

Municipal Reference Document

Guidance for the Implementation of the Chapter 85 Bluff Recession and Setback Regulations 394-2000-001



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Interstate Waters Office
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DEPARTMENT OF ENVIRONMENTAL PROTECTION
Interstate Waters Office

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POLICY: Guidance for municipal officials on legal interpretations and technical field procedures for the proper implementation of local bluff setback ordinances.

PURPOSE: Provide technical guidance to municipal officials and zoning officers who must enact and enforce local ordinances consistent with the Pennsylvania Chapter 85 Bluff Recession Hazard and Setback Area regulations.

APPLICABILITY: Municipal officials responsible for code enforcement within the bluff recession hazard areas of Lake Erie, in Erie County, Pennsylvania.

DISCLAIMER: The policies and procedures outlined in this guidance are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements.

The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of DEP to give the rules in these policies that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

PAGE LENGTH: 72 pages

Table of Contents

Section I:	Introduction and Background	1
A.	Introduction	1
B.	Bluff Erosion and Recession Dynamics	1
C.	Risks to Property and Structures	5
D.	Regulatory Framework	6
Section II:	Bluff Recession Hazard Areas (BRHAs)	7
A.	Process for the Designation of BRHAs	7
B.	Public Participation	8
Section III:	Setback Requirements	9
A.	Establishing the Minimum Bluff Setback Distance (MBSD)	9
B.	Locating the Bluff Line and the Setback Line	10
C.	Tiered Bluffs	12
D.	Activities within the MSBD	13
E.	Variances	17
Section IV:	Municipal Responsibilities	19
A.	Local Ordinance Requirements	19
B.	Activities Regulated Through Permitting	20
C.	Recordkeeping and Reporting to the Department	21
Section V:	Department Oversight	22
A.	Ordinance Review	22
B.	Implementation Review	22
C.	Bluff Erosion Surveillance	23
D.	CRM Technical Assistance	25
Section VI:	Available Funding to Municipalities	25
A.	Reimbursement Summary	25
B.	Application and Request for Payment Procedures	26
Section VII:	Additional Resources	27
Section VIII:	Glossary	28
Appendices		32
	Appendix A: Maps of Bluff Recession Hazard Areas (BRHA)	32
	Appendix B: Lake Erie BRSA Summary and Activity Report Forms	44
	Appendix C: EQB Regulatory Petition Process and Form	53
	Appendix E: BRSA Municipal Reimbursement Form	59
	Appendix E: BRSA Model Ordinance	63

Section I: Introduction and Background

A. Introduction

Pennsylvania has 77 miles of Lake Erie shoreline contained entirely within Erie County. Most of the shoreline consists of bluff geomorphologies (Figure 1) ranging in height from 5 to 180 feet above the lake level. Notable exceptions include the mouths of major tributaries and Presque Isle, adjacent to the City of Erie. Nearly all of the shoreline is designated as Bluff Recession Hazard Areas (BRHA) (See Appendix A) under the framework established in the Bluff Recession and Setback Act (the Act) and companion regulations in Pa. Code Title 25, Chapter 85. Municipalities having BRHAs designated within their jurisdictions are required to enact specific setback ordinances relating to construction and development activities occurring within the BRHAs. This guidance is intended to aid municipalities in promulgating and implementing local zoning ordinances that satisfy Chapter 85 requirements. The document may also be useful to other interested parties, particularly landowners along the Lake Erie shoreline.

B. Bluff Erosion and Recession Dynamics

Detailed technical information on the processes associated with erosion and bluff recession along the Lake Erie shoreline is readily available in other resources. This section provides a simplified overview of the bluff recession dynamics most relevant to the successful implementation of the Chapter 85 regulations. Refer to the additional resources listed in Section VII for more detailed information.

Along the Pennsylvania Lake Erie coast, the lake abuts against an elevated tableland consisting of Devonian sandstone and shale bedrocks overlain with glacial clay/silt and fine grained (sandy) post-glacial lake deposits (Figure 1). Most of the shoreline is in an active state of erosion and bluff recession, with bluff recession rates greatest in areas where the upper limit of the underlying bedrock is at or below the lake elevation. Wave action in these areas erodes the soft sediments along the base of the bluff, particularly during storm events and periods of prolonged elevated lake levels. The upper bluff regions are then destabilized and collapse onto the shore. Weather and hydrostatic groundwater pressure facilitate further erosion of the bluff face until eventually re-attaining an angle of repose with a newly established bluff crest landward of the original crest (Figure 2).

Figure 1: Bluff terminology and typical geologic layers along the Pennsylvania Lake Erie Coast. The bedrock is shown here at lake level, but it may be exposed or be entirely below the lake surface (from *Vegetative Best Management Practices: A Manual for Pennsylvania/Lake Erie Bluff Landowners* Cross, Campbell, and Martz 2005).

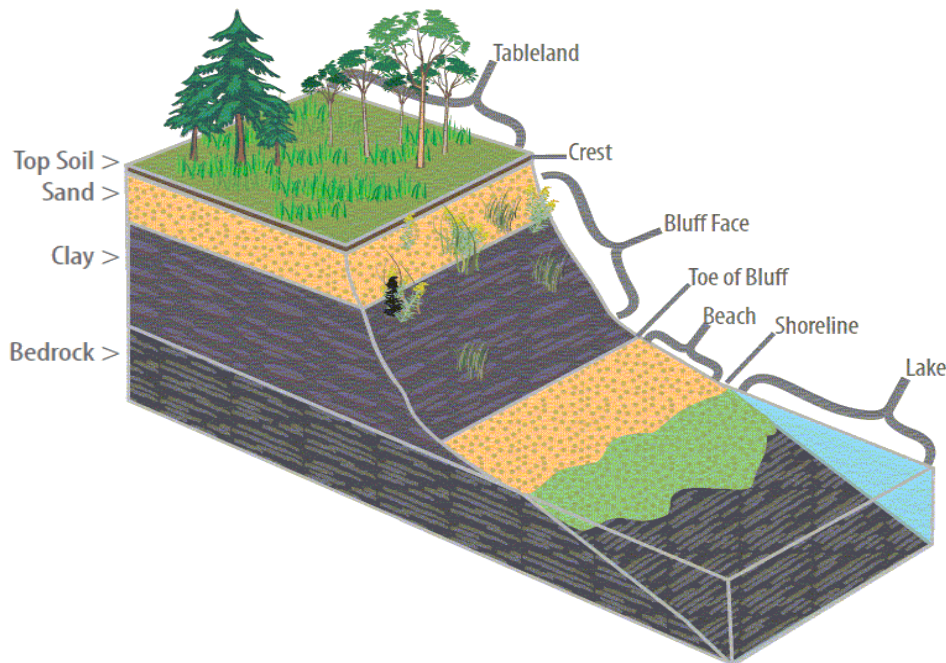


Illustration: Jodi Staniunas-Hopper

The processes that result in the erosion of the bluff face are natural and have been occurring since the formation of the lake in its present state more than 3,500 years ago. These processes are, in fact, essential to the overall ecological health of the lake. Eroded materials from the bluff face nourish near-shore environments with sediments, nutrients, and organic matter. Fine grained sediments eroded from the bluff replace beach sediments that are lost to deeper water, while larger cobbles and boulders that find their way into the lake from the bluffs provide physical habitat for a multitude of aquatic organisms. It is not the intent of the Act to stop or prevent naturally occurring bluff recession from taking place. Rather, the Act and Chapter 85 regulations are intended to balance the ecological benefits of natural bluff erosion with risks posed to development as well as preventing human development from encroaching upon the bluff in a manner that accelerates bluff recession.

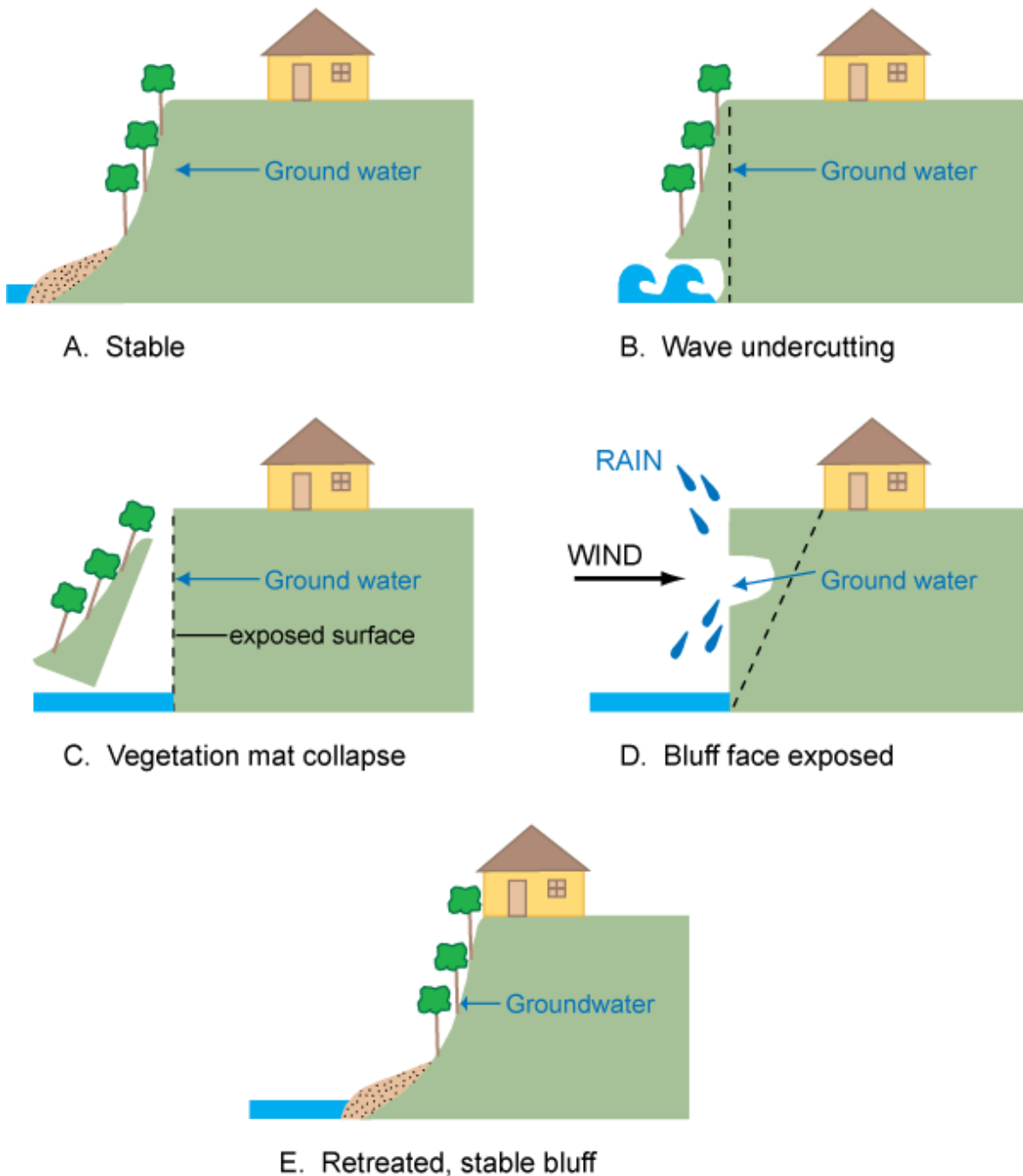
Despite the fact that bluff erosion and recession result from natural processes, human activities in or near bluff recession hazard areas have the potential to accelerate bluff recession to unnatural rates. Vegetation that covers the bluff face and crest stabilizes the bluff soils with reinforcing root networks. The bluff slopes are also continuously supplied with groundwater flows from the perched water table within adjacent tableland. A single large tree can withdraw up to 200 gallons of water from the soil each day through evapotranspiration, helping to prevent saturation-induced bluff failure. Removal of the vegetation by landowners can accelerate bluff recession by eliminating these mitigating effects. Furthermore, the removal of inland forests for agriculture has resulted in greater quantities of groundwater flowing toward the lake while residential and industrial development increases impervious surface cover, reducing the amount of soil available for water absorption. Increased groundwater flow creates greater hydrostatic

pressures on the bluff face as well as greater soil moisture content along the bluff crest and face. Both effects can increase shoreline erosion and bluff recession rates along the Lake Erie coast.

Beaches protect the bluffs from erosion by absorbing wave energy before it reaches the toe of the bluff. Landowners seeking to protect lakefront beaches often construct groins to retain sediments along their frontage. Improperly designed or constructed groins can disrupt the littoral sediment transport system, redirecting sediment laden currents offshore and starving downdrift beaches of sand replenishment. Groins designed to prevent erosion in one area often have the effect of accelerating erosion in nearby areas. However, properly constructed shoreline protection structures can slow erosion rates while limiting disruption to littoral sediment transport systems. This guidance does not specifically deal with shoreline protection structures. For more information on groins and other constructed shoreline protection features, consult the Pennsylvania-Lake Erie Shoreline Protection Structures Study, Coastal Resources Management (CRM) Project Number 99-EG.01 (available on the CRM website: <http://www.dep.state.pa.us/river/reference/reference.htm>).

Bluff recession, both natural and human-enhanced, can threaten existing structures and new development. The purpose of the Chapter 85 regulations and this guidance document is to ensure that the bluff edges are provided with adequate undeveloped margins to allow for natural landward migration of the bluff while limiting risks to existing and proposed structures.

Figure 2: Schematic diagrams showing stages of bluff retreat to the Lake Erie, Pa., bluffs. **(A)** Bluff is in a stable condition; steep slopes are fully vegetated and vegetation is nourished by ample ground-water flows; residential structure is a safe distance from the bluff crest. **(B)** Wave contact at the base of the bluff undercuts the bluff face and creates instability for the now-unattached vegetation mat higher on the bluff face. **(C)** The bluff face, stripped of a protective vegetative mat, is increasingly susceptible to further erosion. **(D)** The unprotected and over-steepened bluff face is susceptible to the erosion processes of wind, rain, and ground-water flow. **(E)** The bluff slope retreats to an angle of repose, vegetation returns, and the bluff face is stabilized. However, bluff recession now has encroached close to the residential structure (from *National Assessment of Historical Shoreline Change: A Pilot Study of Historical Coastal Bluff Retreat in the Great Lakes, Erie, Pennsylvania* USGS Open Report 2009-1042).



C. Risks to Property and Structures

USGS/PA Coastal Resources Management studies have estimated the long term average rate of bluff recession at approximately 1 foot per year. Shorter-term rates can be near zero along stable, protected bluffs or bluffs with bedrock at lake level. In less stable zones of more active erosion, several yards of bluff retreat can occur during an instantaneous catastrophic collapse. Bluff recession along the Lake Erie shoreline directly results in losses to the local economy. The costs associated with bluff recession include:

- **Real estate losses (land)** – acreage lost to erosion
- **Structural property losses** – buildings, vehicles, infrastructure, etc. damaged or destroyed during catastrophic bluff collapse
- **Mitigation expenses** – the development of shoreline protection structures, environmental debris cleanup and disposal

Land-loss mitigation resulting directly from implementation of the Chapter 85 regulations is likely minimal, limited to the effects of preventing new structures from bearing weight on or near the bluff crest and restricting potential new hydrologic sources (pools, tanks, etc.). New structures placed on or near the bluff face can add weight or alter hydrology, increasing the probability of slope failure. Additionally, the construction of new structures often necessitates the removal of vegetative cover on or near the bluff crest. Restrictions on the siting of new structures within active BRHAs can slow the overall rate of bluff recession if natural vegetation is permitted to recolonize previously disturbed areas. More significantly, bluff setback enforcement prevents anthropogenic acceleration of land-loss rates due to bluff recession by protecting potentially unstable areas from new development.

There are additional economic costs relating to management and mitigation expenses borne by taxpayers. The Department of Environmental Protection (DEP or Department), on average will process several clean-up enforcement actions related to Lake Erie bluff recession every 10 years, with an associated average cost of \$2500 per enforcement. Without the Chapter 85 regulations the actual number would likely be greater; if development were unrestricted within the hazard areas, new development would undoubtedly occur at locations subject to bluff failure. The frequency of bluff and structure collapse into Lake Erie would rise, increasing the costs borne by taxpayers to mitigate these events and contribute to rising insurance costs.

In 1987, the Coastal Zone Management Program published an accounting of existing and potential damages associated with coastal hazards along Lake Erie. The findings of this survey as they relate to coastal erosion are summarized in Table 1, below.

Table 1: Existing and potential impacts from coastal erosion along the Pennsylvania Lake Erie shoreline, documented in 1987.

<i>Facility Type</i>	<i># of Affected Facilities (1985-1987)</i>	<i># of At Risk* Facilities</i>
<i>Public (parks, beaches, etc.)</i>	<i>11</i>	<i>19</i>
<i>Commercial/Residential</i>	<i>149</i>	<i>274</i>
<i>Other (seasonal dwellings, boathouses, etc.)</i>	<i>25</i>	<i>52</i>

*Estimated impact of a 2-foot rise in the lake level.

D. Regulatory Framework

The Act and the Chapter 85, Bluff Recession and Setback regulations create restrictions on new development and on improvements to existing development within areas designated as BRHAs. Under the statute, primary enforcement of the regulations is the responsibility of the local municipalities along the Lake Erie shoreline. These municipalities are required by law to enact and enforce zoning ordinances consistent with the Act and the Chapter 85 Bluff Recession and Setback regulations. The objectives of Chapter 85 are:

- To encourage planning and development in bluff areas that is consistent with sound land use practices,
- To protect people and property in bluff areas from the dangers and damages associated with the inevitable recession of bluffs,
- To prevent and eliminate urban and rural blight which results from the damages of bluff recession,
- To minimize the expenditure of public and private funds for shoreline protection and bluff stabilization structures and activities,
- To provide a comprehensive and coordinated program to regulate development activities through the use of setback ordinances in BRHAs to preserve and restore the natural ecological systems, and to prevent continuing destruction of property and structures, and
- To guide local administration and management of bluffs consistent with the duty of the Commonwealth as trustee of natural resources, and the constitutional right of the people to the preservation of the natural, scenic, aesthetic and historic values of the environment.

Updates to the Chapter 85 Regulation

The Chapter 85 regulations were updated on September 19, 2009. These revisions consisted of a suite of minor editorial changes along with the following changes in policy:

- Formally adopted as BRHAs the geographic areas identified in the November, 2004 “Study to Tentatively Designate Bluff Recession Hazard Areas”.
- Reduced the minimum bluff setback distance from 50’ to 25’.
- Designated new BRHAs within the City of Erie.

- Clarified that municipalities may adopt more restrictive bluff setback distances and that the Uniform Construction Code or local zoning regulations may also apply.

In 2011, the General Assembly enacted Act 72 amending the definition of “bluff recession hazard area” in the Bluff Recession and Setback Act to exclude zones where the bluff toe is located greater than 250 feet from the shoreline, defined by the ordinary high water mark (OHWM) of 573.4 feet above sea level using the International Great Lakes Datum (IGLD) 1985. This guidance, therefore, reflects the amended Act.

The final Chapter 85 regulations in their current form establish:

- Current BRHAs
- Minimum setback requirements based on location and development-type
- Requirements for municipalities to develop and enforce local setback ordinances
- Policies for Department oversight of the municipal programs
- Grants for municipalities to be compensated for costs incurred under the program
- Appeals procedures

The remainder of this guidance document more fully describes these elements of the program, with additional clarification on Department policy, where appropriate.

Section II: Bluff Recession Hazard Areas (BRHAs)

A. Process for the Designation of BRHAs

Potential BRHAs are identified by scientific evaluation of the Lake Erie coastline. Chapter 85 requires that studies be conducted “when necessary” to identify these potential BRHAs. The studies must:

1. Identify the geographic location of hazard areas
2. Examine the causes of erosion leading to the bluff recession
3. Review and evaluate existing and potential damage to property and structures caused by bluff recession
4. Develop local recession rates
5. Develop conclusions and recommendations

In 2001, the Department’s Coastal Resources Management Program commissioned Wetland and Coastal Resources, Inc. (WCR), a private consulting firm, to conduct a study to determine the current rates of bluff recession along the entire Lake Erie coast in Pennsylvania. This study used four related sets of data to calculate rates of bluff recession and identify potential BRHAs:

1. High-altitude aerial photography
2. Low-altitude oblique-angle aerial photography
3. Beach-level bluff face photography
4. On-site physical inspection

The results of that study were combined with results of the Department's on-going control point monitoring (summarized in Section V) and incorporated into a Department report, "Study to Tentatively Designate Bluff Recession Hazard Areas" published in November, 2004. The 2004 report is the basis for the BRHA designations that were formally adopted by the Environmental Quality Board (EQB) in 2009. These BRHAs are central to the implementation of the bluff recession and setback regulations. Both the WCR study and the Department's report are available in full on the Coastal Resources Management website:

<http://www.dep.state.pa.us/river/czmp.htm>

The definition of "bluff recession hazard area" set forth in Act 72 excludes bluffs whose toe is greater than 250 feet from the high water mark (datum 573.4 feet, IGLD 1985). Bluffs excluded by the Act 72 definition may be identified as BRHAs in the 2004 Department report. To reflect the change in definition, the BRHA maps in Appendix A of this guidance show the approximate updated BRHAs, with Act 72-excluded areas removed. These maps are approximate, however. Applicants for development projects located near any BRHA endpoints shown in the maps in Appendix A should consult with the Department for a BRHA determination.

There is no current requirement for BRHAs to be evaluated at any particular time interval. New BRHA studies will be conducted either when the Department determines that the scientific basis for the current designations has become outdated, or whenever the EQB grants a petition to reconsider one or more BRHA designation (§ 85.12). The EQB policy for regulatory petitions is included in Appendix C, along with the standard petition form.

B. Public Participation

Since BRHAs are established by regulation, they are subject to public participation requirements. Municipalities and concerned citizens have two forums in which to participate in the rulemaking process whenever modifications to existing BRHAs are proposed:

1. Written comments submitted during the proposed rulemaking comment/response period
2. Public meetings held by the EQB

Any municipality subject to a newly proposed or modified BRHA designation will be notified by the Department via certified letter containing:

- The geographic location of the proposed BRHA
- A summary of scientific findings that led to the proposed designation
- The bluff recession rate and method used to calculate it
- Minimum setback distances
- Solicitation to provide official comment on the proposed BRHA.
- Deadline for comment
- Notice of EQB public hearings

Additionally, all proposed updates to the Chapter 85 regulations, including changes to the BRHA designations, will be announced as they occur in the following publications:

- The *Pennsylvania Bulletin*
- The DEP Update

The *Pennsylvania Bulletin* is available online at <http://www.pabulletin.com/> .

The DEP Update is available on the Department's website through the "Newsroom" link:

www.dep.state.pa.us > Newsroom > The Update

The Update newsletter also contains a comprehensive meeting calendar where public meetings of the EQB are announced. Interested parties may attend and comment on a proposed regulation during the EQB forum scheduled for that particular regulatory action.

Each notice of a proposed regulation available for public review will have instructions on where to send your public comments, including a comment deadline. The Department is required by law to consider and respond to comments submitted on proposed regulations in writing or through public hearings **during the public comment period**. The Department does not consider or respond to comments relating to regulations that are not currently open for public comment.

Written comments on regulations proposed by the Environmental Quality Board should be sent to:

Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477

Comments may also be submitted electronically to: regcomments@pa.gov.

At any given time, all current proposals open for public comment are available online at the Department's Public Participation Center. The Department considers and formally responds only to comments received within the official comment period:

www.dep.state.pa.us > Public Participation > Public Participation Center

Section III: Setback Requirements

A. Establishing the Minimum Bluff Setback Distance (MBSD) (§ 85.22)

Minimum bluff setback distances are calculated by the formula:

$$\text{Bluff Recession Rate (ft/yr)} \times \text{Appropriate Life Span of Structure (yrs)} = \text{MBSD (ft)}$$

The **bluff recession rate** used in the calculation is the average rate of bluff recession for all bluffs within a given municipality as measured and calculated by the Department. Average bluff recession rates for each municipality are updated with the results of new control point monitoring conducted every 4 years and are taken into consideration along with historical trends documented by aerial photography and other available data sources.

The **appropriate life span** of a structure is dependent upon the type of structure being considered and, for the purpose of calculating the MBSD, is set by regulation in Chapter 85 as:

Table 2: Appropriate life span based on type of structure as established in § 85.22(a)(2).

<i>Type of structure</i>	<i>Appropriate Life Span (yrs)</i>
<i>Residential</i>	50
<i>Commercial</i>	75
<i>Industrial</i>	100

The current minimum bluff setback distances as determined by the Department, as well as the actual setback distances enacted in local ordinances are shown in Table 3. Municipalities have the option to enact setback distances more stringent than the minimum distances allowed by the Chapter 85 regulations. Where municipal setbacks are greater than the state minimum, the municipal setback is enforced.

Table 3: Current minimum bluff setback distances (MBSD). Some municipalities have enacted local setbacks that are more stringent than the State minimum setbacks established in Chapter 85.

MINIMUM BLUFF SETBACK DISTANCES ERIE COUNTY, PA						
Municipality	Residential Setback		Commercial Setback		Industrial Setback	
	State Minimum	Municipal	State Minimum	Municipal	State Minimum	Municipal
Springfield Twp	100'	100'	150'	150'	200'	200'
Girard Twp	60'	200'	90'	200'	120'	200'
Lake City Boro	60'	150'	90'	150'	120'	150'
Fairview Twp	50'	100'	75'	100'	100'	100'
Millcreek Twp	50'	50'	75'	75'	100'	100'
City of Erie	25'	25'	25'	25'	25'	25'
Lawrence Park Twp	50'	75'	75'	75'	100'	100'
Harborcreek Twp	50'	50'	75'	75'	100'	100'
North East Twp	50'	50'	75'	75'	100'	100'

The state minimum MBSDs in Table 3 may be modified if the results of studies meeting the requirements described in Section II.A of this document are presented to the Department and support the proposed change in MBSD. The interested party submitting the study results to the Department may petition the EQB to consider amending the MBSD in question by proceeding through the petition process described in Appendix C. The Department may also submit a proposal to the EQB amending the MSBDs set in the regulation.

B. Locating the Bluff Line and the Setback Line

When any building permit application is submitted to construct, reconstruct, repair or improve any structure located within a BRHA, the Municipal Zoning Officer (MZO) should take measurements prior to issuance of the permit to determine if the activity is taking place within

the MBSD. The minimum bluff setback distance is defined in Chapter 85 as “the shortest horizontal distance from a point on the bluff line to a point on a structure.” Accurate location of the bluff line, therefore, is essential for proper identification and enforcement of the MBSD.

The bluff line, for measurement purposes, is defined as the part of the bluff where the tableland begins to slope downward toward the lake. In some locations, the bluff has a clear crest where the vertical decent to the lake begins. In others, the descent toward the lake is more gradual and the bluff line is less clear. In areas where there is not a clearly defined bluff crest or break in the horizontal plane, the bluff line should be established along a path closest to the bluff where, according to the best professional judgment of the MZO, the ground surface:

1. is fully supported by natural tableland that has not been altered by lake-derived erosional forces AND
2. is fully supported by natural tableland that has not been embellished or altered by artificial fill or excavation AND
3. is not apparent to be subject to imminent creep, slip, or collapse.

The most landward point along a transect where any of these conditions is not met as a result of the bluff morphology or human alteration is the point where the bluff line intersects that transect. The MZO should make every effort to determine the correct location of the proper bluff line, utilizing available municipal and county records as well as historical and current aerial photography. Routine aerial photography is provided to the municipalities by CRM at no cost (See Section V.C.2 Aerial Photographic Surveys) and CRM field staff can provide technical assistance, subject to availability.

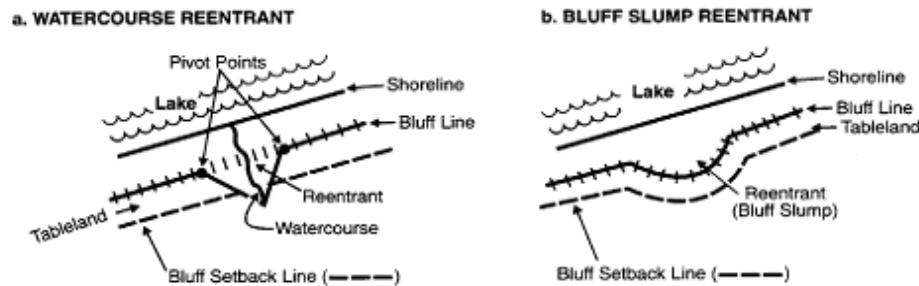
Figure 3: Measurement being taken to the bluff crest. In this case, the position of the bluff line is where the surveyor’s right arm is touching the ground – where the ground begins to break from the plane of the tableland – not at the edge of the growing grass.



When a landward deviation of the bluff line (called a reentrant) is the result of a watercourse (Figure 4a) rather than bluff slumping (Figure 4b), the bluff line is considered to be an imaginary line starting at the pivot point (the point where the erosional forces affecting bluff stability change from lake-induced erosion to riverine or watercourse-induced erosion) on the bluff line of the western side of the reentrant and extending on a straight course across the ravine and connecting to the pivot point on the eastern bluff line (Figure 4a).

When determining the setback distance along a scalloped or uneven bluff, the minimum setback line should be established following the contour of the bluff line as in Figure 4b, where the shortest distance between the bluff line and the setback does not measure less than the established MBSD. When any part of existing or proposed structure encroaches upon that line, the structure is considered to be within the minimum bluff setback distance.

Figure 4: Aerial view of a bluff line:



This method of evaluation of the bluff line allows for considerable flexibility by the MZO. The Department may assist, when available and requested by the municipality, in determining the bluff line for the purpose of measuring the minimum setback distance.

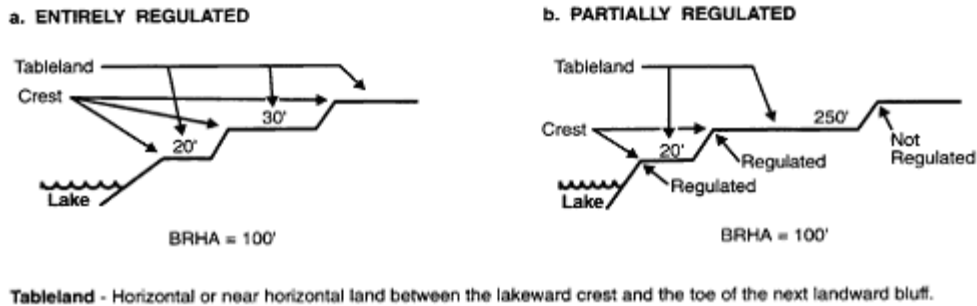
The bluff line is dynamic – it gradually moves landward as bluff recession progresses. Since the MBSD is determined by a set distance from the bluff line, it too is dynamic and gradually moves landward over time. Once the MBSD moves far enough landward to encounter a structure, that structure then becomes regulated as occurring within the hazard zone and must meet all of the relevant provisions described in this guidance, including being barred from substantial improvements without a variance. This is an important consideration when planning for new construction within properties along the bluffs. The Department encourages lakefront property owners to build all new structures as far landward as possible to allow for landward migration of the MBSD.

C. Tiered Bluffs

In a situation where a tiered bluff exists, each bluff with a bank over five feet high overlooking the lake is a “bluff” for purposes of the Bluff Recession Setback Act. A setback following the guidance in Part B of this section should be established from the bluff line of each tiered bluff that is determined to be ‘regulated’ according to the conditions set below.

Moving from the lake to landward, each successive bluff is regulated under Chapter 85 until a tableland-tier is reached with a width that is at least two times (2x) the industrial MSBD for that location. Setback restrictions apply to each bluff line lakeward of that tableland-tier. Bluff areas landward of a table-land tier which is two or more times the industrial MBSD are not regulated (Figure 5b). The width of the tableland-tier is a line measured from, and perpendicular to, the lakeward bluff line to the toe of the next landward bluff.

Figure 5: Tiered bluffs



D. Activities within the MSBD (§ 85.24)

If any part of an existing or proposed structure encroaches upon the minimum bluff setback line described in Part B of this section, the structure is considered to be within the MBSD. All construction or improvement activities related to the structure are likewise considered to be within the MBSD, even if they occur on a part of the structure that is landward of the MBSD line.

1. Proposed New Structures

For proposed structures, the Municipal Zoning Officer (MZO) should instruct the applicant to adjust the location of the structure in the direction that results in the structure being located landward of, and no longer intercepting, the setback line. If other municipal ordinances and/or space availability prohibit placement of the structure landward of the MBSD, one of three scenarios can occur:

- If the lot was established prior to designation of the BRHA, the structure may be eligible for a variance (refer to Part E of this section).
- If the proposed structure requires access to the lake and no other feasible alternative exists, the structure may be eligible for a variance (refer to Part E of this section)
- If the lot was established after designation of the BRHA and lake access is not essential, the structure is not eligible for a variance; therefore, a building permit cannot be issued.

2. Improvements to Existing Structures

For existing structures located fully landward of the MBSD, municipalities shall not issue permits for improvements where the improvement encroaches upon the MBSD.

For existing structures located within the MBSD, a proposed improvement that meets any of the conditions set below is deemed a **substantial improvement** and a permit cannot be issued, unless a variance is granted where eligible (see Part E of this section). Permits may be issued for improvements that are less than substantial, but those improvements should not extend lakeward of the footprint of the structure as it existed on the date the BRHA was designated.

- The cost of the proposed improvement equals or exceeds 50% of the market value of the structure (prior to the start of the improvement).
- The cumulative 5-year aggregate cost of improvements equals or exceeds 50% of the market value of the structure immediately prior to the first improvement, or if the structure has been damaged, before the damage occurred.
 - The costs of all improvements made to the structure in the previous 5 years, regardless of where they are located on the structure, are considered in calculating aggregate cost.
- If the structure was damaged*, destroyed*, or blighted and is being replaced, the replacement construction is considered a substantial improvement if the cost exceeds 150% of the market value of the structure immediately prior to damage, destruction, or demolition due to blight.
 - Replacement construction can restore up to the approximate functional value of the destroyed structure.
 - Replacement construction can be placed on the footprint of the original structure. However, the site-specific conditions and the Uniform Construction Code may not allow the structure to be built on the original footprint. In such cases the structure should be moved further landward of the footprint.

*If the damage or destruction of the structure was the result of criminal activity of the property owner, no reconstruction within the MBSD should be permitted. MZO's should withhold permitting or variances decisions until criminal investigations are completed.

Example of a "Substantial Improvement" Cost Analysis:

Table 4 shows an example of all recorded improvements made to a structure bisected by the minimum setback line. In this example, none of the individual improvements exceeded the 50%-market value limit for the improvement cost. However the improvements on 5/5/06 and 8/1/10 each exceeded the 5-year aggregate cost limit of 50% of the market value prior to the first improvement. Neither of these improvements should have been permitted unless authorized by a variance. In fact, the 8/1/2010 project could have simply been delayed until after 9/10/2010, when the 9/10/2005 improvement would have fallen out of the 5-year window. At that time, the 5-year aggregate cost would have decreased by \$15,000 and the market value used in the calculation would have increased to \$135,000 (the MV just prior to the 2006 improvement). The new 5-year percentage would be 49% and the project may be permissible without having to apply for a variance.

Note that the market value used to calculate the 5-year percentage (second to last column) is not the present market value prior to the improvement, but the market value immediately preceding the first improvement within the 5-year window. For example, the market value used (\$125,000) when calculating the 5-year percentage for the 10/13/08 improvement is the market value prior to the 9/10/05 improvement, since the 2002 improvement is beyond the 5 year window.

Table 4: Example of ‘Substantial Improvements’ Cost Analysis

Improvement Project Begin Date	Structure Market Value	Improvement Cost	% Market Value of the improvement	5 YR Total Cost	Market Value used for 5 YR %MV	5 YR-Cost % Market Value
5/25/2002	\$100,000	\$10,000	10%	\$10,000	NA	NA
9/10/2005	\$125,000	\$15,000	12%	\$25,000	\$100,000	25%
5/5/2006	\$135,000	\$26,000	19%	\$51,000	\$100,000	51%*
10/13/2008	\$130,000	\$3,200	3%	\$4,200	\$125,000	35%
6/6/2009	\$130,000	\$10,500	9%	\$54,700	\$125,000	44%
8/1/2010	\$135,000	\$27,000	22%	\$81,700	\$125,000	65%*

*Variance required, if eligible.

The following projects are not subject to either of the 50% of market value thresholds:

- A. Any project for improvement of a structure whose purpose is to comply with existing State or local health, sanitary, or safety specifications which are solely necessary to assure safe living conditions.
- B. Any alteration of a structure listed on the National Register of Historic Places or a State inventory of historic places.

When any variance is granted for a substantial improvement to an existing structure located within the hazard zone, the following conditions apply:

- A. Improvements must be attached to the existing structure as far landward of the bluff line as allowed by other municipal ordinances (except in the case of the addition of a second story).
- B. Any improvement must be made movable (except in the case of the addition of a second story).

3. Clarification of Market Value

In the real estate industry, “market value” refers to the *predicted* final sale price of a property based on present and local market conditions with respect to similar properties. To persons who are not real estate professionals, “market value” may be interpreted as any of a number of estimates of a structure’s worth, including county tax assessments, appraisals, or the subjective estimate of the property owner. These multiple interpretations of “market value” could possibly lead to confusion over the correct numbers to use when analyzing whether a particular improvement qualifies as a “substantial improvement.” However, “market value” is specifically defined in the Bluff Recession Setback Act and in the Chapter 85 regulation as:

Market Value - The value of a structure determined by a certified appraisal or by determining the assessed value of a structure and applying the assessment ratio of the county in which the structure is located.

Therefore, for the purpose of implementing the Chapter 85 regulations, the property owner may choose to use either A or B, below, for identifying the “market value” to be used in the substantial improvement cost analysis:

- A. A **certified real estate appraisal** that encompasses the value of the **structure only**, excluding the associated land (if the structure has been damaged and the improvements amount to restoration, the market value used is the estimated value immediately prior to the incurred damage).
- B. The most recent assessed value of the structure only as recorded by the County, excluding the associated land, with the current Common Level Ratio for Erie County, Pennsylvania applied.

If a proposed improvement is determined, on its own, not to be substantial, the MZO should then analyze the improvements for the previous five consecutive years (from permit records) to determine whether the total improvements (including the proposed improvement) equal or exceed 50% of the structure’s estimated market value **prior to the first improvement considered within the 5-year window** (See the Table 4 example on page 16). When evaluating the 5-year aggregate cost, the market value should be established as above, except that:

- 1. If relying on an appraisal, the certified real estate appraiser should base the market value on the condition of the structure **prior to the first improvement** and the market conditions present at that time.
- 2. If relying on property assessment records, the most recent assessment prior to the first improvement should be used.

4. Moveable Structures Requirement

The provision that improvements be made moveable (See Section E (Variances) of this guidance, p 20) provides an opportunity for salvage of the structure should imminent bluff failure become apparent. This does not mean that the structure to be improved, along with the improvement, must be made movable. The improvement should be on a foundation, basement or crawl space that allows the insertion of moving equipment. On-slab construction is not acceptable in most cases. The applicant should provide proof to the municipality that the structure is movable (with adequate access to move the structure from the site). This proof must be documented and sent by the municipality to the Department during the annual review of the municipal building permit records (See Section IV Part B).

Movable structures include construction that can be moved via standard dwelling relocation practices described in the *Uniform Construction Code* from a lot that has adequate width and grade to allow for its removal from the BRHA. The access road to the nearest paved road should be of adequate grade, width, and composition to allow moving. Structures cannot be on slabs except in the case of garages which are bolted to a slab foundation. These garages should not have living space within or above the structure, plumbing or interior partitioning walls and above grade walls should be of stud

wall construction (as opposed to poured concrete, concrete block, or brick, as these would not be readily movable by standard techniques). The cost of relocation should not be greater than 25% of the replacement cost of the structure.

Monitoring of the construction activities within the MBSD by the MZO is an essential part of the administration of the municipal ordinances. In particular, MZO should be diligent in tracking improvements to existing structures. Though prohibited, undocumented substantial improvements to structures within BRHA can occur. The MZO should periodically inspect all permitted activities in the BRHA to ensure that all building activities are being conducted in conformance with the provisions of the municipal ordinance. Also, the MZO should periodically tour the BRHA to ensure that all building activities have the necessary permits and are being conducted in conformance with the provisions of the ordinance.

E. Variances (§ 85.25)

There are two general situations where a variance may be granted for new structures or substantial improvements to existing structures located within a MBSD:

1. Parcels of land established prior to a BRHA designation that do not have adequate depth considering the minimum setback requirements and other ordinance restrictions to provide for any reasonable use of the land
 2. The structure is related to a bluff recession control device or a public utility that requires access to the lake through the BRHA.
-
1. Parcels of land established prior to a BRHA designation that do not have adequate depth considering the minimum setback requirements and other ordinance restrictions to provide for any reasonable use of the land

A variance may be granted in these cases for the construction of a new structure or for the substantial improvement of an existing structure. If a parcel of land established prior to the BRHA designation does have adequate depth for reasonable use of the land, new structures proposed on the parcel are not eligible for variances under the Chapter 85 regulations and must be sited beyond the MBSD.

The BRHAs for all municipalities except for the City of Erie were designated as of September 27, 1980. BRHAs within the City of Erie were designated September 19, 2009. Therefore, no variances may be granted under this category for new structures or substantial improvements to existing structures on lots subdivided on or after these municipalities' respective designation dates.

A. To be eligible for a variance under this category, the parcel must:

1. Have been subdivided prior to the designation of the BRHA.

2. Not have adequate depth for reasonable use of the land. To meet this condition:
 - i. The parcel should have an MBSD that overlaps with landward setbacks or other development restrictions set in the local ordinances, or
 - ii. The area within the parcel that is not subject to setbacks is not of sufficient size or depth to accommodate the proposed structure.

B. An approvable variance must meet the following standards and criteria:

1. All development on the property must occur as far landward of the bluff line as possible, while meeting all other applicable municipal ordinances.
2. The structure or substantial improvement must be designed and constructed to be moveable (except for the addition of a second story).
3. Construction activities (including removal of the structure, if removal occurs) must meet minimum erosion and sedimentation control practices established by PA Code Title 25 Chapter 102 and reflect guidance or requirements contained in any existing municipal stormwater ordinances or the county watershed stormwater management plans.
4. If removal becomes necessary, all construction materials, including foundations, must be removed and disposed of in accordance with Chapter 75 (relating to solid waste management).

2. Bluff recession control devices or utility facilities which require access to the lake

The only structures eligible for a variance under this category are:

- A. Bluff recession control devices
- B. Water withdrawal or discharge lines
- C. Power Cables
- D. Natural gas or oil pipelines
- E. Communication cables
- F. Other public service lines that require access to the lake

Variances can only be issued if the construction activities meet the following conditions:

- A. Short and long-term disruption of the BRHA must be minimized
- B. Meet Chapter 102 erosion and sediment control provisions
- C. Reflect guidance and requirements contained in municipal stormwater and county watershed stormwater management plans.
- D. Post-construction environmental restoration of the site to ensure that subsequent erosion will not damage the structure or harm the environment or adjacent properties.

Section IV: Municipal Responsibilities

A. Local Ordinance Requirements (§ 85.31-37)

Primary enforcement of the Bluff Recession and Setback regulations occurs at the local municipality level. The municipality has primary enforcement authority under the Chapter 85 regulations. The Department may provide financial reimbursement for costs incurred by the municipality for the implementation of their BRSA ordinances (see Section VI). Municipal authority is granted subject to Department oversight described in Section V.

Each municipality with a designated BRHA is required to enact and enforce a bluff setback ordinance that meets the minimum requirements set forth in the Pennsylvania Chapter 85 Bluff Recession and Setback regulations. Whenever the EQB adopts new or amends BRHA designations, the municipality will be notified by the Department via certified letter. Upon receipt of this notification, the municipality has 6 months to adopt and implement, or update as appropriate, an acceptable bluff setback ordinance.

Note: The Chapter 85 regulations specifically provide the municipality, under §85.35, with the flexibility to adopt an ordinance with more restrictive requirements than those outlined either in the regulation or within this guidance.

1. Municipal Ordinance Content Requirements

The adopted ordinance must:

- A. Meet all requirements of Chapter 85.
- B. Include minimum setback distances for each residential, commercial, and industrial structure-types (See Section III Part A).
- C. Provide permitting procedures for all types of development within BRHAs.
- D. Provide procedures to monitor ‘substantial improvements’ within the BRHA (see Section III Part D).
- E. Provide variance procedures that meet the requirements of Chapter 85 (see Section III Part E).
- F. Provide procedures to amend the setback ordinance.
- G. Provide procedures for record keeping and reporting to the Department (See Part C of this section).

The above requirements may be met solely through existing ordinances, through amendments to existing ordinances, or through the adoption of entirely new ordinances. Again, the municipality has the authority to adopt setback or other requirements that are more stringent than those established in Chapter 85. In whatever manner the municipality achieves the required legal documentation of its regulatory authority and oversight, it must provide to the Department:

- A. One copy of all applicable ordinances and regulations that are applicable to meeting the Chapter 85 requirements, and
- B. Comments and descriptions on how the forwarded materials meet the requirements of Chapter 85 and the Act.

The submitted materials should be sent to the CRM program at the address provided below. The CRM program will review, comment and act on municipal ordinances relating to the Act and activities within the BRHAs.

PA DEP
Interstate Waters Office
P.O. Box 8465
400 Market Street, 11th Floor
Harrisburg, PA 17105-8465

B. Activities Regulated Through Permitting

Municipalities enforce the Chapter 85 regulations through their permitting processes. The Chapter 85 BRSA regulations establish which activities are restricted within the BRHAs in §85.24. Municipal ordinances must, at a minimum, set equivalent permitting restrictions to those construction activities within the BRHA. Municipalities differ in the types of construction activities that they regulate through permitting. The construction of a structure, such as an attached deck, may require a building permit in one municipality while it may not in the next. Table 5, below, provides some examples of the types of construction activities that are regulated through permits in each of nine lakefront municipalities. This list is meant only to provide some general examples and is by no means exhaustive. The local requirements for certain types of structures may also change over time. For up-to-date, complete information on permit-regulated activities in a given municipality, contact that municipality directly.

Table 5: Examples of Activities Regulated by Permit, by Municipality (cont'd on next page)

Municipality	Regulated by Building Permit	Regulated by Zoning Permit	Not regulated by Permit
Springfield Twp	Opted Out	New Construction/Alterations to Single Family Dwellings, Garages, Decks (with or without roof)	Accessory structures less than 100 sq. ft. At-grade patio/concrete pads
Girard Twp	Opted out	All residential, commercial, industrial structures	Stairs, At grade-concrete pads, driveways, sidewalks, one- time only sheds under 144 sq. ft.
Lake City Boro	Opted Out	New Construction/Alterations	None
Fairview Twp	Any item covered by the Uniform Construction Code (UCC)	Additions, pools, decks, sheds, garages	Concrete slabs or anything at-grade

Municipality	Regulated by Building Permit	Regulated by Zoning Permit	Not regulated by Permit
Millcreek Twp	Any item covered by the Uniform Construction Code (UCC)	Additions, pools, decks, sheds, garages	None
City of Erie	Any item covered by the UCC	New construction/alternations to single family dwellings, garages, decks, pools, sheds, fences, and additions	Accessory structures less than 100 sq. ft., at grade patio/concrete pads, unattached wood decks under 30" tall
Lawrence Park Twp	Additions, Alterations, Pools	Fences, Pools, Decks, Additions, Sheds	Concrete slabs under 4" high
Harborcreek Twp	Any item covered by the UCC	Any item covered by the UCC plus open decks less than 30" high, detached garages less than 1,000 sq. ft. and sheds greater than 120 sq. ft.	Sheds less than 120 sq. ft., slab on grade pads.
North East Twp	All new structures and additions – any item covered by UCC	All new structures and additions	Decks up to 200 sq. ft. and deck steps, fences, concrete slabs under 8" high, steps to beach with landing > 25 sq. ft. accessory structures up to 120 sq. ft.

C. Recordkeeping and Reporting to the Department (§ 85.37(6))

Municipalities are required to maintain the following records with respect to activities occurring within designated BRHAs:

1. Applications for Permits
 - Name and address for applicant
2. Locations and descriptions of:
 - New construction activities within MBSD
 - Improvement projects (including substantial improvements) within MBSD
 - Records of improvements monitoring within MBSD
 - All records relating to variances granted within BRHAs
3. Records of issuance or denial permits
4. All correspondence related to permitting activity within designated BRHAs

The municipality must provide copies of the above records to the Department annually, no later than February 28th. The Department will review and file the submitted records and provide feedback to the municipality, as appropriate. The records submitted should demonstrate to the Department that the Chapter 85 regulations are being adequately implemented and enforced throughout all BRHAs within the municipality's jurisdiction.

Currently, the Erie County Department of Planning coordinates municipal reporting to the Department under the Act. In January of each calendar year, the Erie County Department of

Planning sends a request to all nine (9) municipalities with designated BRHAs requesting permit information from the previous year. The County compiles the information received from the municipality and forwards it to the Department using the Lake Erie Bluff Recession and Setback Act Summary Form and the Lake Erie Bluff Recession and Setback Activity Report. These forms aid municipalities in meeting the reporting requirements and standardize the format in which the Department receives the required information. The forms are available on the Department's eLibrary website (<http://www.elibrary.dep.state.pa.us>) and are included in Appendix B of this document.

Municipalities should send the completed forms and appropriate enclosures to the Erie County Department of Planning no later than January 31 each calendar year to allow county personnel time to collate the information for final reporting to the Department.

Erie County Department of Planning
Erie County Courthouse, Room 111
140 West 6th Street
Erie, PA 16501

Section V: Department Oversight

A. Ordinance Review (§ 85.42)

Upon completion of a draft ordinance, the municipality will submit the draft to the Department in its entirety (see Section IV Part A). The Department is allowed a 90-day period to review the ordinance and other supporting materials to ensure that it meets the minimum requirements under the Chapter 85 regulations. The Department will communicate any identified deficiencies within the draft ordinance to the municipality in writing, to be addressed by the ordinance authors.

Once the Department and the municipality agree that the draft ordinance meets the requirements of the Act and the regulations, the Department will provide a written endorsement of the ordinance and the municipality may move forward with its formal finalization procedures. If the municipality does not receive a response from the Department within the 90-day review period, the draft ordinance is deemed approved by the Department and the municipality may move forward with its formal finalization procedures.

B. Implementation Review (§ 85.43)

The Department will review annual documentation submitted by the municipalities with respect to their enforcement of the Chapter 85 regulations through local ordinances. The Department may physically inspect the BRHAs within a municipality in coordination with municipal officials.

A key indicator of the effectiveness of municipal implementation is the degree of unauthorized construction, installation, or substantial improvement activities occurring in violation of the Chapter 85 regulations. If no unauthorized activities are discovered during a Department inspection of the BRHAs within a municipality, the municipality shall be considered to be in compliance with the Act and the regulations. Upon the discovery of unauthorized past or present activities the Department will notify the municipality which will then take the appropriate

corrective action concerning the activity in question. If the Department determines that the objectives of the Chapter 85 regulations are not being consistently met by current municipal implementation procedures, the Department may conduct a more thorough review of the municipal ordinances, enforcement strategies, and capabilities and may aid the municipality in adopting changes that will better achieve the objectives of the Act.

The Act and the regulations allow the Department to issue sanctions against a municipality in the event the Chapter 85 related ordinances are not being effectively implemented and enforced. The Act specifies the procedure that the Department must take to improve compliance in municipalities where implementation is ineffective:

1. The Department will provide written notice to the municipality describing the nature of the non-compliance and the steps necessary to bring about effective Chapter 85 implementation.
2. The municipality shall respond to the notice of violation within 60 days, and describe the corrective actions planned.
3. Within 90 days of the municipality receiving notice as provided in paragraph 1, the Department will make a determination whether the municipality is being cooperative in addressing deficiencies. The Department may, at this point, issue an Administrative Order to the municipality outlining the specific actions that the municipality shall take to return to compliance.
4. If the municipality fails to comply with an Administrative Order, the following penalties may be assessed:
 - a. \$100-\$1,000 civil penalty
 - b. \$200 additional penalty for each day of continued non-compliance

When a municipality is found to be in violation of the Act or regulations, the Coastal Resources Management program may actively cooperate with municipalities to improve their ordinances and implementation strategies to bring them back into compliance prior to seeking any penalty or sanction.

C. Bluff Erosion Surveillance

1. Control Point Monitoring:

The Department's Coastal Resources Management Program actively monitors approximately 130 established control points along Pennsylvania's Lake Erie shoreline (the actual number may change due to control points being abandoned or new control points established). These control points are used to determine local annual rates of bluff recession, help identify BRHAs, and help determine minimum bluff setback distances in accordance with the Chapter 85 regulations.

A control point is a fixed marker, such as a buried steel pin or existing utility pole, from which a direct measurement to the bluff crest is made. The control points are located approximately every one-half kilometer along the bluff crest from the Ohio to the New

York borders. Direct measurements from the control points to the bluff crest are taken every four to five years, with the assistance of Global Positioning System technology. Records of the measured distances from the fixed control points to bluff crest are maintained by the Department. At locations where the bluff line is actively receding, that measured distance gradually decreases from year to year. Over time, an average rate of bluff recession at that location emerges from the collected data.

The first control point was established in 1975 in an effort to begin monitoring the stability of bluff conditions along Lake Erie. The control point program began in earnest in 1982, when 47 control points were established along the bluff crest. An additional 69 control points were established in 1986 and 1987. Changes in land use and on-site construction activities sometimes necessitate the need to move control points or cause the control points to be lost. The control point management and measurement program is an on-going process.

While control point measurements are taken to provide average rates of recession for a given area, it is important to understand that bluff recession is often episodic in nature. A control point showing very little recession over a 15 or 20-year period, may have a 20-foot loss, or more, in a single subsequent year. This would drastically change the recession rate average for that particular point. It should also be noted that significant recession may be occurring on either side of a control point that historically has shown very little recession. While the historical average rate of recession for that particular control point may be low, the eroding conditions on either side would make the area of the control point increasingly vulnerable to more significant recession in the future. Increased annual rates of recession could be expected at that location in the future. The longer the duration the control points are monitored, the more accurate the calculated recession rate averages become.

Beginning in 2012, the most recent control point monitoring data will be made available on the CRM website (<http://www.dep.state.pa.us/river/czmp.htm>). For more information on the Control Point Monitoring Program, contact the Coastal Zone Program representative in the Department's Northwest Region:

PA DEP
Coastal Resources Management Program
Tom Ridge Environmental Center
301 Peninsula Drive, Suite 4
814-217-9634

2. Aerial Photographic Surveys

Periodically, the Department, in cooperation with PennDOT or other contractors, undertakes complete aerial photographic surveys of the Lake Erie coastline to, among other things, assist with monitoring the condition of the bluffs over time. Photographs are taken from three perspectives:

1. **High-altitude overhead** (or straight-down) Aerial Photography (AP) - Each frame covers a wider area of land, showing less detail on the ground. High-

altitude shows the entire coastal zone boundary.

2. **Low-altitude overhead AP** - Each frame covers a smaller area, but is very detailed. Low-altitude covers only shoreline areas and does not extend significantly inland.
3. **Oblique photography** - Images of the shoreline are captured at a diagonally-downward angle

The most recent photographs are made available on line for download on the CRM website (<http://www.dep.state.pa.us/river/gis/ap.htm>).

D. CRM Technical Assistance

Subject to staff and resource availability, the Coastal Resources Management Program will provide technical assistance to MZO's, landowners, surveyors, landscapers, real estate professionals, and others on issues relating to the Lake Erie bluffs, including, but not limited to:

1. Chapter 85 interpretation and implementation
2. Delineating the bluff line
3. Bluff stabilization
4. Vegetative and stormwater best management practices

Section VI: Available Funding to Municipalities

A. Reimbursement Summary (§ 85 Subchapter F)

Funding is provided by NOAA for reimbursement to municipalities for costs incurred implementing local ordinances related to the Act and Chapter 85 regulations. The availability of funds for municipal reimbursement is dependent upon an annual award by NOAA and is not guaranteed. When available, cash disbursements to the municipalities in the form of grants are managed by the Department's Coastal Resources Management Program and coordinated through the Erie County Department of Planning. The amount of reimbursement available to municipalities is limited to:

1. 75% of the costs incurred for development and implementation of the local ordinance
2. 75% of the costs incurred for revising an existing ordinance
3. 50% of the costs incurred for ongoing administration and enforcement of the ordinance

Permitting fees that are collected by the municipality for activities within the designated BRHAs must first be subtracted from the overall costs incurred prior to applying the percentage rate. For example, if a municipality incurs a total of \$2,000 in reimbursable expenses, and collects \$1,000 in permitting fees, then the municipality is eligible to be reimbursed for 50% (\$500) of the remaining \$1,000.

The following are examples of costs that are eligible for reimbursement:

1. Salary and wages paid for Act-related activities
2. Mileage for Act-related activities

3. Act-related administrative costs (i.e. postage, duplication, etc.)
4. Solicitor, attorney, or contractor fees for activities related to the Act.
5. Act-related phone or travel time

The following are examples of costs that are not eligible for reimbursement:

1. Salary and wages paid for non-Act related activities
2. Activities occurring outside of the grant period
3. Activities funded through the collection of municipal fees

NOAA or the Department may conduct audits of grant funding under the Act to ensure that reimbursed funds are properly appropriated and accounted for. Municipalities, as a regulatory condition of accepting reimbursement, are required to maintain complete records of Act-related revenue and costs during each annual grant period.

B. Application and Request for Payment Procedures (§ 85.53)

Erie County administers funding from the CRM program for the administration of the local bluff setback ordinances. Each year, the Erie County Department of Planning submits a grant proposal to CRM for the renewal of funding under the grants and reimbursements provisions of Chapter 85. Once the funding is awarded, the County is responsible for designating the dollar amount available to each municipality for the grant-year.

Funding awarded for the bluff setback administration varies by municipality and is based on historical spending. These administrative funds are added to the County's administrative contract with CRM. Letters are sent to the participating municipalities every quarter for requesting dollar amounts for reimbursement and progress reports. The requests are usually sent at the end of the quarter; for example, requests are mailed at the beginning of January for the 1st quarter of the grant-year (October 1 through December 31). The Department has developed forms for use by the municipalities and Erie County when requesting reimbursement and submitting progress reports. These forms are included in Appendix D and are available electronically on the Department's eLibrary (<http://www.elibrary.dep.state.pa.us/dsweb/HomePage>) under "Forms" – "Water Planning Office."

Progress reports are submitted along with the invoices to detail monitoring, any administrative work or construction activities along the coast within the municipality.

Once the invoices and reports are received by the County, they are compiled and submitted to the Department for reimbursement.

Section VII: Additional Resources

Vegetative Best Management Practices: A Manual for Pennsylvania/Lake Erie Bluff Landowners – Available in hard copy upon request to the Coastal Zone Program representative in the Department's Northwest Region:

PA DEP
Coastal Resources Management Program
Tom Ridge Environmental Center
301 Peninsula Drive, Suite 4
814-217-9634

Also available, along with other publications, on the Pa. Sea Grant website:
<http://www.erie.psu.edu/seagrant/publications/erosion.htm>

National Assessment of Historical Shoreline Change: A Pilot Study of Historical Coastal Bluff Retreat in the Great Lakes, Erie, Pennsylvania (USGS Open-File Report 2009-1042) – available on the USGS Publications website at: <http://pubs.usgs.gov/of/2009/1042/>

The following resources are all available on the CRM Program website at:
<http://www.dep.state.pa.us/river/reference/reference.htm>

Study to Tentatively Designate Bluff Recession Hazard Areas

Lake Erie - Shoreline Protection Structures Study (Bennet/Meadows 2001)

Groins - Their Applications and Limitations (Corps of Engineers Coastal Engineering Technical Note, March 1981)

Control Point Monitoring data and photographic surveys available (along with other program information) is available on the CRM website

Contact information for Lake Erie Municipalities:

City of Erie Zoning Officer
Erie City Hall
626 State Street
Erie, PA 16501
814-870-1265

Lawrence Park Township Zoning Officer
4230 Iroquois Avenue
Erie, PA 16511
814-899-2305

Fairview Township Zoning Officer
7471 McCray Road
Fairview, PA 16415
814-474-5942

Millcreek Township Zoning Officer
3608 West 26th Street
Erie, PA 16505-2037
814-833-2935

Girard Township Zoning Officer
10140 Ridge Road
Girard, PA 16417
814-774-4738

North East Township Zoning Officer
10300 West Main Road
North East, PA 16428
814-725-8606

Harborcreek Township Zoning Officer
5601 Buffalo Road
Harborcreek, PA 16421
814-899-3171

Springfield Township Zoning Officer
13300 Ridge Road
West Springfield, PA 16443
814-922-3274

Lake City Borough Zoning Officer
2350 Main Street
Lake City, PA 16423
814-774-2116

Section VIII: Glossary

Act—The Bluff Recession and Setback Act (32 P. S. §§ 5201—5215).

Angle of Repose—The maximum angle or slope at which a material, such as soil or loose rock, remains stable and does not collapse.

Bluff—A high bank or bold headland with a broad precipitous cliff face overlooking a lake.

Bluff line—The edge or crest of the bluff; the part of the bluff where the tableland begins to slope downward toward the lake.

Bluff recession—The loss of material along the bluff face caused by the direct or indirect action by one or a combination of groundwater seepage, water currents, wind generated water waves or high water levels.

Bluff recession hazard area—An area or zone where the rate of progressive bluff recession creates a substantial threat to the safety or stability of nearby existing or future structures or utility facilities. The term shall not include any area where the horizontal distance, measured perpendicular to the shoreline, between the shoreline and the bluff toe is in excess of 250 feet and such area shall not be subject to any Environmental Quality Board regulations or municipal bluff setback ordinance.

Bluff setback ordinance and regulations—Building codes, zoning ordinances, subdivision regulations, health regulations, special purpose ordinances and other applications of the police power, which provide standards for the location of structures and facilities in bluff recession hazard areas.

Bluff toe—The base of a bluff.

Department—The Department of Environmental Protection of the Commonwealth.

Development—Development shall be defined as follows:

- (i) The improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose including, but not limited to one of the following:
 - (A) A group of two or more buildings.
 - (B) The division or allocation of land or space between or among two or more existing or prospective occupants by means of or for the purpose of streets, common areas, leaseholds, condominiums, building groups or other features.
- (ii) A subdivision of land.

High bank—A bank over 5 feet high

Improvement—A physical modification of an existing structure, regardless of cost, that requires the issuance of any permit by the municipality in which the structure is located. See also, “Substantial Improvement”.

Lake—A body of fresh water covering at least 9,000 square miles.

Market value—The value of a structure determined by a certified appraisal or by determining the assessed value of a structure and applying the assessment ratio of the county in which the structure is located.

Minimum bluff setback distances—The shortest horizontal distance from a point on the bluff line to a point on a structure.

Moveable Structure— a home, cabin, shed, garage, or other construction that can be readily moved via standard structure relocation practices from a lot that has adequate width and grade to allow for its removal from the BRHA. The access road to the nearest paved road should be of adequate grade, width, and composition to allow moving of the structure. The cost of relocation should not be greater than 25% of the replacement cost of the structure.

Municipality—A county, city, borough, town or township or any other governmental unit when acting as an agent thereof or any combination thereof acting jointly.

Parcel—A piece of ground that existed as an independent tax lot on the records of the county prior to its inclusion in designated bluff recession hazard areas of a municipality.

Person—An individual, partnership, public or private association or corporation, firm, trust estate, municipality, governmental unit, public utility or other legal entity which is recognized by law as the subject of rights and duties. Whenever used in any section prescribing or imposing a penalty, the term “person” includes the members of a partnership, the officers, members, servants and agents of an association, officers, agents and servants of a corporation, but excludes any department, board, bureau or agency of the Commonwealth

Pivot Point—The point along a bluff line where the erosional forces effecting bluff stability change from lake-induced erosion to riverine or watercourse-induced erosion.

Plat—A map, drawing or print accurately drawn to scale showing the proposed or existing location of all structures.

Shoreline—The ordinary high water mark of Lake Erie of 573.4 feet as defined in accordance with the International Great Lakes Datum 1985 (IGLD 1985) as recognized by the United States Army Corps of Engineers.

Structure—A man made object having an ascertainable stationary location on or in land whether or not affixed to the land; structures are classified into three categories residential, commercial and light and heavy industrial.

- (i) Residential structures are defined as a place providing habitation for an individual or group of individuals. Structures in this category include, but are not limited to single family homes, duplexes and summer cottages as well as any secondary structure associated with the residential structure.
- ii) Commercial structures are defined as a place where commodities are exchanged, bought or sold. Structures in this category include, but are not limited to grocery stores, hardware stores, clothing shops and pharmacies as well as any secondary structure that is associated with the commercial structure.
- (iii) Light and heavy industrial structures are defined as a place where materials are refined, produced or fabricated and stored prior to shipment to commercial establishments. Structures in this category include but are not limited to factories, power plants and warehouses, as well as a secondary structure that is associated with the industrial structure. Hospitals, nursing homes, schools and other public service facilities, because of the dangers inherent in bluff recession, will for purposes of setback requirements be considered light and heavy industrial structures.

Structure life span—The useful life of the structure considering both economic and physical factors.

Substantial improvement—Substantial improvement shall be defined as follows:

- (i) A repair, reconstruction, or improvement of a structure the cost of which equals or exceeds 50% of the market value of the structure either:
 - (A) Before the improvement or repair is started.
 - (B) If the structure has been damaged and is being restored, before the damage occurred.
- (ii) Repair, reconstruction, or improvement of a structure occurring over a 5 year period, the aggregate cost of which equals or exceeds 50% of the market value of the structure either:
 - (A) Before the first improvement or repair is started.

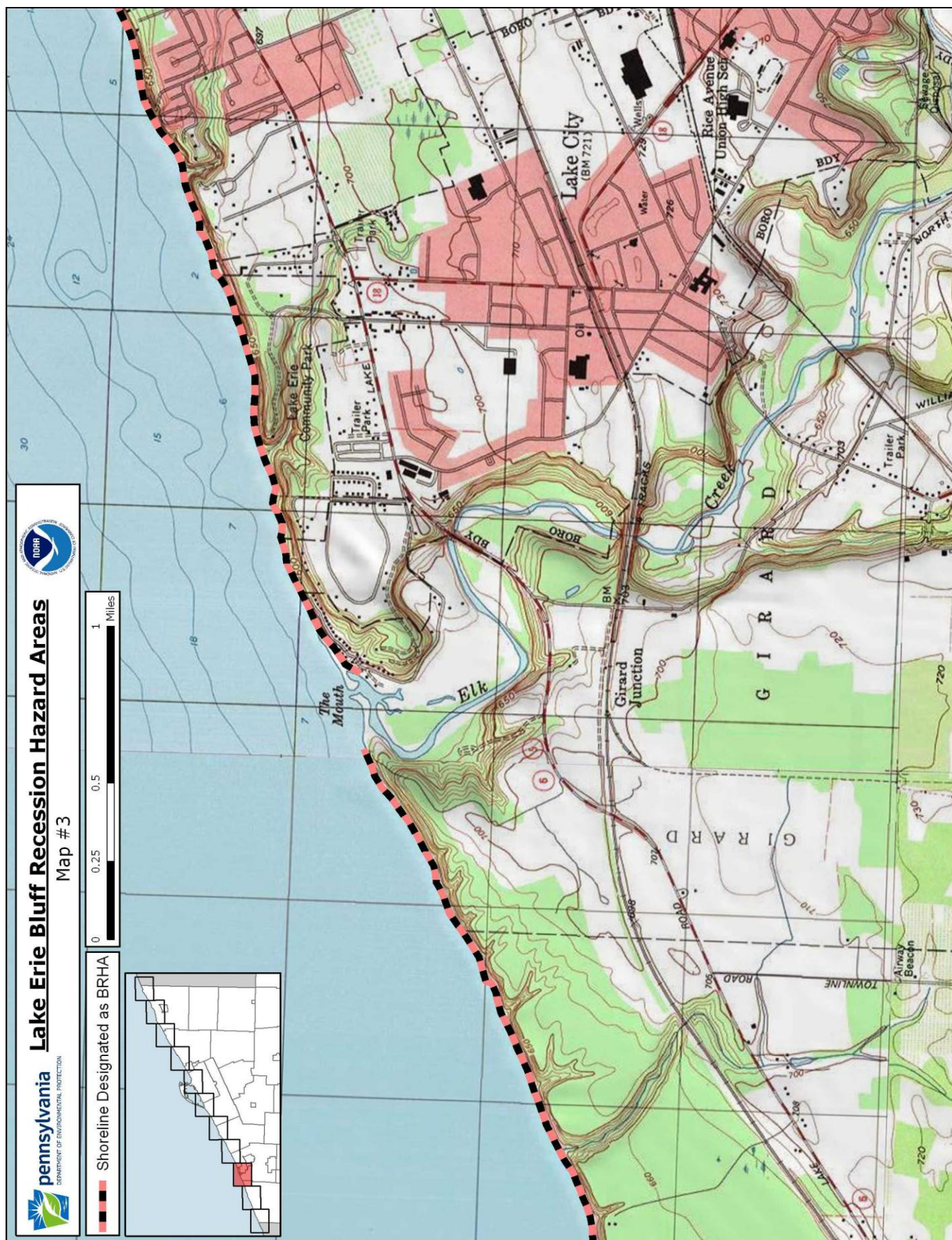
- (B) If the structure has been damaged and is being restored, before the damage occurred.
- (iii) Substantial improvement is considered to occur when the first alteration of any wall, ceiling, floor or other structure part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include any project for improvement of a structure to comply with existing State or local health, sanitary, or safety specifications which are solely necessary to assure safe living conditions or any alteration of a structure listed on the National Register of Historic Places or a State inventory of historic places.

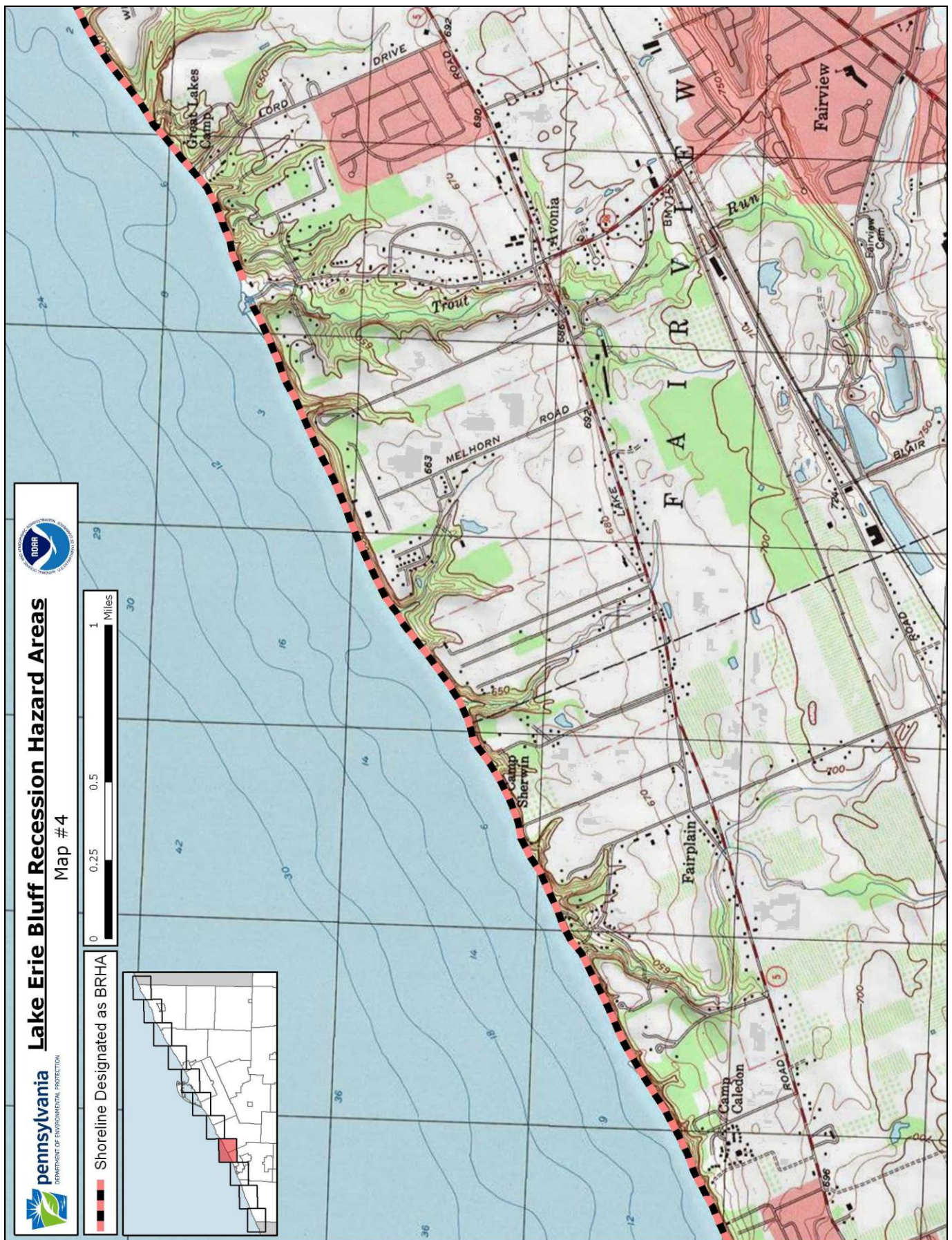
Transect— An imaginary line, perpendicular to the bluff, established during a survey for the purposes of locating the bluff line and measuring the MBSD.

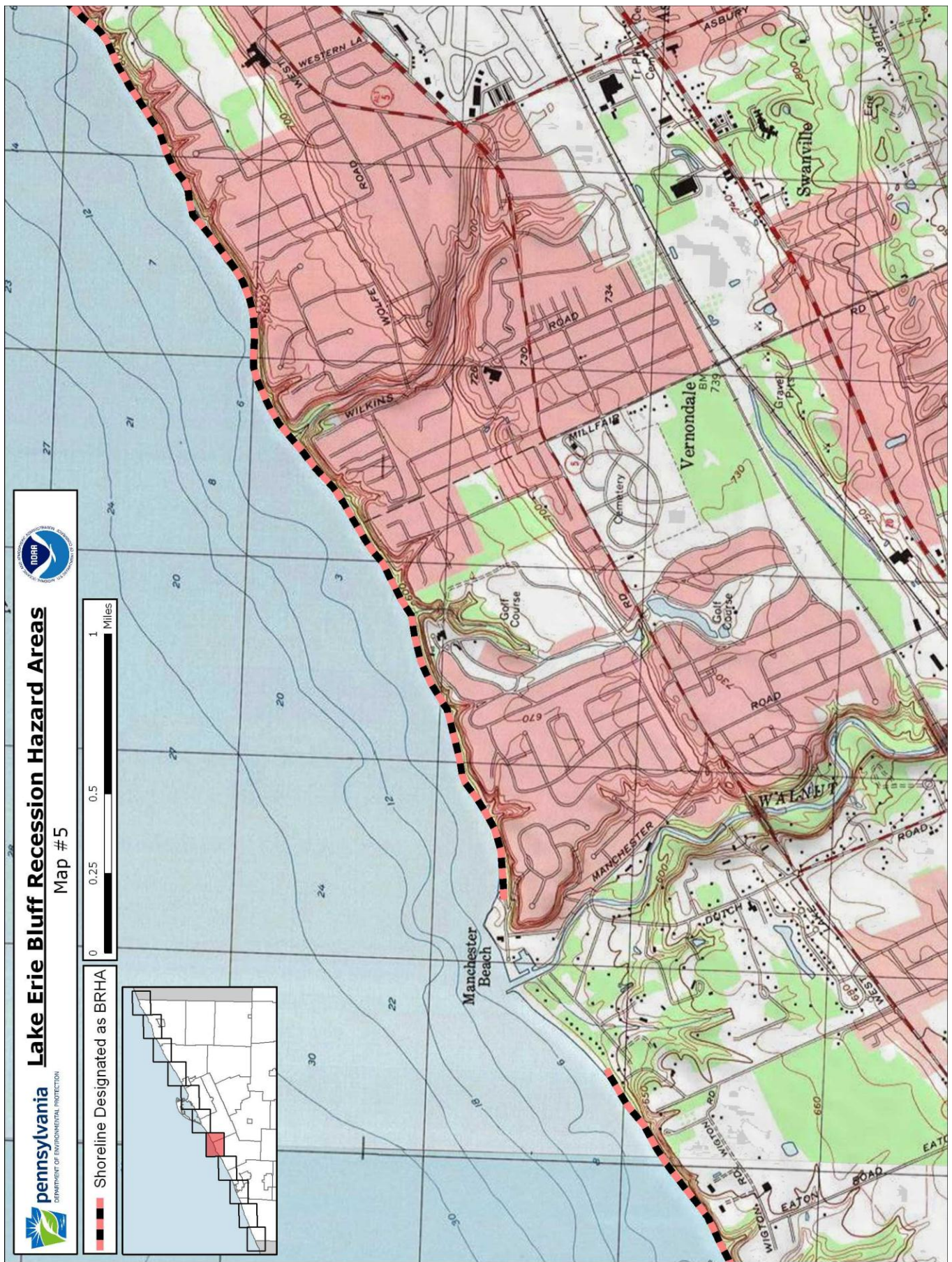
Watercourse— A channel or conveyance of surface water having a defined bed and banks whether natural or artificial, with either perennial or intermittent water flow.

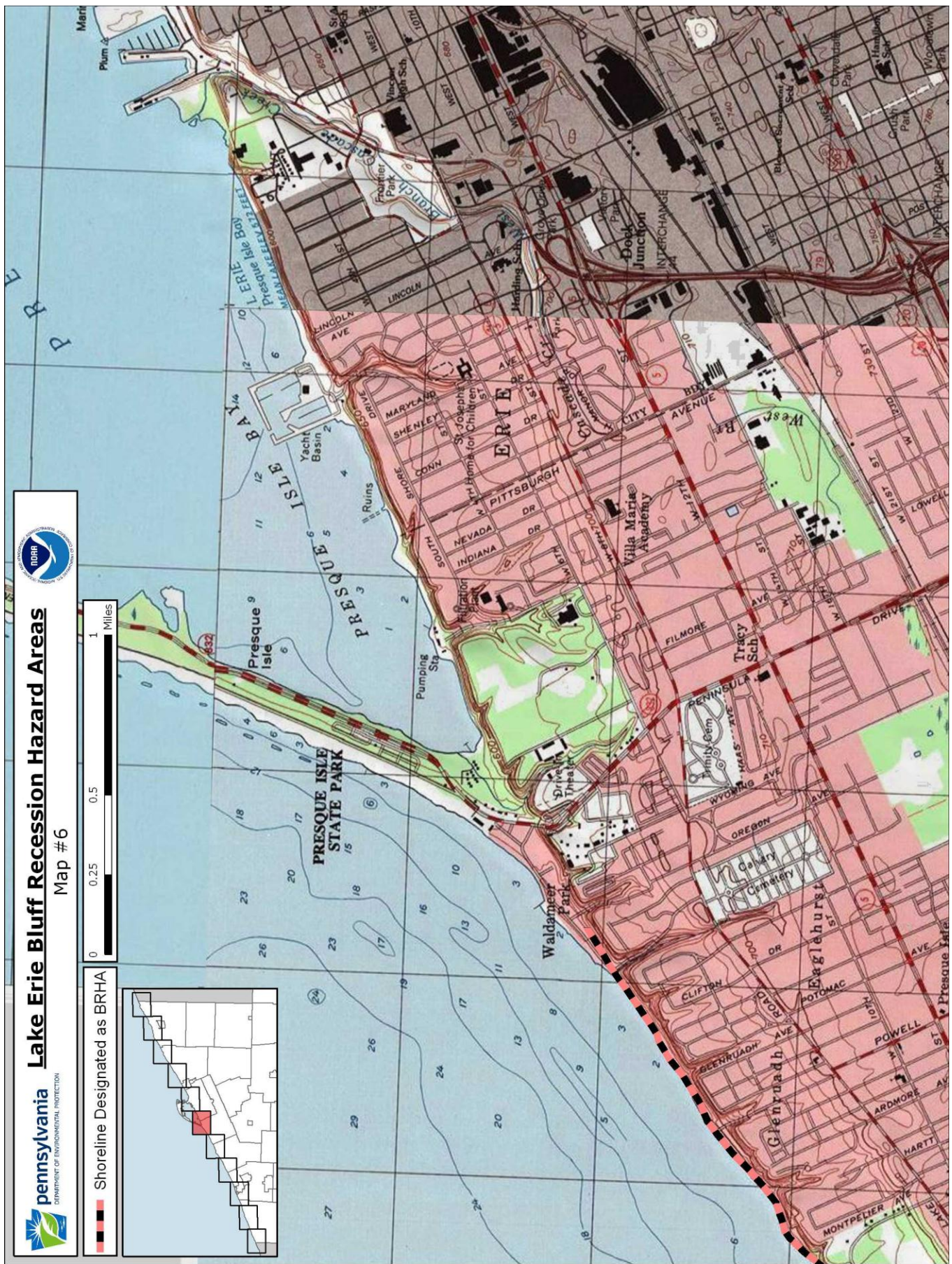
Appendix A: Maps of Bluff Recession Hazard Areas (BRHA)

These maps provide approximate locations of the designated hazard areas. Final determinations of whether a structure is located within the hazard zone are made through technical field surveys.

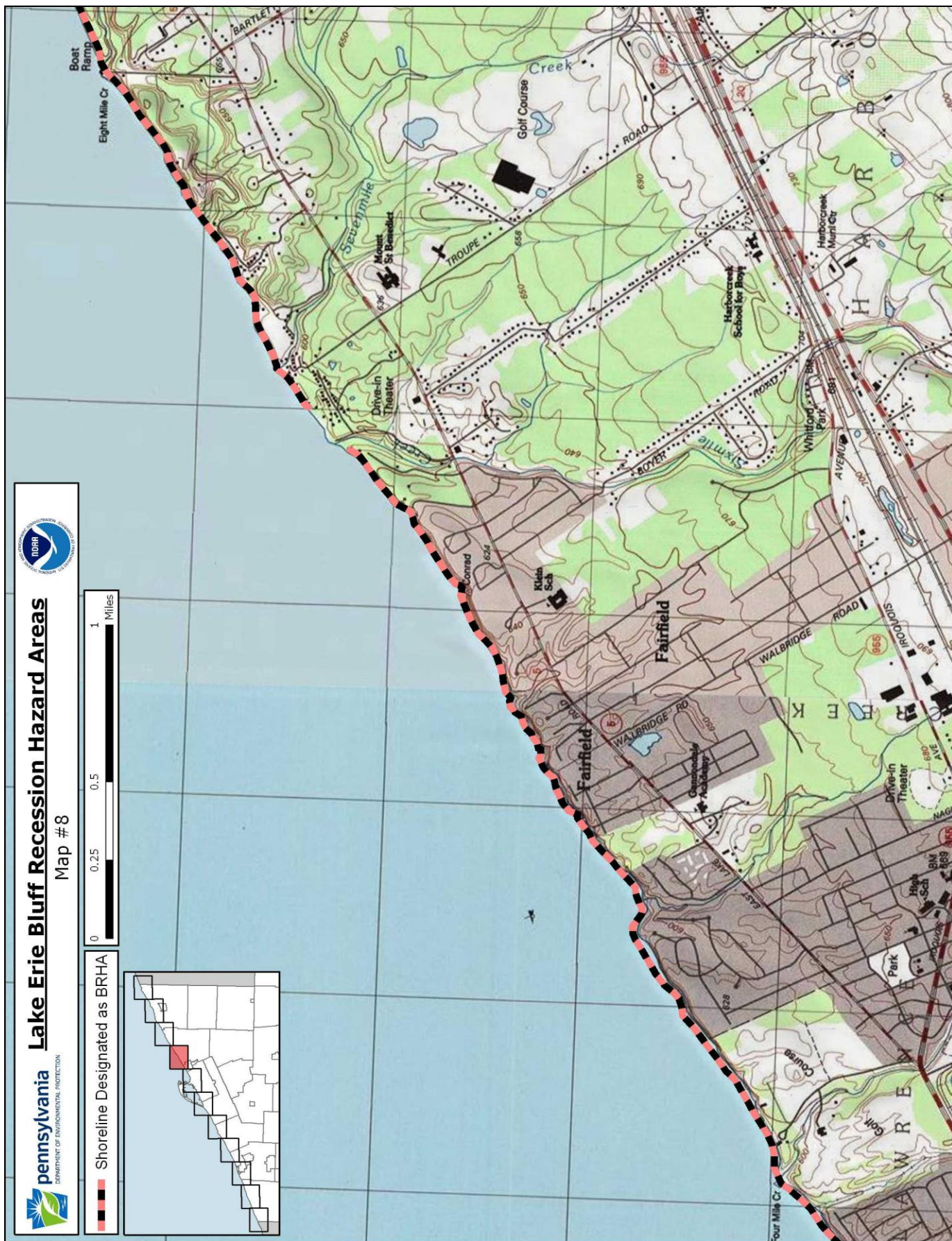


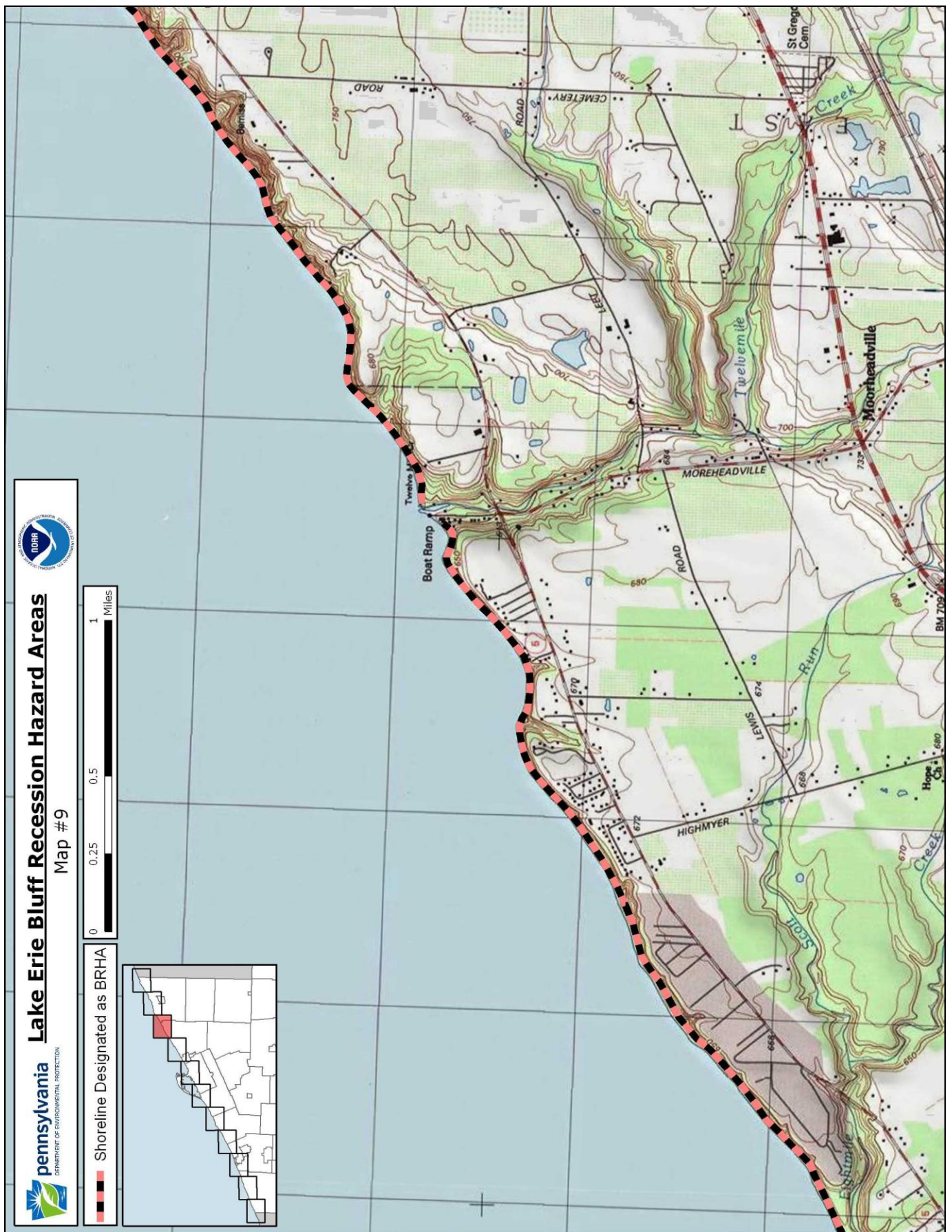


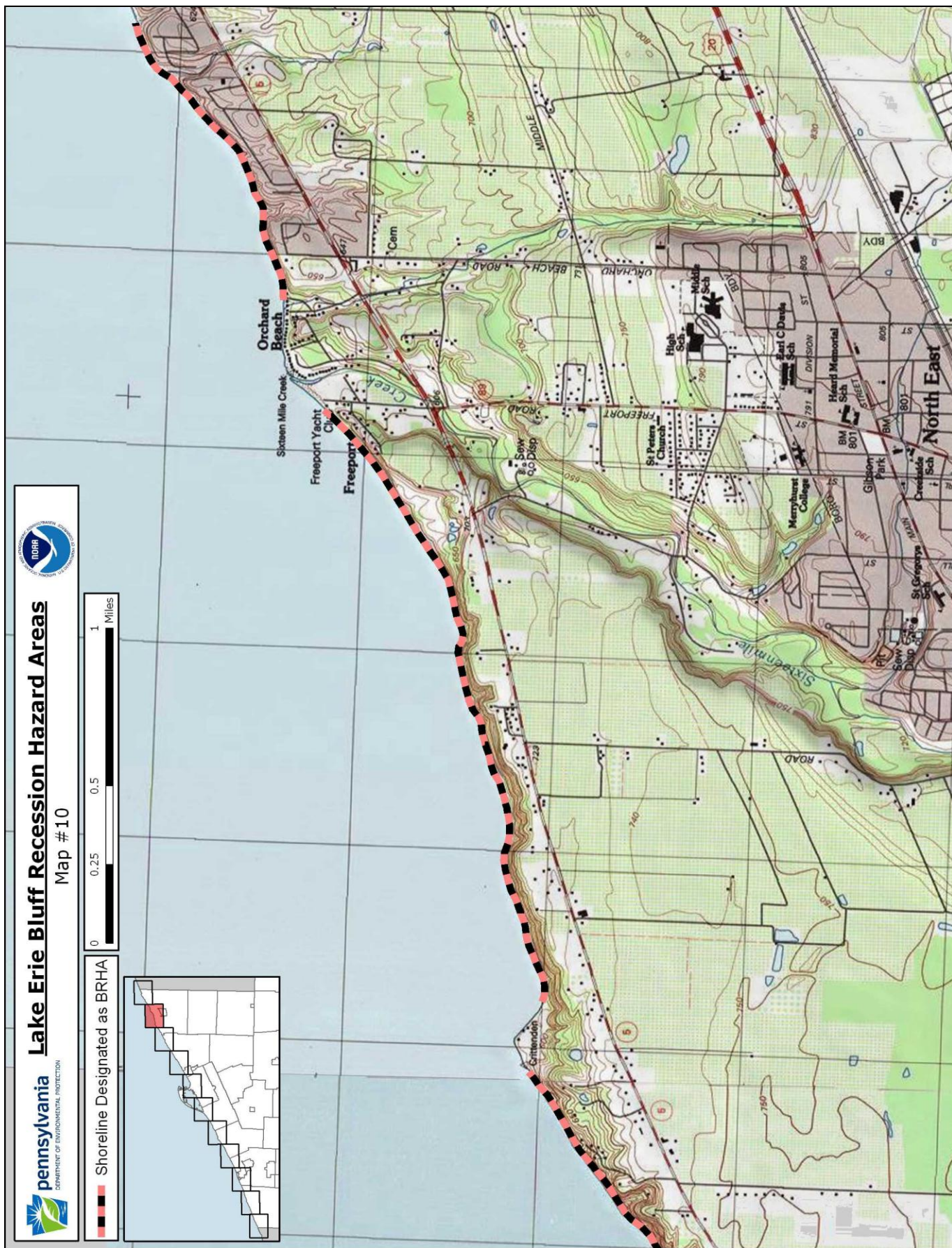


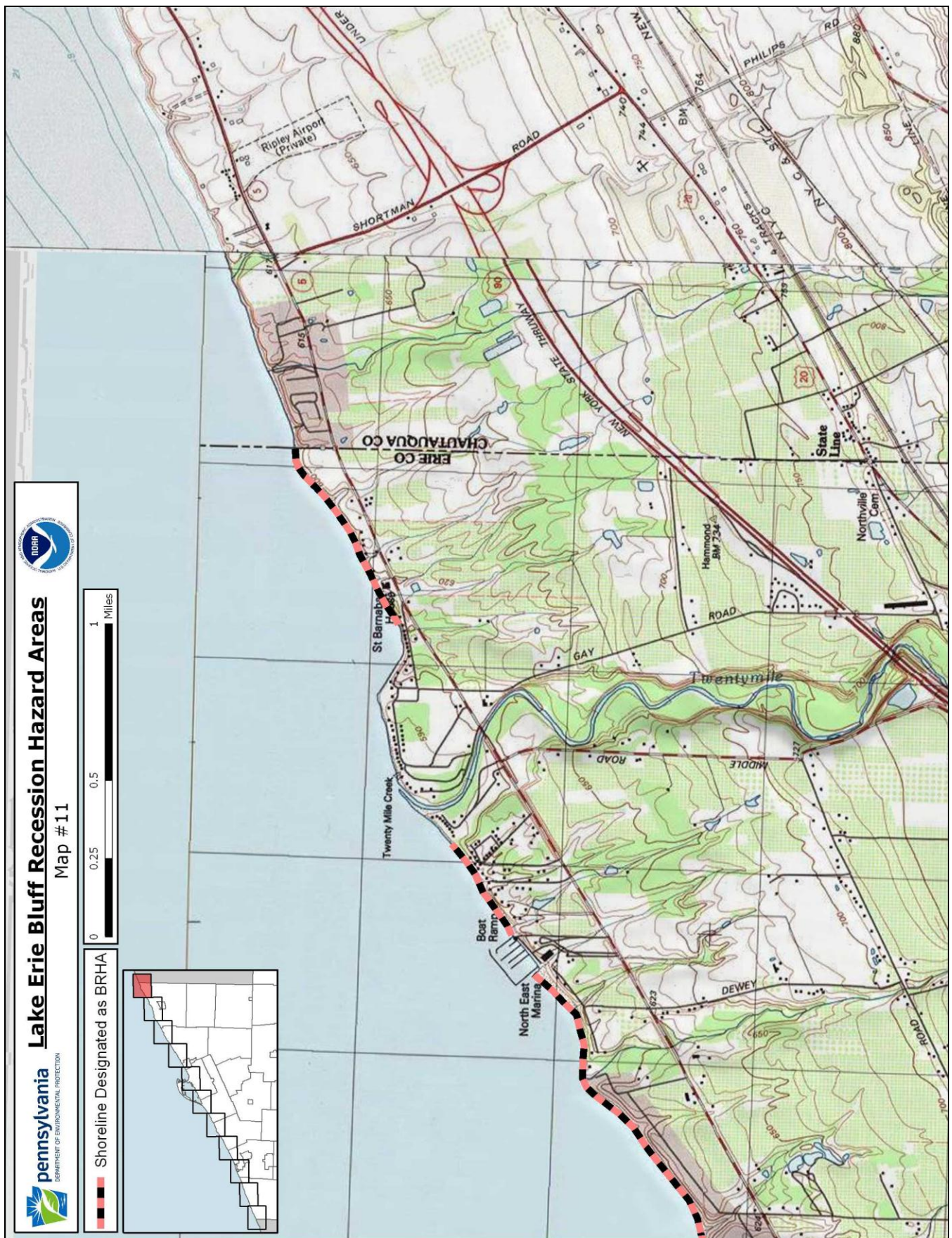












Appendix B:
Lake Erie BRSA Summary and Activity Report Forms



Remove and recycle these instructions prior to sending the completed forms to DEP.

Instructions for the Lake Erie Bluff Recession and Setback Act Activity Summary Form and Detailed Activity Report

PURPOSE

Local municipalities along the shoreline of Lake Erie in Pennsylvania are responsible for primary enforcement of the Bluff Recession and Setback regulations (Pa. Code Title 25, Chapter 85). Each municipality with a designated Bluff Recession Hazard Area (BRHA) is required to enact and enforce a bluff setback ordinance that meets the minimum requirements set forth in the regulation. In order to facilitate Department oversight of municipalities' enforcement of their bluff recession and setback ordinances and to allow proper Department accountability to the National Oceanic and Atmospheric Administration (NOAA, the source of federal funding for all Bluff Recession and Setback Act activities in Pennsylvania), municipalities are required to annually submit the following records with respect to activities occurring within designated BRHAs:

1. Applications for Permits
 - Name and address for applicant
2. Locations and descriptions of:
 - New construction activities within minimum bluff setback distance (MBSD)
 - Improvement projects (including substantial improvements) within MBSD
 - All records relating to variances granted within BRHAs
3. Records of issuance or denial permits
4. All correspondence related to permitting activity within designated BRHAs

Table 1: Municipal* Minimum Bluff Setback Distances (MBSD) and Bluff Recession Hazard Areas (BRHA)

Municipality	Residential MBSD	Commercial MBSD	Industrial** MBSD	BRHA***
Springfield Twp.	100	150	200	200
Girard Twp.	200	200	200	200
Lake City Boro.	150	150	150	150
Fairview Twp.	100	100	100	100
Millcreek Twp.	50	75	100	100
City of Erie	25	25	25	25
Lawrence Park Twp.	75	75	100	100
Harborcreek Twp.	50	75	100	100
North East Twp.	50	75	100	100

*Municipal-enacted MBSDs are shown in Table 1 and may be more stringent than those appearing in the Chapter 85 regulations. Municipal-enacted MBSDs are subject to change. Please confirm the MBSD by consulting the most recent municipal ordinances.

**Industrial includes institutions, government buildings, schools, country clubs, amusement parks, and other public service facilities.

***Bluff Recession Hazard Area (BRHA) is defined as the area comprised of the bluff face and tableland and for setback purposes is the distance from the bluff line to the landward measurement of the industrial setback.

The Department created the Activity Summary Form and companion Detailed Activity Report to aid municipalities in meeting the reporting requirements and to standardize the format in which the Department receives the required information. The Activity Summary Form provides an overview of the total number of permits and variances issued and denied within each municipality's BRHA during each calendar year. It is supplemented by the Detailed Activity Report, which provides more detailed information on each applicable permitting action taken by the municipality. These forms are available on the Department's eLibrary website (<http://www.elibrary.dep.state.pa.us>).

Each municipality with designated BRHAs must complete one (1) Activity Summary Form for each calendar year and one (1) Detailed Activity Report for each permit approved and each permit denied within its formally adopted MBSD during that calendar year. The completed reports are due to the Department annually, no later than February 28th. Reporting to the Department is coordinated through the Erie County Department of Planning and municipalities must submit the completed forms with all appropriate enclosures to that office no later than January 31st. Contact the Coastal Zone representative for the Erie County Department of Planning for more information on reporting procedures (contact details are provided at the end of these instructions).

ACTIVITY SUMMARY FORM – ITEM-BY-ITEM INSTRUCTIONS

The Lake Erie Bluff Recession and Setback Act Activity Summary Form is organized into five sections. The following instructions provide additional information regarding the information that the Department is requesting for each data field.

Section I: General Information

Municipality: Name of the municipality submitting the report.

Reporting Year: The calendar year to which the submitted data and permitting information apply. Reporting is coordinated through the Erie County Department of Planning. Municipalities must complete the forms described within these instructions and submit them, along with the appropriate enclosures, to the Erie County Department of Planning no later than January 31 of the calendar year immediately following the reporting year (e.g., a municipality reporting data for permitting activities within 2011 must submit completed forms and enclosures to the Erie County Department of Planning by Jan 31, 2012).

Contact Name/Title: Name and position title of the municipal representative completing the report.

Mailing Address, City/State, ZIP, Telephone Number, E-mail, Mobile, and Fax: The contact details of the municipality offices. Include the telephone and mobile phone numbers of the municipality contact person responsible for the completion of this report.

Section II: Indicate the number of permits issued under each activity for the reporting year:

- A. Within the Minimum Bluff Setback Distance (MBSD):** Indicate the total number of residential, commercial, and industrial permits issued during the reporting year for activities or structures within or bisected by the minimum bluff setback line.
- B. Outside of the Minimum Bluff Setback Distance (MBSD) but within the Bluff Recession Hazard Area (BRHA):** Indicate the total number of residential, commercial, and industrial permits issued during the reporting year for activities or structures within the designated bluff recession hazard areas but **not** within or bisected by the minimum bluff setback line.

Section III: Indicate the number of permits denied under each activity for the reporting year:

- A. Within the Minimum Bluff Setback Distance (MBSD):** Indicate the total number of residential, commercial, and industrial permits denied during the reporting year for activities or structures within or bisected by the minimum bluff setback line.

- B. Outside of the Minimum Bluff Setback Distance (MBSD) but within the Bluff Recession Hazard Area (BRHA):** Indicate the total number of residential, commercial, and industrial permits denied during the reporting year for activities or structures within the designated bluff recession hazard areas but **not** within or bisected by the minimum bluff setback line.

Section IV: Submit with this summary form one completed Lake Erie Bluff Recession and Setback Act Detailed Activity Report Form (#3010-FM-IWO0004) for each permitting action taken within the MBSD during the reporting year:

The municipality must attach one (1) completed BRSA Detailed Activity Report Form (#3010-FM-IWO0004) for each permitting action within the MBSD taken by the municipality within the reporting year.

Section V: CERTIFICATION AND SIGNATURES:

The municipal representative who completed or oversaw the completion of this form must sign and date the form, certifying the accuracy and completeness of the information submitted on the summary report as well as any included BRSA Detailed Activity Reports and associated supplemental enclosures.

DETAILED ACTIVITY REPORT – ITEM-BY-ITEM INSTRUCTIONS

Section I: General Information:

Municipality: Name of the municipality submitting the report.

Reporting Year: The calendar year to which the submitted data and permitting information apply. Reporting is coordinated through the Erie County Department of Planning. Municipalities must complete the forms described within these instructions and submit them, along with the appropriate enclosures, to the Erie County Department of Planning no later than January 31 of the calendar year immediately following the reporting year (e.g., a municipality reporting data for permitting activities within 2011 must submit completed forms and enclosures to the Erie County Department of Planning by Jan 31, 2012).

Section II: Applicant Contact Information:

Contact Name/Title: Name and position title of the applicant contact for the permit/variance application.

Company: The business, association, government or other entity sponsoring the project to which the permit/variance application applies, if the applicant is other than a homeowner or residential landowner.

Mailing Address, City/State, ZIP, Telephone Number, E-mail, Mobile, and Fax: The contact details of the applicant. Include the telephone and mobile phone numbers of the contact person responsible for the submission of the permit/variance application.

Section III: Address Zoning Application Information:

Date of Application: Indicate the date that the zoning application was submitted by the applicant.

County Tax Number, Date Property Established: Provide that tax identification number of the parcel to which the application pertains. The official tax map of the property and a copy of the permit application must also be attached to the report. The tax map, parcel ID, and property owner information can be obtained from the Erie County Assessment Office located at the Erie County Courthouse, or you may have these tax ID numbers at your Township office. The date reported must be the date that the land parcel was established – not the date that the structure was built. Parcel information may also be obtained from:

<http://eriecountygov.org/government/assessment/parcelsearch.aspx>

Section IV: Address of Property Requesting Zoning Permit (if different than contact information):

Address: The street address of the property where the proposed activity was planned to occur. This may be substituted with GPS coordinates of the proposed project, if applicable.

City/State, and Zip: The city, state and Zip code where the proposed activity was planned to occur.

Section V: Type of Structure:

Indicate whether the proposed structure or structure to be improved is residential, commercial, or industrial. Residential structures are defined as a place providing habitation for an individual or group of individuals. Commercial structures are defined as a place where commodities are exchanged, bought or sold. Industrial structures are defined as a place where materials are refined, produced or fabricated and stored prior to shipment to commercial establishments.

Section VI: Specific Type of Structure:

Check all that apply to the submitted permit/variance application.

Section VII: Type of Construction:

For planned improvements to an existing structure, check the first box and proceed to Section VIII. Do NOT complete Section IX.

For new structures, go to Section IX. Do NOT complete Section VIII.

Be sure to attach before and after color photographs of the improvements or new construction with descriptive and directional captions.

Section VIII: Improvement to an Existing Structure:

Indicate the market value of the **structure** – not including land – and attach a copy of the certified appraisal. The market value of the structure may also be determined using property assessment records and applying the appropriate Common Level Ratio in lieu of a certified appraisal. Attach a copy of the assessment record, indicating the Common Level Ratio used. A new appraisal or assessment is required if the most recent established market value is more than 5 years old.

Also include the estimated cost of construction determined by applying the latest “minimum square foot cost” for Erie County as reported in the latest edition of the *Building Officials and Code Administrators International, Inc. Building Valuation Data Report* and the 5-year aggregate cost of improvements, which are not to exceed 50% of the structure’s market value unless authorized by a Department or municipal variance.

Section IX: New/Replacement Structure:

For new structures or replacements of destroyed structures, indicate the shortest distance from the bluff line to the closest point on the planned structure. For replacement structures, indicate whether the replacement was constructed on the original footprint. If it was not, explain the surrounding circumstances. Also for replacement structures, indicate whether the improvements were made to the replacement relative to the original structure’s form and condition prior to being damaged or destroyed and complete Section VIII, if applicable.

Section X. Municipal Action (check appropriate line and fill in the relevant information):

Check the box that indicates whether the permit or variance application was issued or denied, and provide the appropriate dates. Provide a narrative describing the details surrounding the issuance or denial. Attach additional sheets if necessary.

MAILING OF THE SUBMISSION

Municipalities must complete these reporting forms and submit them, along with the appropriate enclosures, to the Erie County Department of Planning no later than January 31. The Erie County Department of Planning coordinates final reporting to the Department's Interstate Waters Office, Coastal Resources Management Program for all affected municipalities.

Erie County Department of Planning Erie County Courthouse 140 West 6th Street, Room 111 Erie, PA 16501 Phone: (814) 451-6336 Fax: (814) 451-7000	Pennsylvania Department of Environmental Protection Interstate Waters Office P.O. Box 8465 400 Market Street, 11th Floor Harrisburg, PA 17105-8465
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
INTERSTATE WATERS OFFICE

Initial Review: _____
Updated On: _____
Approved: _____
Official Use Only

Lake Erie Bluff Recession and Setback Act Activity Summary Form

I. General Information

Municipality: _____ Reporting Year: _____

Contact Name/Title: _____

Mailing Address: _____

City/State: _____, _____ Zip Code: _____ Telephone #: () _____

E-mail: _____ Mobile #: () _____ Fax #: () _____

II. Indicate the number of permits issued under each activity for the reporting year:

A. Within the Minimum Bluff Setback Distance (MBSD):

Residential: _____ Commercial: _____ Industrial*: _____

B. Outside of the Minimum Bluff Setback Distance (MBSD) but within the Bluff Recession Hazard Area (BRHA):

Residential: _____ Commercial: _____ Industrial*: _____

III. Indicate the number of permits denied under each activity for the reporting year:

A. Within the Minimum Bluff Setback Distance (MBSD):

Residential: _____ Commercial: _____ Industrial*: _____

B. Outside of the Minimum Bluff Setback Distance (MBSD) but within the Bluff Recession Hazard Area (BRHA):

Residential: _____ Commercial: _____ Industrial*: _____

*Industrial also includes institutions, government buildings, schools, country clubs, amusement parks, and other public service facilities.

IV. Submit with this summary form one completed Lake Erie Bluff Recession and Setback Act Detailed Activity Report Form for each permit application included in the accounting above.

V. CERTIFICATION AND SIGNATURES

I hereby certify the accuracy and completeness of this report and all plans, modules, and documents designated therein:

(Name of Municipal Representative)

(Signature of Municipal Representative)

(Title of Municipal Representative)

(Date of Signature)



Lake Erie Bluff Recession and Setback Act Detailed Activity Report

I. General Information:

Municipality: _____ Reporting Year: _____

II. Permit Applicant Contact Information:

Contact Name/Title: _____

Company: _____

Mailing Address: _____

City/State: _____, _____ Zip Code: _____ Telephone #: () _____

Email: _____ Mobile #: () _____ Fax #: () _____

III. Zoning Application Information:

Date of Application*: _____

County Tax Number*: _____ Date Property Established: _____

*Attach a copy of the tax map and official property owner listing as well as the permit application.

IV. Address of Property Requesting Zoning Permit (if different than contact information):

Address: _____

City/State: _____, _____ Zip Code: _____

V. Type of Structure:

☐ Residential

☐ Commercial

☐ Industrial

VI. Specific Type of Structure:

☐ Single Family Home

☐ Shed

☐ Swimming Pool (in-ground)

☐ Addition

☐ Fence

☐ Swimming Pool (above-ground)

☐ Gazebo

☐ Deck

☐ Garage (unattached)

☐ Walkway

☐ Porch

☐ Garage (attached)

☐ Steps

☐ Landing

☐ Road

☐ Other _____

Form

VII. Type of Construction:

- ☐ Improvement to an existing structure (**go to VIII**) ☐ New/Replacement Structure (**go to IX**)
 Please attach before and after color photographs with descriptive and directional captions.

VIII. Improvement to an Existing Structure:

Market Value*:	\$	Market Value Source:	Date:
Estimated Cost of Construction**:	\$	<input type="checkbox"/> Appraisal*	
5-Yr Aggregate Cost of Improvements:	\$	<input type="checkbox"/> Assessment*	

*Attach copies of the certified appraisal or assessment records.

**Based on "minimum square feet cost" for Erie County as reported in the latest edition of the Building Officials and Code Administrators International, Inc. Building Valuation Data Report (<http://www.iccsafe.org/cs/Pages/BVD.aspx>).

IX. New/Replacement Structure:

Distance from the structure to the closest point on the bluff line: _____ feet

Measurement performed by: _____ Date: _____
 (name of person who performed the measurement)

Was DEP staff contacted? ☐ Yes ☐ No Was DEP staff present? ☐ Yes ☐ No

If yes, which staff member? _____ Date: _____
 (name of DEP staff present during measurement)

For replacement structures only:

Was structure placed on the original footprint? ☐ Yes ☐ No

If "No", explain:

Did the reconstruction include improvements beyond the approximate functional value of the structure immediately prior to the damage/destruction?

☐ Yes* ☐ No

*If "Yes", complete Section VIII

X. Municipal Action (check appropriate box and fill in the relevant information):

Zoning Permit: ☐ Approved ☐ Denied Date: _____

Variance: ☐ Approved ☐ Denied Date: _____

Please explain the details surrounding the approval or denial of the permit/variance:

Appendix C:
EQB Regulatory Petition Process and Form

CHAPTER 23. ENVIRONMENTAL QUALITY BOARD POLICY FOR PROCESSING PETITIONS – STATEMENT OF POLICY

§ 23.1. Petitions.

- (a) Petitions shall be submitted on forms supplied by the Department to the Secretary of the Department of Environmental Protection, Rachel Carson State Office Building, Post Office Box 2063, Harrisburg, Pennsylvania 17105-2063, and shall contain the following information:
 - (1) The petitioner's name, address and telephone number.
 - (2) A description of the action requested in the petition and one of the following:
 - (i) Suggested regulatory language if the petition requests that the EQB adopt or amend regulations.
 - (ii) A specific citation to the regulations to be repealed if the petition requests that the EQB repeal existing regulations.
 - (3) The reason the petitioner is requesting this action from the EQB, including factual and legal contentions as well as supporting documentation which establish the petitioner's justification for the requested action by the EQB.
 - (4) The types of persons, businesses and organizations likely to be impacted by this proposal.
 - (5) For petitions for redesignation of streams under Chapter 93 (relating to water quality standards) and the Clean Streams Law (35 P.S. §§ 691.1-691.1001), the petition shall include the following information to satisfy §23.1(3):
 - (i) A clear delineation of the watershed or stream segment to be redesignated, both in narrative form and on a map.
 - (ii) The current designated use(s) of the watershed or segment.
 - (iii) The requested designated use(s) of the watershed or segment.
 - (iv) Available technical data on instream conditions for the following: water chemistry, the aquatic community (benthic macroinvertebrates and/or fishes), or instream habitat. If such data are not included, provide a description of the data sources investigated.
 - (v) A description of existing and proposed point and nonpoint source discharges and their impact on water quality and/or the aquatic community. The names, locations, and permit numbers of point source discharges and a description of the types and locations of nonpoint source discharges should be listed.
 - (vi) Information regarding any of the qualifiers for designation as high quality waters (HQ) or exceptional value waters (EV) in §93.4b (relating to qualifying as high quality or exceptional value waters) used as a basis for the requested designation.

- (vii) A general description of land use and development patterns in the watershed. Examples include the amount or percentage of public lands (including ownership) and the amount or percentage of various land use types (such as residential, commercial, industrial, agricultural, etc.).
 - (viii) The names of all municipalities through which the watershed or segment flows, including an official contact name and address.
 - (ix) Locational information relevant to subparagraphs iv-viii (except for contact names and addresses) displayed on a map or maps, if possible.
- (b) The general procedures in this chapter apply to petitions unless the EQB adopts specific procedures for a particular type of petition. Special procedures have been adopted for petitions requesting that the EQB designate an area as unsuitable for mining activity. These petitions are reviewed under Chapter 86 (relating to surface and underground coal mining: general).

§ 23.2. Departmental review.

The Department will examine the petition to determine if it meets the following conditions:

- (1) The petition is complete as required by § 23.1 (relating to petitions).
- (2) The petition requests an action that can be taken by the EQB.
- (3) The requested action does not conflict with Federal law.

§ 23.3. Notification.

The Department will notify the EQB and petitioner of its determination within 30 days of receipt of the petition. If the Department determines that the petition is not appropriate for submittal to the EQB because it does not meet each of the conditions in §23.2 (relating to Departmental review), the Department's notification shall state the reasons for its determination and give the petitioner 30 days to complete the petition or modify the request.

§ 23.4. Oral presentation.

At the next EQB meeting occurring at least 15 days after the Department's determination that a petition is appropriate for consideration by the EQB, the Chairperson of the EQB shall inform the EQB of the petition for rulemaking, the nature of the request and the petitioner. The Chairperson shall give the petitioner or the petitioner's representative the opportunity to make a 5-minute oral presentation on why the EQB should accept the petition. The Department will also make a recommendation on whether the EQB should accept the petition.

§ 23.5. Board determination.

The EQB may refuse to accept a petition if it determines that one or more of the following conditions exist:

- (1) The EQB has within the previous 2 years considered the issue addressed by the petition for rulemaking as part of an earlier decision concerning the adoption, amendment or deletion of a regulation.
- (2) The action requested by the petitioner concerns a matter currently in litigation.

- (3) The requested action is not appropriate for rulemaking by the EQB due to policy or regulatory considerations.
- (4) The petition involves an issue previously considered by the EQB, and it does not contain information that is new or sufficiently different to warrant reconsideration of that decision. If a petition does present new or sufficiently different information, this information must have been either unavailable at the time of the EQB's previous decision or not contained in the record of the proceeding in which the previous decision was made.

§ 23.6. Notice of acceptance and Department report.

If the EQB accepts the petition, a notice of acceptance will be published in the *Pennsylvania Bulletin* within 30 days. In addition, a report will be prepared in accordance with one of the following procedures:

- (1) *Petitions other than stream redesignation petitions.* The Department will prepare a report evaluating the petition within 60 days. If the report cannot be completed within the 60-day period, at the next EQB meeting the Department will state how much additional time is necessary to complete the report. The Department's report will include a recommendation on whether the EQB should approve the action requested in the petition. If the recommendation is to change a regulation, the report will also specify the anticipated date that the EQB will consider a proposed rulemaking.
- (2) *Stream redesignation petitions.* The Department will publish notice of its intent to assess the waters subject to evaluation. The notice will include a request for submittal of technical data that interested persons have. Following the assessment and review of all technical data, the Department will prepare a draft evaluation report.

§ 23.7. Response to report.

Upon completing the report, the Department will send a copy of the report to the petitioner. Within 30 days of the mailing of the report, the petitioner may submit to the Department a written response to the report.

§ 23.8. Board consideration.

The Department will prepare a recommendation to the EQB based on the report and comments received from the petitioner. If regulatory amendments are recommended, the Department will develop a proposed rulemaking for EQB consideration within 6 months after the Department mailed its report to the petitioner. If regulatory amendments are not recommended, the Department will present its recommendation and basis to the EQB at the first meeting occurring at least 45 days after the Department mailed its report to the petitioner.

C. Describe the types of persons, businesses and organizations likely to be impacted by this proposal.

D. Does the action requested in the petition concern a matter currently in litigation? If yes, please explain.

E. For stream redesignation petitions, the following information must be included for the petition to be considered complete. Attach supporting material as necessary.

1. A clear delineation of the watershed or stream segment to be redesignated, both in narrative form and on a map.
2. The current designated use(s) of the watershed or segment.
3. The requested designated use(s) of the watershed or segment.
4. Available technical data on instream conditions for the following: water chemistry, the aquatic community (benthic macroinvertebrates and/or fishes), or instream habitat. If such data are not included, provide a description of the data sources investigated.
5. A description of existing and proposed point and nonpoint source discharges and their impact on water quality and/or the aquatic community. The names, locations, and permit numbers of point source discharges and a description of the types and locations of nonpoint source discharges should be listed.
6. Information regarding any of the qualifiers for designation as high quality waters (HQ) or exceptional value waters (EV) in §93.4b (relating to qualifying as High Quality or Exceptional Value waters) used as a basis for the requested designation.
7. A general description of land use and development patterns in the watershed. Examples include the amount or percentage of public lands (including ownership) and the amount or percentage of various land use types (such as residential, commercial, industrial, agricultural and the like).
8. The names of all municipalities through which the watershed or segment flows, including an official contact name and address.
9. Locational information relevant to items 4-8 (except for contact names and addresses) displayed on a map or maps, if possible.

**All petitions should be submitted to the
Secretary of the Department of Environmental Protection
P.O. Box 2063
Harrisburg, PA 17105-2063**

Appendix D:
BRSA Municipal Reimbursement Form



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
INTERSTATE WATERS OFFICE

35WTRPLN

Coastal Resources Management Program Reimbursement Request

Request Number: ☐1 ☐2 ☐3 ☐4 ☐FINAL - (Check Appropriate Number)

Project:		Project Number:	
Grantee:		SAP Number:	
Address:		Vendor ID	
		County:	
Email:		Telephone:	
Invoice	to	Fax:	

Budget Category	CZM Payment Requested	Matching (Local) Share	Sub-total for this Request
Salaries and Wages			
Fringe Benefits			
Travel			
Materials & Supplies			
Equipment			
Consultant/Contractor			
Other			
Total for this Request			

I declare this to be a true and accurate statement and hereby request reimbursement for the expenditures outlined above. Documentation supporting these expenditures, including copies of vendor and subcontractor billings, is attached.

Authorized Signature: _____ Date: _____

(Official Use Only)	CDFA#: _____
Appropriation code:	_____
Appropriation code:	_____
Appropriation code:	_____
	Total _____
Approved for payment: _____	Date: _____

Reimbursement Request – Backup Documentation

Project:		Project Number:	
Grantee:			

EXPENDITURES:						
Employee	Position	Hours	Pay Rate	Total	CZM	Match
SUBTOTAL:						

Fringe Benefits	Hours	Approved Rate	Total	CZM	Match
Overhead	Hours	Approved Rate			
Travel	Miles	Approved Rate			
Other Expenses (List By Budget Category)					
SUBTOTAL:					

Total CZM Expenses: \$ _____

Total Matching Expenses \$ _____

Required Enclosures:

- Attach copies of invoices, receipts, logs and other documentation of all expenditures listed
- Please attach Progress Report of project activities covered in this invoices. NO REIMBURSEMENT WILL BE PROCESSED FOR PAYMENT WITHOUT A PROGRESS REPORT.

PROGRESS REPORT

Project:		Project Number:	
Grantee:			

Please detail any activity occurring during the time period indicated above. Indicate any issues, problems or accomplishments. (3-4 sentences)

Appendix E: Model Ordinance

ARTICLE

A. WHEREAS, the Board of Supervisors are required by Act of May 13, 1980, P.L. 122 (32 P.S. 5201 et seq.,) to adopt a bluff setback ordinance for Designated bluff recession hazard area, said ordinance is deemed necessary for the promotion of safety and the general welfare of residents of (Name of Municipality).

Section 1. Purpose and Policy

The policy and purpose of this ordinance is to:

1. Encourage planning and development in bluff areas which is consistent with sound land use practice.
2. Protect people and property in bluff areas from danger and damages associated with the inevitable recession of bluffs.
3. Prevent and eliminate urban and rural blight which results from the damages of bluff erosion and recession.
4. Minimize the expenditure of public and private funds for shoreline protection and bluff stabilization structures and activities.

Section 2. Scope

In any designated bluff recession hazard area, no person shall construct, install, or engage in substantial improvement to any structure, or any utility facility such as but not limited to water, sewage, electric, gas, oil, or telephone facilities, in violation of the bluff setback requirements established by this ordinance.

Section 3. Definitions

Bluff - A high bank or bold headland with a broad precipitous cliff face overlooking a lake.

Bluff line - The edge or crest of the bluff.

Bluff toe - The base of the bluff.

Bluff recession - The loss of material along the bluff face caused by the direct or indirect action by one or a combination of groundwater seepage, water currents, wind generated water waves, or high water levels.

Bluff recession hazard area - An area or zone where the rate of progressive bluff recession creates a substantial threat to the safety or stability of nearby existing or future structures or utility facilities. The term shall not include any area where the horizontal distance, measured perpendicular to the shoreline, between the shoreline and the bluff toe is in excess of 250 feet

Department - The Department of Environmental Protection of the Commonwealth

Development -

(i) The improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose including but not limited to:

(A) a group of two or more buildings; and

(B) the division or allocation of land or space between or among two or more existing or prospective occupants by means of or for the purpose of streets, common areas, leaseholds, condominiums, building groups, or other features; or

(ii) A subdivision of land.

High bank - A bank over five feet high

Market value - The value of a structure determined by a certified appraisal or by determining the assessed value of a structure and applying the assessment ratio of Erie County in which the structure is located.

Minimum bluff setback distances - The shortest horizontal distance from a point on the bluff line to a point on a structure.

Parcel - A piece of ground that existed as an independent tax lot on the records of the county prior to its inclusion in designated bluff recession hazard areas of a municipality.

Persons - An individual, partnership, public or private association or corporation, firm, trust estate, municipality, governmental unit, public utility or other legal entity which is recognized by law as the subject of right and duties. When used in a section prescribing or imposing a penalty, the term shall include members of a partnership; officers, members, servants, and agents of an association; and officer, agents, or servants of a corporation but shall exclude any department, board, bureau, or agency of the Commonwealth.

Plat - A map, drawing, or print accurately drawn to scale showing the proposed or existing location of all structures.

Shoreline - The ordinary high water mark of Lake Erie of 573.4 feet as defined in accordance with the International Great Lakes Datum 1985 (IGLD 1985) as recognized by the United States Army Corps of Engineers.

Structure - A man-made object having an ascertainable stationary location on or in land whether or not affixed to the land; structures are classified into three categories: residential, commercial, and light and heavy industrial.

(i) Residential structures are defined as a place providing the habitation for an individual or group of individuals. Structures in this category include but are not limited to single family homes, duplexes, and summer cottages as well as any secondary structure associated with residential structure.

(ii) Commercial structures are defined as a place where commodities are exchanged, bought, or sold. Structures in this category include but are limited to grocery stores, hardware stores, clothing shops, and pharmacies as well as any secondary structure that is associated with the commercial structure.

(iii) Light and heavy industrial structures are defined as a place where materials are refined, produced, or fabricated and stored prior to shipment to commercial establishments. Structures in this category include but are not limited to factories, power plants, and warehouses as well as a secondary structure that is associated with the industrial structure. Hospitals, nursing homes, schools, and other public service facilities - because of the dangers inherent in bluff recession - will for purposes of setback requirements be considered light and heavy industrial structures.

Structure life span - The useful life of the structure considering both economic and physical factors.

Substantial improvement -

(i) A repair, construction, or improvement of a structure the cost of which equals or exceeds 50% of the market value of the structure either:

(A) before the improvement or repair is started; or

(B) if the structure has been damaged and is being restored, before the damage occurred; or

(ii) Repair, reconstruction, or improvement of a structure occurring over a five-year period, the aggregate cost of which equals or exceeds 50% of the market value of the structure either;

(A) before the first improvement or repair is started; or

(B) if the structure has been damaged and is being restored, before the damage occurred.

(iii) Substantial improvement is considered to occur when the first alteration of any wall, ceiling, floor, or other structure part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include any project for improvement of a structure to comply with existing State or local health, sanitary, or safety specifications which are solely necessary to assure safe living conditions or any alteration of a structure listed on the National Register of Historic Places or a State inventory of historic places.

Section 4. Permits-General Regulations

No person shall construct, install, or engage in substantial improvement to any structure or utility facility such as but not limited to water, sewage, electric, gas, oil, or telephone in a designated bluff recession hazard area without first obtaining a written permit from the Code Enforcement Officer of (Name of Municipality).

1. The location and boundaries of the designated bluff recession hazard area shall be as defined in Section 3 hereof and shall extend inland a horizontal distance of _____ feet from the bluff line. (a distance selected by the municipality greater than or equal to the minimum industrial setback distance)
2. There is hereby established a minimum bluff setback distance from the top of the bluff. The minimum bluff setback distance is _____ feet for residential structures, _____ feet for commercial structures, and _____ feet for industrial structures. It should be noted that the foregoing are minimum distances and because of variations in local bluff recession rates cannot guarantee that a structure located in a bluff recession hazard area will not be endangered by bluff recession within its useful life span.
3. Except as provided in Section 5 hereof, no permit shall be granted under this ordinance for the construction, installation, or substantial improvement of structures or utility facilities within the minimum bluff setback distance established by Section 4.2 hereof. Substantial improvement does not include any project for improvement of a structure to comply with existing State or local health, sanitary, or safety specifications which are solely necessary to assure safe living conditions or any alteration of a structure listed on the National Register of Historic Places or a State inventory of historic places.
4. A permit may be transferred only upon application to and written approval by the Code Enforcement Officer. No permit shall be transferred if a violation of this ordinance exists at the time of application for transfer unless the transfer will expedite correction of the violation.

Section 5. Variances

A request for a variance to the permit requirements of Section 4 thereof, may be granted only in the following cases:

1. When a parcel, established prior to a bluff recession hazard area designation, does not have adequate depth considering the minimum bluff setback requirements to provide for any reasonable use of the land. The variance may be granted only when each of the following criteria are met:
 - a. The structure and all associated structures and utility facilities shall be located on the property as far landward of the bluff line as allowed by other municipal ordinances.
 - b. The structure shall be designed and constructed to be movable in accordance with proper engineering standards and building moving restrictions applicable to the subject area prior to damage by bluff recession. Structures in this category may include trailers or modular homes. Review and approval of the design shall be conducted by the Code Enforcement Officer. All construction materials, including foundations, shall be removed or disposed of as part of the moving operation. Access to and from the structure site shall be of sufficient width and acceptable grade to allow for moving of the structure.
2. When the proposed structure or utility facilities require access to the body of water and there is no feasible alternative for obtaining such access. A variance may be granted only for bluff recession control devices, or for discharge and withdrawal lines (infrastructure / utility) and only when each of the following criteria are met:
 - a. The infrastructure providing the utility facility or structure access to the lake will be designed so that it is adequate protection of the bluff. During the construction, the applicant or persons engaged in the actual

placement of the infrastructure must utilize land use practices which will reduce disruption of the bluff edge and bluff face in both the short-term and long-term and are in conformance with the provisions of 25 Pa. Code, Chapter 102, Erosion Control. These sound land use practices include but are not limited to methods to minimize: stormwater run-off, increased soil erosion, changes to local drainage patterns, and changes to protective vegetative cover.

- b. To help ensure that increased turbidity levels on the lake are not caused, all construction activities must comply with the erosion and sedimentation control practices established under 25 Pa. Code, Chapter 102, Erosion Control.
- c. The area of the construction site shall be reestablished to ensure that subsequent erosion will not damage the structure or harm the environment or adjacent properties.

Section 6. Monitoring

The Code Enforcement Officer, prior to issuing a building permit for an improvement to a structure or utility facility within a bluff setback distance shall:

1. Determine the cost of the proposed improvement.
2. Calculate the market value of the structure or utility facility in the manner prescribed by this ordinance.
3. Review the municipal building permit record to determine if previous permits for improvements have been issued during the previous five-year period for this structure or utility facility.
4. Determine whether this proposed improvement will be a substantial improvement of the structure or utility facility.

The Code Enforcement Officer will periodically inspect all permitted activities in the bluff recession hazard area to ensure that all building activities are being conducted in conformance with the provisions of this ordinance.

The Code Enforcement Officer will periodically tour the bluff recession hazard area. The purpose of this tour will be to ensure that all building activities are being conducted in conformance with the provisions of this ordinance.

Section 7. Administration

The Code Enforcement Officer shall maintain, in a permanent file, all correspondence, requests for variance, applications for permits, and issuance or denial of such permits. On February 28 of each year, a copy of the records from the preceding calendar year shall be submitted to the Department for its review and permanent record. This procedure shall require that all necessary records include the name and address of the applicant and the location and description of the following activities:

1. Construction, installation, or engagement in any substantial improvement to structures affected by the minimum bluff setback distance including the information collected as a result of the monitoring procedure established in 25 Pa. Code §85.37 (3).
2. Improvement projects for an existing structure located within the minimum bluff setback distance.
3. Variances granted by the municipality in bluff recession hazard areas.

Section 8. Inspections

An agent or employee of the municipality shall have the power to, upon presentation of proper credentials:

1. Enter any land for the purpose of surveying bluff recession hazard areas.
2. Enter any land in a bluff recession hazard area for the purpose of ascertaining the location of a structure or structures.
3. Enter land or any structure located in a bluff recession hazard area for the purpose of ascertaining the compliance or noncompliance with this bluff setback ordinance.

When an agent or employee has been refused access to property for the purposes of conducting a survey or inspection as authorized by this section or reasonably requires access to such property without prior notice to the owner, such agent or employee may apply for an inspection warrant to any Commonwealth official authorized by law to issue a search or inspection warrant to enable him or her to have access and inspect such property. It shall be sufficient probable cause to issue an inspection warrant that the inspection is necessary to properly enforce the provisions of this ordinance.

Section 9. Violations

1. Criminal penalties

- a. Any person other than the officers of a municipality, county, or governmental unit who violates the requirements of this ordinance, is guilty of a summary offense and, upon conviction, shall be sentenced to pay a fine of not less than \$100 nor more than \$1,000 for each separate offense, and, in default of the payment of such fine, to imprisonment for a period of not more than 60 days. All summary proceedings under this ordinance may be brought before any district magistrate of the county where the violation occurred, and jurisdiction is hereby conferred upon said district magistrates subject to appeal by either party in the manner provided by law for appeals from summary conviction, it shall be the duty of the district attorney of the county to represent the interests of the Commonwealth.
- b. Any person who, within two years after a conviction is a summary proceeding as provided in Subsection (a), violates the requirements of this ordinance is guilty of a misdemeanor of the third degree and, upon conviction, shall be sentenced to pay a fine of not less than \$500 nor more than \$5,000 for each separate offense or to imprisonment for a period of not more than one year, or both.
- c. Each day of continued violation of any provision of this ordinance shall constitute a separate offense under Subsections (a) and (b).

2. Civil Remedies

- a. Any activity conducted in violation of this ordinance is declared to be a public nuisance.
- b. Suits to restrain, prevent or abate violations of this ordinance adopted may be instituted in equity or a law by any affected county or municipality, or any aggrieved person. Such proceedings may be prosecuted in the Commonwealth Court, or in the court of common pleas of the county where the activity has taken place, the condition exists, or the public affected, and to that end jurisdiction is hereby conferred in law and equity upon such courts. Except in cases of emergency where, in the opinion of the court, the circumstances of the case require immediate abatement of the unlawful conduct, the court may, in its decree, fix a reasonable time during which the person responsible for the unlawful conduct shall correct or abate the same. The expense of such proceedings shall be recoverable from the violator in such manner as may now or hereafter be provided by law.

Section 10. Appeals

1. The following procedures shall be used by the municipality:

- a. Appeals from the decision of the Code Enforcement Officer may be made to the Zoning Hearing Board by any person aggrieved by any decision of the Code Enforcement Officer. Such appeal shall be taken within reasonable time as provided by the Rules of the Board, by filing with the Code Enforcement Officer and with the Board a notice of appeal specifying the grounds thereof. The Code Enforcement Officer shall forthwith transmit to the Board all papers constituting the record upon which the action appealed from was taken.
- b. The Board shall hear and decide appeals and review any order, requirement, decision, or determination made by the Code Enforcement Officer in the enforcement or application of this ordinance, and upon such appeal may, in accordance with the provisions of this ordinance, reverse or affirm, wholly or in part, or modify any such order, requirement, decision, or determination.

- c. If after a permit has been authorized by the Board, and such permit is not obtained from the office of the Code Enforcement Officer within a period of six (6) months from the date of authorization, then such authorization shall be null and void and no permit shall be issued thereunder.
 - d. The Board shall fix a reasonable time for the hearing of an appeal, shall give notice thereof as well as due notice, at least six (6) days prior to the hearing, in the press and by mail to the parties in interest at the address filed with the appeal, and shall decide the same within 45 days from the Code Enforcement Officer's decision. Upon hearing of such appeal, any party may appear in person or be represented by Agent or Attorney.
2. An appeal of any action under this ordinance shall not act as a supersedeas. A supersedeas may be granted upon a showing by the petitioner:
 - a. That irreparable harm to the petitioner or other interested parties will result if supersedeas is denied:
 - b. That there is a likelihood of the petitioner's success on the merits; and
 - c. That the grant of a supersedeas will not result in irreparable harm to the Commonwealth, the court of competent jurisdiction may grant such a supersedeas subject to such security as it may deem proper.

Section 11. Amendments

This ordinance may be amended pursuant to public notice in a manner provided by the _____.

Section 12. Repealer and Savings Clause

1. All ordinances or parts of ordinances inconsistent herewith are hereby repealed to the extent of such inconsistency.
2. The provisions of this ordinance shall not affect any suit or prosecution pending or to be instituted to enforce any right or penalty or punish any offense under the authority of any ordinance or part hereof repealed by this ordinance.

Section 13. Effective Date

This ordinance shall take effect _____.