

## *Appendix Vol I.22 Interlaken Borough*

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



## NFIP Statistics

**26** *Polices In-force*

**17** *Total Losses*

**\$182,430** *Total Payments*

**2** *Number of RL Properties*

**0** *Number Mitigated  
RL Properties*

**4** *RL - Total Losses*

**\$74,334** *RL - Total Paid*

**0** *Number of SRL Properties*

**0** *Number Mitigated SRL  
Properties*

**0** *SRL - Total Losses*

**\$0** *SRL - Total Paid*

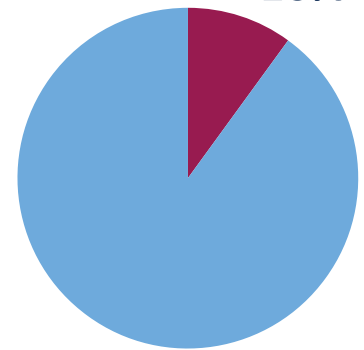


## Critical Facilities

**2** *Critical Facilities*

**0** *Critical Infrastructure*

**16** *Historic & Cultural Resources*



Percent Land Area Within SFHA

**3**

*Total Mitigation  
Actions*

**0**



*Education and Awareness Programs*

**3**



*Structure and Infrastructure Projects*

**0**



*Local Plans and Regulations*

**0**



*Natural Systems Protection*



**0** *SV Population At Risk (2017)*

**83** *Population at Risk (2017)*

Interlaken, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Ease of Implementation	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
22_01	Systematically Conduct Upgrades and Improvements to Sewer Systems, Stormwater Systems, and Outflow Pipes	Over the course of several years, systematically make upgrades and improvements to sewer systems, storm water management systems, and outflow pipes. These improvements will increase capacity, will reduce blockage, and outflow pipes will be retrofitted with back/low valves.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Medium	Borough Administrator overseeing engineering firm	Sewer Taxes/Local Budget	\$1,000,000.00	2 years	Ongoing
22_02	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Elevation and/or acquisition of flood-prone residential structures, with particular focus on those in our community that are on FEMA's Repetitive Loss List and Severe Repetitive Loss List. New Jersey is committed to continuing the reduction of RL and SRL properties in the State; in turn, they have assigned a high priority to mitigating SRL and RL properties in the State Hazard Mitigation Plan. We are committed to supporting these projects as interested homeowners come forward and will support such homeowners, despite the loss in tax revenue, because we recognize the importance of making our community more disaster-resistant and reducing the financial burden of repetitive flooding in our community.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	Medium	Engineer	FEMA HMA		1 year	Ongoing
22_03	Construct Flood Measure (e.g. floodwalls or small berms) along Deal Lake	Use minor structural projects that are smaller and more localized (e.g., floodwalls or small berms) along Deal Lake, which causes repetitive flooding in the Borough.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Medium	Borough Engineering	FEMA HMA		3 years	New

# Monmouth County Mitigation Action Worksheets

Community Action Number: 22\_01

Interlaken, Borough of

## Describing the Action

Action Name:	Systematically Conduct Upgrades and Improvements to Sewer Systems, Stormwater Systems, and Outflow Pipes
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Over the course of several years, systematically make upgrades and improvements to sewer systems, storm water management systems, and outflow pipes. These improvements will increase capacity, will reduce blockage, and outflow pipes will be retrofitted with back/low valves.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5
Risk Reduction:	Deal Lake continues to be a major source of flooding in the Borough. During severe storms, water drains into the Lake but outfall design constraints prevent the water from making its way into the ocean before water overflows the banks and floods back into surrounding areas. Sedimentation and debris in Deal Lake and its tributaries impedes flood flows. Damage and losses due to flooding are also incurred in Interlaken as a result of drainage system shortcomings; the Borough's drainage system cannot efficiently accommodate today's stormwater runoff volumes and discharge this storm water efficiently to ocean waters. This combined with flooding from Deal Lake which can be exacerbated.
Technical:	The project is technically feasible.
Political:	The public welcomes and supports this project as does the governing body.
Legal:	The Borough has the legal authority to undertake this project.
Environmental:	The project will improve environmental conditions by reducing flooding, regulating flow into bodies of water, and preventing sewerage from entering natural resources.
Social:	Improvements benefit all residents within the community equally.
Administrative Capability:	The Borough is unable to undertake the project with its staff, an outside contractor will be used.
Local Champion:	All residents of the Borough benefit from the project. The governing body is a strong supporter of improving the location.
Other Community Objectives:	Improves environmental quality in lakes and streams.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$1,000,000.00
Priority:	Medium
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough Administrator overseeing engineering firm
Local Planning Mechanism:	Codes, Engineering, Plans, Administrative Oversight
Likely Funding Source(s):	Sewer Taxes/Local Budget
Timeline:	2 years
Action Status:	Ongoing
Notes:	Ongoing 2015 action; out to bid on automatic tidal valve. Problem with remaining projects in this action is the funding; local budget is only sewer taxes and income from residential taxes, no commercial tax base. New water main in the boroughs by American Water. Looking at manhole project, which is about \$1 million to stop infiltration.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 22\_02

Interlaken, Borough of

## Describing the Action

Action Name:	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Elevation and/or acquisition of flood-prone residential structures, with particular focus on those in our community that are on FEMA's Repetitive Loss List and Severe Repetitive Loss List. New Jersey is committed to continuing the reduction of RL and SRL properties in the State; in turn, they have assigned a high priority to mitigating SRL and RL properties in the State Hazard Mitigation Plan. We are committed to supporting these projects as interested homeowners come forward and will support such homeowners, despite the loss in tax revenue, because we recognize the importance of making our community more disaster-resistant and reducing the financial burden of repetitive flooding in our community.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm
Goals:	2, 3, 5
Risk Reduction:	Several residential structures throughout the community are prone to flooding, with their main floor elevations below current BFEs. Sea level rise and climate change will contribute to more frequent and severe flooding and surge events.
Technical:	Elevation and acquisition are both technically feasible project types.
Political:	Our political leadership supports this type of project.
Legal:	While the municipality does not own the structures in question, we fully support the homeowners in moving forward.
Environmental:	No environmental impacts are anticipated at this time; this would be confirmed as specific homeowners come forward and their property details are reviewed. It is likely that environmental impacts would be positive, as household hazardous wastes are no longer introduced into floodwaters.
Social:	No particular social group in our community is likely to be disproportionately impacted by this project; this would be re-evaluated as particular interested homeowners come forward.
Administrative Capability:	Our municipality has the administrative capabilities to manage an elevation and/or acquisition project.
Local Champion:	affected homeowners, elected officials
Other Community Objectives:	Improve and protect lifestyles of residents; reduction of costly property damage; resiliency; floodplain management; capital improvements.
STAPLEE Evaluation:	12

## Implementing the Action

Cost Estimate:	
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Engineer
Local Planning Mechanism:	Homeowners; Mayor; Council; Administrator; Engineer; local ordinance; Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; two RL properties still need to be mitigated.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 22\_03

Interlaken, Borough of

## Describing the Action

Action Name:	Construct Flood Measure (e.g. floodwalls or small berms) along Deal Lake
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Use minor structural projects that are smaller and more localized (e.g., floodwalls or small berms) along Deal Lake, which causes repetitive flooding in the Borough.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3
Risk Reduction:	Deal Lake collects runoff from several County municipalities in addition to backflow from the Ocean. During severe rain events, properties along the Lake flood (two repetitive loss properties).
Technical:	Technically feasible.
Political:	No adverse political implications.
Legal:	No legal impediments.
Environmental:	Minor affects to the environment.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	OEM
Other Community Objectives:	
STAPLEE Evaluation:	10

## Implementing the Action

Cost Estimate:	
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough Engineering
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA
Timeline:	3 years
Action Status:	New
Notes:	

## CAPABILITY ASSESSMENT WORKSHEET

Name: Lori Reibrich

Title: Borough Administrator/Municipal Clerk

Jurisdiction: Interlaken Borough

Organization:

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

### Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	1. What is the date/year of the plan? 2. Does the plan address hazards? 3. Does the plan identify projects to include in the mitigation strategy? 4. Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes	
Capital Improvements Plan	No	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan		
Post-Disaster Recovery Plan	Yes	
Transportation Plan		
Stormwater Management Plan		
Community Wildfire Protection Plan		



## CAPABILITY ASSESSMENT WORKSHEET

Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)		
<b>Building Code, Permitting, and Inspections</b>	<b>Yes/No</b>	<b>Are codes adequately enforced?</b>
Building Code	Yes	Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating:
Site Plan Review Requirements	Yes	
<b>Land Use Planning and Ordinances</b>	<b>Yes/No</b>	<b>Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?</b>
Zoning Ordinance	Yes	
Subdivision Ordinance	Yes	
Floodplain Ordinance		
Natural hazard ordinance (stormwater, steep slope, wildfire)		
Flood Insurance Rate Maps		
Acquisition of Land for Open Space and Public Recreation Uses		
Post-Disaster Recovery Ordinance	No	
Real Estate Disclose Ordinance	Yes	





## CAPABILITY ASSESSMENT WORKSHEET

Other (ie. Special Purposes Ordinance)	Yes	Special Purposes Ordinance and Growth Management Ordinance
<b>How can the above capabilities be expanded and improved to reduce risk?</b>		

### Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission		
Mitigation Planning Committee		
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)		Shade Tree Commission: routine maintenance, tree inventory, planting
Mutual Aid Agreements		Shares Police w/ Deal & Loch Arbour Shares equipment w/ Deal & Loch Arbour Shares broadband & radio reporters w/ Deal & Loch Arbour Shares solid waste management w/ Allenhurst & Loch Arbour
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official		
Floodplain Administrator	No	
Emergency Manager	Yes	
Community Planner	No	



## CAPABILITY ASSESSMENT WORKSHEET

Civil Engineer	Yes	
Surveyor	No	
GIS Coordinator	No	
Scientists familiar with the hazards of the community	No	
Other	No	
<b>Technical</b>	<b>Yes/No</b>	<b>Describe capability Has capability been used to access/mitigate risk in the past?</b>
Warning Systems/Services (Reverse 911, outdoor warning signals)		
Hazard Data and Information		
Grant Writing	No	
Hazus Analysis	No	
Other		
<b>How can the above capabilities be expanded and improved to reduce risk?</b>		



## CAPABILITY ASSESSMENT WORKSHEET

### Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	
Authority to Levy Taxes for Specific Purposes	Yes	
Fees for Water, Sewer, Gas, or Electric Services	Yes	
Impact Fees for New Development	No	
Stormwater Utility Fee		
Incur Debt Through Private Activities	No	
Community Development Block Grant	No	
Other Federal Funding Programs	No	
State Funding Programs		
Other (e.g., withhold spending in hazard-prone areas)	Yes	Incur Debt through General Obligation Funds and Incur Debt through Special Tax and Revenue Bonds
<b>How can these capabilities be expanded and improved to reduce risk?</b>		



## CAPABILITY ASSESSMENT WORKSHEET

### Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non-Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.		
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)		
Natural Disaster or Safety Related School Programs		
StormReady Certification		
Firewise Communities Certification		
Public-Private Partnership Initiatives Addressing Disaster Related Issues		
Other		
<b>How can these capabilities be expanded and improved to reduce risk?</b>		







# INTERLAKEN BOROUGH FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



**Building Classification**

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

**Parcel Classification**

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Open Space

0250500

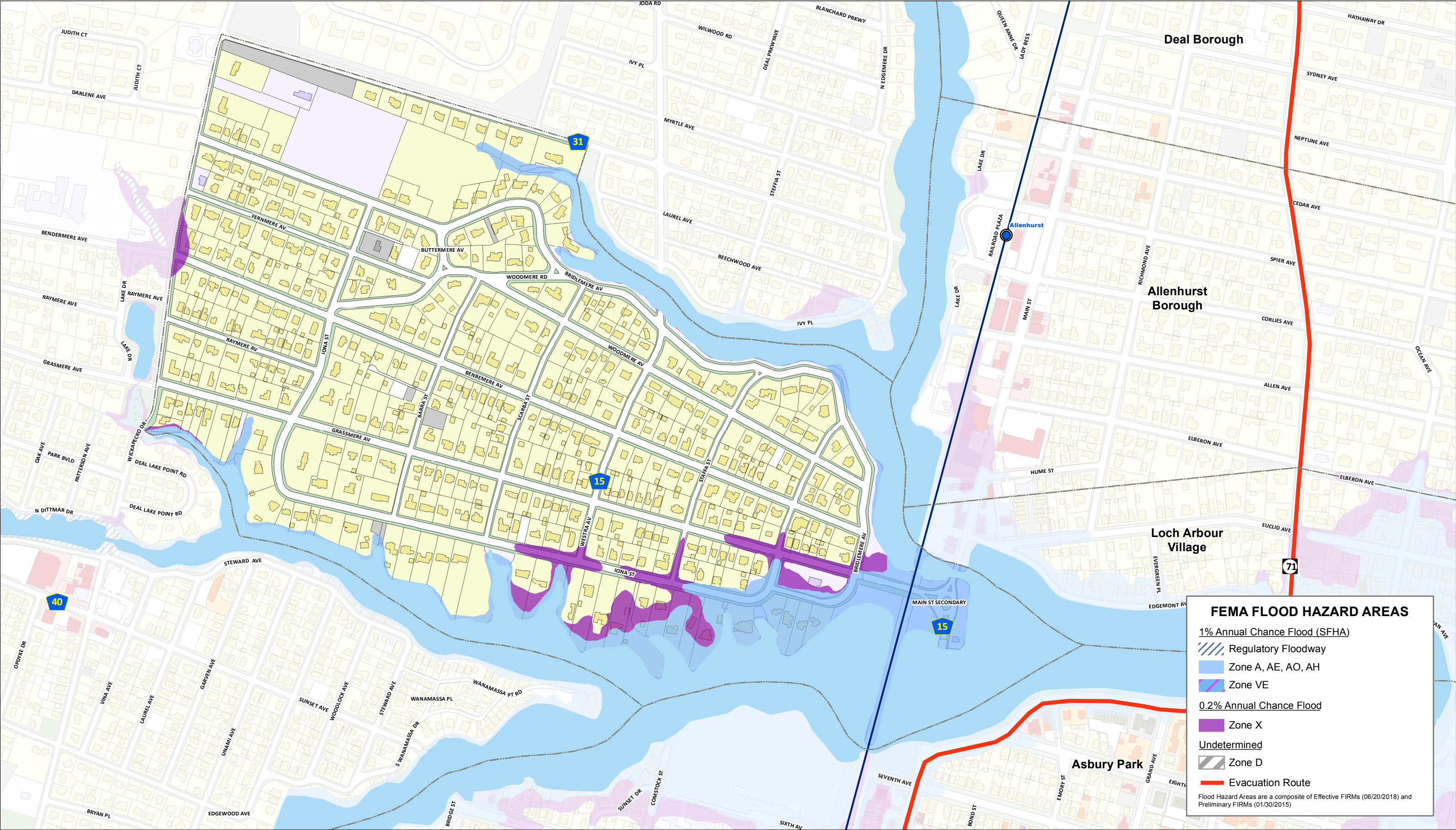
Feet

N

↑

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.





# INTERLAKEN BOROUGH

## FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



**Building Classification**

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

**Parcel Classification**

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Open Space

0250500

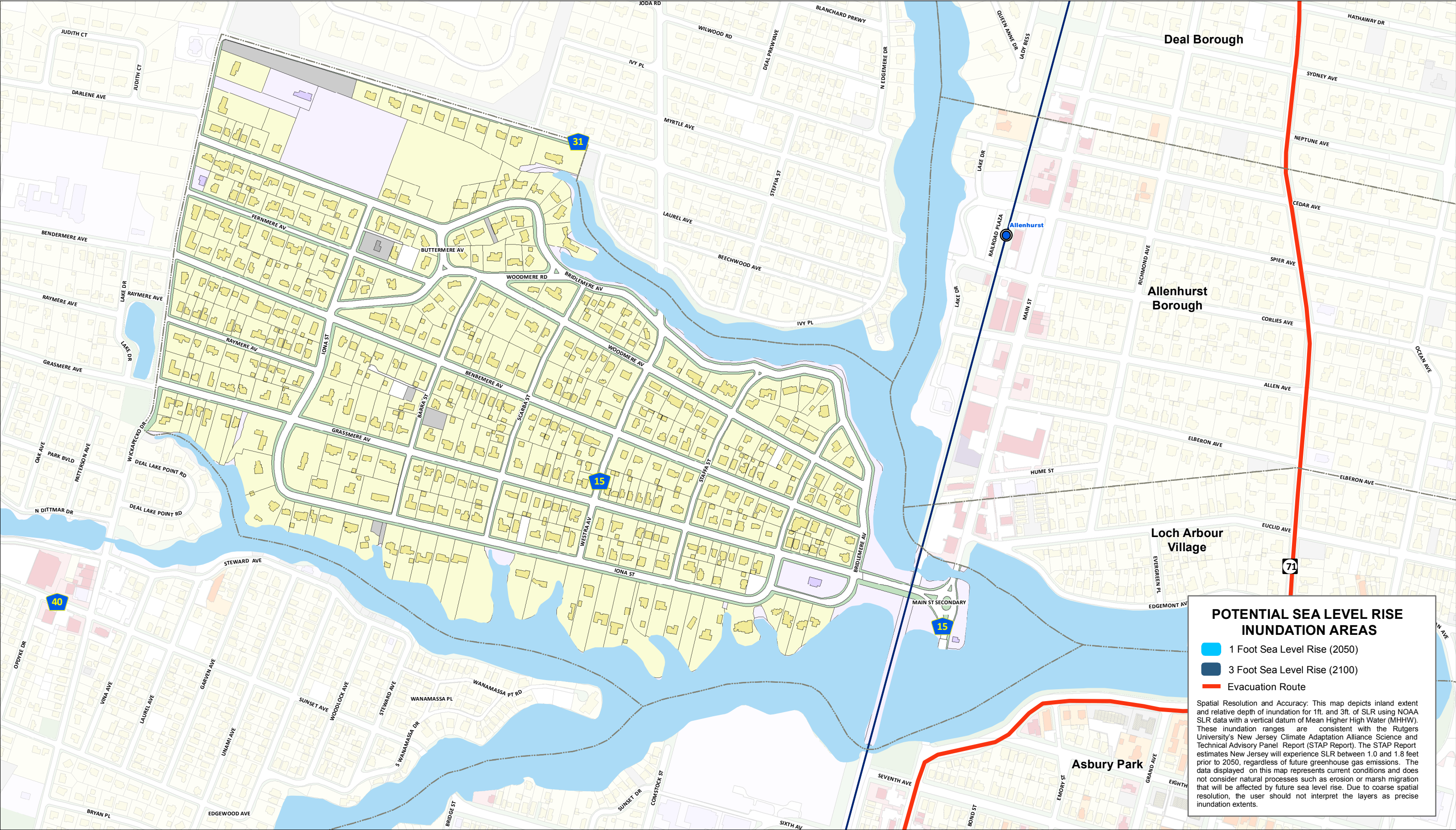
Feet

N

North Arrow

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



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## MEETING NOTES

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**Topic:** Deal and Loch Arbour and Interlaken- Monmouth County HMP Update Meeting

**Date:** June 12, 2019

**Time:** 11:00 AM- 12:00 PM

**Location:** Deal Borough Hall 190 Norwood Ave, Deal, NJ 07723

**Attendees:**

Stephen	Carasia	Borough Clerk/Administrator	Deal Borough
James	Foley	Superintendent of Beaches	Deal Borough
Matthew	Meriano	Engineer	LSA Inc.
Ronen	Neuman	Chief of Police	Deal Borough
Lori	Reibrich	Administrator/Clerk	Interlacken
Matthew	Sharin	OEM Coordinator	Deal Borough
Marilyn	Simons	Village Clerk	Loch Arbour

**Drafted by:** Paige

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### Introductions

Britney Intro

- Goals
- Hazards
- Packet:
  - Hazard Mitigation Introduction
  - Funding Available
  - What the state is prioritizing
  - Example mitigation actions

### Mitigation Actions (2015)

**Deal:**

- Drainage Improvements at Norwood Ave & Alymar Ave → Ongoing 2015 action; getting close to funding stage. Norwood Ave.: \$700,000 for new pipes, design plan in process, clean swell, pipe to Ocean Ave, where pipe is larger, currently takes in Ocean Twp. & Deal's stormwater. Alymar Ave.: no design yet, culverts need to enlarge and expected to be \$1,600,000 Cost benefit can't



get over 1; funding is a challenge.

- Seawall Around Sewerage Facility→ Completed
- Elevation and/or Acquisition of Flood-prone Residential Structures→ Ongoing 2015 action; there are two RL properties. One has been demolished and the second will hopefully be mitigated by action Community Action 11\_01.

#### **Loch Arbour:**

- Drainage Improvements→ Ongoing 2015 action; in the process of going out to bid; funding ends September 2019.
- Deal Lake Stream Maintenance and Clearing→ Ongoing 2015 action; there is a successful manufactured treatment device by the Asbury Park High School (west side of lake); Loch Arbour would like devices on their side of the lake. Biofilters are in the process of being built. The Borough would like wetlands near the lake to prevent pollution from stormwater runoff.
- Study and New Construction of Stormwater Basins→ Ongoing 2015 action; the Borough wants to improve the regional basin and is working on coordination and possible funding.
- Acquisition of Beach Club Property and Shoreline Protection→ Ongoing
- Automatic Tide Gate→ Ongoing; same as action 27\_01?

#### **Interlaken:**

- Improve Sewer and Stormwater Management Systems→ Ongoing 2015 action; out to bid on automatic tidal valve. Problem with remaining projects in this action is the funding; local budget is only sewer taxes and income from residential taxes, no commercial tax base. New water main in the boroughs by American Water. Looking at manhole project, which is about \$1 million to stop infiltration.
- Elevation and/or Acquisition of Flood-prone Residential Structures→ Ongoing 2015 action; two RL properties still need to be mitigated.





Meeting: Deal/Loch Arbour/Interlaken HMP

Date: 06-12-19

Initial	Last Name	First Name	Title	Organization	Email Address
SC	CARASIA	STEPHEN	BOROUGH CLERK/ ADMINISTRATOR	DEAL	ADMINISTRATOR@ DEALBOROUGH.COM
MS	Sharin	matthew	Dep. OEM coordinator	Deal Loch Arbour Interlaken	msharin@ Dealpolice.org
RN	NEUMAN	RONEN	CHIEF OF POLICE OEM	DEAL, INTERLAKEN LOCH ARBOUR	RNEUMAN@DEALPOLICE.ORG
MM	Mariano	Matthew	Engineering Firm	Deal, Loch Arbour Interlaken	mmariano@leonsavick.com
LR	Reibrich	Lori	Administrator/ Clerk	Interlaken	lreibrich@interlakenboard.com
MS	Simons	MARILYN	Village Clerk	Loch Arbour	msimons@locharbour.us
JF	Foley	James	Superintendent of Bridges	Deal	jfoley@DealBorough.com
BA	Ashman	Brittan	Planner	MB	