



Community Quick-Guide Checklists for Navigating the Risk MAP Process

This guide provides easy to use checklists to help community officials understand the local resources needed and actions they'll be asked to complete in each flood study phase.

HOW TO USE THIS GUIDE

Checklists for each phase in the flood study process are included in this guide. Each sheet summarizes:

- What to expect – A brief description of what takes place during each phase.
- What community officials will receive – A list of documents, data, and other items that will be provided to the community.
- What actions the community needs to take – A checklist of actions for the community to complete to maintain active participation in the flood study process.

Risk Mapping, Assessment, and Planning (Risk MAP) is the Federal Emergency Management Agency (FEMA) program that provides communities with flood information products, risk assessment tools, and planning and outreach support. In Utah, the Utah Division of Emergency Management (DEM) is FEMA's Cooperating Technical Partner working to create, update, and digitize flood risk information all over the state.

This guide contains checklists for community involvement, data, and feedback needed during several phases of the Risk MAP process. The checklists can guide community officials responsible for floodplain management in their communities through the actions they'll need to take to support partnerships with the Utah Risk MAP Team on projects that are developing new natural hazard risk information. Throughout this set of checklists, the term "community" means the responsible local official(s), rather than the general public.

Communities are encouraged to read through the checklist for each phase as we approach it. The end products of any Risk MAP process are information and tools that will be used by communities for planning, regulation, and other purposes. Active community participation ensures that local knowledge and feedback are reflected in the final products and make it easier for communities to utilize these tools effectively.

FOR MORE INFORMATION about Risk MAP in Utah, please visit <https://floodhazards.utah.gov>



Community Guide to Navigating the Risk MAP Process


CHECKLIST OF COMMUNITY ACTIONS FOR EACH PHASE


A horizontal ribbon graphic on each checklist indicates which phase of a Risk MAP project is covered and provides a frame of reference for the order in which each step occurs.

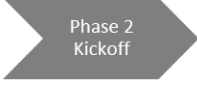
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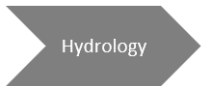


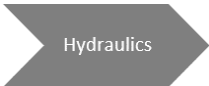
THE PHASES OF RISK MAP COVERED IN THIS GUIDE

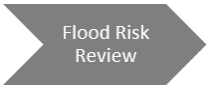
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Base Level Engineering (BLE) is a high-level look at areas of potential flood risk in a community. Utah Risk MAP team will meet with communities to discuss the approach.
- 


Discovery involves sharing and collecting information. The Utah Risk MAP team will go over what Risk MAP can offer and ask communities to share their needs and existing data.
- 

Phase 2 kickoff meeting(s) between Utah Risk MAP team and the communities are focused on scoping and initiating specific Risk MAP projects (i.e., updating flood maps).
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Utah Risk MAP team shares the initial hydrologic engineering information developed for updating floodplain maps with the community to get feedback.
- 

Utah Risk MAP team shares the initial hydraulic engineering information developed for updating floodplain maps with the community to get feedback.
- 

Draft mapping products and engineering data developed to update floodplain maps are provided to the communities for review and comment.
- 

Utah Risk MAP team and the communities review the draft Risk MAP products and discuss how the resources provided can be used to increase community resilience.
- 

Utah Risk MAP team discusses the preliminary floodplain mapping products, the 90-day statutory appeal period, and the community’s public outreach plans and responsibilities.



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WHAT TO EXPECT AT BLE KICKOFF

- Utah DEM and its mapping partner (the Risk MAP team) will discuss the Risk MAP program, timelines, and which watersheds, rivers, and cities or towns are being studied. This is just the first step of many; the mapping process spans multiple years.
- Utah Risk MAP team will gather information about your community, including:
 - Existing natural hazard risk information such as flood, wildfire, or landslide data; and
 - Mitigation plans (plans for protecting your community before a disaster occurs).

WHAT THE COMMUNITY WILL RECEIVE

- Requests for your community's information, including but not limited to:
 - Local mapping capabilities, staff resources (engineers, GIS staff, floodplain managers, etc.), and people (stakeholders) to include
 - Data such as: ground survey, GIS layers, critical facilities, building footprints, local flood mapping studies/models, levee and bridge information)
 - List of contacts for the Risk MAP process
- Invitation(s) to meet with them to discuss what the Risk MAP program can offer your community and what your community's natural hazard concerns and data needs are

WHAT THE COMMUNITY OFFICIALS NEED TO DO

- Provide Utah Risk MAP team with the requested data and contact information from your community
- Learn about the BLE modeling work to understand what to expect from the initial analysis versus detailed studies that would happen later
- Engage in discussions with Utah Risk MAP team and feel welcome to share:
 - Natural hazard risks your community is concerned about
 - What projects or activities are in place to reduce flooding
 - Information and assistance that would help your community better plan for, reduce, and manage your risks, such as:
 - Updated data (e.g., flood mapping information)
 - Outreach materials and training
 - Ordinance Support (e.g., assistance drafting or implementing floodplain regulations)



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WHAT TO EXPECT AT DISCOVERY

- The Utah Risk MAP team will gather information about your community. They will meet with you to find out what hazard risk data you need and what natural hazards (wildfires, floods, earthquakes) you are most concerned about.
- They will go over the BLE mapping conducted and discuss other existing flood risk information.
- After the meeting, they will prepare a report and identify ways they can help your community such as: producing new (or updated) floodplain maps or providing outreach materials and trainings.

WHAT THE COMMUNITY WILL RECEIVE

- Requests for your community's information, including but not limited to:
 - Local mapping capabilities, staff resources (engineers, GIS staff, etc.), and list of stakeholders
 - Existing natural hazard risk information (e.g., flood, wildfire, landslide data), such as ground survey, GIS layers, critical facilities, building footprints, local flood mapping studies/models, levee and bridge information
 - Current community hazard mitigation plans (damage prevention plans)
 - List of community contacts for follow-up questions about the community's information
- Invitation(s) to meet with them to discuss what the Risk MAP program can offer your community, and your community's natural hazard concerns and data needs
- BLE Mapping information that will show an initial assessment of flood hazard risk for your community
- Discovery report after the meeting, summarizing the research, discussions/meetings that took place, and identifying actions Utah Risk MAP team can take to assist your community, such as: producing new (or updated) floodplain maps or providing outreach materials and trainings.

WHAT THE COMMUNITY OFFICIALS NEED TO DO

- Provide the Utah Risk MAP team with the requested data and community contact information
- Identify areas where there may be errors on the existing maps, such as:
 - Locations where the current maps don't match past flood events,
 - Areas with significant manmade changes after the current maps were finalized, or
 - Places that are unmapped currently but are known to get wet from flood waters, etc.
- Review the BLE mapping data and check the following:
 - How do the BLE maps compare to current FEMA mapping, and any local studies? Are there any surprises in the BLE maps (areas that do not match your local knowledge or data?)
 - Identify areas of concern that your community would like studied in detail in the future
- Identify additional stakeholders that may be impacted by the new BLE maps
 - Federal agencies, Regional/State partners, or the public
- Review the draft Discovery report to verify your current hazards, data needs, and requests are captured



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WHAT TO EXPECT AT PHASE 2 KICKOFF

- The Utah Risk MAP team will organize a discussion with your community staff and leadership to discuss the scope of work and the timeline for updating your community’s flood risk mapping information. One of the key goals of this engagement is to confirm the project areas that will be studied and the type of information that will be produced for each area.

WHAT THE COMMUNITY WILL RECEIVE

- Maps and data showing the current proposed areas to receive updated floodplain mapping
- Information about the different methodologies that can be used to identify and map flood hazard risk, and the impacts of updated mapping on local floodplain management and regulation of the floodplain.

WHAT THE COMMUNITY OFFICIALS NEED TO DO

- Review the locations of the proposed floodplain mapping updates and where more detailed risk data will be developed
- Provide feedback on different engineering (hydrologic and hydraulic) methodologies and which is preferred by the community (e.g., should the flood study use local or national standards)
- Identify additional data that could be used for the floodplain mapping update project (anything newly available since Discovery or not mentioned during Discovery):
 - As-built information for bridges
 - Culvert replacement data
 - New ground survey information
 - Storm drain masterplans and GIS data for stormwater infrastructure
 - Recent floodplain mapping studies
 - High water marks, pictures, or other data that could be used for calibration
 - Planned or flood mitigation projects in progress (i.e. NRCS, FEMA BRIC, USACE, USGS, etc.)
- Provide a list of community contacts for questions or feedback on specific topics, such as:
 - Geographic Information Systems (GIS) mapping data,
 - Culvert, bridge, and stormwater management information, and
 - Engineering information (if there are engineers on staff that can provide technical reviews of hydrologic and hydraulic modeling information).
- Be prepared to discuss property access for surveyors and sending notification letters to the public.



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WHAT TO EXPECT AT HYDROLOGY REVIEW

- The Utah Risk MAP team will engage with your community to discuss and review the draft engineering information that will be used to update your community’s floodplain information. They will review the engineering approach chosen to identify *how much* water will flow through the floodplain (the amount of flood discharges) during different sized flood events. This is called a *hydrologic analysis*. The calculated flood discharges from the latter analysis will then be applied to a *hydraulic analysis*, which determines *where* the water will go during flood events.

WHAT THE COMMUNITY WILL RECEIVE

- Report summarizing the hydrologic analysis approach and its results
 - Provides anticipated flood discharges for different sized flood events and compares them to existing discharges (discharges shown on the current FEMA flood maps)
- Digital mapping information (geospatial data/database)

WHAT THE COMMUNITY OFFICIALS NEED TO DO

- Review the approach the project engineers took (their methodology)
- Review the results of the hydrologic analysis:
 - Check to make sure the study area delineation includes the areas that you’re expecting to see – are there any expected locations missing? Are there any unanticipated areas shown?
 - Look at the amount of water predicted to run through the waterways (discharge) during the 100-year (1%) flood event and other mapped events (e.g., 10-year)
 - Compare the flood discharge data in the hydrology report to any local community information, such as stormwater management data
 - Look at whether your existing stormwater management infrastructure can accommodate the predicted flood discharges (volumes of water) flowing through them without water leaving the channel (i.e., will your culverts, channels, etc. overflow at these events?)

Important Note: *Discharges used for the hydraulic analysis will be based on the flood discharge data included at the time the hydrology analysis is developed. Once the discharges are reviewed and approved by the community, it will be very difficult to make changes as the study progresses without causing significant project delays. However, after the maps become effective, hydrology can be updated via a community-initiated Letter of Map Revision (LOMR) or Physical Map Revision (PMR) to include additional year discharge data if desired.*

- If you have access to engineering support, ask a qualified engineer to review:
 - The approach used
 - Hydrologic modelling information, including:
 - Subbasin boundaries
 - Infiltration parameters
 - Rainfall amount



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- Transform parameters
 - Whether it was calibrated
 - Regression equations or gauge analysis if they were used
-
- Review the data and information provided to see if they are missing any new data from your community such as: data on storm drains, stream gauges, or hydrology calibration data
 - If so, notify the mapping team and provide the data that you can.
 - Please understand, the expected time to provide such information was during the Phase 2 Kickoff, before the work began. Adding information now will require an approved change order (*due to the additional resources and time involved in making changes at this point*).
 - Send the Utah Risk MAP team any additional questions or comments about the hydrology approach or results



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WHAT TO EXPECT AT HYDRAULICS REVIEW

- The Utah Risk MAP team will organize a discussion with your community staff and leadership to discuss the hydraulic modeling and results. They'll talk to you about the approach used for the hydraulic analysis and will walk through the early results.

WHAT THE COMMUNITY WILL RECEIVE

- Engineering data: a report and hydraulic analysis showing where the water will go during flood conditions – Next, model results will be combined with other information to create the draft flood maps
- A summary map of areas where the floodplain will change significantly from the current FEMA flood mapping information

WHAT THE COMMUNITY OFFICIALS NEED TO DO

- Review the hydraulic report and draft maps, checking the analyzed areas to make sure they match the areas you were expecting to be remapped.
- Look at the report, maps, and other information to determine if:
 - all the information your community provided previously has been incorporated,
 - all your bridges and culverts are included (as they existed at the time of the field survey),
 - all your bridges and culverts are located and sized correctly, and
 - the map changes alter the flood risk for any structures in your community – consider areas where residents or business may be affected (i.e., structures with new flood risk shown that are not mapped in a floodplain on the current FEMA maps).
- If you have access to engineering staff that can review the materials, ask them to review the following technical details ensure they are all reasonable and accurate:
 - For 1D models: check cross section, Manning's Roughness equation, and hydraulic structure data (bridges/weirs)
 - For 2D models: check Manning's Roughness equations, hydraulic structure data, and grid elevations and alignment
 - Make sure no existing bridges or culverts were missed or incorrectly sized
 - Check water surface profiles, results for the different flood frequency events, and downstream boundary conditions
 - Review the discharges to ensure they are placed at the correct locations to match the information in the hydrology report

Important Note: During the study process, the community must monitor any proposed development that has the potential to change the currently effective floodplain or changes to the study in progress. The community must communicate these projects with Utah DEM and mapping partners to avoid supersession. A community-initiated Letter of Map Revision (LOMR) may also be necessary.



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WHAT TO EXPECT AT FLOOD RISK REVIEW

- The Utah Risk MAP team will organize a discussion with your community staff and leadership to discuss draft results of your community’s floodplain mapping information. They’ll review the draft maps and flood risk products and allow you time to provide comments.
- This will be your opportunity to ensure your community understands how the flood maps are changing, and what is causing the flooding in any areas that will be newly mapped into the floodplain, especially areas that are regulated by your local flood ordinance (Special Flood Hazard Area, or SFHA).

WHAT THE COMMUNITY WILL RECEIVE

- Draft maps show initial changes to your floodplain mapping information. These typically come as digital files containing (geospatial) mapping information. Other flood risk products may be included, depending on the scope of the floodplain mapping update project.

WHAT THE COMMUNITY OFFICIALS NEED TO DO

- Review the draft floodplain mapping information and other flood risk products and check:
 - The areas that have updated mapping are accurate,
 - The draft mapping against any recent flood studies or information showing flood risk for your community, and
 - Whether the flood risk for residents or properties is changing and how many structures will be affected (added or removed from the floodplain).
- If your community has access to qualified engineering support, request that they:
 - Compare the mapped floodplain and flood zones (including floodway) to the engineering hydraulic models provided by the Utah Risk MAP team,
 - Verify that newly mapped areas connect (or “tie-in”) to previously mapped areas that were not modified by this effort, and
 - Ensure that detailed mapping information (flood water elevations, or BFEs) is shown where expected, and that BFE numbers match the hydraulic model information.
- Talk to FEMA about the next steps in the process, particularly the community’s upcoming responsibility for ordinance updates, public outreach, and the comment and appeal period
- Identify additional stakeholders that may need specialized outreach
- Provide any other comments or questions about the draft maps and supporting information

Important note: After the comments received from your community during this phase are resolved, the mapping products will be released as Preliminary versions in the Consultation Coordination Officer (CCO) phase. At that point, any further changes must be made through an Appeal. It is very important that your community does a thorough review during the Flood Risk Review (FRR) phase and provides feedback for all issues identified now, as they are much easier to resolve at this phase.



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WHAT TO EXPECT AT THE RESILIENCE MEETING

- The Utah Risk MAP Team will organize a discussion with your community leadership and staff to review the draft floodplain mapping and flood risk product information.
- They will discuss tools to help the community conduct public outreach around the new maps and how to use the flood risk datasets. They will also suggest resources available through partner agencies (local, regional, state, and federal) that may assist with planning efforts and mitigation actions.

WHAT THE COMMUNITY WILL RECEIVE

- Official copies of the draft floodplain maps
- Draft non-regulatory flood risk products such as Changes Since Last Firm, Areas of Mitigation Interest, depth grids, and other products
- Digital (geospatial) mapping data

WHAT THE COMMUNITY OFFICIALS NEED TO DO

- Review the draft floodplain mapping and the other flood risk data sets provided
- Have staff or stakeholders available to discuss local planning processes and mitigation challenges and successes in light of areas of newly defined risks:
 - Consider unique areas in your community, such as: cultural or historically significant areas, critical habitats, or other areas of mitigation interest (the goal of mitigation is to prevent damages through actions taken before a disaster occurs)
 - Consider planned areas of growth or redevelopment within your community
 - Identify how this new flood risk information (flood risk products) can improve your community's mitigation plans (e.g., stormwater, land use, multi-hazard risk plans, and comprehensive plans) and actions
 - Consider how your community can incorporate these tools into specific flood hazard risk reduction activities (i.e., elevating homes that have flood risk, re-sizing culverts or bridges to reduce flooding, etc.)
 - Consider how you will use these tools in communicating hazard risk to the public
- Talk to FEMA about the next steps in the process. Make sure you understand your community's responsibilities during the next phase (CCO phase) with regard to 1) adopting or amending floodplain management regulations to reference the date and title of the new FIRM and FIS report, 2) public outreach, and 3) the comment and appeal period process.
- Request mitigation planning technical assistance, as needed – if a community would like to further explore mitigation specific projects based on the results of the study, support from Utah DEM and FEMA may be available to assist.
- Relate any existing questions or feedback about the draft maps and supporting information



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WHAT TO EXPECT AT THE CONSULTATION COORDINATION OFFICER (CCO) MEETING

- The Utah Risk MAP team will organize a discussion with your community staff and leadership to review the official Preliminary floodplain mapping information for your community.
- The discussion will also cover how the Risk MAP team will support your community in the final steps of sharing the information with the public and other stakeholders (i.e., public open house, outreach materials, and online resources) to collect feedback on the preliminary flood mapping products before they are finalized.

WHAT THE COMMUNITY WILL RECEIVE

- Official copies of the Preliminary (draft) versions of the FEMA Flood Insurance Rate Maps (FIRMs), Flood Insurance Study (FIS), Summary of Map Amendments (SOMA), and other flood risk products

Important Note: *The copies of Preliminary products will be distributed in the weeks prior to this meeting, so please perform a detailed review (see below) in advance and bring your questions and feedback to the meeting so that your community is prepared to discuss your reviews of the Preliminary data at the meeting.*

WHAT THE COMMUNITY OFFICIALS NEED TO DO

- Review the FIRMs to verify:
 - Corrected areas are shown as having new mapping information,
 - Flood zones (i.e. Zone A, AE, etc.) match what was discussed previously,
 - Map is free of cartographic errors – community boundaries, major roads and bridges, and other GIS layers are correctly located and named,
 - Lines on the maps (survey cross-sections) that have letters labeling them match the ones shown in the FIS for each waterway (the same letters should be in both for each waterway),
 - Base Flood Elevations (BFEs) are in agreement in the FIRM, FIS, and GIS data, and
 - The datum conversion (NAVD88) is calculated and in agreement in all of the products
- Review the FIS to verify:
 - There are graphs (flood profiles) and updated information in the FIS for every waterway for which detailed flood mapping was conducted.
 - The graphs (flood profiles) show all the major bridges and culverts that are shown on the flood maps, and
 - The text provides the correct information about your community (e.g., history, description, major flood sources, other labels). In particular, check the Introduction and Revisions sections of the FIS.
- If your community has engineering support, ask them to review and verify the discharges in the FIS.
- Digital geospatial data should be reviewed to verify accuracy (roads are in the right place and labelled correctly, community boundaries are accurate, etc.). Digital and hard copy maps should be compared to make sure they match.



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- Summary of Map Amendments (SOMA) should be reviewed
 - Verify that all effective Letters of Map Change (LOMC) the community has on file are listed
 - *Note: Conditional Letters of Map Revisions (CLOMRs) will not be identified in the SOMA, as they are not an official map change.*
 - Check that all Letters of Map Changes listed in the SOMA have a status result (e.g., it is still valid, or it will be overwritten/superseded by the new maps) – the status result options are provided below:
 - “Incorporated”: LOMC was revalidated and **is reflected** on the Preliminary map
 - “Not Incorporated”: LOMC was revalidated but **is not reflected** on the Preliminary map, due to scale limitations or because it is not located on a revised panel
 - “Superseded”: LOMC **will not** be valid when the draft maps become effective
 - “Redetermined”: LOMC **may** still be valid, a final decision has not been made and it will be reviewed again before the draft maps are finalized

Important Note: *Provide any remaining comments or questions you have for the Utah Risk MAP team about how to interpret and use the new information you have been given – Your community will be required to use these new flood mapping products when they are finalized (i.e., for floodplain regulation purposes), so make sure you understand them.*

- Prepare for the appeal process for the updated flood mapping information.
 - Confirm the details of the timeline for the 90-day statutory appeal period and your community’s role in the process – **communities need to collect, review, and send public appeals and comments to FEMA and Utah DEM during this appeal period.** The 90-day appeal period can be extended for any reason.
 - Learn the difference between an appeal and comment during the comment period. Appeals must be technical in nature, accompanied by data (i.e., “LOMR ready”), and certified where appropriate. Any non-technical submittals are considered to be Comments.
- Identify your community’s preferences for sharing the draft floodplain mapping information with the public – this step requires a Flood Risk Open House to share the new flood risk information with the public (with support from Utah DEM and FEMA).
- Work with FEMA to develop an outreach plan that addresses:
 - Your community’s outreach requirements, and what type of outreach approach works best for your residents and landowners: posting information online, etc.,
 - Any assistance you need with creating outreach materials about the new maps,
 - How to promote the purchase of flood insurance, and
 - A timeline for completing the agreed-upon outreach activities.



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WHAT THE COMMUNITY OFFICIALS NEED TO DO AFTER THE APPEAL PERIOD CLOSES

- Review your community's floodplain regulations (ordinance) with your local floodplain manager.
 - Prior to the FIRMs and FIS being finalized, you will need to update your floodplain regulations (flood ordinance) to adopt the new flood mapping information.
 - The state or FEMA will review your local flood ordinance and identify any changes needed to keep it compliant with the NFIP requirements.
 - As the maps are finalized, you'll receive a Letter of Final Determination (LFD) (after the appeal period and any related revisions) that will set a 6-month window and provide the official date that the maps will be finalized.
 - Finalized maps and studies are called "Effective" products.

Important Note: *To avoid suspension from the NFIP, any required changes to your regulations will need to be adopted and take effect before the Effective date identified in the LFD.*