

Section IV: Hazard Annexes

HA 2: Flood

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1.0 Introduction

Coordinating Agency:

- Lewis & Clark County Disaster & Emergency Services

Cooperating Agencies:

- All City & County Departments
- Lewis & Clark Public Health (LCPH)
- St. Peter's Hospital
- Emergency Medical Services (EMS)
- Local School Districts
- Elkhorn C.O.A.D. (Community Organizations Active in Disasters)
- Access & Functional Needs Facilities
- Civil Air Patrol
- Montana Disaster & Emergency Services

1.1 Purpose

The purpose of this annex is to supplement the Lewis & Clark County EOP by establishing policy and procedures/guidelines specific to floods. Special emphasis is placed on the use of mitigation, phased planning, and evacuation to increase the safety of the citizens of Lewis & Clark County.

1.2 Scope

This annex addresses pre-flood warning and preparations, response during and immediately after a flood, and general recovery actions. The types of flooding include riverine flooding, flash flooding, ice jam flooding, dam failure flooding, and rapid snow melt flooding.

1.3 Activation & Plan Maintenance

This annex may be activated under the following conditions:

- ❖ Severe Weather watches or warnings issued by the NWS that affect Lewis & Clark County.
- ❖ Reports of precipitations greater than pre-established amounts at one or more rain gauge locations.
- ❖ Reports of a dam failure or threat of failure.
- ❖ During a flooding incident.

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- ❖ At the request of the Incident Commander, Chief Elected Official, DES Coordinator, or authorized designees.

The initial stage of the activation is the alerting of all rain and stream gauge observers who should forward readings from their areas to the County EOC. Dam observers may be activated when a predetermined level in streams, dam levels, and rain gauges is reached. Emergency warning and evacuation procedures/guidelines are prescribed in the appropriate dam emergency plan.

The primary responsibility for development and maintenance of this annex is that of LCCO DES with support from all cooperating agencies and departments.

This annex should be reviewed and revised annually, unless significant changes warrant earlier revision. Continued and regular revision and updating should keep this document valid and useful. Regular testing and exercising should establish the groundwork for efficient and expeditious delivery of assistance in times of emergency or disaster.

1.4 Policies

- ❖ All appropriate governmental and volunteer agency resources should be used as available.
- ❖ State and Federal assistance should be sought if injuries and damages go beyond our response capabilities.
- ❖ All services should be provided without regard to economic status or racial, religious, political, ethnic, or other affiliation.
- ❖ The on-scene Incident Commander (IC) has authority to coordinate the use of resources and personnel at the scene of the emergency and to request additional resources through the EOC.
- ❖ PPL Montana has the authority to manage flow for Holter Dam and Hauser Dam.
- ❖ The Bureau of Reclamation has authority to control releases from Canyon Ferry and Helena Valley Dams.
- ❖ The Commissioners have the authority to declare a State of Emergency within their jurisdiction and the responsibility to request a state declaration if appropriate.
- ❖ County and City Commissions and Councils have the authority to enter into mutual aid agreements between their jurisdictions and other jurisdictions.
- ❖ MCA [10-3-104](#) and [10-3-406](#) give the Governor and local chief elected officials the authority to “*direct and compel the evacuation of all or part of the population from an emergency or disaster area.....when necessary for the preservation of life or other disaster mitigation, response, or recovery;*” and to “*control the ingress and egress to and from an emergency or disaster area, the movement of persons within the area, and the occupancy of premises therein.*”
- ❖ Law Enforcement has the authority to order evacuations and close roads in emergent circumstances.
- ❖ City officials have the authority to condemn a building in the city as unsafe to occupy.

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- ❖ The MT Dept. of Transportation (MDT) and the Federal Highway Administration have the authority to close state and federal highways and bridge structures.
- ❖ The County and City Public Works Departments have authority to close streets and bridges within their jurisdictions.
- ❖ The County Health Officer has broad authority over matters of public health to include air and water quality concerns, food supplies, wastewater systems, and disease prevention.
- ❖ The County Sheriff/Coroner's Office is the lead agency for the collection, storage, and disposition of all human remains and their personal effects.
- ❖ During and after a flood emergency, emergency response resources should be primarily devoted to immediate life safety actions and the recovery of public infrastructure including roads, streets, and public facilities/utilities.
- ❖ As much as possible, all agencies and organizations involved in the execution of this annex should be organized, equipped, and trained to perform all designated and implied responsibilities contained in this annex and its implementing instructions for both response and recovery operations.
- ❖ All organizations are responsible for the development and maintenance of their own internal operating and notification procedures/guidelines. No part of this annex is intended to supplant agency SOP/SOGs.
- ❖ All organizations are responsible for filling any important vacancies; recalling personnel from leave, if appropriate; and, alerting those who are absent due to other duties or assignments.
- ❖ Personnel designated as on-scene responders or representatives to the EOC should make prior arrangements to ensure that their families are provided for in the event of an emergency, so to ensure a prompt, worry-free response and subsequent duty.

2.0 Situation & Assumptions

2.1 Situation

- ❖ Major floods hit the county in June, 1975, May, 1981 and February, 1996 when Presidential Disaster Declarations were declared. The peak of the flood season is during May and June, which usually are the wettest months of the year, with June having the most rainfall. Rapid snowmelt floods have occurred in February of 1982 and 1985 and Spring of 2006, 2011, 2014, and 2018.
- ❖ Rapid snowmelt floods in the winter and flooding during the rainy season months of May and June are a common occurrence in the county.
- ❖ Meteorology and warning systems, adequate severe weather warnings, and information pertaining to flooding or rising temperatures leading to a rapid snowmelt is available and routinely provided to emergency management agencies within the county.
- ❖ The Helena Valley north of the city of Helena is a natural flood plain that collects floodwaters because it is low and acts like a bathtub during floods. It is the site of an ancient lake with high ground water. All of the water that spills out into the valley

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eventually winds up in the lowest part of the valley, which is Lake Helena. The valley is the receptacle for three main drainages, Ten Mile, Prickly Pear and Silver Creeks.

- ❖ Other streams that also flood include Little Wolf, Spokane, and Trout Creeks. The Grizzly, Oro Fino, and Dry Gulches, which empty directly into the City of Helena also have the potential to cause serious flooding in residential areas.
- ❖ The increase of impervious road surfaces and development within the county floodplains has increased the risk of damage from floods within the county.
- ❖ There are many dams within Lewis & Clark County or upstream of varying designs, locations, water capacities and types, chief of which are Helena Valley, Hauser, Holter, and Canyon Ferry Dams. Failure of any one of these dams would significantly impact county residents.
- ❖ Flooding potential also exists for the town of Wolf Creek and Craig along the banks of the Missouri River.
- ❖ The county has 30 floodplain maps for the Helena Valley along Spokane, Ten Mile, Prickly Pear and Silver Creeks, the Blackfoot River in Lincoln, Elk Creek in Augusta, Trout Creek near York and the Missouri River near Craig. These maps are available online, in the County Community Development and Planning office, and in the Lewis and Clark County Libraries. Floodplain mapping is driven by development, a history of flooding and cost, which means that much of the county is not mapped. Unmapped areas may also be prone to flooding.
- ❖ A floodplain ordinance regulates the identified floodplains. This allows residents to buy flood insurance through their local home owner's insurance agent. The county's floodplain management program has a Community Rating system rating of 8, which allows a ten per cent discount on flood insurance premiums. About 25% of flood losses occur for properties that are out of the floodplain, so flood insurance should be considered by the home owner near a floodplain.
- ❖ Public disclosure of a property in the floodplain before a sale is required by law.
- ❖ A permit is required before developing in the floodplain, which includes buildings, bridges, culverts, wells, fill or any alteration of the floodplain.

2.2 Assumptions

- ❖ Emergencies and disasters may occur without warning at any time of day or night, and may cause mass casualties.
- ❖ Information pertaining to weather changes or systems that could result in flooding should continue to be available.
- ❖ Normal, existing communications systems will be used unless interrupted; then any means available will be employed to reestablish communications.
- ❖ The DESC will endeavor to provide as much advanced notice as possible to allow all emergency response personnel and appropriate agency personnel to ensure the safety of their immediate families prior to departing for their duty assignments.

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- ❖ Damage potential from sabotage, improper maintenance or operation, earthquakes, heavy rain, rapid snow melt and flooding may cause erosion or cracks in a dam potentially leading to partial or complete dam failure.
- ❖ On-site visual inspections of the dams, the dam's spillways, controls systems, and areas below the dams are conducted regularly.
- ❖ Emergency plans for surveillance of the dams and for evacuation of the public are developed and maintained on file at the County EOC as required.
- ❖ An Incident Command System (ICS) in accordance with the National Incident Management System (NIMS) should ensure that the appropriate response leader will assume proper command of all response groups without the questioning of that individual's authority.
- ❖ Both response and recovery operations may be hampered by snow/ice/debris blocked roads, damaged roads or bridges, and downed trees. It may take hours or even days before response personnel reach all affected areas.
- ❖ The need for increased security may exist.
- ❖ Demand for resources may be critical.
- ❖ Enhanced public awareness via techniques such as citizen handouts, ad campaigns, evacuation routes and mapping information may be helpful.
- ❖ There may be a need to assess advanced evacuation/closing of inundation areas including business/industries, public parks, and local campgrounds, etc.
- ❖ Advance preparation by health care facilities, businesses, industries, and utilities in inundation areas is essential to maintain needed services during response and recovery operations.

3.0 Concept of Operations

3.1 General

- ❖ Emergency responsibilities assigned to local agencies for flood response parallel those for other disaster operations. All agencies should utilize the Incident Command System and National Incident Management System structure to exercise command and control during incident operations.
- ❖ When a flood occurs, local authorities within damaged areas should use available resources to protect life and property and reduce, to the extent possible, the suffering and hardships on individuals. If local resources prove to be inadequate or are exhausted, assistance should be requested from other jurisdictions through mutual aid procedures/guidelines.
- ❖ Mutual aid agreements should be in place before the incident to insure legal and financial conditions are delineated. Jurisdictions in the areas sustaining little or no damage may be called upon to support the affected areas.

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- ❖ When resources are beyond the capability of local government to acquire, requests for assistance should be forwarded to the State Disaster & Emergency Services.
- ❖ When resource requirements cannot be met with State resources, Federal assistance should be requested.
- ❖ Emergency operations should begin with the threat or occurrence of a damaging flood and continue until emergency operations are no longer required.

Public Information

- ❖ See [ESF 15 Annex](#) in Section II.
- ❖ Once appointed, the Public Information Officer (PIO) will be responsible for public information coordination and dissemination during the emergency and should clear all press releases through the Incident Commander or Unified Command.
- ❖ All approved press releases should be logged and a copy saved for the disaster records.
- ❖ The EAS and target notification will be used when appropriate. Route information should be called in to the radio and TV stations, if time permits.
- ❖ During the flood watch, the PIO, in conjunction with the weather service, should try to provide pertinent information over radio, TV and the Internet. The public should be reminded to remain calm, stay tuned for more information, and to begin the following precautionary measures:
 - ◆ Determine if your property is in the floodplain. Ask neighbors or call the floodplain administrator at **447-8376**.
 - ◆ Keep emergency waterproofing materials on hand, such as sandbags, plywood, plastic sheeting and lumber.
 - ◆ Clean private culverts and drainage facilities on your property.
 - ◆ Be prepared to be self-sufficient for a minimum of 72 hours:
 - Have a food supply that requires little or no cooking and no refrigeration because electric power may be interrupted.
 - Keep a portable radio, emergency cooking equipment, lights and flashlights in working order.
 - Keep first aid and critical medical supplies (prescriptions, insulin, etc.) on hand.
- ❖ After the flood, consider these announcements as appropriate:
 - ◆ When entering a flooded building, do not use a flame as a light source because of possible gas leaks. Use a flashlight.
 - ◆ Watch for electrical shorts or live wires. Do not turn on the lights until the electrical system is checked by an electrician.
 - ◆ Take wooden furniture outside, but do not place in the sun to prevent warping. A garage or carport is ideal.
 - ◆ Do not pump out a basement too quickly because ground water may cause the walls to buckle. When floodwater subsides, begin pumping about one-third of the water each day.

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- ♦ Water for drinking and food preparation should be boiled vigorously for 10 minutes, until the water supply system has been declared safe by the Health Department.

3.2 Notifications

- ❖ The National Weather Service (NWS) will contact the DES Coordinator and Sheriff when a flood threatens.
 - ♦ The United States Geological Survey (USGS) has two flood gauges in Ten Mile Creek, one at the Williams St. Bridge and another near Rimini. The USGS also has a gauge in Beaver Creek between Nelson and the Missouri River. It takes four to eight hours for a flood crest to reach the Helena Valley from Rimini. The city dam operator at Chessman Reservoir should inform the NWS about flood conditions and read the USGS flood gauges on upper Ten Mile.
 - ♦ Prickly Pear Creek has one warning gauge at Clancy, Mt. The flood warning time on Prickly Pear is only two to four hours, because it is shorter than Ten Mile Creek, and it has more tributaries.
- ❖ A flood watch should be announced by the NWS when conditions develop that may cause a flood. These conditions may include a high snow pack and heavy rainstorms. If a flood appears imminent due to swollen streams and threatening weather conditions, a “flood warning” should be called for by the NWS. All emergency services should be placed on standby. The DESC and Sheriff should receive regular reports from the weather service. The DESC should pass the reports along to commissioners, the city manager, and mayors.
- ❖ The situation should be assessed using reports from the weather service, sheriff’s office and county road and bridge crews. The weather service should be asked to estimate the arrival of the flood crest.
- ❖ If a flood appears imminent, target notification and the EAS may be used to warn residents. The DESC or his deputy should activate the EAS by contacting the **NWS (453-8429)** to initiate the message. If phones are down, a message may be hand delivered to the primary EAS station, KCAP. Radio stations and TV stations should copy the message and interrupt regular programming for the broadcast. The message should include the creeks and areas to be affected and the estimated time the flood crest will arrive. Other warning methods such as sirens, mobile loud speakers, or door-to-door notification may also be utilized.
- ❖ Flood messages need to be cleared through the National Weather Service office, coordinated with the commissioners, and released through the IC, DESC or his designee (e.g. PIO).
- ❖ The local National Oceanic and Atmospheric Administration (NOAA) Weather Radio station broadcasts weather watches and warnings issued by the National Weather Service (NWS). Weather radios are activated when such messages are broadcast.
- ❖ Warning the people within the risk area will normally be directed by the Emergency Operations Center using the Emergency Alert System (EAS), target notification, public address systems, or door-to-door notification as required by the situation.

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- ❖ Notification to all appropriate response agencies will normally be done by the Dispatch Center or the DESC who maintains a list with 24-hour telephone contact points of appropriate Federal, State, County and private agencies, businesses or individuals who can support emergency response or recovery operations.
- ❖ The County DESC will endeavor to provide as much advanced notice as possible to allow all emergency response personnel and appropriate County agency personnel to ensure the safety of their immediate families prior to departing for their duty assignments.
- ❖ Normal, existing communications systems should be used unless interrupted; then any means should be employed to reestablish communications. If communications are down, the most logical source of communications will be the local ARES organization, which is able to provide portable and self-sustained Ham radio communication that can link critical sites such as the EOC, shelters, hospitals and others that may be needed.

3.3 Preparedness

- ❖ Enhance public education on relevant topics, understanding of severe weather warning systems, home safety, personal preparedness checklists, evacuation routes, pre- and post-flood safety procedures/guidelines (attention to flooded roads, weather conditions, hazards of electrocution, etc.).
- ❖ Review, exercise and re-evaluate emergency flood plans, policies and procedures/guidelines.
- ❖ Review shelter availability.
- ❖ Review resource lists (including private contractors) and availability of road-clearing equipment, four-wheel-drive vehicles, emergency generators, fuel, chainsaws, etc.
- ❖ Ensure that basic procedures/guidelines are in place for rapid procurement of services, equipment and supplies.
- ❖ Pre-position equipment such as debris-clearing equipment, generators, light sets, fuels, food, cots, blankets, etc.
- ❖ Testing of equipment, e.g., FAX machines, telephones, copiers and especially generators under full load for a minimum of 8 hours. Generators should be capable of functioning for 14 days with adequate fuel and fuel resupply.
- ❖ Implement a public education campaign regarding the importance of having a family disaster plan and 72-hour preparedness kit.
- ❖ Monitor weather reports.
- ❖ Prepare scripts covering shelter-in-place or evacuation as applicable. Provide shelter-in-place instructions or evacuation maps as appropriate. Include release instructions for media.
- ❖ Prepare radio messages for use by local radio stations during emergency broadcasts.
- ❖ Have personnel participate in necessary training and exercises relative to flood events.

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- ❖ Ensure that equipment and personnel resource lists and resources (e.g., heavy equipment, sand bags) are current.
- ❖ Test and maintain response and communications equipment and after-hours personnel contact information.
- ❖ Keep a stock of necessary response supplies.
- ❖ Familiarize staff with requirements for requesting state and federal disaster assistance.
- ❖ Identify and review local contractor lists to see who may provide support specific to flood response. Make initial contact with providers to verify availability.
- ❖ Review, revise, and, where necessary, establish mutual aid agreements with other jurisdictional agencies and private contractors relative to flood response.

3.4 Response

- ❖ Activate the EOC when flooding poses a significant threat to the County.
- ❖ Establish an ICS Organization to manage the situation and response. For larger events that cross multiple jurisdictions, consider establishing a Unified Command with neighboring jurisdictions.
- ❖ Estimate emergency staffing levels and request personnel support.
- ❖ Notify supporting agencies through applicable ESFs as well as appropriate officials.
- ❖ Identify local, state, and federal agencies/entities that may be able to mobilize resources to support local response efforts.
- ❖ Determine the type, scope, and extent of the incident (recurring). Verify reports and obtain estimates of the area that may be affected.
- ❖ Notify command staff, support agencies, adjacent jurisdictions, ESF leads/coordinators, and liaisons of any situational changes.
- ❖ Develop and initiate shift rotation plans, including briefing of replacements during shift changes. Dedicate time during each shift to preparing for shift-change briefings.
- ❖ Confirm or establish communications links between jurisdictional EOCs including those at the county and state levels. Confirm operable telephone numbers and verify functionality of alternate communications resources.
- ❖ Obtain current and forecasted weather to project potential damage and determine the affected area (recurring).
- ❖ Determine the need to conduct sheltering or evacuation activities (recurring). Evacuation activities should be coordinated among multiple ESFs.
- ❖ Determine the need for additional resources and request as necessary through appropriate channels (recurring).
- ❖ Submit a request for an emergency declaration, as applicable.
- ❖ Consider activating mutual aid agreements as conditions dictate. Make initial contact with mutual aid agreement partners. Place backup personnel teams on standby and alert resource suppliers of potential and current needs.

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- ❖ Coordinate resource access, deployment, and storage in the operational area including equipment, personnel, facilities, supplies, procedures/guidelines, and communications. Track resources as they are dispatched and/or used.
- ❖ Develop plans and procedures/guidelines for registering mutual aid and other first responders as they arrive on the scene and receive deployment orders.
- ❖ Establish a Joint Information Center (JIC) or coordinate with JIC(s) established by other jurisdictions. Staff JIC(s) with appropriate Public Information Officers (PIOs) as required.
- ❖ Formulate emergency public information messages and media responses using “one message, many voices” concepts (recurring). Message content may include expected impacts of the severe weather, expected duration, instructions for public protection, and planned activities to address the emergency.
- ❖ Record EOC and individual personnel activities (recurring). All assignments, persons responsible, and actions taken should be documented in logbooks.
- ❖ Record all incoming and outgoing messages (recurring). All messages and the person sending or receiving them should be documented as part of the EOC log.
- ❖ Develop situation reports (recurring). At regular intervals, the EOC Manager and staff should assemble a situation report.
- ❖ Develop and update the Incident Action Plan (IAP) (recurring). The IAP should be discussed at regular intervals and modified as the situation changes.
- ❖ Coordinate with private-sector partners as needed.
- ❖ Ensure that reports of injuries, deaths, and major equipment damage accrued during response activities are communicated to the IC.

3.5 Recovery

- ❖ Monitor secondary hazards associated with floods (e.g., landslides, contamination, damage to bridges/roads, impacts to utility lines/facilities) and maintain on-call personnel to support potential response to these types of hazards.
- ❖ Ensure an orderly demobilization of emergency operations in accordance with current demobilization plans.
- ❖ Once the threat to public safety is eliminated, conduct cleanup and recovery operations.
- ❖ Conduct damage assessment activities.
- ❖ Conduct debris removal activities.
- ❖ Restore essential services as needed.
- ❖ Activate if necessary appropriate recovery strategies, continuity of operations plans, and/or continuity of government plans.
- ❖ Continue EOC operations until it is determined that EOC coordination is no longer necessary.

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- ❖ Provide public information regarding safe re-entry to damaged areas.
- ❖ Coordinate with ESF 14 for Individual Assistance.
- ❖ Conduct a post-event debriefing to identify success stories, opportunities for improvement, and development of the After Action Report/Improvement Plan (AAR/IP).
- ❖ Updates plans and procedures/guidelines based on critiques and lessons learned during an actual event.

3.6 Mitigation

- ❖ Evaluate existing dams for hazard classification.
- ❖ Keep Emergency Action Plans current.
- ❖ Exercise Emergency Actions Plan every five years.
- ❖ Pursue mitigation projects for repetitive loss structures.
- ❖ Develop and improve upon floodplain ordinances.
- ❖ Encourage appropriate entities to obtain conservation easements for land in the floodplain.
- ❖ Pursue mitigation projects that upgrade undersized bridges that inhibit water flow or those with scour potential.
- ❖ Install ice jam mitigation systems on rivers with ice jam problems.
- ❖ Develop mapping for flood prone areas without maps.
- ❖ Encourage participation in National Flood Insurance Program (NFIP).
- ❖ Encourage participation in NFIP Community Rating System (CRS) program.

4.0 Organization & Responsibilities

4.1 Organization

- ❖ Incident Command
 - ◆ **Response:** The affected jurisdiction's senior **Law Enforcement** official or designee.
*Unified Command (*suggested*): LE, Fire, PW, PH.
 - ◆ **Recovery:** Senior **Public Works** official or designee.
*Unified Command (*suggested*): PW, PH, NGOs
- ❖ The EOC may be activated to monitor a potential emergency situation or to respond to or recover from a significant event that is occurring or has occurred. Recommended staffing may include:
 - ◆ DES coordinator and deputy(s).
 - ◆ At least one county commissioner.
 - ◆ Law enforcement representative(s).

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- ◆ Public Works representative(s).
- ◆ Public Health representative(s).
- ◆ Fire representative(s).
- ◆ National Guard liaison officer (if the Guard is activated). The National Guard may be activated by a request from the county commissioners to the administrator of the MT DES (406-324-4777 24/7). The county must first exhaust its resources before a request for Guard assistance will be honored. Once the Guard is activated, all requests for its assistance will be made through the Guard liaison officer in the EOC.
- ❖ When activated, the EOC provides support to the Incident Commander(s) in such areas as evacuation, communications, transportation, and shelter coordination.

4.2 Responsibilities

Coordinating Agency (LCCO DES)

- ❖ Give assistance and guidance to agencies & departments in the development of flood response plans.
- ❖ Assist in the development of pre-scripted warning messages and Special News Advisories.
- ❖ Provide flood awareness education to county employees and to the public.
- ❖ Monitor conditions prior to and during severe weather events particularly with respect to evacuation.
- ❖ Coordinate flood warnings and preparation actions.
- ❖ Operate the EOC at the appropriate level, maintain a chronological log of incident events, and coordinate for resources.
- ❖ Provide County PIO with information for media releases. Provide public information if the PIO is not available.
- ❖ Coordinate with the Elkhorn C.O.A.D. for any sheltering needs.
- ❖ Help coordinate recovery actions.
- ❖ Manage the process for collection of damage assessments, document and report recovery actions, and coordinate with Montana DES.
- ❖ Hold periodic briefings when necessary for the EOC staff to exchange information.
- ❖ Coordinate available resources; maintain detailed records of all fiscal and other resources committed and/or expended.
- ❖ Notify Montana DES if it appears State or Federal assistance may be necessary.
- ❖ Participate in weather and storm related conference calls.

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Cooperating Agencies

ALL

- ❖ Report any flood phenomenon that merit warning local officials or the public to the 911 Dispatch Center.
- ❖ When requested, provide personnel and equipment to assist in route alerting or door-to-door warnings, SAR missions, debris cleanup and other duties as specified by the requesting authority.
- ❖ Provide a representative to the EOC during the response and recovery phases.
- ❖ Document costs for reimbursement and auditing purposes.
- ❖ Evaluate and review procedures/guidelines to ensure operational readiness.
- ❖ Assist in identifying personnel and resources to support this Annex.
- ❖ Work with LCCO DES to keep this Annex up-to-date.

911 Dispatch Center (ESF 2)

- ❖ Receive and, if necessary, verify and acknowledge flood advisories, watches and warnings.
- ❖ Make notification to local officials concerning severe weather phenomena or conditions that could cause such situations as required.
- ❖ In accordance with SOP/SOG's or when directed, activate the necessary warning system(s) to alert and provide instructions to all departments and to the public.
- ❖ Identify requirements for route alerting and door-to-door warnings for areas where other warning systems do not adequately reach the public.
- ❖ Develop and maintain hazard specific warning procedures/guidelines covering warning receipt, verification, and dissemination.

Elkhorn C.O.A.D. (ESF 6)

- ❖ Provides shelters, feeding, and mass casualty assistance in accordance with established SOP/SOGs and ability.
- ❖ Conduct a windshield damage survey within the first 24 hours.

Chief Elected Officials (ESF 5)

- ❖ Declare an emergency and/or a disaster with up to a 2-mill levy, if appropriate. Separate declarations are required for each affected jurisdiction (county, Helena, East Helena.) A disaster declaration will allow a request to the MTDES for assistance.

Public Health (ESF 8)

- ❖ Provide public health information and education concerning the effects of a flood event.
- ❖ Inspect food and water supplies after a flood incident if necessary.
- ❖ Develop emergency public health regulations and orders due to a flooding incident.
- ❖ Monitor the County for signs of water/food related infection or illness.

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Fire Services (ESF 4)

- ❖ Establish a station checklist that includes the stockage, inventory and/or testing of fuel, food, potable water, medical supplies, rescue equipment, chain saws, emergency generators, batteries, communications systems, vehicles, etc.
- ❖ Review and prepare for mass casualty procedures/guidelines.
- ❖ Establish liaison with Public Works to ensure mutual support.
- ❖ Provide units and personnel for route alerting and door-to-door warnings when requested.
- ❖ Activate technical rescue teams as appropriate to the event.
- ❖ Assist with evacuations.
- ❖ Assist with SAR missions.

Law Enforcement (ESF 13)

- ❖ Provide units and personnel for route alerting and door-to-door warnings when requested.
- ❖ Assist with evacuations.
- ❖ Coordinate SAR missions.
- ❖ Provide security to evacuated areas.
- ❖ Close roads as needed and establish evacuation routes. Provide alternate routing plans.
- ❖ Coordinate road closure and debris information with Public Works. Emphasize reporting of debris and blocked roads, power outages, power lines, and possible electrical and fire hazards.

Public Works (ESF 3)

- ❖ Establish an agency checklist that includes the stockage, inventory and/or testing of all equipment and facilities. Special attention should be provided to fuel, potable water, chain saws, emergency generators, batteries, communications systems, vehicles, etc.
- ❖ Assist in conducting damage assessments in the aftermath of a flooding incident. Coordinate with Incident Command to inspect priority buildings first, which are essential service, hospitals, nursing homes, and shelters. Damage assessment should be reported to the EOC. See the [Damage Assessment Annex](#) for more information.
- ❖ Assess damage to bridges, streets, government buildings, dams, and containment ponds.
- ❖ Provide information on road situations to include open/closed data, bridge status and general damage.
- ❖ Oversee the repair and restoration of key facilities and systems and removal of debris in the aftermath of a flood.
- ❖ Coordinate debris removal, with an emphasis on roads that need to be cleared for emergency traffic.
- ❖ Assist with restoration of basic services. Repairs to water and sewer mains, streets and bridges should be made in order of priority.

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- ❖ Assist LE with traffic control with the use of barriers and signs.
- ❖ Identify contractors who can provide heavy and specialized equipment support during emergencies and individuals and businesses that may lease equipment during emergencies.
- ❖ Closely document all emergency work under an assigned unique work order including equipment and materials used, fuel consumed, worker overtime, tipping fees and number or volume of debris loads.

Utilities:

- ❖ Assess damages and facilitate restoration of services.

Montana Disaster & Emergency Services (DES)

- ❖ Coordinate assistance to local government and mobilization of resources per the provisions of the Montana Emergency Response Framework.

Federal Emergency Management Agency (FEMA)

- ❖ Administers assistance to the state pursuant to [PL 93-288 of the Disaster Relief Act of 1974, Section 417](#), when threat would constitute a major disaster.

Considerations and Implementation Responsibilities

Bridge Evaluation: (ESF 1 & 3)

Floods by their very nature can endanger transportation. Floating debris on a stream or river can collect on bridge footings and supports. If left unchecked, this debris can cause structural damage to a bridge that endangers all who may need to transit it. Therefore, ESF 3 agencies have the responsibility and the technical expertise to inspect all suspect bridges to determine whether they are safe for transit. If unsafe, they may be temporarily or permanently closed.

Debris Removal: (ESF 3)

Removal of flood-deposited debris from public roads/highways and associated culverts is the responsibility of the agency that is responsible for its maintenance. Care should be taken to ensure that debris removal efforts are coordinated with other agencies that may have an associated responsibility, such as the MTDEQ, BLM, MTFWP, BOR etc. Removal of debris from private property is the responsibility of the property owner. (see [Debris Management Annex](#))

Disease Prevention: (ESF 8)

Of major concern during periods of flooding are the contamination of potable water supplies, contamination of food supplies and the disruption of sanitary services. In addition, floodwaters can create habitat for insects that carry disease. Historically, some flooding events in the past have allowed raw sewage from overloaded pumps, sewers, and septic systems directly into the waterways. These problems could rapidly develop into a

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major health crisis without immediate attention. ESF 8 agencies should take the lead in the prevention of flood-related disease outbreaks. Responsibilities may include:

- Providing information on probable contamination, testing and disinfecting wells in flooded areas and recommendations for personal hygiene.
- Identifying sources of safe drinking water during disaster situations.
- Inspecting shelters for sanitary conditions, including food and water supplies, wastewater and garbage disposal.
- Providing public information on flood clean up, food salvaging operations and other disease prevention measures.
- Conducting damage assessment in licensed food facilities.
- Providing information on probable sewage contamination, identifying sources for portable toilets when needed, and providing information on appropriate clean up.
- Provide advice and assistance on maintaining sanitary conditions in the flooded areas and shelters.
- Advising Incident Command on disposal of human and animal remains.
- Implementation of disease prevention and control strategies including mass prophylaxis as appropriate.

Evacuations: (ESF 1, 13, 5)

Upon activation of the Incident Command Team, the Commission or their designee has the responsibility to order appropriate citizen evacuations utilizing local law enforcement or other emergency responders as deemed appropriate. The Incident Commander has the responsibility to recommend evacuations if the situation is imminently critical. The EOC will be activated to provide the needed resources for evacuation. (*see [Evacuation Annex](#)*)

Power Outages: (ESF 12)

ESF 12 agencies should help coordinate response to the loss of commercial power. Auxiliary power capabilities exist at the Emergency Operations Center, the Law Enforcement Center, the Civic Center, and both hospitals. Public Works also has access to portable generators.

Reservoir Management: (ESF 3, 12)

The management of water releases from reservoir water storage sites is significant to all citizens and landowners downstream from the dam(s). The BOR and PPLM are the primary agencies responsible for regulating the flow from their storage facilities. Their primary goal is to maintain the structural integrity of the dams.

Road Closures and Emergency Transportation Routes: (ESF 1, 3, 13)

Rising flood waters may necessitate closure of roads due to unsafe driving conditions caused by fast water running across a road or damage to a bridge as a result of flooding. State, County, or City law enforcement agencies working in conjunction with the MDT and City & County Public Works can enforce the closure of roads and rerouting of traffic.

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Road barricades and warning signs should be posted as needed.

Roads may be closed at the direction of the public works director(s). Factors to be considered before closing a road should be the height and velocity of the water, condition of the road, and whether or not the road is sole access.

Sandbagging and Runoff Containment: (ESF 1, 3, 7)

Road and bridge crews should try to clean culverts and barrow pits during the flood watch. Creeks should also be cleared of debris at bridge sites to allow the water passage under the bridge. The crews should, as able, patrol areas of the greatest flood hazard to determine trouble spots.

There is a natural tendency during floods to want to protect homes and businesses. Erecting a sandbag barrier around the structure can be an effective method of protecting property and diverting water flow. The public is encouraged to purchase sand and sandbags prior to flooding season for this purpose.

Search and Rescue: (ESF 9)

Floods by their very nature can isolate citizens. The Sheriff's department manages the County Search and Rescue. When needed to locate or recover isolated citizens during a flood, they should be deployed.

Additionally, the Civil Air Patrol may provide search and rescue and damage assessment help.

Shelter and Family Referral Services: (ESF 6)

If temporary lodging is needed due to flooding, the Elkhorn C.O.A.D. may activate, publish information concerning shelters, and manage shelter operations. It is critical that all relief efforts to shelter and feed citizens are a coordinated effort between the Elkhorn C.O.A.D. and all affected communities. The EOC is the logical broker for this communication. (see [Mass Care Annex](#))

Special Populations: (ESF 1, 5, 6, 7, 8, 13)

As the situation dictates, those with functional needs may need evacuation assistance. Special transportation and trained personnel may be required to accomplish this task. Incarcerated populations may also be required to be moved and this will require special transportation accommodations as well as trained security personnel. Additionally, prisoner work crews may also be used to build dikes and other sandbag operations if appropriate.

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Stream Bank Stabilization: (ESF 3, ESF 11)

Flooding causes significant erosion that can damage fish runs, navigation, recreation and agriculture. The MT Department of Fish, Wildlife, and Parks is the lead agency for streams and rivers restoration efforts following a flood.

5.0 Authorities and References

5.1 Authorities

- ❖ See [Section 5.1](#) of Basic Plan.

5.2 References

- ❖ See [Section 5.2](#) of Basic Plan.
- ❖ **Lewis & Clark County Montana EOP. May 2011: HA 2 – Flood.**

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Attachment 1: Acronyms

Acronym	Meaning
AAR/IP	After Action Report/Improvement Plan
C.O.A.D.	Community Organizations Active in Disasters
ARES	Amateur Radio Emergency Services
AUC	Area Unified Command
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
CAP	Civil Air Patrol
CBO	Community Based Organization
CCRC	Capital City Radio Club
COOP/COG	Continuity of Operations/Government
CRS	Community Rating System
DES	Disaster And Emergency Services
DESC	DES Coordinator
DNRC	Dept. of Natural Resources & Conservation (Montana)
DPHHS	Dept. of Public Health & Human Services
EAS	Emergency Alert System
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ESF	Emergency Support Function
FBO	Faith Based Organization
FEMA	Federal Emergency Management Agency
HVAC	Heating, Ventilation, Air Conditioning
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IMT	Incident Management Team
JIC	Joint Information Center
LCCO	Lewis & Clark County
LE	Law Enforcement
LEPC	Local Emergency Planning Committee
MCA	Montana Code Annotated
MDT	Montana Department of Transportation
MTDEQ	Montana Department of Environmental Quality
MTDES	Montana Disaster & Emergency Services
MTFWP	Montana Fish, Wildlife, & Parks
NFIP	National Flood Insurance Program
NGO	Non-Governmental Organization

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Acronym	Meaning
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
PH	Public Health
PIO	Public Information Officer
P.L.	Public Law
PPLM	Pennsylvania Power & Light Montana
PW	Public Works
SAR	Search & Rescue
SECC	State Emergency Coordination Center (MTDES)
SOP/SOG	Standard Operating Procedures/Guidelines
UC	Unified Command
USGS	United States Geological Survey
VA	Veteran's Administration

Attachment 2: Definitions

100 Year Flood Event: This type of event is expected to be equaled or exceeded once on the average during any 100-year period (1% chance of being equaled or exceeded during any year).

Advisory: Significant weather impact, but not meeting the warning criteria.

Flash Floods: Flash floods are the result of intense storms dropping large amounts of rain within a short period of time, rapid snowmelts or dam failures. Flash floods occur with little or no warning and can reach full peak in only a few minutes.

Flash Flood Warning: Flash Flood Warnings: are the most urgent type of flood warning issued, and are transmitted to the public over radio, TV, and by other signals depending upon the local need.

Flood Warning: Is a forecast of impending floods advising of the expected severity of flooding (minor, moderate, or major), the affected river or body of water, and when and where flooding may begin. Flood Warnings are distributed to the public by radio and television, and through the local government. The warning message tells the expected severity of flooding, (minor, moderate, or major), the affected waterway, and when and where flooding may begin.

Severe Thunderstorm Watch: Issued by the National Weather Service when the weather conditions are such that a severe storm (damaging winds 58 miles per hour or more, or hail 3/4 of an inch in diameter or greater) is likely to develop.

Severe Thunderstorm Warning: Issued by the National Weather Service when a severe thunderstorm has been sighted or indicated by weather radar.

Sleet: Identified as frozen raindrops (ice pellets bounce when hitting the ground or other objects). Sleet does not stick to trees and wires but sleet in sufficient depths does cause hazardous driving conditions.

Target Notification: The 911 Center calling County residents with emergency information.

Watch: Term used as an alerting procedure for an event that may occur.

Warning: Issued to forewarn an event that is imminent or has high probability of occurring.

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Attachment 3: Helena Valley Dam Emergency Plan

Available [here](#) on accompanying CD

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Attachment 4: Lincoln Flood Plan

Available [here](#) on accompanying CD

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Attachment 5: Lewis & Clark County Valley Flood SOG

Background

There are three major floodplains in the Helena Valley: Ten Mile, Prickly Pear and Silver Creeks, which eventually drain into Lake Helena, the lowest spot in the valley.

The valley has a long history of flooding: 2018, 2014, 2011, 1996, 1985, 1981, 1976 and 1908. The 1981 event was a 300 year flood and the largest flood occurred in 1908. Most of the recent floods have been in February and March when snowmelt accelerated by rain on frozen ground that resulted in flooding that extended beyond the floodplain boundaries.

Ten Mile Creek is a perched stream, which means that when the water leaves its banks it flows downhill through low lying areas of the West Valley.

The flood season typically lasts from February through June, which is the wettest month of the year with May a close second for precipitation.

Procedures

WARNING: The National Weather Service issues flood watches and warnings, which indicate that a flood is possible (watch) or that one is about to occur or is occurring (warning). Residents will be warned through the news media, NOAA weather radio, Facebook, Smart 911 and the county website.

Target Notification from the 911 Center to warn residents will be used by the Sheriff's Office if evacuations are required.

The Emergency Operations Center will be activated by the incident commander.

Emergency Support Functions 3 (Public Works), 5 (Emergency Management), 6 (Mass Care) and 15 (Public Information) would be activated for the response. These ESFs part of the Emergency Operations Plan.

- The EOC will support operations in the field through resources not available through mutual aid, public information and three public information hotlines.
- The Incident Command Post will be established at a site out of the flood with adequate space and communications. This may be a fire hall or another building with space and internet access.
- Sandbag loading sites will be at the Fairgrounds for the West Valley and at the East Helena City Shop on Plant Rd. Other sites may be selected on an as needed basis.
- Volunteers at these sites will be through the C.O.A.D. at the EOC.
- Upon request, the C.O.A.D. will set up a shelter for evacuees at a site to be determined.

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- Road closures will be reported to the EOC for public information purposes.
- A disaster declaration would allow for the request of state resources through the EOC and the Division of Disaster and Emergency Services.