

3.0 MITIGATION STRATEGIES

As Ottawa County’s planning team and stakeholders developed mitigation goals and strategies for the county, their goal was to address the specific risks and vulnerabilities of each jurisdiction. The mitigation strategies in the current plan are detailed and comprehensive. While some strategies are similar from jurisdiction to jurisdiction, each group of stakeholders expressed their community’s unique circumstances and crafted strategies to address those specific issues in the last planning cycle as well as this one. The result is a set of comprehensive and customized mitigation goals and strategies that meet the needs of Ottawa County and each jurisdiction. This plan updates the strategies in the current plan by eliminating those that are complete or no longer relevant, and maintaining those that are ongoing or still relevant.

3.1 STATUS OF PAST MITIGATION EFFORTS

The current Ottawa County Hazard Mitigation Plan included mitigation goals and strategies for each jurisdiction. As part of the 2022 planning process, stakeholders from each jurisdiction assessed the status of those strategies. Table 3-1 identifies the status of each mitigation strategy based on the classifications listed below.

- Complete: all necessary work is complete
- Deferred: determined to not be feasible or appropriate at this time; removed from consideration
- Ongoing: work has not been achieved in its entirety; more activity is necessary to complete this action
- Unchanged: action is still necessary, but no progress has been made at this time

Strategies listed as ongoing or unchanged have been included in the 2022 strategies. Those identified as completed or deferred have been removed from the updated plan and an explanation for the change is listed in the table below.

Table 3-1: 2017 Ottawa County Mitigation Strategy Status

Strategy	Complete	Defer	Ongoing	Unchanged	Description
OTTAWA COUNTY GOAL 1: Ottawa County will employ mitigation actions that reduce damages to property and infrastructure from coastal, riverine, and flash flooding.					
1.1			X		1.1 Engage in a program of waterway maintenance that removes debris and obstructions from the waterways but allows vegetation to remain to slow the flow of water through the waterway
1.2			X		Maintain NFIP participation through regular review of flood maps and flood zones and sustain local engagement to ensure accuracy of the maps
1.3			X		Adopt, enforce, and maintain local regulations that require

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					construction practices that result in creation of sustainable disaster-resistant structures in flood prone areas and flood zones
1.4			R		Maintain, repair, and replace as needed water control structures, including storm sewers, wastewater pumping stations, dams, and other water management structures
1.5			X		1.5 Construct floodwalls, dikes, dams, levees or other structures to control the flow of water onto properties AND ROADWAYS due to riverine, coastal, or flash flooding.
1.6			X		Require the construction of reservoirs and retention/detention ponds to contain runoff in areas of re-development, new development, or expansion
1.7			X		Prevent construction in flood zones that does not take into consideration the location’s vulnerability to damages and does not engage appropriate mitigation practices.
1.8			X		Participate in watershed management programs and organizations to reduce vulnerability to flood damages
1.9			X		Conduct research and study of storm water and engage in a program to manage it in an effort to reduce flood vulnerability and damages
1.10			X		Utilize elevation to protect properties from the effects of flash, coastal, and riverine flooding
1.11			X		Use financial aid for flood mitigation through grants, fees, and other special programs.
1.12			X		Acquire properties that incur repeated flood damage, and purchase the properties from owners when mutually agreed to relocate occupants out of flood risk areas. The land will be maintained as natural habitat in perpetuity to prevent further damage
1.13			X		Create vegetative buffer zones and restore natural habitat in low-lying areas and divert floodwater to non-vulnerable areas
1.14			X		Make people aware and facilitate the use of simple prevention measures including the use of sand bags and other diversion devices during storms
1.15			X		Advocate and support local requirements for property insurance, including flood insurance when applicable
1.16		X			Utilize channel diversion or modification (widen, straighten, reline) to re-route the flow of runoff when other means of prevention are not feasible
OTTAWA COUNTY GOAL 2: Ottawa County will implement mitigation actions that reduce the damages incurred from severe windstorms including straight-line winds and tornados.					
2.1			X		Advocate for the proper trimming and maintenance of trees and other vegetation as a way to recue damages caused by high wind

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					or tornadoes
2.2			X		Establish, maintain, and enforce established residential and commercial building code regulations, zoning requirements, and other local regulations intended to reduce vulnerability to disaster damages.
2.3			X		Support and advocate for the construction of safe rooms for vulnerable structures, including single and multi-family homes and neighborhoods
2.4			X		Require the use of appropriate building materials and practices so structures are as resistant as possible to the negative effects of high wind and tornado
GOAL 3: Ottawa County will employ mitigation actions to reduce the erosion of topsoil and the subsidence of land from flooding, high winds, and abandoned underground mines.					
3.1			X		Engage in actions to protect and preserve roadways exposed to heavy rainfall or high winds that erode berms, deteriorate sub-structural support, or compromise the integrity of roads, bridges, culverts and other structures.
3.2			X		Protect open areas from wind erosion through use of windbreaks, sod strips, and other vegetative buffers to protect topsoil
3.3			X		Engage in actions to protect and preserve beaches, shorelines, and riverbanks from wind, water, and other hazards that cause erosion or degradation
3.4			X		Protect and support coastal and riverbank slopes to reduce erosion, land subsidence and other wind damage that removes soil
3.5			X		3.5 Identify geographic areas where abandoned underground gypsum and limestone mines cause the possibility of land subsidence and collapse, and require proper mitigation if developed.
GOAL 4: Ottawa County will engage in mitigation actions to reduce damages from utility outages and resource supply shortages					
4.1			X		1 Advocate for the hardening of utilities through damage resistant installation below grade, improvements to supply line and generation plants, and upgrade of substations and transformers.
4.2			X		Identify and establish redundant suppliers of heating fuels, potable water, and other utilities necessary for sustaining life
4.3			1		Establish and enforce regulations that mandate underground utilities for new or significantly improved neighborhoods and properties
GOAL 5: Ottawa County will conduct mitigation actions to reduce the vulnerability of its population to damages and casualty due to severe weather disasters and severe storms					
5.1			X		Maintain and improve hardware, software, and capital equipment used to deliver warnings and notifications of severe weather and

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					other hazards
5.2			X		Establish or maintain, and educate the public about local digital warning and notification systems that inform hem of incoming severe weather and life-threatening incidents
5.3			X		5.3 Establish water conservation and water emergency procedures to be used during water shortages and other water emergencies for reasons of drought or contaminated water supplies.
5.4			X		Identify and establish adequate locations to be used as community centers and comfort stations during extended power outages or extreme weather
5.5			X		Identify and establish agreements with organizations or institutions to house and protect residents during severe storms and other dangerous incidents
5.6			X		Participate in research studies and data collection intended to identify and characterize the effects of contemporary non-meteorological threats on the community, such as climate change and water quality issues like algae bloom
GOAL 6: Ottawa County will complete mitigation actions that enable rapid and effective communication during a disaster incident for the purpose of directing the population to take protective action and follow operational procedures					
6.1			X		Develop, utilize and maintain a communication plan with the public to include mass media, social media, and direct contact for emergency management information before, during and after incidents
6.2			X		Educate the public about local disaster hazards and vulnerabilities, protective actions, available service, vulnerable populations and available assistance, and other emergency procedures using a variety of means to include mass and social media, printed information, and other appropriate actions
6.3			X		Develop a multi-part communication system to engage the community in protective action procedures, warnings, and notification, and other critical lifesaving information related to specific disaster incidents when necessary
6.4			X		Develop interoperable and effective communication action plans and methods to coordinate life-saving efforts with community partners and other during severe incidents
GOAL 1: The Village of Clay Center will engage in mitigation actions that reduce the damages from coastal, riverine, and flash flooding					
1.1		X			Engage in a program of waterway maintenance that removes debris and obstructions from the waterways but allows vegetation to remain to slow the flow of water through the waterway.
1.2			X		Maintain NFIP participation through regular review of flood maps

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					and flood zones and sustain local engagement to ensure accuracy of the maps
1.3		X			Conduct research and study of storm water and engage in a program to manage it in an effort to reduce flood vulnerability and damages
1.4			X		Require the construction of reservoirs and retention/detention ponds to contain runoff in areas of re-development, new development, or expansion
1.5		X			Make people aware of and facilitate the use of simple prevention measures including the use of sand bags and other diversion devices during storms
1.6			X		Use financial aid for flood mitigation through grants, fees, and other special programs
1.7		X			Create vegetative buffer zones and restore natural habitat in low-lying areas and divert floodwater to non-vulnerable areas
1.8		X			Utilize channel diversion or modification (widening, straightening, relining) to reroute the flow of runoff when other means of prevention are not feasible
1.9		X			Utilize elevation to protect properties from the effects of flash, coastal, and riverine flooding
1.10		X			Construct floodwalls, dikes, dams, levees or other structures to control the flow of water onto properties due to riverine, coastal, or flash flooding
GOAL 2: The Village of Clay Center will employ mitigation actions to reduce the damages incurred from severe windstorms, including straight-line winds and tornadoes					
2.1			X		Support and advocate for the construction of safe rooms for vulnerable structures, including single and multi family homes and neighborhoods
2.2			X		Advocate for the proper trimming and maintenance of trees and other vegetation as a way to reduce damages caused by high wind or tornado
2.3			X		Establish, maintain, and enforce established residential and commercial building code regulations, zoning requirements, and other local regulations intended to reduce vulnerability to disaster damages
2.4			X		Require the use of appropriate building materials and practices so structures are as resistant as possible to the negative effects of high wind and tornado
GOAL 3: The Village of Clay Center will engage in mitigation actions to reduce the erosion of topsoil and the subsidence of land from flooding, high winds, and collapse of abandoned underground mines					
3.1			X		Protect open areas from wind erosion through use of windbreaks,

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					sod strips, and other vegetative buffers to protect topsoil
3.2			X		Engage in actions to protect and reserve roadways exposed to heavy rainfall or high winds that erode berms, deteriorate sub-structural support or compromise the integrity of roads, bridges, culvers and other structures
3.3			X		Identify geographic areas where abandoned underground gypsum or limestone mines cause the possibility of land subsidence and collapse
GOAL 4: The Village of Clay Center will employ mitigation actions that reduce damages from utility outages and supply shortages					
4.1			X		Identify and establish redundant suppliers of heating fuels, potable water and other utilities necessary for sustaining life
4.2		X			Advocate for the hardening of utilities through damage resistant installation below grade, improvements to supply lines and generation plants, and upgrade of substations and transformers
4.3		X			Establish and enforce regulations that mandate underground utilities for new or significantly improved neighborhoods and properties
GOAL 5: The Village of Clay Center will conduct mitigation actions to reduce the vulnerability of its population to damages and casualty due to disasters and severe storms					
5.1		X			1 Maintain and improve hardware, software, and capital equipment used to deliver warnings and notifications of severe weather and other hazards
5.2			X		Establish water conservation and water emergency procedures to be used during water shortages and other water emergencies for reasons of drought or contaminated water supplies
5.3			X		Establish or maintain, and educate the public about local digital warning and notification systems that inform them of incoming severe weather and life-threatening incidents
5.4			X		Identify and establish adequate locations to be used as community centers and comfort stations during extended power outages or extreme weather
5.5		X			Identify and establish agreements with organizations or institutions to house and protect residents during severe storms and other dangerous incidents
GOAL 6: The Village of Clay Center will complete mitigation actions that enable rapid and effective communication during a disaster incident for the purpose of directing the population to take protective actions and follow operational procedures					
6.1			X		Educate the public about local disaster hazards and vulnerabilities, protective actions, available services, vulnerable populations and available assistance, and other emergency procedures using a variety of means to include mass and social media, printed

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					information, and other appropriate actions
6.2	X				Develop a multi part communication system to engage the community in protective action procedures, warnings, and notification, and other critical lifesaving information related to specific disaster incidents when necessary
6.3			X		Develop interoperable and effective communication action plans and methods to coordinate life-saving efforts with community partners and others during severe incidents
6.4			X		Develop, utilize and maintain a communication plan with the public to include mass media, social media, and direct contact for emergency management information before, during and after incidents
GOAL 1: The Village of Elmore will engage in mitigation actions that reduce the damages from coastal, riverine, and flash flooding.					
1.1			X		Maintain, repair, and replace as needed water control structures, including storm sewers, wastewater pumping stations, dams, and other water management structures
1.2			X		Engage in a program of waterway maintenance that removes debris and obstructions from the waterways but allows vegetation to remain to slow the flow of water through the waterway
1.3			X		Adopt, enforce, and maintain local regulations that require construction practices that result in creation of sustainable disaster resistant structures in flood prone areas and flood zones.
1.4			X		Maintain NFIP participation through regular review of flood maps and flood zones and sustain local engagement to ensure accuracy of the maps
1.5			X		Conduct research and study of storm water and engage in a program to manage it in an effort to reduce flood vulnerability and damages.
1.6			X		Use financial aid for flood mitigation through grants, fees, and other special programs.
1.7			X		Acquire properties that incur repeated flood damage, and purchase the properties from owners when mutually agreed to relocate occupants out of flood risk areas. The land will be maintained as natural habitat in perpetuity to prevent further damages
1.8			X		Advocate and support local requirements for property insurance, including flood insurance when applicable
1.9			X		Utilize elevation to protect properties from the effects of flash, coastal, and riverine flooding
GOAL 2: The Village of Elmore will employ mitigation actions to reduce the damages incurred from severe windstorms, including straight-line winds and tornadoes					

Strategy	Complete	Defer	Ongoing	Unchanged	Description
2.1			X		Advocate for the proper trimming and maintenance of trees and other vegetation as a way to reduce damages caused by high wind or tornado.
2.2			X		Support and advocate for the construction of safe rooms for vulnerable structures, including single and multi-family homes and neighborhoods.
2.3			X		2.3 Establish, maintain, and enforce established residential and commercial building code regulations, zoning requirements, and other local regulations intended to reduce vulnerability to disaster damages.
2.4			X		Require the use of appropriate building materials and practices so structures are as resistant as possible to the negative effects of high wind and tornado
GOAL 3: The Village of Elmore will engage in mitigation actions to reduce the erosion of topsoil and the subsidence of land from flooding, high winds, and collapse of underground abandoned mines					
3.1			X		Protect and support coastal and riverbank slopes to reduce erosion, land subsidence and other wind damage
GOAL 4: The Village of Elmore will employ mitigation actions that reduce damages from utility outages and supply shortages					
4.1			X		Advocate for the hardening of utilities through damage resistant installation below grade, improvements to supply line and generation plants, and upgrade of substations and transformers.
4.2			X		Identify and establish redundant suppliers of heating fuels, potable water, and other utilities necessary for sustaining life
4.3			X		Establish and enforce regulations that mandate underground utilities for new or significantly improved neighborhoods and properties.
GOAL 5: The Village of Elmore will conduct mitigation actions to reduce the vulnerability of its population to damages and casualty due to disaster and severe storms					
5.1			R		Maintain and improve hardware, software, and capital equipment used to deliver warnings and notifications of severe weather and other hazards
5.2			R		Establish or maintain, and educate the public about local digital warning and notification systems that inform them of incoming severe weather and life-threatening incidents
5.3			R		Establish water conservation and water emergency procedures to be used during water shortages and other water emergencies for reasons of drought or contaminated water supplies
GOAL 6: The Village of Elmore will complete mitigation actions that enable rapid and effective communication during a disaster incident for the purpose of directing the population to take protective actions and follow operations procedures					
6.1			X		Develop interoperable and effective communication action plans

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					and methods to coordinate life-saving efforts with community partners and other during severe incidents
6.2			X		Develop a multi-part communication system to engage the community in protective action procedures, warnings, and notification and other critical lifesaving information related to specific disaster incidents when necessary
6.3			X		Educate the public about local disaster hazards and vulnerabilities, protective actions, available services, vulnerable populations and available assistance, and other emergency procedures using a variety of means to include mass and social media, printed information, and other appropriate actions
6.4			X		Develop, utilize and maintain a communication plan with the public to include mass media, social media, and direct contact for emergency management information before, during and after incidents
GOAL 1: The Village of Genoa will engage in mitigation actions that reduce the damages from riverine, and flash flooding					
1.1			X		Engage in a program of waterway maintenance that removes debris and obstructions from the waterways but allows vegetation to remain to slow the flow of water through the waterway
1.2			X		Participate in watershed management programs and organizations to reduce vulnerability to flood damages
1.3			X		Adopt, enforce, and maintain local regulations that require construction practices that result in creation of sustainable disaster resistant structures in flood prone areas and flood zones
1.4			X		Maintain NFIP participation through regular review of flood maps and flood zones and sustain local engagement to ensure accuracy of the maps
1.5			X		Conduct research and study of storm water and engage in a program to manage it in an effort to reduce flood vulnerability and damages
1.6			X		Require the construction of reservoirs and retention/detention ponds to contain runoff in areas of re-development, new development, or expansion
1.7			X		Prevent construction in flood zones that does not take into consideration the location's vulnerability to damages and does not engage appropriate mitigation practices
1.8	X				Advocate and support local requirements for property insurance, including flood insurance when applicable
1.9			X		Make people aware of and facilitate the use of simple prevention measures including the use of sand bags and other diversion devices during storms

Strategy	Complete	Defer	Ongoing	Unchanged	Description
1.10		X			Create vegetative buffer zones and restore natural habitat in low-lying areas and divert floodwater to non-vulnerable areas
1.11			X		Use financial aid for flood mitigation through grants, fees, and other special programs
GOAL 2: The Village of Genoa will employ mitigation actions to reduce the damages incurred from severe windstorms, including straight-line winds and tornadoes					
2.1				X	Support and advocate for the construction of safe rooms for vulnerable structures, including single and multi-family homes and neighborhoods
2.2	X				Advocate for the proper trimming and maintenance of trees and other vegetation as a way to reduce damages caused by high wind or tornado
2.3	X				Establish, maintain, and enforce established residential and commercial building code regulations, zoning requirements, and other local regulations intended to reduce vulnerability to disaster damages
2.4	X				Require the use of appropriate building materials and practices so structures are as resistant as possible to the negative effects off high wind and tornado
GOAL 3: The Village of Genoa will engage in mitigation actions to reduce the erosion of topsoil and the subsidence of land from flooding, high winds, and abandoned underground mines					
3.1				X	Protect open areas from wind erosion through use of windbreaks, sod strips, and other vegetative buffers to protect topsoil
3.2			X		Engage in actions to protect and preserve roadways exposed to heavy rainfall or high winds that erode berms, deteriorate sub-structural support, or compromise the integrity of roads, bridges, culverts and other structures
3.3				X	Engage in actions to protect and preserve beaches, shorelines, and riverbanks from wind, water, and other hazards that cause erosion or degradation
3.4			X		Identify geographic areas where abandoned underground gypsum and limestone mines cause the possibility of land subsidence and collapse
GOAL 4: The Village of Genoa will employ mitigation actions the reduce damages from utility outages and supply shortages.					
4.1			X		Advocate for the hardening of utilities through damage resistant installation below grade, improvements to supply line and generation plants, and upgrade of substations and transformers
4.2			X		Establish and enforce regulations that mandate underground utilities for new or significantly improved neighborhoods and properties
GOAL 5: The Village of Genoa will conduct mitigation actions to reduce the vulnerability of the					

Strategy	Complete	Defer	Ongoing	Unchanged	Description
population to damages and casualty due to disasters and severe storms					
5.1				X	5.1 Maintain and improve hardware, software, and capital equipment used to deliver warnings and notification of severe weather and other hazards.
5.2				X	Establish or maintain and educate the public about local digital warning and notification systems that inform them of incoming severe weather and life-threatening incidents
5.3			X		Identify and establish adequate locations to be used as community centers and comfort stations during extended power outages or extreme weather
5.4				X	Identify and establish agreements with organizations or institutions to house and protect residents during severe storms and other dangerous incidents
GOAL 6: The Village of Genoa will complete mitigation actions that enable rapid and effective communication during a disaster incident for the purpose of directing the population to take protective action and follow operational procedures					
6.1				X	Educate the public about local disaster hazards and vulnerabilities, protective actions, available services, vulnerable populations and available assistance, and other emergency procedures using a variety of means to include mass and social media, printed information, and other appropriate actions
6.2			X		Develop interoperable and effective communication action plans and methods to coordinate life-saving efforts with community partners and others during severe incidents
6.3				X	Develop a multi-part communication system to engage the community in protective action procedures warnings and notification, and other critical lifesaving information related to specific disaster incidents when necessary
6.4				X	Develop, utilize and maintain a communication plan with the public to include mass media, social media, and direct contact for emergency management information before, during and after incidents
GOAL 1: The Village of Marblehead will engage in mitigation actions that reduce the damages from coastal, riverine, and flash flooding					
1.1			X		Construct floodwalls, dikes, dams, levees or other structures to control the flow of water onto properties due to riverine, coastal and flash flooding
1.2			X		Adopt, enforce, and maintain local regulations that require construction practices that result in creation of sustainable disaster-resistant structures in flood prone areas of flood zones
1.3			X		Prevent construction in flood zones that does not take into consideration the location's vulnerability to damages and does not

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					engage appropriate mitigation practices
1.4			X		Maintain, repair, and replace as needed water control structures, including storm sewers, wastewater pumping stations, dams, and other water management structures
1.5			X		Make people aware of and facilitate the use of simple prevention measures including the use of sand bags and other diversion devices during storms
1.6			X		Advocate and support local requirements for property insurance, including flood insurance when applicable
1.7			X		Utilize elevation to protect properties from the effects of flash, coastal and riverine flooding
1.8			X		Require the construction of reservoirs and retention/detention ponds to contain runoff in areas of re-development, new development, or expansion
1.9			X		Maintain NFIP participation through regular review of flood maps and flood zones and sustain local engagement to ensure accuracy of the maps
1.10		X			Engage in a program of waterway maintenance that removes debris and obstructions from the waterways but allows vegetation to remain to slow the flow of water through the waterway
1.11			X		Use financial aid for flood mitigation through grants, fees and other special programs.
GOAL 2: The Village of Marblehead with employ mitigation actions to reduce the damages incurred from severe windstorms, including straight-line winds and tornado					
2.1			X		Advocate for the proper trimming and maintenance of trees and other vegetation as a way to reduce damages caused by high wind or tornado
2.2			X		Establish, maintain, and enforce established residential and commercial building code regulations, zoning requirements, and other local regulations intended to reduce vulnerability to disaster damages
2.3			X		Support and advocate for the construction of safe rooms for vulnerable structures, including single and multi-family homes and neighborhoods
2.4			X		Require the use of appropriate building materials and practices so structures are as resistant as possible to the negative effects of high wind and tornado
GOAL 3: The Village of Marblehead will engage in mitigation actions to reduce the erosion of topsoil and the subsidence of land from flooding, high winds, and abandoned underground mines.					
3.1			X		Engage in actions to protect and preserve roadways exposed to heavy rainfall or high winds that erode berms, deteriorate sub-structural support, or compromise the integrity of roads, bridges,

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					culverts and other structures
3.2			X		Engage in actions to protect and preserve beaches and shorelines, and riverbanks from wind, water, and other hazards that cause erosion or degradation
3.3			X		Protect and support coastal and riverbank slopes to reduce erosion, land subsidence, and other wind damage
3.4			X		Identify geographic areas where abandoned underground gypsum or limestone mines cause the possibility of land subsidence and collapse
GOAL 4: Marblehead will employ mitigation actions that reduce damages for utility outages and supply shortages					
4.1			X		Advocate for the hardening of utilities through damage resistant installation below grade, improvements to supply line and generation plants, and upgrade of sub-stations and transformers.
4.2		X			Establish and enforce regulations that mandate underground utilities for new or significantly improved neighborhoods and properties
4.3			X		Identify and establish redundant suppliers of heating fuels, potable water, and other utilities necessary for sustaining life
GOAL 5: The Village of Marblehead will conduct mitigation actions to reduce the vulnerability of its population to damages and casualty due to disasters and severe storms					
5.1				X	Maintain and improve hardware, software, and capital equipment used to deliver warnings and notifications of severe weather and hazards
5.2				X	Establish or maintain, and educate the public about local digital warning and notification systems that inform them of incoming severe weather and life-threatening incidents
5.3			X		Establish water conservation and water emergency procedures to be used during water shortages and other water emergencies for reasons of drought or contaminated water supplies
5.4				X	Identify and establish agreements with organizations or institutions to house and protect residents during severe storms and other dangerous incidents
5.5				X	Identify and establish adequate locations to be used as community centers and comfort stations during extended power outages or extreme weather
GOAL 6: The Village of Marblehead will complete mitigation actions that enable rapid and effective communication during a disaster incident for the purpose of directing the population to take protective action and follow operational procedures					
6.1			X		Develop interoperable and effective communication action plans and methods to coordinate life-saving efforts with community

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					partners and others during severe incidents
6.2			X		Develop a multi-part communication system to engage the community in protective action procedures, warnings and notifications, and other critical lifesaving information related to specific disaster incidents when necessary
6.3				X	Develop, utilize, and maintain a communication plan with the public to include mass media, social media, and direct contact for emergency management information before, during and after incidents
6.4			X		Educate the public about local disaster hazards and vulnerabilities, protective actions, available services, vulnerable populations and available assistance, and other emergency procedures using a variety of means to include mass and social media, printed information, and other appropriate actions
GOAL 1: The Village of Oak Harbor will engage in mitigation actions that reduce the damages from coastal, riverine, and flash flooding					
1.1			X		Prevent construction in flood zones that does not take into consideration the location's vulnerability o damages and does not engage appropriate mitigation practices
1.2			X		Maintain, repair, and replace as needed water control structures, including storm sewers, wastewater pumping stations, dams, and other water management structures
1.3			X		Participate in watershed management program and organizations to reduce vulnerability to flood damages
1.4			X		Conduct research and study of storm water and engage in a program to manage it in an effort to reduce flood vulnerability and damages
1.5			X		Engage in a program of waterway maintenance that removes debris and obstructions from the waterways but allows vegetation to remain to slow the flow of water through the waterway.
1.6			X		Maintain NFIP participation through regular review of flood maps and flood zones and sustain local engagement to ensure accuracy of the maps
1.7			X		Use financial aid for flood mitigation through grants, fees, and other special programs.
1.8			X		Construct floodwalls, dikes, dams, levees or other structures to control the flow of water onto properties due to riverine, coastal, or flash flooding
1.9			X		Require the construction of reservoirs and retention/detention ponds to contain runoff in areas of re-development, new development, or expansion
1.10			X		Acquire properties that incur repeated flood damage, and

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					purchase the properties from owners when mutually agreed to relocate occupants out of flood risk areas. The land will be maintained as natural habitat in perpetuity to prevent further damage
1.11			X		Advocate and support local requirements for property insurance, including flood insurance with applicable.
1.12			X		Utilize elevation to protect properties from the effects of flash, coastal, and riverine flooding
1.13			X		Use financial aid for flood mitigation through grants, fees, and other special programs.
1.14			X		Create vegetative buffer zones and restore natural habitat in low-lying areas and divert floodwater to non-vulnerable areas.
GOAL 2: The Village of Oak Harbor will employ mitigation actions to reduce the damages incurred from severe windstorms, including straight-line winds and tornadoes					
2.1			X		Advocate for the proper trimming and maintenance of trees and other vegetation as a way to reduce damages caused by high wind or tornado
2.2			X		Support and advocate for the construction of safe rooms for vulnerable structures, including single and multi-family homes and neighborhoods
2.3			X		Establish, maintain, and enforce established residential and commercial building code regulations, zoning requirements, and other local regulations intended to reduce vulnerability to disaster damages
GOAL 3: The Village of Oak Harbor will engage in mitigation actions to reduce the erosion of topsoil and the subsidence of land from flooding, high winds, and abandoned underground mines.					
3.1			X		Engage in actions to protect and preserve beaches, shorelines, and riverbanks from wind, water, and other hazards that cause erosion or degradation
3.2			X		Engage in actions to protect and preserve roadways exposed to heavy rainfall or high winds that erode berms, deteriorate sub-structural support, or compromise the integrity of roads, bridges, culverts and other structures
3.3			X		Protect open areas from wind erosion through use of windbreaks, sod strips, and other vegetative buffers to protect topsoil
GOAL 4: The Village of Oak Harbor will employ mitigation actions that reduce damages from utility outages and supply shortages					
4.1			X		Advocate for the hardening of utilities through damage resistant installation below grade, improvements to supply line and generation plants, and upgrade of sub-stations and transformers.
4.2			X		Identify and establish redundant suppliers of heating fuels, potable water, and other utilities necessary for sustaining life.

Strategy	Complete	Defer	Ongoing	Unchanged	Description
4.3			X		Establish and enforce regulations that mandate underground utilities for new or significantly improved neighborhoods and properties
GOAL 5: The Village of Oak Harbor will conduct mitigation actions to reduce the vulnerability of its population to damages and casualty due to disaster and severe storms					
5.1			X		Establish water conservation and water emergency procedures to be used during water shortages and other water emergencies for reasons of drought or contaminated water supplies.
5.2			X		Maintain and improve hardware, software, and capital equipment used to deliver warnings and notifications of severe weather and other hazards
5.3			X		Establish or maintain and educate the public about local digital warning and notification systems that inform them of incoming severe weather and life-threatening incidents
5.4			X		Identify and establish agreements with organizations or institutions to house and protect residents during severe storms and other dangerous incidents
5.5			X		Identify and establish adequate locations to be used as community centers and comfort stations during extended power outages or extreme weather.
GOAL 6: The Village of Oak Harbor will complete mitigation actions that enable rapid and effective communication during a disaster incident for the purpose of directing the population to take protective action and follow operational procedures.					
6.1			X		Develop interoperable and effective communication action plans and methods to coordinate life-saving efforts with community partners and others during severe incidents.
6.2			X		Develop a multi-part communication system to engage the community in protective action procedures, warnings and notification, and other critical lifesaving information related to specific disaster incidents when necessary
6.3			X		Develop, utilize and maintain a communication plan with the public to include mass media, social media, and direct contact for emergency management information before, during and after incidents
6.4			X		Educate the public about local disaster hazards and vulnerabilities, protective actions, available services, vulnerable populations and available assistance, and other emergency procedures using a variety of means to include mass and social media, printed information, and other appropriate actions
GOAL 1: The City of Port Clinton will engage in mitigation actions that reduce the damages from coastal, riverine, and flash flooding					
1.1			X		Participate in watershed management programs and organizations

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					to reduce vulnerability to flood damages
1.2			X		Adopt, enforce and maintain local regulations that require construction practices that result in creation of sustainable disaster resistant structures in flood prone areas and flood zones
1.3			X		Maintain, repair, and replace as needed water control structures, including storm sewers, wastewater pumping stations, dams, and other water management structures.
1.4			X		Conduct research and study of storm water and engage in a program to manage it in an effort to reduce flood vulnerability and damages
1.5			X		Prevent construction in flood zones that does not take into consideration the location's vulnerability to damages and does not engage appropriate mitigation practices
1.6				X	Require the construction of reservoirs and retention/detention ponds to contain runoff in areas of re-development, new development, or expansion
1.7			X		Use financial aid for flood mitigation through grants, fees, and other special programs.
1.8			X		Maintain NFIP participation through regular review of flood maps and flood zones and sustain local engagement to ensure accuracy of the maps
1.9			X		Create vegetative buffer zones and restore natural habitat in low-lying areas and divert floodwater to non-vulnerable areas
1.10			X		Advocate and support local requirements for property insurance, including flood insurance when applicable
1.11			X		Utilize elevation to protect properties from the effects of flash, coastal, and riverine flooding
1.12			X		Engage in a program of waterway maintenance that removes debris and obstructions from the waterways but allows vegetation to remain to slow the flow of water through the waterway.
GOAL 2: The City of Port Clinton will employ mitigation actions to reduce the damages incurred from severe windstorms, including straight-line winds and tornadoes					
2.1			X		Advocate for the proper trimming and maintenance of trees and other vegetation as a way to reduce damages caused by high wind or tornado
2.2			X		Establish, maintain, and enforce established residential and commercial building code regulations, zoning requirements, and other local regulations intended to reduce vulnerability to disaster damages
2.3				X	Require the use of appropriate building materials and practices so structures are as resistant as possible to the negative effects of high wind and tornado

Strategy	Complete	Defer	Ongoing	Unchanged	Description
2.4				X	Support and advocate for the construction of safe rooms for vulnerable structures, including single and multi-family homes and neighborhoods
GOAL 3: The City of Port Clinton will engage in mitigation actions to reduce the erosion of topsoil and the subsidence of land from flooding, high winds, and abandoned underground mines					
3.1			X		Engage in actions to protect and preserve roadways exposed to heavy rainfall or high winds that erode berms, deteriorate sub-structural support, or compromise the integrity of roads, bridges, culverts and other structures
3.2			X		Engage in actions to protect and preserve beaches, shorelines, and riverbanks from wind, water, and other hazards that cause erosion or degradation
3.3			X		Protect and support coastal and riverbank slopes to reduce erosion, land subsidence and other wind damage
3.4				X	Identify geographic areas where abandoned underground gypsum and limestone mines cause the possibility of land subsidence and collapse
3.5			X		Protect open areas from wind erosion through use of windbreaks, sod strips, and other vegetative buffers to protect topsoil
GOAL 4: The City of Port Clinton will employ mitigation actions that reduce damages from utility outages and supply shortages					
4.1			X		Advocate for the hardening of utilities through damage resistant installation below grade, improvements to supply line and generation plants, and upgrade of substations and transformers
4.2			X		Establish and enforce regulations that mandate underground utilities for new or significantly improved neighborhoods and properties
4.3			X		Identify and establish redundant suppliers of heating fuels, potable water, and other utilities necessary for sustaining life
GOAL 5: The City of Port Clinton will conduct mitigation actions to reduce the vulnerability of its population to damages and casualty due to disasters and severe storms					
5.1			X		Establish water conservation and water emergency procedures to be used during water shortages and other water emergencies for reasons of drought or contaminated water supplies
5.2			X		Maintain and improve hardware, software, and capital equipment used to deliver warnings and notification of severe weather and other hazards
5.3			X		Establish or maintain and educate the public about local digital warning and notification systems that inform them of incoming severe weather and life-threatening incidents
5.4			X		Identify and establish adequate locations to be used as community centers and comfort stations during extended power outages or

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					extreme weather
5.5			X		Identify and establish agreements with organizations or institutions to house and protect resident during severe storms and other dangerous incidents
5.6			X		Participate in research studies and data collection intended to identify and characterize the effects of contemporary non-meteorological threats on the community, such as climate change and water quality issues like algae bloom
GOAL 6: The City of Port Clinton will complete mitigation actions that enable rapid and effective communication during a disaster incident for the purpose of directing the population to take protective actions and follow operational procedures					
6.1			X		6.1 Develop, utilize and maintain a communication plan with the public to include mass media, social media, and direct contact for emergency management information before, during and after incidents.
6.2			X		Educate the public about local disaster hazards and vulnerabilities, protective actions, available services, vulnerable populations and available assistance, and other emergency procedures using a variety of means to include mass and social media, printed information, and other appropriate actions
6.3			X		Develop a multi-part communication system to engage the community in protective action procedures, warning and notifications, and other critical lifesaving information related specific disaster incidents when necessary
6.4			X		Develop interoperable and effective communication action plans and methods to coordinate lifesaving efforts with community partners and others during severe incidents
GOAL 1: The Village of Put-in-Bay will engage in mitigation actions that reduce the damages from coastal, riverine, and flash flooding					
1.1			X		Make people aware of and facilitate the use of simple prevention measures including the use of sand bags and other diversion devices during storms
1.2			X		Prevent construction in flood zones that does not take into consideration the location’s vulnerability to damages and does not engage appropriate mitigation practices
1.3			X		Adopt, enforce, and maintain local regulations that require construction practices that result in creation of sustainable disaster resistant structures in flood prone areas and flood zones.
1.4			X		Maintain, repair and replace as needed water control structures, including storm sewers, wastewater pumping stations, dams, and other water management structures
1.5			X		Advocate and support local requirements for property insurance,

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					including flood insurance when applicable
1.6			X		Construct floodwalls, dikes, dams, levees or other structures to control the flow of water onto properties due to riverine, coastal, or flash flooding
1.7		X			Create vegetative buffer zones and restore natural habitat in low-lying areas and divert floodwater to non-vulnerable areas
1.8			X		Maintain NFIP participation through regular review of flood maps and flood zones and sustain local engagement to ensure accuracy of the maps
1.9			X		Utilize elevation to protect properties from the effects of flash, coastal, and riverine flooding.
1.10		X			Require the construction of reservoirs and retention/detention ponds to contain runoff in areas of re-development, new development, or expansion.
1.11			X		Use financial aid for flood mitigation through grants, fees, and other special programs
1.12		X			Engage in a program of waterway maintenance that removes debris and obstructions from the waterways but allows vegetation to remain to slow the flow of water through the waterway.
1.13		X			Participate in watershed management programs and organizations to reduce vulnerability to flood damages
1.14			X		Acquire properties that incur repeated flood damage, and purchase the properties from owners when mutually agreed to relocate occupants out of flood risk areas. The land will be maintained as natural habitat in perpetuity to prevent further damage
1.15		X			Utilize channel diversion or modification (widening, straightening, relining) to re-route the flow of runoff when other means of prevention are not feasible
1.16			X		Conduct research and study of storm water and engage in a program to manage it in an effort to reduce flood vulnerability and damages
GOAL 2: The Village of Put-in-Bay will employ mitigation actions to reduce the damages incurred from severe windstorms, including straight-line winds and tornadoes					
2.1			X		Support and advocate for the construction of safe rooms for vulnerable structures, including single and multi-family homes and neighborhoods
2.2			X		Establish, maintain, and enforce established residential and commercial building code regulations, zoning requirements, and other local regulations intended to reduce vulnerability to disaster damages
2.3			X		Require the use of appropriate building materials and practices so

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					structures are as resistant as possible to the negative effects to high wind and tornado
2.4			X		Advocate for the proper trimming and maintenance of trees and other vegetation as a way to reduce damages caused by high wind or tornado
GOAL 3: The Village of Put-in-Bay will engage in mitigation actions to reduce the erosion of topsoil and the subsidence of land from flooding, high winds, and abandoned underground mines.					
3.1			X		Engage in actions to protect and preserve beaches, shorelines, and riverbanks from wind, water, and other hazards that cause erosion or degradation
3.2			X		Engage in actions to protect and preserve roadways exposed to heavy rainfall or high winds that erode berms, deteriorate sub-structural support, or compromise the integrity of roads, bridges, culverts and other structures
3.3			X		Protect and support coastal and riverbank slopes to reduce erosion, land subsidence and other wind damage
3.4			X		Identify geographic areas where abandoned underground gypsum and limestone mines cause the possibility of land subsidence and collapse
3.5		X			Protect open areas from wind erosion through use of windbreaks, sod strips, and other vegetative buffers to protect topsoil.
GOAL 4: The Village of Put-in-Bay will employ mitigation actions that reduce damages from utility outages and supply shortages					
4.1			X		Identify and establish redundant suppliers of heating fuels, potable water, and other utilities necessary for sustaining life
4.2		X			Advocate for the hardening of utilities through damage resistant installation below grade, improvements to supply line and generation plants, and upgrade of substations and transformers
4.3		X			Establish and enforce regulations that mandate underground utilities for new or significantly improved neighborhoods and properties
GOAL 5: The Village of Put-in-Bay will conduct mitigation actions to reduce the vulnerability of its population to damages and casualty due to disasters and severe storms					
5.1			X		Establish water conservation and water emergency procedures to be used during water shortages and other water emergencies for reasons of drought or contaminated water supplies
5.2			X		Identify and establish adequate locations to be used as community centers and comfort stations during extended power outages or extreme weather
5.3		X			Identify and establish agreements with organizations or institutions to house and protect residents during severe storms and other dangerous incidents

Strategy	Complete	Defer	Ongoing	Unchanged	Description
5.4			X		Maintain and improve hardware, software, and capital equipment used to deliver warnings and notifications of severe weather and other hazards.
5.5			X		Establish or maintain, and educate the public about local digital warning and notification systems that inform them of incoming severe weather and life-threatening incidents.
GOAL 6: The Village of Put-in-Bay will complete mitigation actions that enable rapid and effective communication during a disaster incident for the purpose of directing the population to take protective actions and follow operational procedures.					
6.1			X		Develop interoperable and effective communication action plans and methods to coordinate life-saving efforts with community partners and others during severe incidents
6.2			X		Develop a multi-part communication system to engage the community in protective action procedures, warnings, and notifications, and other critical lifesaving information related to specific disaster incidents when necessary
6.3			X		Develop, utilize and maintain a communication plan with the public to include mass media, social media, and direct contact for emergency management information before, during and after incidents
6.4			X		Educate the public about local disaster hazards and vulnerabilities, protective actions, available services, vulnerable populations and available assistance, and other emergency procedures using a variety of means to include mass and social media, printed information, and other appropriate actions
GOAL 1: The Village of Rocky Ridge will engage in mitigation actions that reduce the damages from coastal, riverine, and flash flooding					
1.1	X				Engage in a program of waterway maintenance that removes debris and obstructions from the waterways but allows vegetation to remain to slow the flow of water through the waterway.
1.2	X				Make People aware of and facilitate the use of simple prevention measures including the use of sand bags and other diversion devices during storms
1.3			X		Establish NFIP participation and maintain through regular review of flood maps and flood zones and sustain local engagement to ensure accuracy of the maps.
1.4	X				Advocate and support local requirements for property insurance, including flood insurance when applicable
1.5	X				Acquire properties that incur repeated flood damage, and purchase the properties from owners when mutually agreed to relocate occupants out of flood risk. The land will be maintained s natural habitat in perpetuity to prevent future damage

Strategy	Complete	Defer	Ongoing	Unchanged	Description
1.6			X		Require the construction of reservoirs and retention/detention ponds to contain runoff in areas of re-development, new development, or expansion
1.7	X				Use financial aid for flood mitigation through grants, fees, and other special programs.
GOAL 2: The Village of Rocky Ridge will employ mitigation actions to reduce the damages incurred from severe windstorms, including straight-line winds and tornadoes					
2.1			X		Advocate for the proper trimming and maintenance of trees and other vegetation as a way to reduce damages caused by high wind or tornado
2.2			X		Require the use of appropriate building materials and practices so structures are as resistant as possible to the negative effects of high wind and tornado.
2.3				X	Establish, maintain, and enforce established residential and commercial building code regulations, zoning requirements, and other local regulations intended to reduce vulnerability to disaster damages
2.4			X		Support and advocate for the construction of safe rooms for vulnerable structures, including single and multi-family homes and neighborhoods
GOAL 3: The Village of Rocky Ridge will engage in mitigation actions to reduce the erosion of topsoil and the subsidence of land from flooding, high winds, and abandoned underground mines					
3.1			X		Protect open areas from wind erosion through use of windbreaks, sod strips, and other vegetative buffers to protect topsoil
3.2			X		Engage in actions to protect and preserve roadways exposed to heavy rainfall or high winds that erode berms, deteriorate sub-structural support or compromise the integrity of roads, bridges, culverts and other structures
GOAL 4: The Village of Rocky Ridge employ mitigation actions that reduce damages from utility outages and supply shortages					
4.1			X		Advocate for the hardening of utilities through damage resistant installation below grade, improvements to supply line and generation plants, and upgrade of sub-stations and transformers
4.2			X		Identify and establish redundant suppliers of heating fuels, potable water, and other utilities necessary for sustaining life
4.3		X			Establish and enforce regulations that mandate underground utilities for new or significantly improved neighborhoods and properties
GOAL 5: The Village of Rocky Ridge will conduct mitigation actions to reduce the vulnerability of its population to damages and casualty due to disasters and severe storms					
5.1			R		Maintain and improve hardware, software, and capital equipment used to deliver warnings and notifications of severe weather and

Strategy	Complete	Defer	Ongoing	Unchanged	Description
					other hazards
5.2			R		Establish or maintain, and educate the public about local digital warning and notification systems that inform them of incoming severe weather and life-threatening incidents
GOAL 6: The Village of Rocky Ridge will complete mitigation actions that enable rapid and effective communication during a disaster incident for the purpose of directing the population to take protective action and follow operational procedures.					
6.1			X		Develop interoperable and effective communication action plans and methods to coordinate life-saving efforts with community partners and others during severe incidents
6.2			X		Educate the public about local disaster hazards and vulnerabilities, protective actions, available services, vulnerable populations and available assistance, and other emergency procedures using a variety of means to include mass and social media, printed information and other appropriate actions
6.3				X	Develop a multi-part communication system to engage the community in protective action procedures, warnings and notification, and other critical lifesaving information related to specific disaster incidents when necessary
6.4				X	Develop, utilize and maintain a communication plan with the public to include mass media, social media, and direct contact for emergency management information before, during and after incidents

3.2 RISK PRIORITIES

The Hazard Identification and Risk Assessment (Section 2: HIRA) explains in detail the identification of hazards and evaluation of risks in Ottawa County. That section of the plan considers numerous naturally occurring possibilities, cites the historical frequency and severity of past incidents, and considers the damages that would occur should that type incident strike a jurisdiction within Ottawa County.

As a result of this assessment, the planning team determined that relevant county-wide hazards and applicable risks for Ottawa County are primarily associated with water in some form, wind, and/or extreme temperature. Most of the county’s challenges are short-term riverine, flash and coastal flooding associated with rapid, intense rainfall and strong winds from the north and east, localized flooding of properties, wind damage to buildings, loss of utilities, and road closures or interruptions in access to areas of the county due to flooding. While winter storms are generally well tolerated, extreme conditions in unusual blizzards does cause the need for immediate and extended response, especially if accompanied by power outages.

Two pockets of very specific hazards exist and are high-risk, high-consequence issues. Land subsidence where abandoned gypsum mines exist in Portage Township not only threaten land collapse and prohibit development in a prime growth area, it also threatens the entire county water supply. While this affected area is not entirely defined yet to the satisfaction of county officials, it is believed that the vulnerable area is a small part of Portage Township, as defined in the HIRA. Obviously, a study to definitely identify all abandoned mine areas, and any karst area that is also a threat in the adjacent properties, is critical.

The second pocket of threat is the 100-plus miles of coastline that is highly vulnerable to coastal flooding. With the Sandusky Bay and Lake Erie lapping the shores of these areas, there is additional and severe risk of serious flooding that occurs under specific conditions, as outlined in the HIRA.

While earthquakes are possible in Ottawa County, they are very rare and are unlikely to cause more than minor damage. There are few multi-story buildings, no multi-level highways, complex ramp systems, or bridges, and little densely populated area highly vulnerable to earthquake damage. Therefore, jurisdictions decided it was most effective to include earthquake protective actions with all other non-specific protective actions in public information goals and actions.

The strategies in this plan were developed based on these identified hazards, risks, and vulnerabilities. They are intended to provide general options to lessen the vulnerabilities in Ottawa County. During the planning process, the Core Planning Team and stakeholders determined what hazards strike most frequently, which cause the most physical damage and injury, and which consequences can be prevented or lessened. With limited financial and personnel resources available to conduct mitigation projects, the Core Planning Team weighed every potential effort by measuring the benefit against cost and the resources realistically available to conduct the activity. The Core Planning Team endeavored to prioritize where strategies that could realistically be accomplished and result in actual reduction in potential and real losses.

Considerations of cost, identifiable funding to support the strategy, cost-benefit generalizations, actual benefit to the community, prevention of loss of life, and overall feasibility were all discussed. Strategies were rated against one another and ranked from most to least important.

While it is common emergency management professionals' belief that you will never be faced with the emergency you planned for, Ottawa County tried to do just that. They attempted to plan for what may feasibly show up on their doorstep. The following strategies in Section 3B are an outcome of that assessment and estimation.

3.3 MITIGATION GOALS AND STRATEGIES

Core Planning Team members and stakeholders from each jurisdiction worked collaboratively to develop mitigation goals and strategies. They considered threats and the characteristics of

each one, actual incident history for the county, and potential consequences of impact. Most strategies developed in the 2017 plan were considered “continuing”, but several new strategies were developed. As jurisdictional input personalized strategies and prioritized based upon relevancy and feasibility, some were eliminated because something changed or the strategy was determined to be irrelevant, no longer feasible, or more costly than the benefit would be.

The Contractor drafted strategies based on the input provided by stakeholders. This information was presented to the Core Planning Committee and community for public review and comment. This section identifies the mitigation goals and strategies for each jurisdiction and the priority level, action type lead agency, timeline, and potential funding source for each action.

Each goal expressed under a specific jurisdiction reflects countywide risk assessment and identification of hazards, which are the same across the county. In all jurisdictions, the greatest disruption, damages, and casualty is caused first by flooding; that flooding can be riverine, flash, or coastal dependent upon the location of the jurisdiction. Secondly, losses can be attributed to wind storms that include straight-line winds (such as the 2012 derecho caused in western parts of the state) and tornadoes that arise abruptly and follow uncharted pathways across the county (such as the tornado that occurred in 2010 in Allen Township). The third ranking risk was temperature extreme, including very hot weather during summers and extremely cold weather during harsh winters. Both cause similar consequences, including power outages and lack of adequate water supplies. Fourth on the list was land subsidence, associated with collapse of land atop abandoned mines and infrastructure that crosses these areas, water and wind rushing across roadways and bridges, or crashing onto infrastructure and buildings with all the fervor of a large body of water. Utility interruptions are common outcomes of these hazards and, therefore, are included throughout the description of goals and actions.

The expressed goals are reflective of the overall countywide prioritization of risks and vulnerabilities, which carry through the jurisdictions in the same order of importance. The ensuing strategies are specific to each jurisdiction but are expressed in similar ways from jurisdiction to jurisdiction. This will enable collaboration and effective communication over the next five years as it relates to implementing the action plans. The actions are personalized to the jurisdiction and not all actions are included in all jurisdictions.

All strategies are listed in Section 3B Ottawa Strategies. Ottawa County’s section covers all townships and unincorporated areas of the county; each municipality has their own set of strategies. The Lake Erie Islands, Put-in-Bay Township, and the collection of small islands are all included in the Put-in-Bay strategies.

3.3.1 Ottawa County

Ottawa County’s mitigation strategies are intended to reduce vulnerability to damage from water, wind, severe storms, tornados, land subsidence and drought. The very specific threats of coastal flooding and land subsidence are included in this section, but apply only to the areas where that particular threat is present. Other threats are, in fact, countywide, and apply

universally. The identified goals and strategies include all non-incorporated areas of the county, such as townships and census areas or neighborhoods. These strategies will be considered as economic development and growth is guided, as regulations are written and revised, and as codes, regulations and other guidance are enforced and approved. These strategies will be reflected in local building codes, land use regulations, economic development goals and strategies, capital improvement plans, and budgetary management.

Many countywide mitigation efforts will focus on upgrades and improvements to infrastructure. Roads need to be repaved after elevation in some spots, and in others they need to be wider to accommodate higher amounts of traffic and heavier loads. Storm sewers are inadequate in many areas, and need to be increased in size and capacity. On some townships roads and a few county roads, the bridge spans and culvert sizes should be increased to accommodate higher amounts of runoff in the ditches and streams they span. Many areas have inadequate – or no – storm sewers, and water simply drains gravitationally. In a county at the bottom of a very large, robust watershed, improvement to storm sewers and drainage is at the top of their list.

Ottawa County officials will spend significant effort in developing as needed and using as exists the standards and regulations that guide wise development. With a robust tourist industry and a high-risk geographic location for flooding, wind damage, and winter storms, they want to develop additional features for the county, but only in a way that does not increase disaster losses. They look carefully and closely at their regulations and how they enforce them to ensure that development efforts don't add to problems.

While it affects only the east townships, county officials are paying much attention to the situation caused by abandoned gypsum mines and its effect on highways, water lines, and development. They will focus on establishing a redundant water supply line to harden service to the east townships and their growing tourist business. They are paying strict attention to any signs of water line collapse to catch a problem before critical stages, but all say that time is of the essence, and good luck is needed to facilitate redundancy prior to collapse.

Elevation, use of various forms of land use regulation, enhanced drainage practices, construction of appropriate protective structures, and establishment of natural areas for water to pond are all strategies officials will use to handle coastal flooding. For county officials and residents in areas along the coastlines, this is a critical focus for the coming years.

As Ottawa County officials represent the townships in mitigation efforts, they will communicate with the township trustees whose jurisdictions are affected by county actions. The county may act on behalf of the townships when it comes to mitigation efforts, but the townships will fulfill their responsibility to enforce and comply with zoning and other land use regulations or building codes. The county officials will work with township trustees to ensure that smart development takes place to create sustainable communities in the more rural sections of the county as well as the municipalities. This will take participation on the part of the trustees in countywide development, but the county officials will maintain inclusion of these smaller

jurisdictions as they act on their behalf. This partnership in local government is not new; Ottawa County jurisdictions have worked together in this way for many years. For example, when residential building codes were created over forty years ago, it was a multi-jurisdictional effort. This collaboration will continue.

3.3.2 Clay Center

Clay Center sits alone, out in the open to the north of the Village of Genoa, and therefore the greatest risk is exposure to all elements. There are no rivers, ditches or streams inside Clay Center limits near the streets and buildings, but the North Branch of Turtle Creek crosses the extreme northern edge of the village. It can overflow after significant rain and become surface water. They work diligently to maintain what influence they have on drainage systems, keeping tiles and storm drains open and functioning the best they can. There is no significant critical infrastructure within village limits, but they concentrate on encouraging residents to sign up for warning programs. Due to the flat terrain, flash flooding is probable after heavy or rapid precipitation unless efforts have been made to facilitate direction of drainage elsewhere. Clay Center does not have an adequate storm sewer system to direct all runoff water, so their mitigation thoughts focus on development of better storm water management systems. Standing water from flash flooding can be problematic, pooling in streets, yards, and sometimes seeping into basements, so they work to be aware of places where help is needed, and they work to keep what drains they have running. Wind damage to vegetation and trees as well as homes is very likely when severe thunderstorms, tornadoes, or winter storms strike; they spend significant time trimming trees and vegetation to limit this damage. Ice and hail can damage exposed properties, and power lines can be affected by wind and ice, rendering the village without power, and therefore, they are concerned about having adequate alternate power and fuel to run the generators. The village is located remotely from any larger cities, and therefore must be self-sufficient and resilient because there is a low population base; they must be able to take protective actions to minimize risk to their population. They are not sufficiently generator-supplied, and can incur extended power outages. Obtaining more generators is a key goal.

The Clay Center mayor will work with the village council to collaborate with Ottawa County officials regarding community economic development and growth. They will work with various county officials to engage in smart development, to comply with local land use and building requirements, and to implement mitigation strategies that create a sustainable community.

3.3.3 Elmore

This village focuses most of its mitigation efforts on the management of storm water and the consequences of severe thunderstorms, winter storms and wind. They focus on finding ways to relieve village streets of flash flooding through enhancing drainage when Sugar Creek overflows its banks onto residential streets that are at a lower elevation than the creek as the drainage flows from higher land and Sugar Creek to the Portage River. That pathway goes straight through town. Keeping ditches running smoothly is important, and eliminating blockages, debris, and excess sediment from the ditches is critical to the movement of water. While there are some logs and debris in the river, the width of the Portage keeps it from jamming up, even

when ice is melting. Sugar and Wolf Creeks are more prone to blockages, and they work to keep both of those waterways operating at maximum capacity. Keeping bridge spans and culverts large enough to handle increasing sized ditches is an important job for Elmore.

The village works diligently to harden electrical service. Replacing unstable power poles, strengthening lines, and protecting transformers and other equipment are critical to keeping their village's power on. Trimming trees, limiting debris, and taking down weakened trees is part of their ongoing maintenance. They work hard to ensure the retirement and nursing facility have a constant supply of power for medical equipment and other needs in spite of severe storms. Generator power for critical facilities so they can keep up with support for their residents is important. Since they are far enough from the county seat to make support services difficult to use, they work to have local resources like a command center and communications equipment right there. With an Ohio Turnpike gate and two state highways, they prioritize having power to operate traffic lights and other critical services, partly due to historical numbers of stranded motorists taking refuge in Elmore during a storm.

As part of a rural community, warning and notification are important. Maintaining constant communication and aiding community members in being weather-aware is crucial. Storms blow up suddenly and strike almost without warning, so officials work hard to help residents understand the importance of listening and paying attention to directives. Communication among public safety workers and officials allows them to monitor information from the west where weather originates, and take protective actions in a timely fashion.

The Elmore mayor and village planning committee will work with the county officials to engage in smart development and sustainable growth. The village council, through its planning committee, will support and facilitate the inclusion of the mitigation strategies in their ongoing operations from a planning perspective as well as including mitigation efforts in budgets to the greatest extent possible. They will work with the EMA Director to review the plan annually and provide updates on progress for these strategies.

3.3.4 Genoa

Genoa is one of the larger villages in Ottawa County but is still vulnerable to wind, precipitation, and isolation. Moving runoff water, protecting structures from exposures, and being able to take rapid self-protective actions is critical for Genoa. Officials are focused on mitigating the damages done when Packer Creek floods properties, as water is roaring into the village from a whole watershed of farmland and developed counties. The wide and deep Packer Creek needs to be kept clean and clear as it winds through the village, and officials see this as a key strategy. They will constantly work to keep debris and trash out of the creek so it flows well. Work to get Packer Creek on the county's ditch maintenance program may be considered after the option is evaluated by officials. They are also focused on improvements to storm and sanitary sewers, where lines have been inadequate and removed or disabled, they need to be improved and restored. Culverts need to be larger for ditches filled with more water, and bridge spans should be increased when they are replaced. Storm sewer improvements to increase size and capacity are on all officials' minds.

Genoa officials and residents will continue to monitor flooding and compare it to the most recent flood maps so that the next time maps are developed, they can provide needed input to ensure accuracy.

Many officials are concerned about safe rooms, so they will work to advocate and support the development of individual and group safe areas for storms. They will work with property owners as they are able to obtain grants and support private work to build safe rooms. Officials will work to improve warning and notification systems through creating enhanced personal awareness and participation in warning programs, and compliance with protective orders.

The Genoa mayor and village council, through the planning commission for the village, will work with the mitigation strategies as development occurs in Genoa. They will work to resolve flooding issues and other water problems in the village in cooperation with county officials. The mitigation strategies will be considered, reviewed, implemented, and evaluated to the fullest extent possible. Budgets will reflect the best effort feasible to implement them. The village will participate in annual plan review and will provide feedback to the EMA Director and other county officials regarding wise development, mitigation progress, and evolving damage issues.

3.3.5 Marblehead

The peninsula where Marblehead is the only incorporated jurisdiction is vulnerable to water from the lake as winds bring it onshore, and vulnerable to heavy precipitation as water falls faster than it can drain. Therefore, officials will focus on protection of roads and streets near the lakefront, and will work to conduct projects to replace deteriorated protective walls and barriers to wave action as a way to protect structures close to the lakeshore. Barriers that protect the beaches from eroding sand during nor'easter storms, or keep the lake water away from streets and homes are high mitigation priorities. They will work to improve drainage so fast-falling rain doesn't flood properties, but instead runs off easily and quickly, leaving streets open and passable for a population that quadruples during rainy months. Increased capacity to pump storm water away may be one consideration, and elevation of some areas may be considered. Replacing and/or repairing deteriorated roads and streets is at the forefront of Marblehead's to-do list.

Marblehead officials will work to develop their community wisely through the execution of projects that use land use regulation, building standards, and wise construction to create new properties that withstand the forces of nature in this lakefront community. They will work to protect their shorelines with docks and terminals that provide critical business transportation.

Marblehead will focus on prevention of excess storm debris by trimming trees, selecting trees and vegetation that withstands the battering of the lake on a continual basis. They will concern themselves with care of properties that are seasonal in nature, and assist, to the greatest extent feasible, property owners who live in their homes for only a part of the year, as well as those who are year-round occupants.

Marblehead will work with Ottawa County to ensure that wise development takes place, and that the mitigation strategies are adequately considered, budgeted, and implemented to the extent funds exist to do so. The village zoning inspector will work with the mayor, council and county to enforce the rules that exist, protecting the village and property owners from unreasonable risk and loss. The council's planning committee will work with county officials in land use planning revisions, economic development concerns, and code compliance for new projects. Marblehead Village Council will work with the Ottawa County EMA and other county officials to implement, maintain, and evaluate mitigation strategy progress on an annual basis.

3.3.6 Oak Harbor

Oak Harbor will work to continue recent efforts that harden utilities, improve storm water management, and protect residents and their property through pro-active policies and procedures. They will work to protect the low-lying water treatment plant that sits along the Portage River, and the businesses nearby in the downtown that are vulnerable to flooding. The construction of protective devices like floodwalls and barriers is a strong consideration as they attempt to prevent commercial and service areas from regular flooding. Retention area creation for this area is also a consideration. Officials have discussed the management of excess water from LaCarpe Creek that floods low-lying village areas, and they are studying what can be done to manage this situation.

Oak Harbor officials will follow recent actions to harden utilities, including water treatment, wastewater management, and other utilities by continuing to aggressively trim trees and vegetation. This will protect services from wind damage. They will work to add generators and alternate electrical supply needs to the village's resources, and will work to create shelters and storm-safe areas for residents, visitors, and workers. They will identify vulnerable populations, and attempt to provide storm-ready options for their safety.

Officials will identify and implement actions to improve transportation access to roads at all times by working through frequently-blocked railroad crossings. They will work to identify methods to know what crossings are blocked and when, and will communicate with the railroad officials to find a way to maintain emergency traffic at these locations.

Lastly, wise development is important to Oak Harbor; they will work with Ottawa County Regional Planning, Ottawa Community Improvement Corporation, and others to develop new construction and projects in a smart manner that supports resiliency in sustainable ways, and avoids the creation of new problems associated with hazards.

Oak Harbor's village administrator, planning commission, and other officials will work with Ottawa County officials to engage in the most sustainable and resilient development planning and activities. The village will work to comply with zoning and land use regulations, and will work to see that development in the village is done in a way that protects properties from damages. While the village has not adopted Ottawa County's residential building codes, the village does comply with commercial building codes and land use planning standards set by county and state authorities. The village will plan and implement in compliance with these

standards, and will work with the EMA Director to implement the mitigation strategies to the best of their ability.

3.3.7 Port Clinton

The only city in Ottawa County sits at the mouth of the Portage River as it enters Lake Erie. With a northern border of shoreline, the city is beaten by wind, water, and erosion every year to some degree. The officials are gravely concerned about flooding, including riverine, flash and coastal flooding. They are very concerned about road deterioration and power line vulnerability along the shoreline, and will work through this plan period to improve those consequences. Roadways and streets along the shore are subject to erosion and flooding, as are the businesses and homes as well. Officials will work to engage property owners to keep properties open and functioning during periods of high water, and in spite of high lake levels at this time. They will work with electrical suppliers to harden the lines and transformers located inside storm-vulnerable areas to minimize power outages.

Port Clinton will work to engineer projects that increase the size and capacity of infrastructure. Additional water pumping capacity, larger storm sewers and storm basins, with more robust and plentiful pumps to rid the city of storm water is one of their highest goals. Recent street improvements will be continued to improve the ability to drain residential areas quickly and effectively. They will provide significant attention to the downtown area that includes ferry docks, commercial and retail properties, and services to find ways to decrease the street flooding to keep them open and functioning at all times.

Port Clinton officials are concerned about sheltering residents by using safe rooms and other large shelters. They will work to identify and develop plans to achieve this goal. With as many as 75,000 guests passing through the city on a warm summer day to ferry to the islands, they will work to identify ways to protect and shelter them in fast-moving sudden storms.

With a significant amount of beach and marshy lakeshore, the city will work to protect those areas from the damages of nor'easter storms. They will work to protect the beach from wind and wave action, and attempt to keep the beaches intact and safe in spite of erosion risk. They will work to minimize storm debris through tree trimming and vegetation management, both on public property and by advocating proper care to landowners.

Officials want to work on warning and notification by encouraging residents to use digital warning options.

Port Clinton is the only city in Ottawa County, and is the hub of development efforts in the county. The city's mayor and Safety and Service Director will work with their council, and through the committees and commissions appointed by council and the mayor, to engage in smart development that is conducive to creating sustainable projects in the community. As the full-time staff member assigned these duties, the Safety and Service Director will lead the city's participation in annual reviews of both countywide and citywide mitigation strategies, and will

work to ensure that the city's actions are compliant with the strategies set forth in the mitigation plan.

Lake Erie is both friend and foe to Port Clinton; the city will consider the mitigation strategies as development and growth plans and projects are implemented and approved. The city will work with the EMA Director to include the mitigation strategies in future planning efforts, and to enforce what is currently adopted for projects underway.

3.3.8 Put-in-Bay (including Put-in-Bay Village and Township which includes South Bass, Middle Bass and North Bass Islands as well as Mouse Island, Sugar Island, Green Island, Gibraltar Island, Rattlesnake Island, Ballast Island)

This vacationland village and township includes several islands, some very small, and sits in Lake Erie approximately 20 minutes from the mainland directly north of Catawba Island Township. The village sits on South Bass Island, one of several small islands in a concentrated area to the northeast of Port Clinton. Although near other islands, the Village of Put-in-Bay is the only incorporated jurisdiction on any of the islands.

Through efforts of the Put-in-Bay mayor and village council, mitigation strategies will focus on protection of the properties and inhabitants, including tourists, of the entire area. Flooding is their first concern, and they will focus on finding ways to keep streets and properties open and usable in spite of heavy rain. While streets and properties on South Bass Island have storm sewers and water service, the other islands don't have as much infrastructure. Finding ways to make sure water drains, often in areas that lie below or level with the high lake levels right now, is difficult. This may require additional pumping stations, retention areas, and protective barriers. This is especially concerning on North Bass and Middle Bass Islands. As many of the properties are only occupied during the warmer months, the officials will attempt to find ways to monitor flooding and manage road access for landowners that arrive after storms hit. They will focus on keeping the airports on the bass islands open and functioning. The other small islands are largely uninhabited or operated by private entities, so mitigation efforts will focus only on the Bass Islands and the village.

Sheltering and safe rooms are a high concern for this set of officials. With a population of up to 50,000 people on South Bass Island on a nice summer day, and additional tourists and residents on the other islands, they are concerned about storm notification, warning being issued, and safe haven options for these people. Officials will work to develop shelters, safe rooms, and accountability systems for a tourist population during storm-vulnerable months.

Put-in-Bay officials will prioritize new development and growth in the island village and the township, using land use regulation, building standards, and protective actions to guide smart development and wise growth projects. Their docks and transportation hubs will be a primary focus as they are the gateway to the mainland resources for this small but heavily visited area.

The mayor and village administrator will lead efforts to implement and budget for the strategies they identified, and will work to complete as many as financially possible. The village

committees, including economic development and planning commissions, will be aware of and inclusive of the mitigation actions in this plan as they review and revise other village plans. They will participate in annual mitigation plan reviews, assessment of strategy progress, and development of future goals.

3.3.9 Rocky Ridge

Rocky Ridge is a very small village centrally located in Ottawa County. Village officials are most concerned about being able to maintain emergency services in such a tiny community, especially during daily business hours when most people work outside the village. They are otherwise concerned about safe rooms and shelters for residents as storms pop up quickly. Built on a rock ridge, many homes are unable to have basements. Officials will concentrate on the creation of safe rooms and shelters by working with residents to apply for individual grants through the Ohio EMA. They will work to make sure residents sign up for warning and notification systems so they are adequately warned when storms are approaching. The village has little flooding or storm damage, so they will try to maintain tree trimming and street to the best of their ability.

As the county's smallest village, Rocky Ridge has discussed its intent to adopt the FEMA floodplain maps, an action not taken before because none of the village lies in an identified floodplain. However, they have realized that participation brings with it many more benefits and knowledge of risk.

The village is considering reversing its incorporation and turning the village back to the township. No decisions have been made, but will likely be made during the validity period for this mitigation plan update. Actions, of course, will be in concert with that decision.

As appropriate, the village mayor, fire chief, and other council members will work closely with the EMA Director to address and accomplish the strategies in this plan, and to include those initiatives in any other development plans that occur.

3.3 IMPLEMENTATION

The identified mitigation strategies are general actions that could be taken to reduce the negative impact of disasters and large-scale emergencies. For any given strategy to become an actionable item, it must be converted to a site-specific project with funding, action steps, timelines, and project goals. For example, if a repetitive loss property is to be acquired and demolished and the property owner relocated, that project must begin with the identification of the specific property to be acquired and the funding to be utilized for the project. The property owner must agree to accept a negotiated buy-out and use the money to purchase another home. The jurisdiction must accept its share of cost, all project planning and execution responsibility, and project management roles. Only then can the actual project be executed. A similar process must be followed for any of the strategies identified here to become projects that reduce disaster loss in Ottawa County.

The EMA will monitor the implementation of these strategies through ongoing communication with officials and stakeholders. The Ottawa County Regional Planning Commission works very closely with the EMA in completing this task, and helps with grant applications, project scope of work, and execution. When grant funding opportunities arise, reasonable efforts will be made to secure funding. For strategies that must be funded through local budgets, jurisdictions will work diligently to identify local funding sources that can be used to address disaster vulnerability. When funding is secured, a project timeline will be developed and actionable steps taken to complete the project. Upon completion, effectiveness will be evaluated by the jurisdiction and findings shared with the EMA, Regional Planning office and planning team for consideration in developing future projects.

The greatest value of these strategies is the process, knowledge, and reasoning stakeholders put into their development. The mitigation planning process required stakeholders to work together to evaluate hazards and risks in their community. They were required to examine their local community, predict where and how damages would occur, and identify how potential damages could be reduced or eliminated. The solutions, in the form of mitigation goals and actions that will ultimately develop into projects, had to be developed to maximize benefit to the community while minimizing cost. This process required whole community involvement so that all were appropriately represented in the planning process.

Ultimately, Ottawa County has a comprehensive set of well-considered, relevant and effective solutions to problems that are likely to arise. As stakeholders considered how to solve potential problems, they built a collaborative spirit to solve community-wide problems. These strategies were original thoughts to reduce disaster vulnerability and loss at the local level.

Given the availability of funding, personnel, and support, Ottawa County and its jurisdictions are positioned to move forward and implement strategies to the best of their ability to accomplish those goals. Whatever mitigation activities are achieved will be well thought out, logical, and reasonable because of the community-wide hazard mitigation planning process.

3.4 MITIGATION GOALS AND STRATEGIES

The Core Planning Team members and stakeholders worked by jurisdiction and collaboratively as a county to develop appropriate mitigation goals and strategies based upon the hazards and vulnerabilities of each jurisdiction or area. Draft strategies were developed and presented to the planning team and community for public review and comment. Strategies were revised accordingly to finalize the mitigation goals and strategies presented in the appendix to this section. Strategies for specific jurisdictions vary from the countywide strategies in their priority ranking and the urgency and benefits of the potential solution accomplished by the strategy when developed into a project.

Each strategy developed was assigned a priority, status, action type, funding source, project lead, and timeline, as described below. While these specific details may change prior to implementation of a strategy, the exercise of developing this information required stakeholders

to consider the resources, staffing, and funding that would be necessary to implement mitigation strategies.

Priority

Priority identifies the order of importance jurisdictions assigned to each strategy. This was often a result of assessing the frequency and magnitude of the potential impact, and estimating the cost-benefit of the strategy. During the next five years, strategies may not be addressed in the exact order by rank, but instead will depend upon availability of funds, impact of actual incidents, and other relevant circumstances.

Status

Status identifies if the strategy is new to this mitigation plan or one that was carried over from the previous plan.

- New: Strategy is newly developed with this mitigation plan.
- Ongoing: Strategy is carried over from the previous mitigation plan but may be revised to better reflect the current need. Work has not been achieved in its entirety; more activity is necessary to complete this action.
- Unchanged: Strategy is carried over from the previous mitigation plan with no changes. The action is still necessary, but no progress has been made at this time.

Action Type

Action type describes the kind of activity described in the strategy.

- Natural Resource Protection – Reduce the impacts of natural hazard by preserving or restoring natural areas and their mitigation functions
- Prevention – Avoid hazard problems or stop impact from worsening
- Property Protection – Protect structures by modifying or strengthening building to withstand impact
- Public Information – Advise the public about hazards, hazardous areas, and mitigation techniques to protect people and property
- Structurally Engineered– Lessen the impact of a hazard by modifying the environment or progression of the hazard event through designed and engineered projects

Funding Source

Mitigation strategies can be funded through a variety of sources. Depending on the type and cost of the project, different funding sources will be available and appropriate. Each strategy identifies potential funding sources based on this list:

- HMA – Hazard Mitigation Assistance grants (includes HMPG, FMA, PDM, BRIC, and other federal mitigation grants)
- EMPG – Emergency Management Performance Grant
- HSGP – Homeland Security Grant Program
- ICC – Increased Cost of Compliance (including rate increases or premiums)
- LOC – Local Funds

- State – State Funds (including Community Development Block Grants, Clean Ohio Grants, and other state funding source)
- Other– Other (including private funds and non-governmental agency funding)

Project Lead

The project lead is the individual or agency charged with championing the strategy and ensuring that jurisdiction officials look for opportunities to complete the strategy over the five-year planning cycle. The lead is responsible for coordinating the overall effort and/or is the entity most appropriate to lead project development at the initial state but may not necessarily be responsible for project oversight or completion should the strategy develop into an actionable and funded project.

Timeline

The timeline identifies the time frame in which a mitigation strategy could realistically be implemented. The actual time frame may vary from what is described in this plan, depending on funding, grant opportunities, or changes in priorities as other critical activities are adjusted to meet evolving community needs.