



**FEMA**

October 7, 2022

Board of Trustees  
Village of Lyndonville  
Municipal Office  
P.O. Box 167  
Lyndonville, Vermont 05851

Subject: Village of Lyndonville, Caledonia County, Vermont  
Community No.: 500029

Dear Chairperson Woodward:

On October 28, 2019, the United States Geological Survey (USGS), in partnership with the Federal Emergency Management Agency (FEMA), conducted a Discovery meeting for the Passumpsic Watershed as part of FEMA's Risk Mapping, Assessment, and Planning (Risk MAP) program. The Passumpsic Watershed is the 8-digit hydrologic unit code (HUC) 01080102. During the meeting, the USGS discussed areas of flooding concern and project goals, milestones, and products with a variety of stakeholders, including FEMA officials, state and community officials, and watershed interest groups.

The Discovery process marked the beginning of a Risk MAP project that started in September 2019, and it assisted in identifying the scope of the Passumpsic Watershed study. The Discovery meetings are part of the Discovery process, and the information exchanged between FEMA and communities within the counties during Discovery improved our understanding of flood hazard mapping and mitigation planning. At the Discovery meetings, we reviewed the flood risk data gathered to date. We also discussed your community's flooding history, flood risk concerns and mitigation. During the Discovery process, officials in your community may have provided information, comments, or questions to the USGS. If this is the case, a summary of information exchanged is shown in Table 2, and responses to comments or questions are shown in Table 3.

At the website below, you can download a copy of the Passumpsic Watershed Discovery Report, which collates information presented at the Discovery Meetings; information collected from communities prior to, at, and following the Discovery Meetings; and other information collected from other sources. Appendices to the report may be available upon request.

<https://doimspp.sharepoint.com/:f/r/sites/GS-NEWENG-FEMARiskMAP-outreach/Shared%20Documents/General/Data/Passumpsic%20Discovery%20Data?csf=1&web=1&e=VvEhCm>

Using this information that we collected during the Discovery process, **the following rivers in the Passumpsic Watershed were selected for detailed studies — East Branch Passumpsic, Passumpsic, and Sleepers Rivers.** The scope of the engineering and mapping covered for each river reach in this project is summarized in Table 1. In addition to the reaches selected for detailed study, new approximate studies were conducted on all reaches in the study area (1) that did not have existing or proposed detailed studies and (2) either that had existing approximate studies or that drained a basin of at least 1 square mile.

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As discussed in the Discovery Meetings, FEMA's goal is to offer useful, credible data, and a fair process to help you make informed decisions to continue building a safer and stronger community. As such, we want to notify you of the engineering data models that are being used in FEMA's ongoing flood risk project. These engineering data models will form the basis for the proposed Special Flood Hazard Areas (SFHAs) that will be presented on the Flood Insurance Rate Map (FIRM). An SFHA is an area that is subject to inundation by the 1-percent-annual-chance flood (also called the base flood). Over time, water flow and drainage patterns on the selected reaches (Table 1) may have changed dramatically due to surface erosion, land use, and natural forces. Given these factors, the likelihood of flooding along these reaches may have increased or decreased over time, changing the SFHA designations.

Upon receipt of this notification, the communities affected by the selected reaches will have 30 days to consult with FEMA Regional Office staff (identified in the last paragraph of this letter) regarding the appropriateness of the models selected for the project. Communities will have additional opportunities to comment on and provide feedback about the models and other draft flood hazard information throughout the project. If there are uncertainties about the mapping data that have been collected and analyzed, a formal appeals process and period will be available to help resolve any remaining questions before the flood hazard information becomes effective.

Draft flood hazard information will be developed by FEMA's mapping partner, the USGS. USGS uses the engineering models shown in Table 1, which list the flooding sources under study, along with details regarding the selected models and the rationale for their use. The engineering models were selected based on a variety of factors including, but not limited to, the type of study performed (e.g., base or enhanced, shallow flooding, coastal, alluvial fan, etc.), the size of the drainage area affecting the flooding source, and the type of terrain present (e.g., flat, hilly, mountainous, etc.).

FEMA wants to ensure that the most up-to-date and accurate technical data are used to develop the flood risk products. FEMA relies on the community's feedback, partnership, and knowledge during this important project to determine the extent of flood risk in the communities affected by the selected reaches in Table 1 and to support efforts to reduce those risks. We look forward to working with community officials and other stakeholders to increase flood risk awareness and reduce the risk to life and property from flooding. Initial feedback will not affect any community's ability to provide feedback later or to formally appeal the flood hazard information during a future appeal period.

If your community is listed in Table 1 and you would like to discuss the modeling, please contact Scott Olson, the project manager, no later than November 7, 2022. We will consider all comments and suggestions received during this period about model selection.

Scott Olson  
U.S. Geological Survey  
331 Commerce Way  
Pembroke, NH 03275  
(603) 226-7815  
solson@usgs.gov

According to the selected models, the USGS is conducting detailed studies involving field surveys to obtain structural geometry and elevation data. Furthermore, new hydrologic and hydraulic analyses will provide new flood elevations. Be aware that you and residents in your communities may see USGS survey crews on the bridges, dams, and rivers. At the following website, you can view or download a copy of the flyer that the surveyors carry to inform the public of the project.

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<https://doimsp.sharepoint.com/:f:/r/sites/GS-NEWENG-FEMARiskMAP-outreach/Shared%20Documents/General/Data/Passumpsic%20Discovery%20Data?csf=1&web=1&e=VyEhCm>

As this project continues, the USGS will be conducting a number of other meetings with the stakeholders in the Passumpsic Watershed to communicate the progress of the project and to solicit comments about draft and preliminary products. After the Discovery meeting, the next meeting to be held will be the work map meetings. In the work map meetings, the USGS and FEMA will be meeting with officials from each community affected by the project scope to discuss the draft flood insurance rate map products – the work maps – for that community. Communities in the project scope can expect to receive an invitation to these meetings at least four weeks before their scheduled dates.

If you have any questions regarding the Discovery process and results, the selected reaches or models, or the planned work map meetings please contact Scott Olson, Project Manager, by e-mail ([solson@usgs.gov](mailto:solson@usgs.gov)) or by calling (603) 226-7815. I am also available to answer any questions at (617) 956-7576 or [Kerry.Bogdan@fema.dhs.gov](mailto:Kerry.Bogdan@fema.dhs.gov).

Sincerely,

Kerry Bogdan  
Risk Analysis Branch Chief  
Mitigation Division  
FEMA Region 1

cc: Joe Dauphin, Public Works Supervisor, Village of Lyndonville  
Justin Smith, Municipal Administrator, Village of Lyndonville  
Sean McFeeley, Chairperson, Planning Commission, Village of Lyndonville  
Sacha Pealer, CFM, Northeast Regional Floodplain Manager, Vermont Department of  
Environmental Conservation  
Scott Olson, Project Manager, U.S. Geological Survey

**Table 1: Detailed study reaches in Passumpsic Watershed, Vermont**

River	Communities	Limits of study	Hydrologic model proposed	Hydraulic model proposed	Model rationale
East Branch Passumpsic River	Lyndon, VT,	From confluence with West Branch Passumpsic River, Lyndon, VT to approximately 0.23 mile above confluence with Mountain Brook, Lyndon, VT	Streamgage statistics and regression equations (with ice jam analysis)	HEC-RAS one-dimensional steady	USGS streamgages having at least 20 years of data are acceptable for hydrologic analyses. Regression equations are sufficient for the hydrologic analysis. Ice jams are a frequent form of flooding on this area.  One-dimensional, steady-flow hydraulic models are used where flow is modeled as steady in time, one-dimensional, and generally gradually varied in space, and where channel slope is generally less than 10%.
Passumpsic River	Barnet, Lyndon, St. Johnsbury, and Waterford, VT	From confluence with Connecticut River, Barnet, VT to Headwaters at confluence of East Branch Passumpsic River and West Branch Passumpsic River, Lyndon, VT			
Sleepers River	St. Johnsbury, VT	From confluence with Passumpsic River, St. Johnsbury, VT, to Alwright Bridge, St. Johnsbury, VT			
All base-level engineering (approximate) reaches	Most communities in Passumpsic Watershed	Various	HEC-RAS two-dimensional rain-on-grid	HEC-RAS two-dimensional rain-on-grid	Two-dimensional large-scale automated engineering methods are appropriate for approximate flood studies.

**Table 2: Summary of information exchanged during Discovery**

Date	Information exchanged
09/30/2019	FEMA and USGS mailed invitation to Discovery Meeting
10/28/2019	FEMA and USGS conducted Discovery Meeting

**Table 3: Responses to comments and questions**

<b>Number</b>	<b>Submitted by</b>	<b>Comment or question</b>	<b>Response</b>
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