

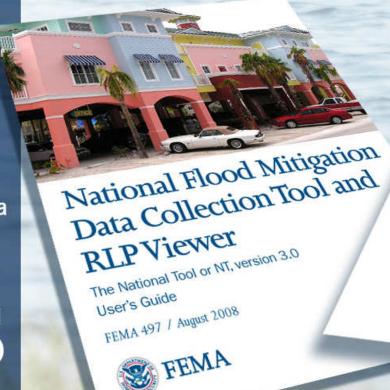
Maryland Association of Floodplain and Stormwater Managers Updating the
Hazard Mitigation Plan
Using the National Tool to
Mitigate Repetitive Loss Properties

Mariante Harford
Baltimore Caroline George's Talbot Charles Wicomico
Worcester Worcester
Worcester Worcester

Shubha Shrivastava

Jen Sparenberg

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Cecil

STATE OF MARYLAND HAZARD MITIGATION PLAN



August 2008

Hazard Mitigation Planning

- Disaster Mitigation Act of 2000
 - ▶ Signed into law on October 30, 2000
 - ► Amended the Stafford Act (section 322)
- Requires local governments to develop natural hazard mitigation plan and update every 5 years for mitigation funding eligibility
- Plan establishes eligibility for Hazard Mitigation
 Assistance (HMA) grant funding
 - ▶ HMGP, PDM, FMA, RFC, SRL

Hazard Mitigation Plan Update

- A requirement (44CFR 201.6)
- Also an opportunity
 - Better risk assessment (uses HAZUS, addresses climate change)
 - Better planning process (involves special needs, uses social media for outreach)
 - Develop fundable mitigation actions

MD Hazard Mitigation Plan Status

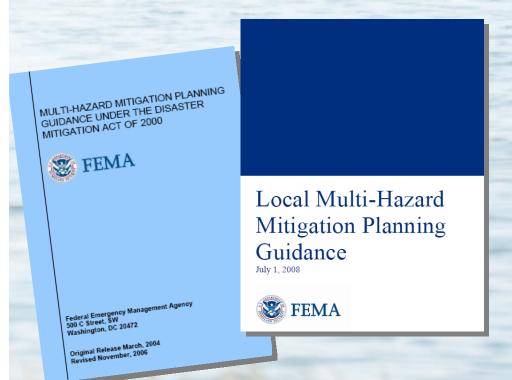


Data Source: www.FEMA.gov, as of January 2009



Mitigation Planning Guidance

- Revised version is dated July 1, 2008
- Plan Review Crosswalk is used to check compliance and approve plans



Attached is a Plan Review Crosswalk based on the Local Multi-Hazard Mitigation Planning Guidance, published by FEMA in July, 2008. This Plan Review Crosswalk is consistent with the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act, as amended by Section 322 of the Disaster Mitigation Act of 2000 (P.L. 106-390), the National Flood Insurance Act of 1968, as amended by the National Flood Insurance Reform Act of 2004 (P.L. 108-264) and 44 Code of Federal Regulations (CFR) Part 201 - Mitigation Planning, inclusive of all amendments through October 31, 2007

- 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.

Each requirement includes separate elements. All elements of a requirement must be rated "Satisfactory" in order for the requirement to be fulfilled and receive a summary score of "Satisfactory." A "Needs Improvement" score on elements shaded in gray (recommended but not required) will not preclude the plan from

When reviewing single jurisdiction plans, reviewers may want to put an N/A in the boxes for multi-jurisdictional plan requirements. When reviewing multi-jurisdictional plans, however, all elements apply. States that have additional requirements can add them in the appropriate sections of the Local Multi-Hazard Militigation Planning Guidance or create a new section and modify the Plan Review Crosswalk to record the score for thougardeniems. Optional matrices for sassisting in the review of sections on profiling hazards, assessing vulnerability, and identifying and analyzing mitigation actions are found at the end of the Plan Review Crosswalk.

The example below illustrates how to fill in the Plan Review Crosswalk .:

Assessing Vulnerability: Overview

Requirement \$201.6(c)(2)(iii): [The risk assessment shall include at description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(ii) of this section

Location in the Plan (section or				ORE
Element	annex and page #)	Reviewer's Comments	N	s
Does the new or updated plan include an overall summary description of the jurisdiction's vulnerability to each hazard?	Section II, pp. 4-10	The plan describes the types of assets that are located within geographically defined hazard areas as well as those that would be affected by winter storms.		0
B. Does the new or updated plan address the impact of each hazard on the jurisdiction?	Section II, pp. 10- 20	The plan does not address he impact of two of the five hazards addressed in the plan. Required Revisions: Include a description of the impact of floods and earthquakes on the assets. Recommended Revisions: In information can be presented in terms of dollar value or percentages of damage.	0	
		SUMMARY SCORE		

JULY 1, 2008

New Requirements

- As of October 1, 2007, the planning requirements of the Flood Mitigation Assistance (FMA) grant program and the Hazard Mitigation Plan are identical, so only one mitigation plan is required, therefore:
 - NFIP communities must address repetitively damaged (flooded) structures
 - ► NFIP communities must include a strategy for continued compliance with NFIP requirements

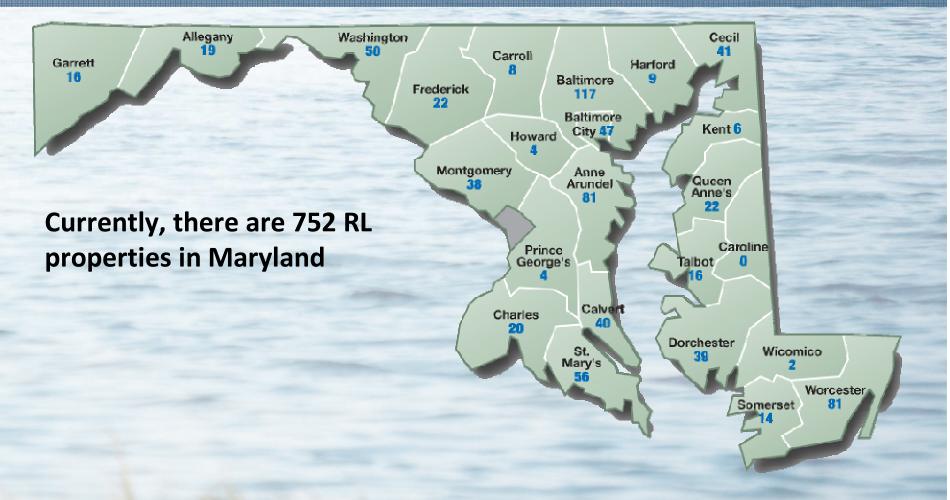
Repetitive Loss Properties

- A Repetitive Loss (RL) property is any insurable building for which the National Flood Insurance Program (NFIP) paid, since 1978
 - ► Two or more claims of more than \$1,000
 - Within any rolling 10-year period
- Over 112,540 RL properties nationwide

(Source: Congressional Research Services Report, 2005)



Repetitive Loss Properties in MD



(8)

Severe Repetitive Loss Properties in MD



(a) That has at least four NFIP claim payments (including building and contents) over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or

(b) For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

For both (a) and (b) above, at least two of the referenced claims must have occurred within any tenyear period, and must be greater than 10 days apart.



Cecil

Caroline

Wicomico

Somerset

(9)

Worcester

Talbot

Dorchester

Prince

George's

Charles

Calvert

New Requirements

LOCAL MITIGATION PLAN REVIEW CROSSWALK

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
Adoption by the Local Governing Body: §201.6(c)(5) OR		
Multi-Jurisdictional Plan Adoption: §201.6(c)(5) AND		
Multi-Jurisdictional Planning Participation: §201.6(a)(3)		
Blooming Bosses		
Planning Process	N	s
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)		
Assessing Vulnerability: Overview: §201.6(c)(2)(ii)		
Assessing Vulnerability: Addressing Repetitive Loss Properties. §201.6(c)(2)(ii)		
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	N	s
13. Local Hazard Mitigation Goals: §201.6(c)(3)(i)		
 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)		
§201.6(c)(3)(iii)		
17. Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(iv)		
Plan Maintenance Process	N	s
 Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(ii) 		
 Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii) 		
20. Continued Public Involvement: §201.6(c)(4)(iii)		
Additional State Requirements*	N	s
Insert State Requirement		
Insert State Requirement		
Insert State Requirement		
LOCAL MITIGATION PLAN APPROVAL STA	TUS	
PLAN NOT	APPROVE	D
See Reviewer'	's Comment	ts
PI AN	APPROVE	р

Plan Update Requirements

LOCAL MITIGATION PLAN REVIEW CROSSWALK

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

Requirement §201.6(b): In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall 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.

Requirement §201.6(c)(1): [The plan shall 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.

•	Location in the		SCO	ORE
Element	Plan (section or annex and page #)	Reviewer's Comments	N	s
Does the plan provide a narrative description of the process followed to prepare the new or updated plan?				
B. Does the new or updated plan indicate who was involved in the current 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.?)				
C. Does the new or updated 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?)				
D. Does the new or updated plan discuss the opportunity for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning process?				
Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?				
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?				
		SUMMARY SCORE		

Plan Update Requirements

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	7.	Assessing	Vulnerability:	Overview
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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.

or the decision. This decisipation distant mode an everal car	Location in the	a and no impact on the community.	SC	ORE
Element	Plan (section or annex and page #)	Reviewer's Comments	N	s
Does the new or updated plan include an overall summary description of the jurisdiction's vulnerability to each hazard?				
Does the new or updated plan address the impact of each hazard on the jurisdiction?				
		SUMMARY SCORE		

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.

	Location in the		SCO	ORE
Element	Plan (section or annex and page #)	Reviewer's Comments	N	S
A. Does the new or updated plan describe vulr in terms of the types and numbers of repeti properties located in the identified hazard a	tive loss	Note: This requirement becomes effective for all local plans approved after October 1, 2008.		
		SUMMARY SCORE		

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

	Location in the		SCC	DRE
Element	Plan (section or annex and page #)	Reviewer's Comments	N	s
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?		Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.		
B. Does the new or updated plan describe vulnerability in terms of the types and numbers of future buildings, infrastructure, and critical facilities located in the identified hazard areas?		Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.		
		SUMMARY SCORE		

Plan Update Requirements

LOCAL MITIGATION PLAN REVIEW CROSSWALK

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.

	Location in the		SCC	DRE
Element	Plan (section or annex and page #)	Reviewer's Comments	N	s
A. Does the new or updated plan describe the jurisdiction (s) participation in the NFIP?		Note: This requirement becomes effective for all local mitigation plans approved after October 1, 2008.		
B. Does the mitigation strategy identify, analyze and prioritize actions related to continued compliance with the NFIP?		Note: This requirement becomes effective for all local mitigation plans approved after October 1, 2008.		
		SUMMARY SCORE		

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.

	Location in the		SCO	DRE
Element	Plan (section or annex and page #)	Reviewer's Comments	N	s
A. Does the new or updated mitigation strategy include how the actions are prioritized? (For example, is there a discussion of the process and criteria used?)				
B. Does the new or updated 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?				
Does the new or updated prioritization process include an emphasis on the use of a cost-benefit review to maximize benefits?				
D. Does the updated plan identify the completed, deleted or deferred mitigation actions as a benchmark for progress, and if activities are unchanged (i.e., deferred), does the updated plan describe why no changes occurred?				
		SUMMARY SCORE		

Suggested Actions:

NFIP communities must include a strategy for continued compliance with NFIP requirements

Join the NFIP.
Participate in NFIP training offered by the State and/or FEMA (or in other training) that addresses flood hazard planning and management.
Establish mutual aid agreements with neighboring communities to address administering the NFIP following a major storm event.
Address NFIP monitoring and compliance activities.
Revise/adopt subdivision regulations, erosion control regulations, board of health regulations, etc. to improve floodplain management in the community.
Participate in Community Rating System (CRS) or undertake activities to increas the grade level of the community's CRS current participation.
Prepare, distribute or make available NFIP, insurance and building codes explanatory pamphlets or booklets.
Identify and become knowledgeable of non-compliant structures in the community.
Identify and become knowledgeable of submit to rate structures.
Identify cause of submit to rate structure and analyze how to prevent non-compliant structures in the future.
Inspect foundations at time of completion before framing to determine if lowest floor is at or above Base Flood Elevation (BFE).
Require use of elevation certificates.
Enhance local officials, builders, developers, local citizens and other stakeholders' knowledge of how to read and interpret the FIRM.
Work with elected officials, the state and FEMA to correct existing compliance issues and prevent any future NFIP compliance issues through continuous communications, training and education.

Additionally, a community may adopt more restrictive standards...

- to provide additional protection to lives and properties
- may qualify for participation in the Community Rating System (CRS)

Refer to publication CRS Credit for Higher Regulatory Standards, available on www.FEMA.gov

- Freeboard
 - -Defined as a factor of safety usually expressed in feet above a flood level i.e.: require elevations to be 2 feet above base flood elevation (BFE)
- Protection of critical facilities
 -Meet 500-year floodplain standards
- Protection of floodplain storage capacity
 Prohibit fill in the 100-year floodplain
- Enclosure limits
 - -Prohibit all enclosures or limit the enclosure area
- Mandatory disclosure laws
 - -Require notification that property is located in 100-year floodplain
- More strict enforcement of building codes as it relates to the floodplain
 As it relates to planning and zoning
- Adoption of international building codes
 - -More restrictive floodplain management standards
- Zoning requirements
 - -More restrictive floodplain management standards
- Higher floodway standards
 - -Designate 100-year floodplain as floodway
- Elevation certificate requirement for all new development
 - -Development in Zones B, C, and X

Hazard Mitigation Plan Update

While updating the hazard mitigation plan:

- Indicate the number of repetitive loss properties
 - If there are none, state this (do not just leave it out)
 - Indicate whether any of the repetitive loss properties have been removed (e.g., through an acquisition program)
- Include actions to address repetitive loss properties (e.g., acquisition, elevation)
 - Use the National Tool to identify the most appropriate mitigation action
- Include actions for continued compliance with the NFIP
 - Adopt higher regulatory standards for extra benefit
- Do not violate privacy of homeowners by publishing names, addresses, or insurance payment information in the plan

National Flood Mitigation Data Collection Tool (NT or National Tool)



National Flood Mitigation Data Collection Tool and RLP Viewer

The National Tool or NT, version 3.0 User's Guide

FEMA 497 / August 2008



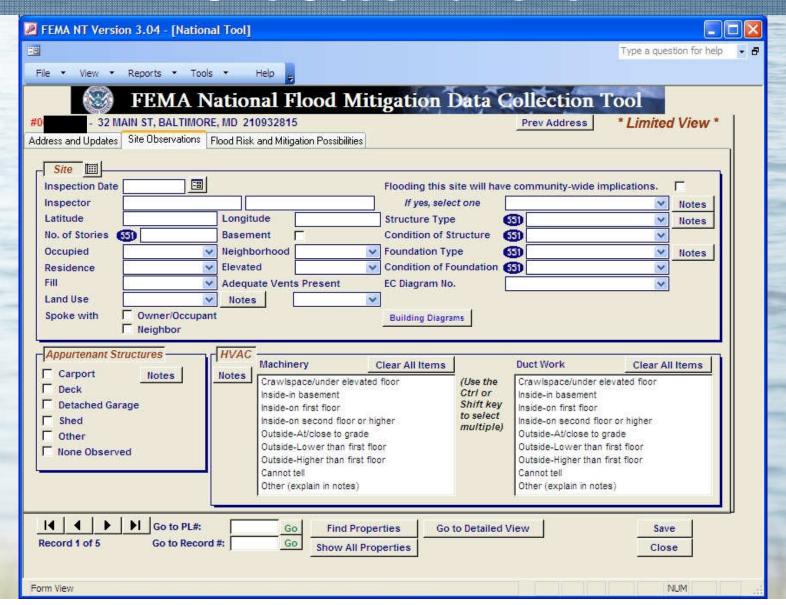
National Flood Mitigation Data Collection Tool (NT or National Tool)

- Standardized method for gathering information on floodprone structures to determine appropriate, fundable mitigation measures
- Specific to floodprone properties, but can be used to gather information on flood risk, building construction, and building value for any structure
- Available for free online in FEMA's library

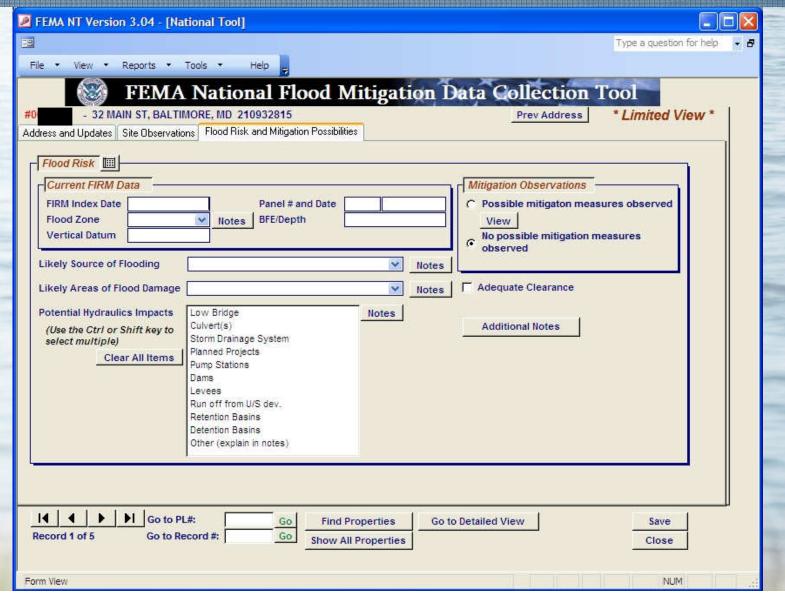
NT Limited View Address and Updates

FEMA NT Version 3.04 - [National Tool]		
3	Type a question fo	r help 🗸 🗗
File ▼ View ▼ Reports ▼ Tools ▼ Help		1775
C PEMA National Plant	Minimum Des College Tool	
	Mitigation Data Collection Tool	2.0
- 32 MAIN ST, BALTIMORE, MD 210932815	Prev Address * Limited Vie	w *
Address and Updates Site Observations Flood Risk and Mitigation Possit		
NFIP AddressAd	View thumbnail image Vidress Updates	_
NFIP Data as of 8/31/2009	Incorrect Community and/or Address Notes	
	mmunity BALTIMORE COUNTY*	7
Community BALTIMORE COUNTY* CID	240010	
	eet# Directional ST Type Unit	
	eet Name	
City, State Zip BALTIMORE, MD 210932815 City County BALTIMORE COUNTY Co	BALTIMORE State MD V Zip 21093-2815 BALTIMORE COUNTY FEMA Region 3	
County BALTIMORE COUNTY	TEMA REGION	<u> </u>
Mitigation Updates III		.
Field FEMA Field FEMA	Additional Research Needed Notes	
Unable to Locate Property	Mitigation Observed Notes	rl II
Flood Protection Provided 1: 1: 1: 1: 1: No Building On Property 2: 2: 2:	Mitigation Observed Notes Mitigation Verified Notes	1
Historic Building ☐ 3: ✓ 3:	(Verification of FEMA data observed in the field)	1
Notes 4: 🔻 4:	Duplicate Listing with Property Locator#	
	☐ Updates Made	J.
I◀ ┃ ◀ ┃ ▶ ┃ ▶ ┃ Go to PL#: Go │ Fin	d Properties Go to Detailed View Save	
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NT Limited View Site Observations



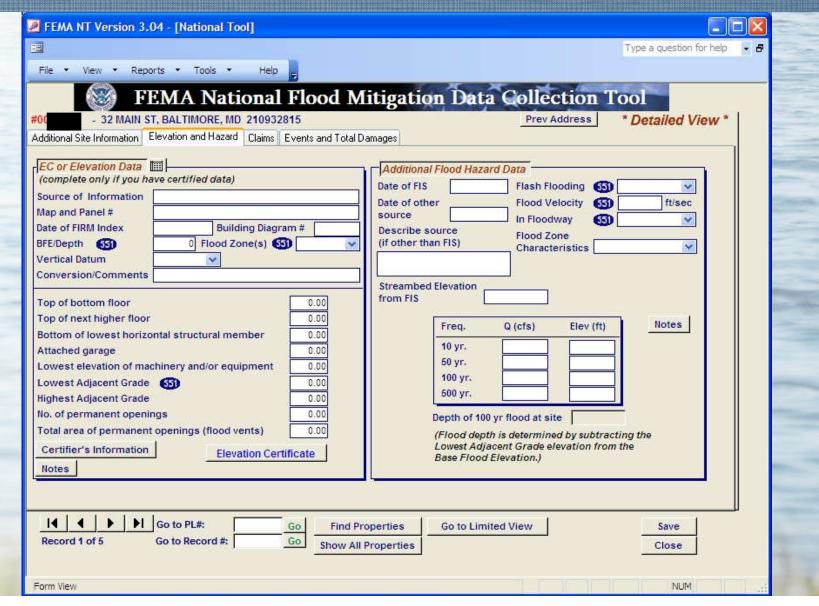
NT Limited View Flood Risk and Mitigation Possibilities



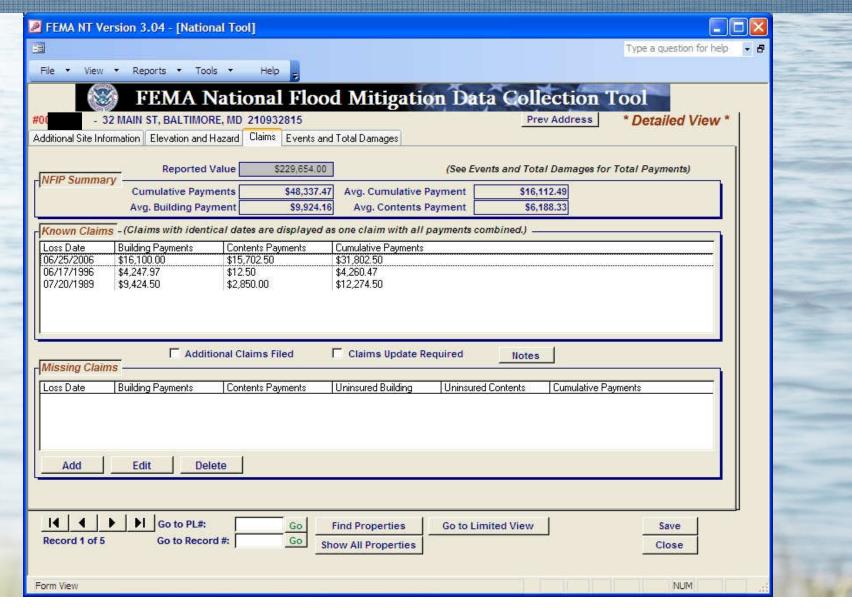
NT Detailed View Additional Site Information

FEMA NT Version 3.04 - [National Tool]	
File ▼ View ▼ Reports ▼ Tools ▼ Help	Type a question for help 👤 🗗
FEMA National Flood Mitigation Da #00 - 32 MAIN ST, BALTIMORE, MD 210932815 Additional Site Information Elevation and Hazard Claims Events and Total Damages	Prev Address * Detailed View *
Regulatory Requirements Freeboard Level Code Height Restrictions Building Market Value Value Source Source Type Building Replacement Value Value Source Source Source Source Value Source	Notes Building Information
Value of Equipment and Contents S0.00 Equipment - Describe contents, equipment or inventory of value Source Source Source Type	Notes Notes Notes Notes Notes Notes Notes Notes
Id Id Id Id Id Id Id Id	Save Close

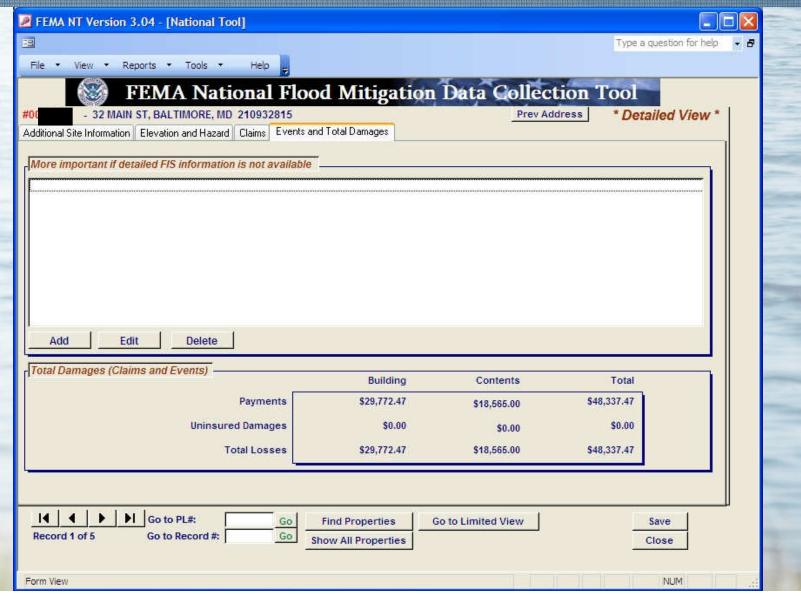
NT Detailed View Elevation and Hazard



NT Detailed View Claims Information



NT Detailed View Events and Total Damages



NT Capabilities Supporting Plan Updates

- Indicate the number of repetitive loss properties and whether any of them have been mitigated
 - **▶ NT Community Summary Report**
- Include actions to address repetitive loss properties (e.g., acquisition, elevation)
 - NT-generated FEMA 551 Worksheets A (Technical Considerations Scorecard) & B (Appropriate Mitigation Measures)

NT Reports Community Summary Report

Community Summary

Number of Properties	s Inventoried by CID #	Number of Properties
Community Name / C	ID#	Inventoried
Total Claims 35	Total NFIP Payments \$1,090,861.00	13

At make a set Duran and the Demonstrate of the date of				
Number of Properties Requiring Updates	New	Field Verified	FEMA	
Incorrect Community and/or Address	N/A	12	N/A	
Unable to Locate Property	1	1	1	
Flood Protection Provided	0	0	0	
No Building on Property	3	3	3	
Historic Building	0	0	0	

Number of Properties Reported as Mitigated	Number Observed	Number Verified
Appears to have been elevated	0	0
Appears to have been floodproofed	0	0
Floodwall, berm, or other type of barrier	0	0
Lower area appears to have been modified	0	0
Drainage improvements appears to have been made	0	0
Flood control project reduced the threat	0	0
Owner/neighbor/local official reported mitigation action taken	0	0
Further research needed	0	0
Other	0	0

FEMA 551 – Selecting Appropriate Mitigation Measures for Floodprone Structures



Selecting Appropriate Mitigation Measures for Floodprone Structures

FEMA 551 / March 2007





NT Reports FEMA 551, Worksheet A

Worksheet A: Technical Considerations Scorecard

10/13/2009

Date Property Visited:

Legend

Mitigation measure is not appropriate.

roperty Address: 278 BERLIN RD, OXFORD, MD 216541373						d requires addition	nal consideration.		
Repetitive Loss Property Locator Number: Prepared by: J Sparenberg					Mitigation measure is appropriate. NT Reference indicates where the information may be found in the National Tool.				
Question	Response	Drainage Improve- ments	Barriers	Wet Flood- proofing	Dry Flood- proofing	Elevation	Relocation	Acquisition	Comments
1. What is the structure type?	✓ Wood Frame / Metal / Other	V	V	•	✓	✓	V	✓	
What is the structure type? NT Reference - Limited Data View, Site Observations tab	Concrete / Masonry / Brick Faced								
	Manufactured Home								
What is the condition of the structure? NT Reference - Limited Data View, Site Observations tab	☐ Good								
	✓ Fair	V	V	V		V	V	•	
	Poor								

Date Prepared:

Property Owner Name:

10/13/2009

NT Reports FEMA 551, Worksheet B

Worksheet B: Appropriate Mitigation Measures

Date Prepared:	10/13/2009	Date Property Visited:	10/13/2009
Property Owner	· Name:	-2	
Property Addre	ss: 278 BERLIN RD, OXFOR	D, MD 216541373	-
Repetitive Loss	Property Locator Number:		3
Prepared by:	J Sparenberg		2

Decision Factors - LOWEST score is most appropriate - see Reverse for Notes						
Mitigation Measures	Technical Considerations*	Relative Costs*	Human Intervention	Annual Maintenance	Total Score	
Drainage Improvements	H ☐ (6 pts) M ☐ (4 pts) L ✔ (2 pts)	H (3 pts) M (2 pts) L (1 pt)	H (3 pts) M (2 pts) L (1 pt)	H (3 pts) M (2 pts) L (1 pt)	pts	
Barriers	H ☐ (6 pts) M ✔ (4 pts) L ☐ (2 pts)	H (3 pts) M (2 pts) L (1 pt)	H (3 pts) M (2 pts) L (1 pt)	H (3 pts) M (2 pts) L (1 pt)	pts	
Wet Floodproofing	H ☐ (6 pts) M ✔ (4 pts) L ☐ (2 pts)	H (3 pts) M (2 pts) L (1 pt)	H (3 pts) M (2 pts) L (1 pt)	H (3 pts) M (2 pts) L (1 pt)	pts	
Elevation	H ☐ (6 pts) M ✔ (4 pts) L ☐ (2 pts)	H (3 pts) M (2 pts) L (1 pt)	H (3 pts) M (2 pts) L (1 pt)	H (3 pts) M (2 pts) L (1 pt)	pts	

Questions?

FEMA Library (keyword NFMDCT to find the NT):

www.fema.gov/library/index.jsp

David Odegard

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Carver Struve

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