

**LOCAL HAZARD MITIGATION PLAN REVIEW WORKSHEET**

**Jurisdiction:** Rockland County, New York

**Reviewing Agency:** FEMA REGION 2

*REVIEW AND APPROVAL STATUS*

<b>Jurisdiction:</b> Rockland County	<b>Title of Plan:</b> Multi-Jurisdictional Natural Hazard Mitigation Plan – Rockland County, New York	<b>Date on Plan (# Draft):</b> July 2009 (1 <sup>st</sup> Draft)
<b>Local Plan submitted by:</b> Chris Jensen	<b>Address:</b> Rockland County Office of Fire and Emergency Services 35 Fireman's Memorial Drive Pomona, NY, 10970	<b>E-Mail:</b> jensenc@co.rockland.ny.us
<b>Title:</b> Program Coordinator		
<b>Agency:</b> Rockland County Office of Fire and Emergency Services		
<b>Phone Number:</b> (845) 364-8902		

<b>State Review:</b> Gene Lucchese, MEP John Fishbein	<b>Title:</b> Regional Trainer/Planner NYSEMO R2 Mitigation Planner	<b>Date:</b> August 26, 2009 September 1, 2009
<b>FEMA Review:</b> Michael McHale & Audrey Massa, QA/QC	<b>Title:</b> Hazard Mitigation Planners	<b>Date:</b> 1/28/10
<b>Date Received in FEMA Region 2</b>	October 5, 2009	
<b>Plan Not Approved</b>	1 <sup>st</sup> Draft Not Approved	
<b>Plan Approved</b>		
<b>Date Approved</b>		

*As stated by Region 2 in their correspondence dated April 16, 2010, DFIRMs do not currently exist for Rockland County.*

Single jurisdiction <input type="checkbox"/> Multi-jurisdiction <input checked="" type="checkbox"/>			DFIRM (preliminary 9/30/06 and effective 3/6/09)			NFIP Status			
			Avail-ability	In Plan	NOT in Plan	Participating	Mapped but not Participating	Not Mapped	CRS Class
Jurisdiction Name	Type Jurisdiction								
1	Rockland County	County	Yes		X	N/A			
2	Airmont*	Village	Yes		X	N	X		
3	Chestnut Ridge	Village	Yes		X	Y			
4	Clarkstown	Town	Yes		X	Y			

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5	Grand View-On-Hudson	Village	Yes		X	Y			
6	Haverstraw	Town	Yes		X	Y			
7	Haverstraw	Village	Yes		X	Y			
8	Hillburn	Village	Yes		X	Y			
9	Kaser*	Village	Yes		X	N		X	
10	Montebello	Village	Yes		X	Y			
11	New Hempstead	Village	Yes		X	Y			
12	New Square	Village	Yes		X	Y			
13	Nyack	Village	Yes		X	Y			
14	Orangetown	Town	Yes		X	Y			
15	Piermont	Village	Yes		X	Y			
16	Pomona	Village	Yes		X	Y			
17	Ramapo	Town	Yes		X	Y			
18	Sloatsburg	Village	Yes		X	Y			
19	South Nyack	Village	Yes		X	Y			
20	Spring Valley	Village	Yes		X	Y			
21	Stony Point	Town	Yes		X	Y			
22	Suffern	Village	Yes		X	Y			
23	Upper Nyack	Village	Yes		X	Y			
24	Wesley Hills	Village	Yes		X	Y			
25	West Haverstraw	Village	Yes		X	Y			

\* Village of Airmont currently in process of joining the NFIP. Village of Kaser currently in Emergency Program only.

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*LOCAL MITIGATION PLAN REVIEW SUMMARY*

The plan cannot be approved if the plan has not been formally adopted. Each requirement includes separate elements. All elements of the requirement must be rated "Satisfactory" in order for the requirement to be fulfilled and receive a score of "Satisfactory." Elements of each requirement are listed on the following pages of the Plan Review Crosswalk. A "Needs Improvement" score on elements shaded in gray (recommended but not required) will not preclude the plan from passing. Reviewer's comments must be provided for requirements receiving a "Needs Improvement" score.

**Prerequisite(s) (Check Applicable Box)**

	NOT MET	MET
1. Adoption by the Local Governing Body: §201.6(c)(5) OR	NA	NA
2. Multi-Jurisdictional Plan Adoption: §201.6(c)(5) AND	✓	
3. Multi-Jurisdictional Planning Participation: §201.6(a)(3)		✓

**Planning Process**

	N	S
4. Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)		✓

**Risk Assessment**

	N	S
5. Identifying Hazards: §201.6(c)(2)(i)		✓
6. Profiling Hazards: §201.6(c)(2)(i)	✓	
7. Assessing Vulnerability: Overview: §201.6(c)(2)(ii)	✓	
8. Assessing Vulnerability: Addressing Repetitive Loss Properties. §201.6(c)(2)(ii)		✓
9. Assessing Vulnerability: Identifying Structures, Infrastructure, and Critical Facilities: §201.6(c)(2)(ii)(B)		✓
10. Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)	✓	
11. Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)		✓
12. Multi-Jurisdictional Risk Assessment: §201.6(c)(2)(iii)		✓

\*States that have additional requirements can add them in the appropriate sections of the *Local Multi-Hazard Mitigation Planning Guidance* or create a new section and modify this Plan Review Crosswalk to record the score for those requirements.

*Scoring System*

Please check one of the following for each requirement.

**N – Needs Improvement:** The plan does not meet the minimum for the requirement. Reviewer's comments must be provided.

**S – Satisfactory:** The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

**Mitigation Strategy**

- 13. Local Hazard Mitigation Goals: §201.6(c)(3)(i)
- 14. Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)
- 15. Identification and Analysis of Mitigation Actions: **NFIP Compliance. §201.6(c)(3)(ii)**
- 16. Implementation of Mitigation Actions: §201.6(c)(3)(iii)
- 17. Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(iv)

	N	S
13. Local Hazard Mitigation Goals: §201.6(c)(3)(i)		✓
14. Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)	✓	
15. Identification and Analysis of Mitigation Actions: <b>NFIP Compliance. §201.6(c)(3)(ii)</b>		✓
16. Implementation of Mitigation Actions: §201.6(c)(3)(iii)	✓	
17. Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(iv)		✓

**Plan Maintenance Process**

- 18. Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(ii)
- 19. Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)
- 20. Continued Public Involvement: §201.6(c)(4)(iii)

	N	S
18. Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(ii)		✓
19. Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)		✓
20. Continued Public Involvement: §201.6(c)(4)(iii)		✓

**Additional State Requirements\***

- Insert State Requirement
- Insert State Requirement
- Insert State Requirement

	N	S
Insert State Requirement		
Insert State Requirement		
Insert State Requirement		

*LOCAL MITIGATION PLAN APPROVAL STATUS*

Plan Not Approved

Plan Approved

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*General Comments*

Rockland County and its 24 municipalities have collaborated to prepare this Natural Hazard Mitigation Plan. Although the Plan generally has a sound and reasoned approach to the identification and assessment of natural hazards to which the municipalities are vulnerable, certain revisions are needed for the Plan's risk assessment and mitigation strategy. Recommendations are made below for how the requirements might be made satisfied most readily.

*PREREQUISITE(S)*

1. *Adoption by the Local Governing Body*

**Requirement §201.6(c)(5):** [The local hazard mitigation plan **shall** include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).

<i>Element</i>	<i>Location In Plan (section and page #)</i>	<i>Reviewer's Comments</i>	<i>Score</i>	
			<i>Not Met</i>	<i>Met</i>
A. Has the local governing body adopted <b>new or updated</b> plan?		• Not applicable. This is a multi-jurisdictional plan.	NA	NA
B. Is supporting documentation, such as a resolution, included?		• Not applicable. This is a multi-jurisdictional plan.	NA	NA
<i>Summary Score</i>			NA	NA

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*2. Multi-Jurisdictional Plan Adoption*

**Requirement §201.6(c)(5):** For multi-jurisdictional plans, each jurisdiction requesting approval of the plan **must** document that it has been formally adopted.

<i>Element</i>	<i>Location In Plan (section and page #)</i>	<i>Reviewer's Comments</i>	<i>Score</i>	
			<i>Not Met</i>	<i>Met</i>
A. Does the <b>new or updated</b> plan indicate the specific jurisdictions represented in the plan?	p. iv, 1-11 - 12	<ul style="list-style-type: none"> <li>The Plan states that Rockland County and all of its 24 jurisdictions (listed on the first two pages of this Worksheet) are included in the Plan.</li> </ul>		Met
B. For each jurisdiction, has the local governing body adopted the <b>new or updated</b> plan?	p. i	<ul style="list-style-type: none"> <li>The Plan has not been adopted by the local governing bodies of the participating jurisdictions. However, it states that each jurisdiction will adopt it after FEMA determines that the Plan is approvable.</li> <li>After FEMA approval of other parts of the Plan, the Plan is considered Approvable Pending Adoption (APA). As indicated in the <i>Local Multi-Hazard Mitigation Planning Guidance</i> (p. 17), adoption must be within one year of the APA date for plans determined to be APA after October 1, 2008. If not adopted within this timeframe, "jurisdictions must update the entire plan and resubmit for FEMA review."</li> </ul> <p><i>Required Revisions:</i></p> <ul style="list-style-type: none"> <li>When the mitigation planning process is completed, the local governing body for each jurisdiction must formally adopt the Final all-hazard Plan before it receives formal approval from FEMA.</li> </ul> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>Ensure that the Plan is adopted by at least one jurisdiction within one year of being designated Approvable Pending Adoption.</li> <li>In the main text of the Final plan, document when, and by whom, the Final Plan was formally adopted.</li> </ul>	Not Met	

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<p>C. Is supporting documentation, such as a resolution, included for each participating jurisdiction?</p>	<p>p. i</p>	<ul style="list-style-type: none"> <li>No documentation of adoption is provided. However, it states that such documentation of adoptions is planned for inclusion as an exhibit after this page.</li> <li>Note that the adoption resolution should be signed by the jurisdiction's chief elected official or be accompanied by a signed statement from the clerk's office attesting to the passage of the resolution.</li> </ul> <p><i>Required Revisions:</i></p> <ul style="list-style-type: none"> <li>Include supporting documentation of adoption for each jurisdiction.</li> </ul> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>Consider using the attached adoption resolution sample from the Toolkit file "6-Adopt-1-Resolution").</li> </ul> <p><i>The adoption resolution sample from the Toolkit file was added to Page i.</i></p> <ul style="list-style-type: none"> <li>List the section, "Plan Adoption Resolutions", in the Table of Contents.</li> </ul> <p><i>The "Plan Adoption Resolutions" section was added to the Table of Contents (as was "Executive Summary" and "Acknowledgements")</i></p>	<p>Not Met</p>	
<p><i>Summary Score</i></p>			<p>Not Met</p>	

*3. Multi-Jurisdictional Planning Participation*

**Requirement §201.6(a)(3):** Multi-jurisdictional plans (e.g., watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process ... Statewide plans will not be accepted as multi-jurisdictional plans.

<p><i>Element</i></p>	<p><i>Location In Plan (section and page #)</i></p>	<p><i>Reviewer's Comments</i></p>	<p><i>Score</i></p>	
			<p><i>Not Met</i></p>	<p><i>Met</i></p>
<p>A. Does the <b>new or updated</b> plan describe <b>how</b> each jurisdiction participated in the plan's development?</p>	<p>p. 1-11 - 26</p>	<ul style="list-style-type: none"> <li>Section 1 provides an extensive description of the planning process and the roles and expectations of the jurisdictions. Each jurisdiction reviewed information, data, and documents, submitted feedback to the consultant, completed questionnaires and forms, reached out to their public and other stakeholders, developed a unique mitigation strategy for their municipalities, and reviewed and commented on draft documents. Table 1.6 documents the participation of each jurisdiction in these activities.</li> </ul>		<p>Met</p>
<p>B. Does the updated plan identify all participating jurisdictions, including new, continuing, and the jurisdictions that no longer participate in the plan?</p>		<ul style="list-style-type: none"> <li>Not applicable. This is not an updated plan.</li> </ul>	<p>NA</p>	<p>NA</p>
<p><i>Summary Score</i></p>				<p>Met</p>

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*PLANNING PROCESS: §201.6(b): An open public involvement process is essential to the development of an effective plan.*

4. Documentation of the Planning Process				
<p><b>Requirement §201.6(b):</b> In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process <b>shall</b> include:                      (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;                      (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and                      (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.  <b>Requirement §201.6(c)(1):</b> [The plan <b>shall</b> document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.</p>				
Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
A. Does the plan provide a narrative description of the process followed to prepare the <b>new or updated</b> plan?	p. 1-11 – 26, App. G	<ul style="list-style-type: none"> <li>The Plan describes a planning process that includes: (a) impaneling a broadly representative planning committee including a representative of each of the jurisdictions and relevant County agencies; (b) oversight by a lead agency – the Rockland County Office of Fire and Emergency Services (RCOFES); (c) technical assistance and support from a contractor – URS out of their local office in Wayne, New Jersey; (d) a description of four major committee meetings and a number of other smaller meetings and outreach contacts between the start of the process in October 2008 and the submission of the Plan in August 2009; (e) public outreach; and (f) a review of existing information.</li> </ul>		S
B. Does the <b>new or updated</b> plan indicate who was involved in the <b>current</b> planning process? (For example, who led the development at the staff level and were there any external contributors such as contractors? Who participated on the plan committee, provided information, reviewed drafts, etc.?)	p. 1-11 – 18, App. G	<ul style="list-style-type: none"> <li>The overall Planning Committee consisted of a Core Planning Group (CPG) and 24 Jurisdictional Assessment Teams (JATs) representing each participating jurisdiction. Each JAT reviewed information, data, and documents, submitted feedback to the consultant, completed questionnaires and forms, reached out to their public and other stakeholders, developed a unique mitigation strategy for their municipalities, and reviewed and commented on draft documents. The lead staff member of each JAT was a member of the CPG. In addition to these jurisdictional representatives, the CPC also included five representatives from three relevant Rockland County departments for a total of 29 members. The Committee was guided and supported through this process by the consultant URS.</li> </ul> <p><i>Recommended Revision:</i></p> <ul style="list-style-type: none"> <li>Identify the title or position of each jurisdiction's representative to the CPG.</li> </ul> <p><b>Appendix G was amended to include the title or position of each jurisdiction's representatives.</b></p>		S

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<p>C. Does the <b>new or updated</b> plan indicate how the public was involved? (Was the public provided an opportunity to comment on the plan during the drafting stage and prior to the plan approval?)</p>	<p>p. 1-18 - 24</p>	<ul style="list-style-type: none"> <li>• The Plan indicates that the Planning Committee pursued a variety of different means to provide the public with opportunities to become involved in the planning process. These include:                             <ul style="list-style-type: none"> <li>○ public meetings that were held in some local jurisdictions;</li> <li>○ the production and distribution of a fact sheet/ flyer, <i>PlanFacts</i>;</li> <li>○ a section devoted to the plan and planning process that was developed on the County website in December 2008 and was subsequently updated;</li> <li>○ posted public information; and</li> <li>○ outreach by Committee members.</li> </ul> </li> <li>• Although many general public involvement opportunities were provided, the Plan states that "... no documented feedback from the public or other stakeholders has been received." (p. 1-21)</li> </ul> <p><i>Recommended Revision:</i></p> <ul style="list-style-type: none"> <li>• Because the general public involvement was limited, it is recommended that targeted outreach to interested stakeholders be considered as described under Element 4D.</li> </ul> <p><i>Section 9 was revised to incorporate more targeted outreach efforts to the public and other stakeholders during the plan maintenance phase. Section 1 has been modified to provide additional documentation of the targeted outreach to key stakeholders during the plan's development.</i></p> <ul style="list-style-type: none"> <li>• Consider including copies of area newspaper clippings, regarding the plan development process, as an appendix to the Rockland County Plan.</li> </ul> <p><i>Section 1 was revised to include more details of the regular local public radio announcements which were made to publicize the plan.</i></p> <ul style="list-style-type: none"> <li>• Consider including copies of the CPG meetings' minutes and Power Point presentations as an appendix to the Plan.</li> </ul> <p><i>CPG meeting agendas, presentations and minutes have been included as an additional appendix to the plan.</i></p>		<p>S</p>
<p>D. Does the <b>new or updated plan discuss</b> the opportunity for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning process?</p>	<p>p. 1-24</p>	<ul style="list-style-type: none"> <li>• The Plan indicates that the Core Planning Group determined that the public involvement/outreach activities described in 4C also reached and provided the same opportunities for other stakeholders, such as businesses, neighboring communities, academia, and other relevant private and non-profit interests.</li> </ul> <p>However, this requirement is distinct and separate from the one providing opportunities for involvement of the general public. Some direct or targeted outreach efforts are indicated for interested stakeholders.</p> <ul style="list-style-type: none"> <li>• Targeted outreach to other stakeholders was directed to a business</li> </ul>		<p>S</p>

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		<p>association, two utilities, a solid waste authority and the Cornell Cooperative Extension. However, no mention was found specifying the type of outreach (such as a letter) and the response and level of engagement thereafter.</p> <ul style="list-style-type: none"> <li>• In addition, no mention was found of any targeted outreach or opportunities for involvement of the neighboring communities, academic institutions or nonprofits.</li> </ul> <p><i>The July 2009 Draft and July 2010 Revised Draft each discuss opportunities provided for neighboring communities, agencies, businesses, academia, nonprofits and other interested parties to be involved in the planning process in Table 1.7 and Page 1-24 (for the 2009 Draft) and Page 1-25 (for the 2010 Revised Draft). Section 1 was expanded to clarify the format and contents of the outreach to contacted stakeholders.</i></p> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>• Consider including a table or list documenting the specific organizations and stakeholders contacted and any subsequent level of involvement.</li> </ul> <p><i>Section 1 was expanded to clarify the format and contents of the outreach to contacted stakeholders. See also, as previously included, Table 1.7 – Summary of Jurisdiction Outreach Activities.</i></p> <ul style="list-style-type: none"> <li>• Consider direct outreach to inform and involve additional stakeholders in the plan development process, including (a) academia (such as local school districts, colleges and universities), (b) non-profit interests (such as the American Red Cross, hospitals, nursing homes, or other community associations) and (c) neighboring communities in Westchester and Orange counties that do not have mitigation plans.</li> </ul> <p><i>Section 1 was expanded to clarify the format and contents of the outreach to contacted stakeholders. Section 9 was revised to outline a more comprehensive strategy for targeted outreach to other stakeholders at the first plan update.</i></p>		
<p>E. Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?</p>	<p>p. 1-25 – 26, Sec. 4</p>	<ul style="list-style-type: none"> <li>• The Plan lists multiple existing plans, studies, reports, and technical information from a variety of sources.</li> </ul>		<p>S</p>
<p>F. Does the updated plan document how the planning team reviewed and analyzed each section of the plan and whether each section was revised as part of the update process?</p>		<ul style="list-style-type: none"> <li>• Not applicable. This is not an updated plan.</li> </ul>	<p>NA</p>	<p>NA</p>
<p><i>It would appear as if the "N" is a typo, as all plan elements have been deemed satisfactory with no required revisions, as indicated both above and in the Summary Page of this Crosswalk (on Page 3).</i></p>			<p>N</p>	<p>S</p>
			<p>Summary Score</p>	

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*RISK ASSESSMENT: §201.6(c)(2): The plan shall include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.*

*5. Identifying Hazards*

**Requirement §201.6(c)(2)(i):** [The risk assessment **shall** include a] description of the type ... of all natural hazards that can affect the jurisdiction.

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
A. Does the <b>new or updated</b> plan include a <b>description</b> of the types of <b>all natural hazards</b> that affect the jurisdiction?	Tables 2.2 & 2.3, p. 2-5 - 16	<ul style="list-style-type: none"> <li>The Plan identifies the following natural hazards as affecting the jurisdiction: extreme temperatures, extreme wind, hurricane and tropical storm, nor'easter, tornado, winter storm, dam failure, drought, flood, storm surge, earthquake, landslide and wildfire. It describes the characteristics of each of these hazards. Table 2.2 summarizes how and why these hazards were selected and others were not.</li> </ul>		S
<i>Summary Score</i>				S

*6. Profiling Hazards*

**Requirement §201.6(c)(2)(i):** [The risk assessment **shall** include a] description of the ... location and extent of all natural hazards that can affect the jurisdiction. The plan **shall** include information on previous occurrences of hazard events and on the probability of future hazard events.

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
A. Does the risk assessment identify the <b>location</b> (i.e., geographic area affected) of each natural hazard addressed in the <b>new or updated</b> plan?	Sec. 3a	<ul style="list-style-type: none"> <li>The Plan includes much excellent profiling information, including extensive use of GIS.</li> <li>However, certain readily available profiling information is not included or reflected in the Plan as discussed below.</li> <li><i>Flooding (Location, Extent, Probability of Future Events, and Impact):</i> The Plan includes flood maps based on Q3 data. However, a preliminary DFIRM became available in November 2006, and the effective DFIRM in March 2009. Both these DFIRMs are higher quality than the Q3 data, so the effective DFIRM needs to be incorporated into the Plan.</li> <li><i>As stated by Region 2 in their correspondence dated April 16, 2010, DFIRMs do not currently exist for Rockland County. The text of Section 3a was revised to recommend that DFIRM data will need to be utilized for future updates if available.</i></li> <li><i>Tornado (Probability of Future Events):</i> The Plan estimates future tornado</li> </ul>	N	

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		<p>probability in terms of frequency based on historical database records for the County. However, these estimates should be replaced by NOAA's NSSL own specific study that maps the probability for tornadoes of different magnitudes occurring near any location in the U.S. For the nation, the highest values are (a) about 1.5 days per year for any tornado no matter how strong or weak, and (b) 37 days per century (0.37days/yr) expected for significant tornadoes (F2 or greater). For Rockland County, the maps indicate (a) about 0.4 to 0.6 tornado days per year for any tornado, and (b) no days for significant tornadoes (F2 or greater). This study may be accessed online at <a href="http://www.nssl.noaa.gov/primer/tornado/tor_hazardgraph.html">www.nssl.noaa.gov/primer/tornado/tor_hazardgraph.html</a></p> <p><i>Section 3a has been revised to include the reviewer's preferred figure as requested.</i></p> <ul style="list-style-type: none"> <li>• <i>Earthquakes (Probability of Future Events):</i> The Plan includes much good data and information about earthquakes. Although it includes a NEHRP soil map for the county and aptly discusses soil effects, the Plan would be enhanced by also including the detailed Rockland County earthquake hazard map adjusted for soil effects that can be found in the 2008 NY State Mitigation Plan.</li> </ul> <p><i>Section 3a has been revised to include the reviewer's preferred figure as requested.</i></p> <p>In addition, the Plan does not use the HAZUS annualized earthquake dollar losses that were updated in 2008 NY State Mitigation plan to reflect the effects of different soil types (\$401,306 for the county).</p> <p><i>The Level 1 HAZUS estimate (\$1.176 million/yr) was originally selected for use in our July 2009 draft plan since it represented the more conservative approach by planning for the worst-case of two possible damage estimates presented in the State Plan. Text has been revised to incorporate the reviewer's preferred data as requested and the current plan text now reflects the much lower estimate of annual damage potential (\$0.4 million/yr).</i></p> <p><i>Required Revisions:</i></p> <ul style="list-style-type: none"> <li>• For flooding, tornadoes and earthquakes, include the readily available profiling information described above and discuss its applicability to the planning area.</li> </ul> <p><i>For flooding – DFIRMs do not currently exist for Rockland County. The text of Section 3a has been clarified to point out that DFIRM data will need to be utilized for future updates if available.</i></p> <p><i>For earthquakes and tornadoes – the reviewer's preferred figures and loss estimates have been incorporated as requested.</i></p>	
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<p>B. Does the risk assessment identify the <b>extent</b> (<i>i.e.</i>, magnitude or severity) of each hazard addressed in the <b>new or updated</b> plan?</p>	<p>Sec. 3a</p>	<ul style="list-style-type: none"> <li>Except for flooding, the extent or magnitude is addressed for each of the identified hazards.</li> </ul> <p><i>DFIRMs do not currently exist for Rockland County. The text of Section 3a was clarified to point out that DFIRM data will need to be utilized for future updates if available. The extent of the flood hazard continues to be addressed through use of the best readily-available Q3 data.</i></p> <ul style="list-style-type: none"> <li>See above under Element 6a for Comments and Revisions for flooding.</li> </ul> <p><i>Comments and Revisions for flooding have been addressed in the Revised Draft as requested, see responses above under Element 6A.</i></p>	<p>N</p>	
<p>C. Does the plan provide information on <b>previous occurrences</b> of each hazard addressed in the <b>new or updated</b> plan?</p>	<p>Sec. 3a, p. 1-9 – 10 for Declarations</p>	<ul style="list-style-type: none"> <li>The history of previous occurrences is addressed for each hazard mostly using NOAA’s NCDC database covering more recent decades.</li> </ul> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>Consider using other sources, such as FEMA disaster declarations or local historical records, that might provide extend the history of past events back in time.</li> </ul> <p><i>As detailed in Sections 1 and 3a (on a hazard-specific basis) for both the July 2009 Draft and the July 2010 Revised Draft, several sources in addition to NOAA’s NCDC database were used to prepare the plan, including: FEMA disaster declarations, historical occurrences included in the NY State Plan, NY State Geological Survey, Stanford University National Performance of Dams Program, Rockland County Department of Health, general internet research, and local anecdotal evidence provided by CPG members.</i></p>		<p>S</p>
<p>D. Does the plan include the <b>probability of future events</b> (<i>i.e.</i>, chance of occurrence) for each hazard addressed in the <b>new or updated</b> plan?</p>	<p>Sec. 3a</p>	<ul style="list-style-type: none"> <li>See above under Element 6a for Comments and Revisions for flooding, earthquakes and tornadoes.</li> </ul> <p><i>The plan - Draft July 2009 and this Revised Draft of July 2010 - includes the probability of future events (chance of occurrence) for all identified hazards, including but not limited to flooding, earthquakes and tornadoes, as required by this plan element. The reviewer’s preferred supplemental information has been incorporated, as described in the responses above under Element 6A.</i></p>	<p>N</p>	
<p><i>Summary Score</i></p>			<p>N</p>	

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*7. Assessing Vulnerability: Overview*

**Requirement §201.6(c)(2)(ii):** [The risk assessment **shall** include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description **shall** include an overall summary of each hazard and its impact on the community.

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
A. Does the <b>new or updated</b> plan include an <b>overall summary</b> description of the jurisdiction's <b>vulnerability</b> to each hazard?	Sec. 3b, 3c, App. A, B & C	<ul style="list-style-type: none"> <li>As the SEMO Review indicates, the planning team made use of County GIS and assessment data to inventory the assets of the participating jurisdictions, including vulnerable sectors of the population. Appendices A, B, and C are tabulations that detail asset values, critical facilities and historical/cultural resources that are vulnerable in identified hazard areas.</li> <li>Vulnerable sectors of the population within each jurisdiction are quantified in Table 3b.8.</li> <li>Appendix A provides the back-up for the tabulations made on asset vulnerability that are summarized in Table 3c.5 (p. 3c-12). This Appendix includes tables for six hazards, which break down the <i>Total Value of Improvement</i> for each jurisdiction into the following types: Agriculture; Commercial; Community Services; Entertainment and Recreation; Industrial; Public Services; Residential; Vacant Land; Wild, Forested, Conservation Land; and Unclassified. However, this appendix lacks some headings and descriptors (e.g. for storm surge), and it is sometimes unclear what factors are being analyzed by these breakdowns.</li> <li>Appendix B identifies critical facility and infrastructure assets in each jurisdiction and each facility's exposure to the site-specific hazards of: <i>flood</i>, <i>wildfire</i>, <i>earthquake</i> (unstable soil type), and <i>landslide</i> (high incidence or high susceptibility area).</li> <li>Appendix C identifies historic and cultural resource assets in each jurisdiction and each facility's exposure to the site-specific hazards of: <i>flood</i>, <i>wildfire</i>, <i>earthquake</i> (unstable soil type), and <i>landslide</i> (high incidence or high susceptibility area).</li> <li>Clarify the headings and categories on the tables for storm surge in App. A.</li> </ul> <p><i>The Storm Surge tables in Appendix A have been revised to clarify the headings and contents.</i></p>		S

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<p>B. Does the <b>new or updated</b> plan address the <b>impact</b> of each hazard on the jurisdiction?</p>	<p>Sec. 3c, App. A, B &amp; C</p>	<ul style="list-style-type: none"> <li>• The Plan uses County GIS and property assessment records to inventory the assets of participating jurisdictions and other data, including maps of population distribution, and residential/commercial/industrial dollar density. The Plan includes six categories of assets: improved property, emergency facilities, critical infrastructure &amp; utilities, other key facilities, historic and cultural resources, and population.</li> <li>• However, the Plan does not include certain excellent, readily available information and studies from the 2008 NYS Hazard Mitigation Plan. The Plan, posted online at <a href="http://www.semo.state.ny.us/programs/planning/hazmitplan.cfm">www.semo.state.ny.us/programs/planning/hazmitplan.cfm</a>, includes the information discussed below.</li> </ul> <p><i>Flood:</i></p> <p>(a) a county map showing the number, total dollar value and distribution of residential structures in 100-year floodplain by county and municipality where Q3 data is available (100-year Floodplain Residential Property Exposure by county, Section 3, pp. 3-74 to 85 and Figures 3-51 to 71). For instance, the Rockland County map (Figure 3-66, p. 3-112) shows almost \$612 million for residential structures in the 100-year floodplain in the County with over \$216,000,000 of this in the Town of Clarkstown.</p> <p><i>Reference to the reviewer's preferred maps has been added to Section 3a Page 3a-53. The maps themselves are now included in a new appendix (Appendix I), along with a discussion (on Page I-1) regarding implications for the planning area.</i></p> <p>(b) As discussed above, Q3 data (rather than the excellent readily available DFIRM data) were used to determine flood zone boundaries for calculating annual loss estimates of floods (Table 3c.3).</p> <p><i>See responses above - DFIRMs do not currently exist for Rockland County. The text of Section 3a was clarified to point out that DFIRM data will need to be utilized for future updates if available.</i></p> <p><i>Earthquakes:</i></p> <p>The 2008 NY State Hazard Mitigation Plan's HAZUS studies with county-specific vulnerability information for earthquakes. This includes estimates (by county) of earthquake losses averaged over the long term, including rarer, but more damaging earthquakes. These estimates factor in the amplification of ground motion due to soils based on the National</p>	<p>N</p>
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		<p>Earthquake Hazard Reduction Program (NEHRP) soil classes. For Rockland County, for example, the estimated cost of earthquakes is \$401,306 each year. (2008 NYS Mitigation Plan, Annualized Earthquake Loss Estimates by county, Figure 3-196, p. 3-355) Note that the Plan should use this more recent estimate and that it is significantly less than \$1,119,000 per year obtained in the HAZUS runs previously done using a default value for soils.</p> <ul style="list-style-type: none"> <li>• The Plan includes a thoughtful section on estimating annualized future dollar losses for identified hazards that were determined to be quantifiable. The results are clearly summarized in Table 3c.5 (p. 3c-12). Such a table allows ready comparison among hazards of potential damages, factoring in both the probability of future occurrence of each hazard with its effects on the built environment. It can be used by communities for planning purposes, such as developing risk-based mitigation strategies. The estimates in the Table show earthquakes and floods as having significantly higher annualized losses than the other hazards for which losses could be quantified.</li> <li>• The Plan's discussion of earthquakes does not reflect the County's earthquake risk when it states that earthquakes "are not particularly likely, or likely to be particularly intense" (p.3c.2). While it is accurate to say that more frequent earthquakes (low magnitude ones with return periods of less than 50 years and pga's of 3-4%g) are not expected to result in much damage, it is also true that less frequent ones (high magnitude quakes with return periods of 100 to 2500 years and much higher pga's) are estimated to produce substantial enough damage to result in annualized loss estimates of over \$400,000/year. In other words, although the more likely, more frequently occurring earthquakes are not particularly intense and would not cause much damage; the less likely, less frequently occurring ones would be expected to be intense enough to cause significant damage on an annualized basis.</li> </ul> <p><i>To incorporate the reviewer's preferences, Sections 3a and 3c have been revised to highlight the inherent possibility of less-frequent, high magnitude events (with return periods on the order of hundreds or thousands of years) which could cause significant damages per occurrence. The cited sentence ("earthquakes in Rockland County are not particularly likely, or likely to be particularly intense") remains with its explanatory text regarding the fact that the most likely occurrence in Rockland County (PGA 3-4%g with 10 percent chance of being equaled or exceeded over a 50 year period) is not particularly likely, and when this event does occur, its low intensity is not likely to cause more than light to moderate perceived shaking and little to no damage).</i></p> <ul style="list-style-type: none"> <li>• Three suggestions for enhancing these annualized loss estimates are:             <ol style="list-style-type: none"> <li>(a) Replacing the 2004 NY State Mitigation Plan's HAZUS earthquake total</li> </ol> </li> </ul>	
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		<p>annualized loss estimates for Rockland County with 2008 ones that factor in soil type (a level 2 HAZUS analysis) and actually lessen the earthquake loss estimate from <del>\$1,119,000</del> \$1,176,000/yr (Table 3-60, p. 3-353) to \$401,306/yr (Fig. 3-196, p. 3-355).</p> <p><i>The Level 1 HAZUS estimate (\$1.176 million/yr) was originally selected for use in our July 2009 draft plan since it represented the more conservative approach by planning for the worst-case of two possible damage estimates presented in the State Plan. Text has been revised to incorporate the reviewer's preferred data as requested and the current plan text now reflects the much lower estimate of annual damage potential (\$0.4 million/yr).</i></p> <p>(b) Including the return period used for calculating each hazard's annualized loss estimate. For instance, the HAZUS earthquake return period used is 2,500 years, whereas the Plan uses a 15-year return period for flooding presumably because that is the period of time that historic dollar damages are available in NOAA's NCDC database. In other words, the planning team took reported damages from the past 15 years, and then divided them by 15 to annualize them.</p> <p><i>In each case where actual dollar loss values have been estimated based on historical events, the period of record has already been stated in the text. Section 3 has been revised to repeat this information in the title block of each associated table.</i></p> <p>A 1,000 to 2,500-year return period is typically used for modeling earthquakes because most damage occurs during rare, but high magnitude events. For flooding, however, 30 to 100 years is typically needed to capture annualized losses. As a result, the Plan should note that the annualized flood loss calculation probably underestimates flood losses.</p> <p><i>The second paragraph on page 3c.5 already included a statement that the flood loss estimate was based not only on the 1994–2009 records from NCDC, but also the recorded NFIP losses which go back in most cases to the early 1980s. The end of this paragraph also already explicitly stated "These estimates are considered to be extremely conservative, due to the limited amount and incomplete nature of the relevant historical data, as described above."</i></p> <p>(c) Include action items in the mitigation strategy for estimating annualized losses for flooding and hurricane winds using the HAZUS model.</p> <p><i>The County has added this action to their mitigation strategy as requested.</i></p>	
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		<p><i>Required Revisions:</i></p> <ul style="list-style-type: none"> <li>• Include a discussion of the best, readily available impact information described above.</li> </ul> <p><i>Flooding: Reference to the reviewer's preferred maps has been added to Section 3a Page 3a-53. The maps themselves are now included in a new appendix (Appendix I), along with a discussion (on Page I-1) regarding implications for the planning area.</i></p> <ul style="list-style-type: none"> <li>• Revise the earthquake impact discussion to indicate that while more frequent, low magnitude earthquakes are not expected to result in much damage, less frequent, high magnitude ones are estimated to produce substantial damage as discussed above.</li> </ul> <p><i>Earthquakes: (as described above) The text in Section 3a and 3c has been revised to reiterate the earthquake risk associated with low frequency, high magnitude events. The reviewer's preferred Level 2 data has been incorporated as requested and the July 2010 Revised Draft now reflects the much lower damage potential. In each case where actual dollar loss values have been estimated based on historical events, the period of record has already been stated in the text. Section 3 has been revised to repeat this information in the title block of each associated table.</i></p> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>• Consider incorporating the three suggestions for enhancing the annualized dollar loss estimates.</li> </ul> <p><i>While significant revisions to the draft plan have been made to address the reviewers' comments, we note that this particular plan element does not specifically require the estimation of annualized dollar losses; such estimates fall under Element 10.A, for which a score of 'N' does not preclude plan approval.</i></p>			
<i>Summary Score</i>				N	

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*8. Assessing Vulnerability: Addressing Repetitive Loss Properties*

**Requirement §201.6(c)(2)(ii):** [The risk assessment] **must** also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged floods.

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
<p><b>A. Does the new or updated plan describe vulnerability in terms of the types and numbers of repetitive loss properties located in the identified hazard areas?</b>  <i>Note: This requirement becomes effective for all local plans approved after October 1, 2008.</i></p>	p. 3a-58 - 65	<ul style="list-style-type: none"> <li>The repetitive loss situation in Rockland County is extensively discussed including the numbers and types of properties. Repetitive loss property clusters are mapped for the county (Fig 3a.18, p.3a-62) as well as the jurisdictions with the greatest number of these properties, the towns of Clarkstown and Ramapo and the villages of Suffern and Spring Valley.</li> </ul> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li><b>It is highly recommended</b> that the Plan describe if and how these properties will be mitigated or addressed in the future.</li> <li>For additional guidance, see the attached <b>new</b> Toolkit file, <i>A Guide to NFIP Requirements</i> ("4-strat-3-nfip-requirements").</li> </ul> <p><b>The County and each participating jurisdiction have added an action item to their respective implementation strategies regarding mitigation of repetitive loss properties, as requested.</b></p>		S
<i>Summary Score</i>				S

*9. Assessing Vulnerability: Identifying Structures*

**Requirement §201.6(c)(2)(ii)(A):** The plan **should** describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard area ...

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
<p><b>A. Does the new or updated plan describe vulnerability in terms of the types and numbers of existing buildings, infrastructure, and critical facilities located in the identified hazard areas?</b>  <i>Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.</i></p>	Sec. 3b & 3c, App. A, B & C	<ul style="list-style-type: none"> <li>App. A shows the number and value of structures by type in areas affected by flood, storm surge, dam failure, earthquake, landslides and wildfire.</li> <li>App. B shows emergency/critical facilities and infrastructure in localized hazard areas and App. C does the same for exposed historical and cultural resources.</li> </ul>		S

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<p><b>B.</b> Does the <b>new or updated</b> plan describe vulnerability in terms of the <b>types and numbers</b> of <b>future</b> buildings, infrastructure, and critical facilities located in the identified hazard areas? <i>Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.</i></p>	<p>Sec. 3d</p>	<ul style="list-style-type: none"> <li>The Plan discusses current and future land use and development trends in each jurisdiction, often by number and type of structure, in light of their vulnerability to the identified hazards.</li> </ul>		<p>S</p>
<i>Summary Score</i>				<p>S</p>

10. Assessing Vulnerability: Estimating Potential Losses

**Requirement §201.6(c)(2)(ii)(B):** [The plan **should** describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate ... .

<i>Element</i>	<i>Location In Plan (section and page #)</i>	<i>Reviewer's Comments</i>	<i>Score</i>	
			<i>N</i>	<i>S</i>
<p><b>A.</b> Does the <b>new or updated</b> plan estimate <b>potential dollar losses</b> to vulnerable structures? <i>Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.</i></p>	<p>Sec. 3c, App. A, B &amp; C</p>	<ul style="list-style-type: none"> <li>See Comments and Revisions above under Element 7B Impact.</li> <li>Potential dollar losses to vulnerable structures are estimated for <i>earthquake, flood, storm surge</i> (for some jurisdictions), and <i>drought</i>. The total value of structures in terms of potential dollars losses is summarized in Table on page 3c.12.</li> </ul> <p><i>The Rockland County plan currently addresses this plan element by estimating potential dollar losses to vulnerable structures for every identified hazard for which sufficient data and methodologies were available. The draft plan text has been revised to clarify that during future updates of this plan, additional efforts should be made to seek out sources of data and approved methodologies with which to estimate potential annualized dollar losses for those hazards that lack them in this current draft plan. Current FEMA guidance acknowledges that for some hazards there are no standard methodologies suitable for application in the mitigation planning context. Additional details are provided in the responses that follow, and clarification has been added to the text of the revised draft.</i></p> <ul style="list-style-type: none"> <li>No estimate of potential dollar losses to vulnerable structures is made for the hazards of: <i>extreme temperature, extreme wind, winter storms, dam failure, tornado, landslide, and wildfire</i> because the said losses from these events are "assumed negligible".</li> </ul> <p><i>Section 3c of the plan states that potential dollar losses were unquantifiable (dollar amounts could not be directly estimated) for these hazards not because the said losses were assumed to be negligible, but rather for other reasons described in the plan text such as lack of historical data and/or lack of</i></p>	<p>N</p>	

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		<p><i>generally accepted methodologies suitable for use in the mitigation planning context. The following modifications to the text have been made to clarify:</i></p> <p><i><u>Extreme temperatures</u> Text has been modified to clarify the fact that generally accepted methodologies do not exist for estimating potential dollar losses to vulnerable structures during extreme heat/cold events.</i></p> <p><i><u>Extreme wind</u> - Text has been modified to clarify that sufficient data was not available at the time of the study to employ existing methodologies.</i></p> <p><i><u>Winter storms</u> – Text clarifies that neither standard loss estimating methodologies for winter storms or the required data were readily available to quantify damages.</i></p> <p><i><u>Dam failure</u> – Text has been modified to clarify that sufficient data was not available at the time of the study to employ existing methodologies.</i></p> <p><i><u>Tornado</u> – Text clarifies that available data for historic damages due to tornados in Rockland County was not sufficient to enable a detailed analysis of annualized tornado losses for participating jurisdictions.</i></p> <p><i><u>Landslide</u> – Text clarifies that according to FEMA’s How-To #2, current loss estimation methodologies are not available for estimating landslide damages. While the guide indicates that structures within a landslide hazard area could be assumed to be “severely” damaged and those outside could be assumed to be “undamaged”, applying this methodology would not be appropriate for Rockland County given the lack of historical data from which to derive the frequencies of landslide events necessary for the calculation of annual loss estimates. In addition, specific information would be required for buildings in order to employ these methodologies, such as type of construction, foundation type, and details on any existing protective features. This data was not available as a part of the County GIS during this study.</i></p> <p><i><u>Wildfire</u> – Text clarifies that according to FEMA’s How-To #2, current loss estimation methodologies are not available for estimating wildfire damages. Specific information would be required for buildings in order to develop alternate methodologies, such as type of construction, and details on any existing protective features. This data was not available as a part of the County GIS during this study. In addition, available data such as the numbers and locations of wildfires and damages attributed to them was not sufficient at the time of the study to estimate damages due to wildfires.</i></p> <p><i>Table 3c.5 was modified to include at the top “on an annual basis” at the end</i></p>	

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		<p><i>of the key for U versus U*. Also, the column for winter storms previously had a "U" (unquantifiable but assumed negligible on an annual basis) where it should have had a "U*" (unquantifiable but potentially significant on an annual basis) to agree with the preceding text regarding winter storms; this typographical error has been corrected as well.</i></p> <ul style="list-style-type: none"> <li>• No estimate of potential dollar losses to vulnerable structures is made for the hazards of <i>severe weather events and storm surge</i> (for some jurisdictions) because the said losses from these events are believed to be "currently unquantifiable".</li> </ul> <p><i>Section 3c of the plan states that potential dollar losses were not provided for severe weather events and storm surge because they could not be quantified for reasons such as lack of available data and/or methodologies suitable for the mitigation planning context in which to employ existing data. The following modifications have been made to the text to clarify:</i></p> <p><i>Storm Surge— Annual losses are zero in those municipalities for which storm surge is not a hazard. However, for the subset of municipalities in the county where it is known that storm surge is a hazard, text clarifies that while methodologies do exist for quantifying damages to structures due to the inundation and wave action of storm surges, in the absence of detailed data for structures in the SLOSH zones such as construction type and main floor elevation (i.e. similar to that required for detailed flood damage estimations), no meaningful determination of event damages can be made, and since NCDC damage reports for storm events with which storm surges are usually associated do not provide enough detail to isolate storm surge damages from the overall event damage totals, annual damages due to storm surges are, for the purposes of this plan, currently considered to be unquantifiable but potentially significant only in municipalities which have substantial proportions of their improved value located in mapped SLOSH zones.</i></p> <p><i>Severe weather events – Text clarifies that sufficient data to enable estimates of the potential annual losses experienced by the municipalities in Rockland County due to severe storms such as hurricanes and nor'easters was not readily available.</i></p>		
<p>B. Does the <b>new or updated</b> plan describe the <b>methodology</b> used to prepare the estimate?  <i>Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.</i></p>	<p>Sec. 3c,          App. A, B          &amp; C</p>	<ul style="list-style-type: none"> <li>• The Plan is clear in describing its methodology.</li> </ul>		<p>S</p>
<p style="text-align: right;"><i>Summary Score</i></p>			<p>N</p>	

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*11. Assessing Vulnerability: Analyzing Development Trends*

**Requirement §201.6(c)(2)(ii)(C):** [The plan **should** describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

<i>Element</i>	<i>Location In Plan (section and page #)</i>	<i>Reviewer's Comments</i>	<i>Score</i>	
			<i>N</i>	<i>S</i>
A. Does the <b>new or updated</b> plan describe land uses and development trends? <i>Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.</i>	Sec. 3d	<ul style="list-style-type: none"> <li>The Plan extensively discusses current and future land use and development trends in each jurisdiction in light of their vulnerability to the identified hazards.</li> </ul>		S
<i>Summary Score</i>				S

*12. Multi-Jurisdictional Risk Assessment*

**Requirement §201.6(c)(2)(iii):** For multi-jurisdictional plans, the risk assessment **must** assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

<i>Element</i>	<i>Location In Plan (section and page #)</i>	<i>Reviewer's Comments</i>	<i>Score</i>	
			<i>N</i>	<i>S</i>
A. Does the <b>new or updated</b> plan include a risk assessment for each participating jurisdiction as needed to reflect unique or varied risks?	p. 3a-1	<ul style="list-style-type: none"> <li>Table 3a.1 provides a summary of the profile hazards by jurisdiction indicating which hazards affect each jurisdiction.</li> </ul>		S
<i>Summary Score</i>				S

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*MITIGATION STRATEGY: §201.6(c)(3): The plan shall include a mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.*

13. Local Hazard Mitigation Goals

**Requirement §201.6(c)(3)(i):** [The hazard mitigation strategy **shall** include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Element	Location In Plan (section and page #)	Reviewer’s Comments	Score	
			N	S
A Does the <b>new or updated</b> plan include a description of mitigation <b>goals</b> to reduce or avoid long-term vulnerabilities to the identified hazards?	Sec. 5	<ul style="list-style-type: none"> <li>The Plan presents 13 mitigation goals. These include ones to promote disaster-resistant development, build public capacity for preparing/responding/recovering from disasters, reduce future damages to critical facilities, plus ten goals on reducing future damages from the different identified hazards (e.g. “Reduce the possibility of damage and losses due to storm surges”).</li> </ul> <p><b>Recommended Revisions:</b></p> <ul style="list-style-type: none"> <li>Although the Rule does not require a description of objectives, communities are highly encouraged to include objectives developed to achieve the goals so that reviewers understand the connection between goals, objectives, and mitigation actions.</li> <li>Establish a hierarchy of goals, objectives, and mitigation actions in which there are (a) objectives for each goal, and (b) mitigation actions for each objective. See for example the sample in the attached Plan Toolkit file: “4-Strat-4-Goals-objectives-actions-hierarchy-sample.”</li> </ul> <p><i>After consideration of the reviewer’s recommended revisions the planning team has opted to maintain the structure of Sections 5 and 6 at this time in the interest of simplicity, efficiency, and clarity.</i></p>		S
<i>Summary Score</i>				S

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*14. Identification and Analysis of Mitigation Actions*

**Requirement §201.6(c)(3)(ii):** [The mitigation strategy **shall** include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
A. Does the <b>new or updated</b> plan identify and analyze a <b>comprehensive range</b> of specific mitigation actions and projects for each hazard?	Sec. 6 – 8, App. D - F	<ul style="list-style-type: none"> <li>The Plan includes a Mitigation Options Survey that was provided to each jurisdiction with a request to rank the generic types of mitigation actions (pages 7-1 and 7-2). The survey results indicate that the most favored type of action was likely related to “emergency services.”</li> </ul> <p><i>This typographical error has been corrected in the Revised Draft Plan Page 7-2 to read “the most favored type of action was likely to be those related to <b>structural projects...</b>” The summary that follows remains unchanged (with both the Draft and Revised Draft correctly showing Structural Projects with a rank of 1 and Emergency Services with a rank of 3).</i></p> <ul style="list-style-type: none"> <li>However, the guidance describes the generic action types in order to encourage jurisdictions to include a variety of mitigation action types and thus support a more comprehensive range of actions, rather than a favored action type. (p. 56)</li> </ul> <p><i>Text has been added to more explicitly describe the purpose of the mitigation options survey; its intent was to serve as a group warm-up activity to initiate the day’s discussion of mitigation actions, and to provide feedback to the plan author which would allow for the text to include a broad-brush picture of where local preferences perhaps tend to lie on an overall county-wide basis in the area of hazard mitigation. Neither the 2009 Draft, nor the 2010 Revised Draft, stated or implied that municipalities were encouraged to support actions limited to a sole/favored action type. Again, text has been modified to clarify.</i></p> <p>In addition, “emergency services” actions are often response actions rather than being mitigation actions and the guidance states that while such actions may be included in the Plan, response actions (and also preparedness and recovery actions) “do not substitute for the mitigation action requirements of a Local Mitigation Plan.” It specifically cites “Update Emergency Operations Plan” as such a response action. Indeed, because of the confusion, the current guidance omits “emergency services” and just references the other five types: prevention, property protection, public education, natural resource protection, and structural projects. (pp. 56 and 59)</p> <p><i>Text has been added to clarify that during this group warm-up activity,</i></p>	N	S

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		<p><i>emergency response actions were discussed in light of Blue Book Page 59 regarding the fact that any emergency services actions that are response, preparedness, or recovery (instead of true mitigation) can be included in the plan; however, they do not substitute for the mitigation action requirements of a Local Mitigation Plan and may not meet eligibility requirements for FEMA's mitigation grant programs. The inclusion of this as a sixth category in this capacity, while noting its limitations, also aligns with the FEMA How-To.</i></p> <p>The Plan includes a menu of 75 potential mitigation actions (Table 6-1). However, except for the flood hazard, only a narrow range of these potential actions or strategies have been identified and incorporated into the Planning Area's Implementation Strategy to reduce the effects of each hazard.</p> <p>As a result, this planning area's mitigation strategy fails to establish a comprehensive range of specific mitigation actions and projects for each hazard. Simply listing a comprehensive range of <i>potential</i> mitigation actions, but failing to incorporate them into a comprehensive mitigation strategy, results in jurisdictional and area mitigation plans that when implemented, will fail to address each hazard with a comprehensive range of specific mitigation actions.</p> <p><i>The local mitigation strategies included in the 2009 Draft Plan were developed by CPG members based on the results of the risk assessment. To address the reviewer's preferred approach of developing local mitigation strategies based on the results of the hazard identification step, Sections 6 and 7 of the July 2010 Revised Draft have been modified to clarify the three-step process CPG members used to analyze the range of possible mitigation actions and projects that were considered for each identified hazard, in addition to the incorporation of additional, County-led actions addressing each identified hazard with specific involvement and participation by each of the individual jurisdictions (per Regional correspondence of April 16, 2010 - see below).</i></p> <p><i>Required Revisions:</i></p> <ul style="list-style-type: none"> <li>• Explain how the strategies and projects listed in Section 6, "Range of Alternative Mitigation Actions Considered" are intended to reduce or avoid the effects of all of the identified hazards addressed in the risk assessment, if they are not also incorporated into the jurisdictions' implementation strategies (Appendix E).</li> </ul> <p><i>As recommended by Region 2 in their correspondence dated April 16, 2010, the plan has been revised to reflect additional, County-led actions addressing each identified hazard with specific involvement and participation by each of</i></p>	
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		<p><i>the individual jurisdictions. Corresponding modifications appear in the main text Sections 6-8, with backup for the County and each participating jurisdiction in Appendices D and E, and their respective Addenda.</i></p> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>• In order to develop a comprehensive range of mitigation actions, <b>it is highly recommended</b> that the Mitigation Options Survey and discussion be eliminated from the Plan, and also that jurisdictions consider implementing mitigation actions from each of the <b>five</b> types of mitigation actions described in the guidance: prevention, property protection, public education, natural resource protection, and structural projects.</li> </ul> <p><i>As indicated above, the text has been modified to describe in more detail the purpose of the exercise and the discussion that accompanied it during the Mitigation Strategy Working Session.</i></p>		
<p>B Do the identified actions and projects address reducing the effects of hazards on <b>new</b> buildings and infrastructure?</p>	<p>App. E</p>	<ul style="list-style-type: none"> <li>• The Plan includes a number of the identified actions and projects that address reducing the effects of hazards on <b>new</b> buildings and infrastructure.</li> <li>• The Implementation Strategy Worksheet in Appendix D has a column for indicating “whether the action will affect existing assets, future assets or both.” However, requirements 14B and C refer only to structures, and mitigation actions (such as public awareness) may not address either new or existing structures.</li> </ul> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>• Revise the column to align it better with requirements 14B and C, such as “indicate whether the action will reduce hazard effects on existing structures, future structures, both or neither.”</li> </ul> <p><i>After consideration of the reviewer’s expressed preference, text in the referenced column headers remains the same. It is felt that the term “structures” could potentially be misinterpreted by those completing the worksheet to mean only “buildings”, whereas to meet the requirement one must evaluate the projects’ reduction of hazard effects on both buildings and infrastructure (the basic facilities, services, and installations needed for the functioning of a community or society, such as transportation and communications systems, water and power lines, sewers, and so forth.) Whereas the term ‘structures’ could perhaps be interpreted in a manner too restrictive to meet the language of the requirement, the term “assets” is described in this plan as inclusive of: improved property (all development in the form of structures for residential, commercial, industrial, municipal, recreational, and utility uses), emergency facilities, critical infrastructure and</i></p>		<p>S</p>

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		<i>utilities, other key facilities (shelters, schools, and senior care facilities), historic and cultural resources, and population), which would seem to align nicely with the requirement while reducing the likelihood of an overly restrictive interpretation and maintaining continuity with earlier sections of the plan.</i>		
C. Do the identified actions and projects address reducing the effects of hazards on <b>existing</b> buildings and infrastructure?	App. E	<ul style="list-style-type: none"> <li>The Plan includes a number of the identified actions and projects that address reducing the effects of hazards on <b>existing</b> buildings and infrastructure.</li> <li>See 14B Reviewer Comments and Revisions.</li> </ul>		S
<i>Summary Score</i>				S

15. Identification and Analysis of Mitigation Actions: National Flood Insurance Program (NFIP) Compliance

**Requirement: §201.6(c)(3)(ii):** [The mitigation strategy] must also address the jurisdiction’s participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.

Element	Location In Plan (section and page #)	Reviewer’s Comments	Score	
			N	S
<b>A. Does the new or updated plan describe the jurisdiction (s) participation in the NFIP?</b> <i>Note: This requirement becomes effective for all local plans approved after October 1, 2008.</i>	p. 3a-52, 57 - 65	<ul style="list-style-type: none"> <li>Section 3 extensively describes the jurisdictions’ participation in the NFIP and includes analytical tables and mapping.</li> </ul>		S
<b>B. Does the mitigation strategy identify, analyze and prioritize actions related to continued compliance with the NFIP?</b> <i>Note: This requirement becomes effective for all local plans approved after October 1, 2008.</i>	App. F	<ul style="list-style-type: none"> <li>“Appendix F – National Flood Insurance Program Compliance Action” presents six standardized actions related to NFIP compliance. Each of the jurisdictions has selected among them and has acted to prioritize these actions and identified the primary components of an implementation strategy.</li> </ul> <p><i>Recommended Revision:</i></p> <ul style="list-style-type: none"> <li>For additional guidance on meeting this requirement in future plan maintenance and update efforts, see the attached <b>new</b> Toolkit file, <i>A Guide to NFIP Requirements</i> (“4-strat-3-nfip-requirements”).</li> </ul> <p><i>The new toolkit, which was made available subsequent to the completion and submission of the current draft, has been referenced in the text of Section 7 and included in full in Appendix F.</i></p>		S
<i>Summary Score</i>				S

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16. Implementation of Mitigation Actions

**Requirement: §201.6(c)(3)(iii):** [The mitigation strategy section **shall** include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization **shall** include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
A. Does the <b>new or updated</b> mitigation strategy include how the actions are <b>prioritized</b> ? (For example, is there a discussion of the process and criteria used?)	Sec. 7, App. D & F	<ul style="list-style-type: none"> <li>The Plan used a modified version of the STAPLEE analysis evaluating each of the actions by the summary level criteria (Social impact, Technical feasibility, Administrative capabilities, Political and Legal effects, Economic, and Environmental issues).</li> </ul> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>Consider using the 23 detailed STAPLEE “considerations” that support the summary level criteria. For instance, for the Technical criteria, there are three considerations: technical feasibility, long-term solution, and secondary impacts. See <i>Developing the Mitigation Plan</i>, FEMA 386-3, p. 2-20 and 21.</li> </ul> <p><i>The text has been modified to provide additional clarification regarding the consideration of all STAPLEE methodologies presented in FEMA 386-5 during the plan development stage, the rationale for selecting a modified STAPLEE Method B approach, and a suggestion that during future plan updates, the CPG will reevaluate FEMA How-To #5 to determine if the currently selected modified Method B continues to be deemed most appropriate for us in this planning project, or if a collective desire exists amongst CPG members to switch to one of the more complex STAPLEE Methods C or D. Table 7-1 has been modified to reflect group discussion of the 23 detailed STAPLEE “considerations”.</i></p>		S
B. Does the <b>new or updated</b> mitigation strategy address how the actions will be implemented and administered, including the responsible department, existing and potential resources and the timeframe to complete each action?	Sec. 8, App. E & F	<ul style="list-style-type: none"> <li>All but one jurisdiction indicated how their identified priority actions will be implemented and administered. For the Village of Grand View-on-Hudson, no implementation worksheet (only an extra prioritization worksheet) was found in Appendix E.</li> <li>For most items, participants: (1) identified the hazard addressed, (2) determined if the action applies to new or existed assets, (3) identified the primary agency responsible for item completion, (4) identified any existing local planning mechanisms through which the action item will be implemented, (5) identified target dates for completion, (6) estimated costs (high, medium or low), and (7) identified funding sources.</li> <li>However, most of the jurisdictions’ mitigation strategies failed to identify how</li> </ul>	N	

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		<p>they intend to implement and administer actions to address any hazard other than flood. Note that although the County includes some all-hazard actions, no municipality involvement was indicated.</p> <p>One way that previously has been used to ensure the requirement is met for lesser hazards is to include mitigation measures which involve all the jurisdictions and/or address multiple hazards. For example, the County might provide training for inspection and enforcement of adopted codes and ordinances for all the municipality's building officials.</p> <ul style="list-style-type: none"> <li>The Rule requires the mitigation strategy to provide "a blueprint for reducing the potential losses identified in the risk assessment." However, little connection was found between the risk assessment findings and the mitigation actions. For example, for the County's severe repetitive loss properties, there is detailed discussion and mapping, but no mention was found of any actions to address these properties. <i>Actions to address repetitive loss properties are included in Section 6, where Action Item 4G was discussed and analyzed by all jurisdictions adopting this plan, specifically: "Identify and document repetitively flooded properties. Explore mitigation opportunities for repetitively flooded properties, and if necessary, carry out acquisition, relocation, elevation, and flood-proofing measures to protect these properties." The plan text has been revised to document meeting discussions in which the participating jurisdictions were urged to consider mitigation actions for Repetitive Loss Properties within their boundaries, and were advised as to how municipal governments may coordinate with owners of private property to work towards mitigation measures for RLPs (or any other hazard-vulnerable assets) which are not publicly-owned. The County and each participating jurisdiction have added an action item to their respective implementation strategies regarding mitigation of repetitive loss properties, as requested (see Appendix D and E addenda).</i> For earthquakes, annualized losses were estimated almost as high as those for flooding (Table 3c.5, p. 3c-12) and many critical facilities were listed as being in earthquake hazard areas (Table 3b.5, Appendix B), yet no earthquake mitigation measures are discussed, analyzed or selected. <i>Earthquake mitigation measures were discussed and analyzed (See Section 6, Table 6-1, Actions 5.A-E) by all participating jurisdictions; however, it is true that municipalities did not ultimately select them for implementation at this time, based on the results of the risk assessment. Earthquake mitigation actions are now addressed through several County-led initiatives addressing all-hazards, with specific municipal involvement and participation, see modified Section 7 and Appendices D and E.</i></li> <li>In addition, the mitigation action items would be enhanced by describing them more specifically, including dollar costs.</li> </ul>	
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		<p><i>Required Revisions:</i></p> <ul style="list-style-type: none"> <li>• Include implementation information for the Village of Grand View-on-Hudson.</li> </ul> <p><i>The Prioritization worksheet for Grand View-on-Hudson was mistakenly included in Appendix E instead of the Implementation worksheet; the correct page has been inserted into the revised draft.</i></p> <ul style="list-style-type: none"> <li>• Each jurisdiction must identify a comprehensive range of actions for each profiled hazard, which can result in an achievable action plan. This action plan must also include how these actions will be implemented and administered.</li> </ul> <p><i>As recommended by Region 2 in their correspondence dated April 16, 2010, the plan has been revised to reflect additional, County-led actions addressing each identified hazard with specific involvement and participation by each of the individual jurisdictions. Corresponding modifications appear in the main text Sections 6-8, with backup for the County and each participating jurisdiction in Appendices D and E, and their respective Addenda (see also responses under Element 14 above).</i></p> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>• Ensure that each jurisdiction is involved with mitigation actions that cover all the identified hazards, such as in the sample Implementation Strategy Table in the attached Plan Toolkit file: "4-Strat-5-Implementation-sample."</li> </ul> <p><i>Summary Table 6-2 has been added to provide an overview of mitigation actions by jurisdiction.</i></p> <ul style="list-style-type: none"> <li>• <b>It is highly recommended</b> that action items be described more specifically, including dollar costs. If dollar estimates cannot be made, a range of dollar values should be defined for the High, Medium and Low designations.</li> </ul> <p><i>County Implementation Strategy sheets now define a range of dollar values for High, Medium and Low designations (see Appendices D and E addenda). The text of Section 8 has been modified to note that for jurisdictions which provided qualitative project costs ("high/medium/low"), a range of dollar values for these designations will be provided at the first plan update (or more detailed, quantitative cost estimates if possible).</i></p> <ul style="list-style-type: none"> <li>• To better show the connection between specific risk assessment findings and individual mitigation actions, refer to any specific mitigation measures that reduce a particular vulnerability <i>in the risk assessment portion of the Plan where the vulnerability is discussed.</i></li> </ul>		
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<p>C. Does the <b>new or updated</b> prioritization process include an emphasis on the use of a <b>cost-benefit review</b> to maximize benefits?</p>	<p>Sec. 7, App. D &amp; F</p>	<ul style="list-style-type: none"> <li>The Plan incorporates a qualitative evaluation benefit-cost review into its prioritization process. Participants first used the STAPLEE planning concept to identify the overall benefits and the overall costs of each action, characterizing each as High, Medium or Low. They then compared the overall costs versus the overall benefits to prioritize each action. Appendix D contains the STAPLEE worksheets used by each of the participating jurisdictions. However, it is not clear that a special emphasis has been placed on the benefit-cost review.</li> </ul> <p><i>Recommended Revisions:</i></p> <ul style="list-style-type: none"> <li>As is highly recommended above under Element 16B, consider developing more specific dollar estimates of costs.</li> </ul> <p><i>Please see above response to the comment for Element 16.B.</i></p> <ul style="list-style-type: none"> <li>For ensuring that a special emphasis is placed on reviewing benefits and costs, prioritizing actions and documenting the process that meet the cost-benefit review requirement, see <i>Using Cost Benefit Review in Mitigation Planning</i> (FEMA 386-5). This How-To #5 is available online at <a href="http://www.fema.gov/plan/mitplanning/planning_resources.shtml">www.fema.gov/plan/mitplanning/planning_resources.shtml</a>. Consider, for instance, using a weighted score for the economic criteria in the STAPLEE evaluation table such as in the worksheet on p.12 of FEMA 386-5.</li> </ul> <p><i>The text has been modified to provide additional clarification regarding the consideration of all STAPLEE methodologies presented in FEMA 386-5 during the plan development stage, the rationale for selecting a modified STAPLEE Method B approach as opposed to the substantially more complex Methods C or D, and a suggestion that during future plan updates, the CPG will reevaluate FEMA How-To #5 to determine if the currently selected modified Method B continues to be deemed most appropriate for us in this planning project, or if a collective desire exists amongst CPG members to switch to one of the more complex STAPLEE Methods C or D. Table 7-1 has been modified to reflect group discussion of the 23 detailed STAPLEE "considerations".</i></p>		<p>S</p>
<p>D. Does the <b>updated</b> plan identify the completed, deleted or deferred mitigation actions as a benchmark for progress, and if activities are unchanged (<i>i.e.</i>, deferred), does the updated plan describe why no changes occurred?</p>		<ul style="list-style-type: none"> <li>Not applicable. This is not an updated plan.</li> </ul>	<p>NA</p>	<p>NA</p>
<p style="text-align: right;"><i>Summary Score</i></p>			<p>N</p>	

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*17. Multi-Jurisdictional Mitigation Actions*

**Requirement §201.6(c)(3)(iv):** For multi-jurisdictional plans, there **must** be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
A. Does the <b>new or updated</b> plan include identifiable <b>action items</b> for each jurisdiction requesting FEMA approval of the plan?	App. D	<ul style="list-style-type: none"> <li>App. D contains the actual implementation strategy worksheets with identifiable action items completed by the participating jurisdictions.</li> </ul>		S
B. Does the <b>updated</b> plan identify the completed, deleted or deferred mitigation actions as a benchmark for progress, and if activities are unchanged ( <i>i.e.</i> , deferred), does the updated plan describe why no changes occurred?		<ul style="list-style-type: none"> <li>Not applicable. This is not an updated plan.</li> </ul>	NA	NA
<i>Summary Score</i>				S

*PLAN MAINTENANCE PROCESS*

*18. Monitoring, Evaluating, and Updating the Plan*

**Requirement §201.6(c)(4)(i):** [The plan maintenance process **shall** include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
A. Does the <b>new or updated</b> plan describe the method and schedule for <b>monitoring</b> the plan, including the responsible department?	p. 9-1 - 2	<ul style="list-style-type: none"> <li>The Plan includes a detailed description of <i>how, when, and by whom</i> the Plan will be <i>monitored</i>. This includes (a) the continuation of the Core Planning Group with oversight by the director of the RCOFES, (b) work progress reports by agencies involved in implementing actions (using FEMA 386-4, Worksheet #1), (c) milestones to measure the progress of the actions, and (d) the preparation of an annual report that captures the highlights of the previously mentioned activities.</li> </ul>		S

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B. Does the <b>new or updated</b> plan describe the method and schedule for <b>evaluating</b> the plan, including how, when and by whom ( <i>i.e.</i> the responsible department)?	p. 9-2	<ul style="list-style-type: none"> <li>The Plan describes a process to evaluate on an annual basis whether goals and objectives address current and expected conditions; nature or magnitude of risks has changed; current resources are appropriate for implementing the plan; outcomes have occurred as expected; and agencies and other partners participated as originally proposed.</li> </ul>		S
C. Does the <b>new or updated</b> plan describe the method and schedule for <b>updating</b> the plan within the five-year cycle?	p. 9-2 - 3	<ul style="list-style-type: none"> <li>The Plan describes a process including the how, when, and by whom the Plan will be <i>updated</i> within five years.</li> </ul> <p><i>Recommended Revision:</i></p> <ul style="list-style-type: none"> <li>The schedule should include a start date early enough to provide each participating jurisdiction adequate time for review, concurrence, adoption, and SEMO and FEMA approval within the five year time limit in order to remain eligible for project grant funding.</li> </ul> <p><i>The schedule presented in both the 2009 Draft and this 2010 Revised Draft reflects a start date of 18 months from the end of each five-year window, and the participating jurisdictions have no reason to expect that this is approach will not represent an adequate time for review, concurrence, adoption, and the necessary approvals. If Region 2 feels this is insufficient, please advise (and/or perhaps include suggested text/timeframe as part of the Toolkit?).</i></p>		S
<i>Summary Score</i>				S

19. *Incorporation into Existing Planning Mechanisms*

**Requirement §201.6(c)(4)(ii):** [The plan **shall** include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

<i>Element</i>	<i>Location In Plan (section and page #)</i>	<i>Reviewer's Comments</i>	<i>Score</i>	
			<i>N</i>	<i>S</i>
A. Does the <b>new or updated</b> plan identify other local planning mechanisms available for incorporating the mitigation requirements of the mitigation plan?	p. 9-4 - 6	<ul style="list-style-type: none"> <li>The Plan identifies critical local planning mechanisms (such as comprehensive plans, capital improvement plans, zoning and building codes) for incorporating the requirements of the mitigation plan.</li> </ul>		S
B. Does the <b>new or updated</b> plan include a process by which the local government will incorporate the mitigation strategy and other information contained in the plan ( <i>e.g.</i> , risk assessment) into other planning mechanisms, when appropriate?	p. 9-4 - 6	<ul style="list-style-type: none"> <li>The Plan describes processes by which mitigation recommendations will be integrated into the identified local mechanisms.</li> </ul>		S
C. Does the <b>updated</b> plan explain how the local government incorporated the mitigation strategy and other information contained in the plan ( <i>e.g.</i> , risk assessment) into other planning mechanisms, when appropriate?		<ul style="list-style-type: none"> <li>Not applicable. This is not an updated plan.</li> </ul>	NA	NA
<i>Summary Score</i>				S

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20. Continued Public Involvement

**Requirement §201.6(c)(4)(iii):** [The plan maintenance process **shall** include a] discussion on how the community will continue public participation in the plan maintenance process.

Element	Location In Plan (section and page #)	Reviewer's Comments	Score	
			N	S
A. Does the <b>new or updated</b> plan explain how <b>continued public participation</b> will be obtained? (For example, will there be public notices, an on-going mitigation plan committee, or annual review meetings with stakeholders?)	p. 9-3 - 4	<ul style="list-style-type: none"> <li>The Plan proposes a variety of participation opportunities that the public will have during the plan's monitoring, evaluation, and updates including maintaining the Plan's website, preparation of an annual fact sheet, a survey of the public, the production of flyers and newsletters, and open public meetings.</li> </ul> <p><i>Recommended Revision:</i></p> <ul style="list-style-type: none"> <li>Since there was limited public response to the initial outreach efforts, consider more targeted outreach efforts.</li> </ul> <p><i>Section 9 has been revised to incorporate more targeted outreach efforts to the public and other stakeholders during the plan maintenance phase.</i></p> <ul style="list-style-type: none"> <li>Also consider documenting the specific organizations contacted and any subsequent level of involvement.</li> </ul> <p><i>Section 1 has been modified to provide additional documentation of the targeted outreach to key stakeholders during the plan's development.</i></p>		S
<i>Summary Score</i>				S

**Response to comments below:** The headers in Section 1 have been corrected, all additions to the text from the previous draft are highlighted in yellow, and the pages of all appendices are now numbered. Other items considered and incorporated as applicable, per responses to comments throughout crosswalk.

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*Other Comments*

- Resubmit the Plan with the changes from the original **highlighted in yellow** to ensure that all revisions are found and considered in the next review.
- Please find and consider using the attached Draft Region II Hazard Mitigation Plan Development Toolkit files:
  - “4-strat-3-nfip-requirements” (new)
  - “4-strat-11-goals-objectives-actions-hierarchy-sample”
  - “4-strat-5-implementation-sample”
  - “6-adopt-1-resolution-draft-sample”
- The header on Section 1 should read “Introduction” not “Table of Contents.”
- Include page numbers in Appendix A. C
- For maintaining and updating the Plan, please consider the following sources:
  - (a) Local Multi-Hazard Mitigation Planning Guidance (July 2008) available for downloading at [www.fema.gov/library/viewRecord.do?id=3336](http://www.fema.gov/library/viewRecord.do?id=3336)
  - (b) The FEMA Region 2 Hazard Mitigation Plan Toolkit is available as a CD from FEMA Region 2 The current version, dated April 2009, is expected to be
  - (c) 2008 updated New York State Hazard Mitigation Plan, which includes additional excellent risk assessment information, is available at [www.semo.state.ny.us/programs/planning/hazmitplan.cfm](http://www.semo.state.ny.us/programs/planning/hazmitplan.cfm)

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<i>Identifying and Profiling Natural Hazards Summary Table for Local Communities</i>									
Note that this table is included to assist FEMA and the State in scoring each hazard. Local communities may find it useful to ensure that its plan addresses each requirement.									
Hazard Type	5A. Identified Hazards of Concern	6A. Geographic Location		6B. Extent/Magnitude		6C. Previous Occurrences		6D. Probability of Future Events	
	Yes	N	S	N	S	N	S	N	S
Avalanche	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Erosion <sup>(4)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drought	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Earthquake	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Expansive Soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extreme Heat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Extreme Cold/Ice/Snow <sup>(3) (4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Flood – Riverine/Stormwater <sup>(1) (4)</sup>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flood – Coastal <sup>(2) (4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hailstorm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landslide	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Subsidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tornado <sup>(4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tsunami	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volcano	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildfire	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind <sup>(4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- <sup>(1)</sup> Riverine and storm-water flooding may include overflow from a river channel, flash floods, alluvial fan floods, mudflows and debris flows, ice-jam floods, flooding due to dam or levee failure, local drainage or high groundwater levels, and fluctuating lake levels.
- <sup>(2)</sup> Coastal flooding includes storm surge, tidal flooding, and wave action.
- <sup>(3)</sup> Extreme cold may include ice and snowstorms.
- <sup>(4)</sup> Tropical and extratropical storms (such as hurricanes, northeasters and winter storms) are typically associated with multiple hazards, such as winds, tornadoes, coastal flooding, coastal erosion, and/or extreme cold.

**LOCAL HAZARD MITIGATION PLAN REVIEW WORKSHEET**

Jurisdiction: Rockland County, New York

Reviewing Agency: FEMA REGION 2

*Vulnerability Assessment Summary Table for Local Communities*

Note that this table is included to assist FEMA and the State in scoring each hazard. Local communities may find it useful to ensure that its plan addresses each requirement. Note also that receiving an "N" for elements 9A, 9B, 10A or 10B does not preclude the plan from passing.

Hazard Type	Identified Hazards of Concern	Assessing Vulnerability				Identifying Assets by Jurisdiction				Estimating Potential Loss by Jurisdiction			
		7A. Overall Summary Description of Vulnerability		7B. Hazard Impact		9A. Types and Number of Existing Structures in Hazard Area (Estimate)		9B. Types and Number of Future Structures in Hazard Area (Estimate)		10A. Dollar Loss Estimate		10B. Methodology/Documentation	
		Yes	N	S	N	S	N	S	N	S	N	S	N
Avalanche	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Erosion <sup>(4)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drought	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Earthquake	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Expansive Soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extreme Heat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Extreme Cold/Ice/Snow <sup>(3) (4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Flood – Riverine/Stormwater <sup>(1) (4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Flood – Coastal <sup>(2) (4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hailstorm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landslide	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Subsidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tornado <sup>(4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tsunami	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volcano	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildfire	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind <sup>(4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- (1) Riverine and storm-water flooding may include overflow from a river channel, flash floods, alluvial fan floods, mudflows and debris flows, ice-jam floods, flooding due to dam or levee failure, local drainage or high groundwater levels, and fluctuating lake levels.
- (2) Coastal flooding includes storm surge, tidal flooding, and wave action.
- (3) Extreme cold may include ice and snowstorms.
- (4) Tropical and extratropical storms (such as hurricanes, northeasters and winter storms) are typically associated with multiple hazards, such as winds, tornadoes, coastal flooding, coastal erosion, and/or extreme cold.

**LOCAL HAZARD MITIGATION PLAN REVIEW WORKSHEET**

**Jurisdiction:** Rockland County, New York

**Reviewing Agency:** FEMA REGION 2

<i>Mitigation Measures Summary Table for Local Communities</i>			
Note that this table is included to assist FEMA and the State in scoring each hazard. Local communities may find it useful to ensure that its plan addresses each requirement.			
Natural Hazard Type	Identified Hazards of Concern	14A. Evaluation of Actions and Projects	
		Yes	N
Avalanche	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Erosion <sup>(4)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drought	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Earthquake	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Expansive Soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extreme Heat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Extreme Cold/Ice/Snow <sup>(3) (4)</sup>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flood – Riverine/Stormwater <sup>(1) (4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Flood – Coastal <sup>(2) (4)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hailstorm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landslide	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Subsidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tornado <sup>(4)</sup>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Tsunami	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volcano	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildfire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wind <sup>(4)</sup>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- (1) Riverine and storm-water flooding may include overflow from a river channel, flash floods, alluvial fan floods, mudflows and debris flows, ice-jam floods, flooding due to dam or levee failure, local drainage or high groundwater levels, and fluctuating lake levels.
- (2) Coastal flooding includes storm surge, tidal flooding, and wave action.
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