



FEMA Requirement D2: Status of Prior Mitigation Actions

Was the Plan revised to reflect progress in local mitigation efforts?

Local Mitigation Plan Review Guide, FEMA, 2011, page 26

This “Good Practice” document is intended to help plan developers understand the FEMA requirement to explain progress toward mitigation proposed within the previous hazard mitigation plan. This requirement only applies to jurisdictions with earlier approved plans.

Common Reasons Why FEMA Returns Plans for D2 Revisions

1. Mitigation actions are not adequately identified from the previous plan.
Tip: One way to do this is to carry the action plan table from the previous plan into the update, adding a column for recording the status of each action.
Tip: Include a narrative discussing whether projects undertaken in the last cycle were implemented and produced a demonstrative difference in risk reduction.
2. The current status of mitigation actions from the previous plan is not clearly stated and explained. There may be no explanation whether prior actions are *completed* or not. The plan might not note whether an unfinished activity is *no longer relevant* (discontinued) or if it is *carried over into the current plan*.

Plans Demonstrating Good Practice for Requirement D2

This section provides two examples illustrating the requirement. Example 1 explains the progress and completion of mitigation actions from the previous mitigation plan in significant detail. Example 2 summarizes the status of prior actions using tables. Practices going “Beyond Minimum Requirements” are also noted. The abstracts are preceded by a brief explanation of why the plan sections meet the requirements.

Many other approaches are possible, so don’t be limited by these examples; the approach taken should fit the particular circumstances of the community.

Example 1:***Local Hazard Mitigation Plan for the Town of Putney, Vermont (2015)*****Why This Plan Demonstrates Good Practice**

1. Three finished or partially completed mitigation actions are identified from the previous hazard mitigation plan, showing local progress within the last five years.
2. Incomplete aspects of these prior mitigation actions are identified as continuing within the new strategy. Completed portions are described along with any stages currently underway or planned.
3. **Beyond Minimum Requirements:** The vulnerabilities addressed by each mitigation action are explained in detail, along with components and results of the actions taken.

See Abstract on following page.

Abstract from pages 36-37

Local Hazard Mitigation Plan for the Town of Putney, Vermont (2015)

Progress Made on Mitigation Actions in Recent Years

This mitigation plan has been under development for numerous years. As such, an update on two of the more substantial hazard mitigation projects is provided:

Sand Hill Road repair/improvements and beaver fence project

A 3/10 mile stretch of Sand Hill Road (near the Wilson Wetland) was significantly damaged during Tropical Storm Irene in 2011. Improvements were made after the storm. The road crew removed and upsized three 18" diameter by 40' long CMP culverts with three 24" diameter by 40' plastic culverts; installed 1,069 CY of gravel for fill around the replaced culverts; installed 551 CY of 1" crushed gravel to replace road rock loss; installed 48 CY of 6" rock to replace deep ruts; RIP RAP 60 CY was used over the newly installed culverts to a depth of 12 inches.

After the culverts were installed the beavers became an issue because they were plugging up the culverts and the road was in danger of flooding. For a long time, the Wilson Wetland Committee and the Conservation Commission members were regularly cleaning out the culverts to protect the road, the beavers and the wetland.

Recently a project began, with assistance from the Wilson Wetland Committee, the Conservation Commission and the Vermont Fish and Wildlife Department to install beaver fences around culverts where beavers are present. These fences are effective, non-lethal defenses that end decade long conflicts while allowing for the possibility of keeping live beavers in ecosystems. They have worked well in Putney. Two have been installed thus far, and there are plans to install two more at the other two culverts on Sand Hill Road.

Hickory Ridge Road

Embankment stabilization - There are two sections of the road where the brook comes very close to the road. One 270 foot section is to the north of the culvert and one 250 foot section south of the culvert. These areas needed to be patched up once or twice a year typically. Embankment stabilization of these two areas was completed in 2014. The banks were armored with a row of 4 to 6 foot ledge on the bottom and approximately 2 feet above that.

The box culvert still needs to be installed and that is discussed more in the mitigation actions table and the section following the table. A new box culvert to replace the old culvert #7, with footings, is needed. The problem is on the north side of the road -- all but about 10 feet of the pipe has come off the footing creating a void behind the pipe and a big hole in the middle of the road. Putney hopes to complete this work in 2016.

High Low Biddy embankment stabilization between Locust Lane and end of road

This action is completed. New culvert was put in on this road, extensive stabilization of the existing embankment was completed, rip-rap and backfill was used to stabilize the existing embankment and allow for return of roadway that has already been lost. Vegetation has re-established on this bank that was sliding for years.

There was dramatic embankment erosion beginning at the roadway and downward to Sackett's Brook. This embankment had eroded dramatically to the point of having a negative impact on the stability of the roadway, which is a dead-end road serving residential dwellings. It was predicted that with the rate of erosion, the entire roadway would have completely collapsed eventually. Sackett's Brook has minimally been impacted by the constant erosion and run-off; however the brook would have been cut off when the remainder of the embankment collapsed.

Example 2: *Abstract from a single-jurisdiction Hazard Mitigation Plan***Why This Plan Demonstrates Good Practice**

1. Discontinued mitigation actions are identified along with stating the reasons why they are no longer relevant.
2. A completed mitigation action is identified from the previous hazard mitigation plan, showing local progress within the last five years.
3. Prior mitigation actions are identified which are continued as part of the new strategy.
Beyond Minimum Requirements: The reason why these were not previously completed is explained.
4. **Beyond Minimum Requirements:** Mitigation actions are differentiated from preparedness and response actions.
5. Descriptions of the mitigation actions explain how vulnerabilities will be reduced.

See Abstract on following page.

Abstract from a Single-jurisdiction Hazard Mitigation Plan

Deleted 2009-2015 Mitigation Strategies

Three mitigation strategies listed in the 2009 version of the Hazard Mitigation Plan have been removed in this 5-year update. Listed below in Table 6, they were deleted for one of two reasons: 1) they no longer are useful for mitigating a hazard or (2) they were over-generalized and in need of being replaced by a more specific mitigation strategy.

Table 6: Deleted Mitigation Strategies

Action Name	Action Type	Project Description and Vulnerability	Hazards Mitigated	Responsible Agency	Reason for Deletion
Educate homeowners about rural / urban interface	Mitigation, Operational strategy	Provide residents with education about need for fire safety in urban and rural contexts	Wildfire / Brushfire	Fire Department	Too general and is addressed by another mitigation strategy: public education / outreach on defensible parameters/
Road improvements that are subject to icing	Mitigation, Capital construction	Road improvements to roadways that are subject to icing throughout the winter, specifically installing drainage basins to improve the movement of water	Severe Snowstorms / Ice storms	Board of Selectmen, Planning Board, EMD	Too general and is addressed by other mitigation strategies that are focused on addressing flooding in specific areas of town
Retrofit FD/PD repeater to reduce ice damage	Mitigation, Capital construction	Improvements to radio repeater at Town Hall location in order to reduce/eliminate ice damage	Winter storm	Fire Department, Police Department	Completed

Continued on next page...

Abstract from a Single-jurisdiction Hazard Mitigation Plan

Continued:

Continuing and New Mitigation Strategies, 2016-2021

Five of the action items previously identified in the 2010 Hazard Mitigation Plan are carried into the updated action plan below in Table 7, either because they require more time to secure funding or their construction process is ongoing. In addition, the Hazard Mitigation Workgroup identified six new strategies that are also being pursued. These new strategies are based on experience with currently implemented strategies, as well as the hazard identification and risk assessment in this plan.

Mitigation actions, preparedness, response, and maintenance activities are each included in the Strategy list in order to better integrate all phases of emergency management.

Continued

**Abstract from a Single-jurisdiction Hazard Mitigation Plan
(Continued)**
Table 7: Continuing and New Strategies Prioritized, 2016-2021

Current Status	Action Name	Action Type	Project Description & Vulnerability	Hazards Mitigated	Responsible Party	Project Priority	Cost/Benefit	Funding Source	Time-frame (within 5-year plan)
New strategy (Waiting for contract from FEMA)	Drainage improvement - Pheasant Lane	Mitigation, Capital construction	Improve a 1.5 mile stretch of drainage on Pheasant Lane and Main Street to reduce vulnerability to fluvial erosion.	Flooding, tropical storm, thunderstorm, winter storm	Board of Selectmen, DPW, EMD	High	\$938,000	HMGP (applied), town fund match	Year 2 to Year 3
Identified in previous plan (Town has applied for and received HMPG grant and is awaiting receipt of funds.)	Improvement of culverts - Woodland Street	Mitigation, Capital construction	Construct improvement of Woodland Street culvert system, installing trash racks, walls and bank stabilization to ensure access to town shelter is maintained when activated.	Flooding, tropical storm, thunderstorm, winter storm	Board of Selectmen, EMD, DPW	High	\$386,000	HMGP (secured), town fund match	Year 2 to Year 3
New strategy	Improvement of culverts - Prospect Hill	Mitigation, Capital construction	Improve drainage and stabilize flood control bank at Prospect Hill	Flooding, tropical storm, thunderstorm, winter storm	Board of Selectmen, DPW, EMD	High	High	HMGP, town fund match	Year 2 to Year 3
New strategy	Clear waterways	Response, Capital construction	Clear debris out of waterways after storms	(Response and maintenance action)	Board of Selectmen, DPW, EMD	Medium	Med	DPW	Year 1 to Year 5
Identified in previous plan. (Impact study has not been completed.)	Impact studies for high-hazard dams	Preparedness, Planning document	Conduct impact studies for high-hazard dams to mitigate the impact of dam breaches	(Preparedness Action)	EMD	High	Low	HMGP, town fund match	Year 1 to Year 5
New strategy	Detention basin Improvement - Dove Drive	Mitigation, Capital construction	Improve detention basin at Dove Drive and Mary Drive to reduce vulnerability during rapid high precipitation events	Flooding, tropical storm, thunderstorm, winter storm	Board of Selectmen, DPW, EMD	High	High	HMGP, town fund match	Year 2 to Year 3

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Abstract from a Single-jurisdiction Hazard Mitigation Plan
Table 7: Continuing and New Strategies Prioritized, 2016-2021 (Continued)

Current Status	Action Name	Action Type	Project Description & Vulnerability	Hazards Mitigated	Responsible Party	Project Priority	Cost/Benefit	Funding Source	Time-frame (within 5-year plan)
Identified in previous plan. (Town is determining locations for racks; will install as resources are available.)	Trash racks on culverts	Mitigation, Operational strategy	Install trash racks over various existing culverts to prevent blockages and road closings	Flooding, hurricane, thunderstorm, winter storm	Board of Selectmen, DPW, EMD	High	Low	DPW	Year 1 to Year 5
Identified in previous plan. (Fire Dept to add additional educational programs)	Public education / fire outreach on defensible parameters	Mitigation, Operational strategy, Public Education	Fire Department to educate residents on fire defensible parameters through distributed literature and local access cable TV	Drought, Wildfire / Brushfire	Fire Dept.	Low	Low	Fire Dept.	Year 1 to Year 5
Identified in previous plan. (Town has not made progress because of cost relative to priority)	Water tower seismic improvements	Mitigation, Capital construction	Make seismic improvements to 2-million-gallon water tower to prevent tower rupture and prolonged loss of service	Earthquake	DPW, Building Inspector	Low	High	HMGP, town fund match	Year 2 to Year 5
New strategy	Fluvial Areas Development Standards	Mitigation	Recommend changes for zoning and development standards to implement Fluvial Erosion Study findings	Flooding, tropical storm, thunderstorm, winter storm	Planning Board	High	Low	Town funds	Year 1 to Year 3
New strategy	Emergency backup generator	Preparedness, Mitigation (infrastructure redundancy), Operational Strategy	Install emergency backup generator at Department of Public Works facility to maintain response capabilities during an event	Wind, ice storm	Board of Selectmen, DPW, EMD	High	\$123,500	HMGP (secured) town fund match	0 to Year 1

D2 Regulatory Guidance

Abstracts from *Code of Federal Regulations and Local Mitigation Plan Review Guidance, October 1, 2011*

Element D. Regulation [§201.6(d) (3)] (page 26)

A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within 5 years in order to continue to be eligible for mitigation project grant funding.

- **Note to reader: This Regulation references the requirements for Elements D1, D2, and D3. See also “Good Practice” job aids for D1 and D3.**

Element Intent (page 26-27)

In order to continue to be an effective representation of the jurisdiction’s overall strategy for reducing its risks from natural hazards, the mitigation plan must reflect current conditions.

D2: To evaluate and demonstrate progress made in the past five years in achieving goals and implementing actions outlined in their mitigation strategy.

Element Requirements (page 27)

D2: The plan **must** describe the status of hazard mitigation actions in the previous plan by identifying those that have been completed or not completed. For actions that have not been completed, the plan **must** either describe whether the action is no longer relevant or be included as part of the updated action plan.

Check Out These Additional Aids

Local Mitigation Plan Review Guide, October 2011

<http://www.fema.gov/media-library/assets/documents/23194>

Local Mitigation Planning Handbook, March 2013 (pages 6-11 through 6-12)

<http://www.fema.gov/media-library/assets/documents/31598>