICP as necessary in demobilization efforts. Implement Demobilization Plan upon demobilization of ICP

Logistics Checklist

- Implement Demobilization plan.

Public Information Officer Checklist

- Determine information to be communicated to areas allowed re-entry
 - Boil water notices.
 - Public Health notices
 - Debris removal container locations
 - Damage reporting
 - Public assistance information if approved and available.

Resource Deployment Matrix

Predicted Crest	Resource	Deployment time	Staging Location	Notes
36'	Graton ICP	12-24 hours prior to flood stage	Graton Fire Station	
36'	High Water Vehicle (3)	3-6 hours prior to flood stage	Graton ICP	National Guard
36'	OES Radio Cache	3-6 hours prior to flood stage	Graton ICP	Graton ICP
36'	Order Log Push Pack	3-6 hours prior to flood stage	Graton ICP	Food, batteries, chem lights, sundries,
36'	Helicopter	3-6 hours prior to flood stage	Sonoma Airport	Sheriff/CHP
36'	Deploy sandbags/sand to CPODs	24-48 Hours prior to flood stage	TBD	
38'	Tactical Dispatch	3-Hours Prior to Flood Stage	Graton ICP	REDCOM and/or Sheriff
38'	Recovery Operations Center	Immediately	TBD	
40'	Stand-By Incident Ambulance(s)	3-6 hours prior to flood stage	Graton ICP	Pre-position at ICP
40'	Evacuation bus(es)	When evacuation begins	Graton ICP	Pre-position at ICP
40'	Local Assistance Center	During Recovery	TBD	
40'	Satellite Imagery	24+ hours prior to crest	N/A	
40'	Contract earthmoving	12-24 hours prior to flood stage	Russian River FPD and Monte Rio Station # 1	
42'	Debris Removal Program	During Recovery	N/A	
42'	Helibase with Manger	3-6 hours prior to flood stage	Sonoma County Airport	CalFire (SAAB)
42'	High Water Vehicle (4)	3-6 hours prior to flood stage	Graton ICP	National Guard
42'	Helicopter (2 total)	3-6 hours prior to flood stage	Sonoma County Airport	Sheriff/CHP/National Guard/Cal Fire
44'	Cell Tower on Wheels (COW)	Prior to flood	Graton ICP Guerneville	Cell carriers
46'	High Water Vehicle (6)	3-6 hours prior to flood stage	Graton ICP	National Guard
46'	Fuel truck(s) (gas & diesel)	4-6 hours after start of operations	Forestville Fire Monte Rio Fire	FRV & MRO
46'	Helicopter (3+ total)	3-6 hours prior to flood stage	Sonoma County Airport	Sheriff/CHP/National Guard/CAL-FIRE

Appendix C: COMMUNICATIONS

For Public Safety Use Only