

SECTION II

INVENTORY AND ANALYSIS

**A. INTRODUCTION**

The Lackawanna Waterfront Revitalization Area (WRA) as previously established by the City, extends for over two miles along Lake Erie, reaching inland roughly one mile to Route 5.

Much of the City's WRA is occupied by the sprawling Bethlehem Steel complex. Steel making operations at this facility have been severely curtailed since 1983 resulting in major regional economic consequences. The Bethlehem Steel Corporation, Buffalo Crushed Stone and various public agencies are engaged in numerous activities to determine appropriate actions concerning this facility. It is anticipated these activities will have a major impact on municipal waterfront revitalization efforts.

**B. PHYSICAL STATUS**

**1. Land Use and Buildings:**

Bethlehem Steel Complex - The grounds of the Bethlehem Steel complex are occupied by over 7,000,000 sq. ft. of building space. Much of this is underutilized or vacant industrial space constructed in the early 1900's. Several smaller office and maintenance buildings are also present. Cessation of steel-making operations within the City of Lackawanna began in 1983, although the coke ovens remain active. Extensive parking and outdoor storage areas also occupy large portions of the 1600-acre complex. In addition, numerous rail lines are located throughout the site. Bethlehem currently employs roughly 1,600 people at the complex.

The former Bethlehem complex occupies the entire two-mile length of the City's Lake Erie shoreline. Over the years since the plant's establishment in the early 1900's, the shoreline has been extended nearly one-half mile into Lake Erie as a result of slag disposal activities. The present shoreline is characterized by a continuous series of massive mounds of slag reaching 50' to 90' in height. An additional 108-acre diked disposal area (Diked Disposal Area No. 4) is located at the extreme northern end of the Bethlehem complex at Stony Point, astride the Lackawanna/Buffalo City border and adjacent to the south entrance of the Buffalo Outer Harbor. This facility is maintained by the U.S. Army Corps of Engineers and received dredge spoil from the Buffalo Harbor area; however, only 20% of this area has received significant deposits. The remaining 80 acres of its surface area consists of water. At the current rate of dredging operations, the facility has an approximate 25-year life span remaining.

In 1985, large portions of the Bethlehem complex were purchased by Buffalo Crushed Stone, which recently prepared a redevelopment plan for the property jointly with Bethlehem Steel, and the Western New York Economic Development Corporation. Approximately 1,500,000 sq. ft. of building space is expected to be retained. Demolition of roughly 4,000,000 sq. ft. of buildings and one mile of blast furnace

has begun, and is expected to continue during the near future. The approximately 30,000,000 tons of slag, coke, and scrap metal on site will be removed over a 20-year period.

Existing facilities which have potential for re-use include bulk storage buildings, a 55-acre tank farm (with a liquid storage capacity of 600,000 bbl.), three miles of conveyors, numerous cranes and loaders, and port facilities.

Marketing efforts have been undertaken throughout the United States, Canada, and Japan publicizing the availability of space at the Bethlehem complex. Promotional brochures and press releases have been nationally circulated. Eight buildings housing 15 companies have been leased to date.

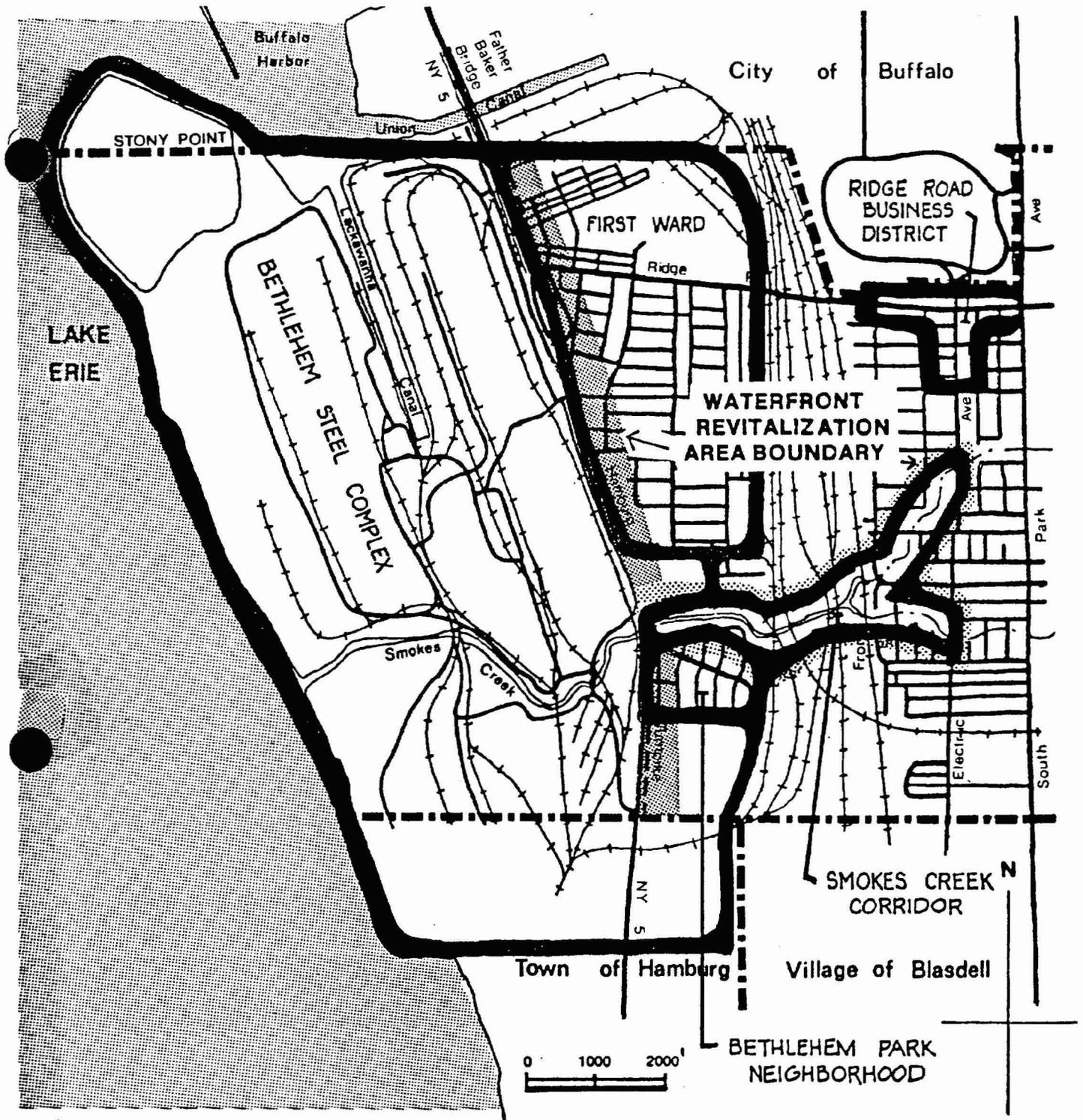
## **2. Transportation and Utilities:**

Route 5, a four-lane State highway known locally as the Hamburg Turnpike, parallels the Lackawanna lakeshore along the inland border of the Bethlehem complex and is a major suburban commuting route into downtown Buffalo. In the vicinity of the Lackawanna/Buffalo city line, Route 5 becomes a four-lane divided expressway with grade-separated interchanges from Ridge Road north to Downtown Buffalo. The high-level Father Baker Memorial Bridge at the city line carries Route 5 over the Union Ship Canal in Buffalo. Ridge Road (which has an interchange with Route 5 in the northern Lackawanna) and Route 179 (which intersects with Route 5 slightly south of the Lackawanna border in the Town of Hamburg) both provide direct access to the New York State Thruway (I-90) two miles to the east.

The Bethlehem complex includes over 100 miles of standard-gauge railroad tracks and 20 miles of narrow-gauge tracks operated by the South Buffalo Railway, with direct connections to national rail lines. The rail system has extensive maintenance and cargo-handling facilities which are currently underutilized. Locomotive repair facilities are also present.

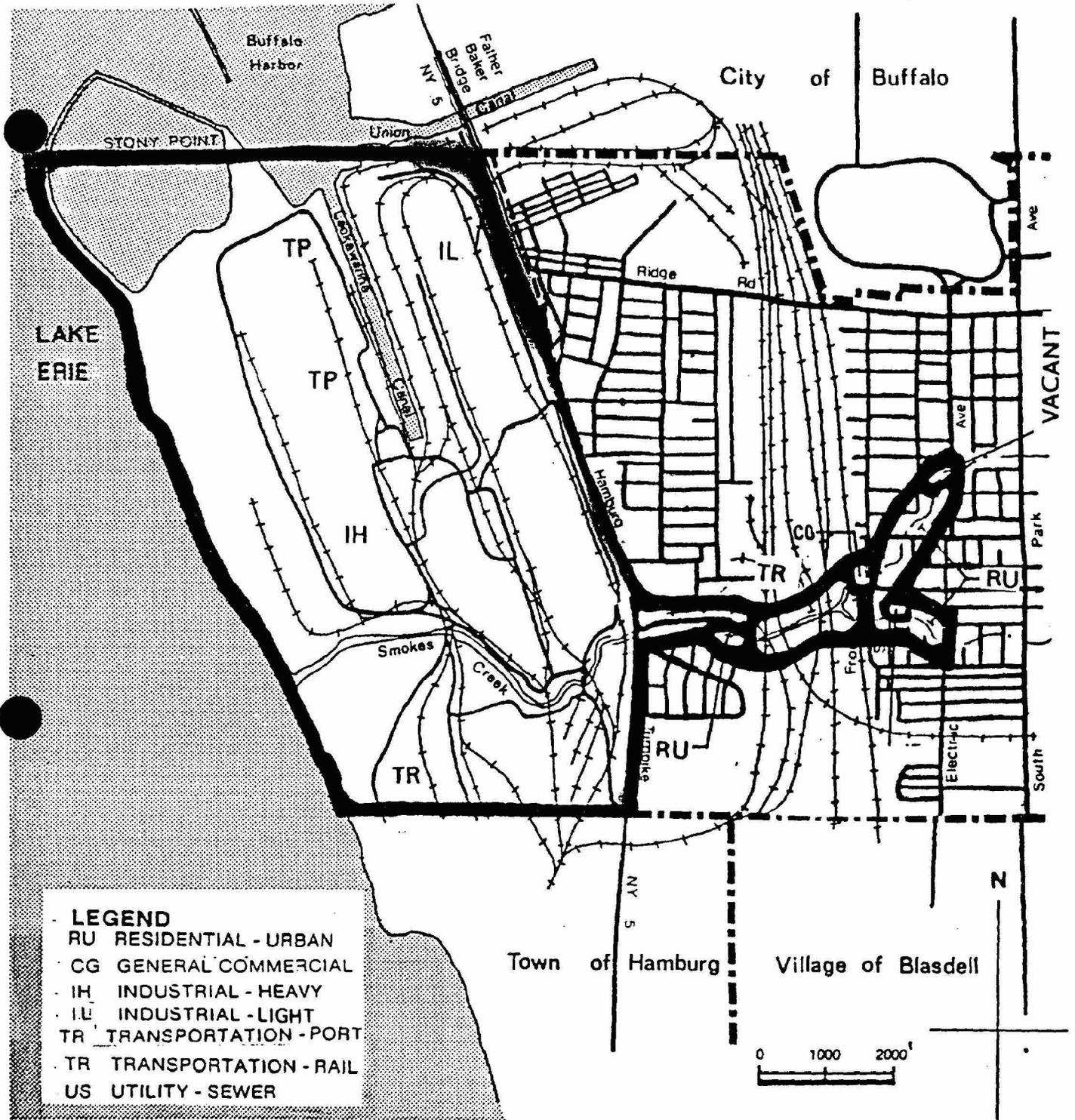
The Father Baker Bridge is being replaced by a new low-level structure (30' clearance above the Union Ship Canal). This will provide more convenient access to the Bethlehem and Gateway properties, as well as connect more logically with Ridge Road in the City of Lackawanna. The bridge replacement project will be completed by 1991.

The Lackawanna Ship Canal, now known as the Gateway Metroport, is a 4,000'-long, 200'-wide, 28'-deep channel at the northern end of the Bethlehem complex. It now serves as the regional commercial port facility. The Canal, which is accessible from the Buffalo Harbor's south entrance, can accommodate several 1,000-foot lake freighters. Port facilities include 9,500' of dock, 150 acres of open storage, and 160,000 sq. ft. of enclosed bulk storage. In 1986, port and rail facilities were handling 3,500,000 tons of coal, coke, bar mill



LOCAL WATERFRONT REVITALIZATION PROGRAM  
 ERIE COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING

MAP 2  
**CHARACTER/  
 NEIGHBORHOODS**  
 CITY OF LACKAWANNA



- LEGEND**
- RU RESIDENTIAL - URBAN
  - CG GENERAL COMMERCIAL
  - IH INDUSTRIAL - HEAVY
  - IL INDUSTRIAL - LIGHT
  - TR TRANSPORTATION - PORT
  - TR TRANSPORTATION - RAIL
  - US UTILITY - SEWER

LOCAL WATERFRONT REVITALIZATION PROGRAM  
 ERIE COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING

MAP 3  
**EXISTING  
 USES**  
 CITY OF LACKAWANNA

products, scrap, steel coils, fuel oil, and automotive parts for Bethlehem Steel, the Ford Motor Company, and several smaller firms.

Public transportation is provided along Route 5 by the Niagara Frontier Transportation Authority. Hourly trips to Downtown Buffalo are provided Monday through Friday. Four trips daily operate on Saturdays. There is no Sunday service.

Sanitary sewer service is provided to the Bethlehem complex by Erie County Sewer District No. 6, which maintains a treatment plant about one-half mile east of Route 5 in Lackawanna. The plant handles approximately 0-1 MG of wastewater from BethEnergy Corp., Lackawanna Coke Division. This processed wastewater is discharged to the treatment plant via the existing sanitary sewer system. The design flow of the treatment plant is 4.5 MGD, and the plant is currently treating an average of 4.4 MGD annually.

Current capacity at the Lackawanna treatment plant cannot handle a full industrial buildout situation at the former Bethlehem complex. A preliminary study by Erie County Sewer District #6 is underway which is aimed at identifying alternative treatment possibilities and associated costs. This issue will have to be resolved prior to any major site redevelopment.

A further problem relates to the treatment of industrial wastes generated from Bethlehem's coke oven operations. The Lackawanna plant was not designed to handle such waste, but was geared to handle residential/commercial wastes. The coke waste interferes with the process at the Lackawanna sewer plant. The City agreed to accept the waste from the coke plant because once Bethlehem ceased operations, the Corporation could no longer dispose of the waste at the steel plant. This situation will also be examined in greater detail by the Sewer District #6 study.

Two water intakes operate along the banks of the Lackawanna Ship Canal. Number 1 pump supplies 20-24 MGD for an extraction turbine on the Canal's west side, BethEnergy operates Number 4 pump, which supplies 20 MGD to the coke ovens. Number 6 pumphouse is located in the north end of the plant at the mouth of Buffalo Harbor. One of three 30 MGD pumps currently is operated to supply water to the Bar Mill and Galvanizing Mill operations on the east side of Route 5.

Presently, industrial water is used for cooling and processing. Cooling water is maintained within a closed system. Water is piped to one of three filtration and settling facilities where it is treated and returned to the cooling system. Process water from the Bethlehem Galvanizing Mill is treated on-site at Water Quality Control Station No. 7 under a SPDES permit. Sludge is periodically removed from settling tanks and deposited in solid waste disposal areas.

The City has a municipal pickup service for solid waste. It transfers the material via a private contractor to the Occidental Chemical Corporation (Hooker) resource recovery facility in the City of Niagara Falls. The latter is presently operating at 81% of design capacity. (These figures were obtained from the New York State Legislative Commission on Solid Waste Management 1986 report entitled "Where Will the Garbage Go? New York Looming Crisis in Disposal Management.")

**3. Topography:**

The bulk of the Bethlehem complex is level land, however, mounds of by-products reaching up to 90' heights have been deposited along the shoreline. When viewed from Lake Erie, these features dominate the landscape.

**4. Soils:**

The soils within the City of Lackawanna's waterfront boundaries are predominantly categorized as urban land according to the U.S.D.A. Soil Conservation Service. The single exception to this classification is along Smokes Creek where Wayland Soils exist.

The Wayland Soil series varies from a silt loam to a silty clay loam. It is generally poorly drained erosion deposits found in floodplain areas of small streams. Due to its location and slow permeability, it is subject to seasonal flooding and thereby severely limited to development or vegetative potential. Approximately 20 feet of bedrock begins five feet below the surface.

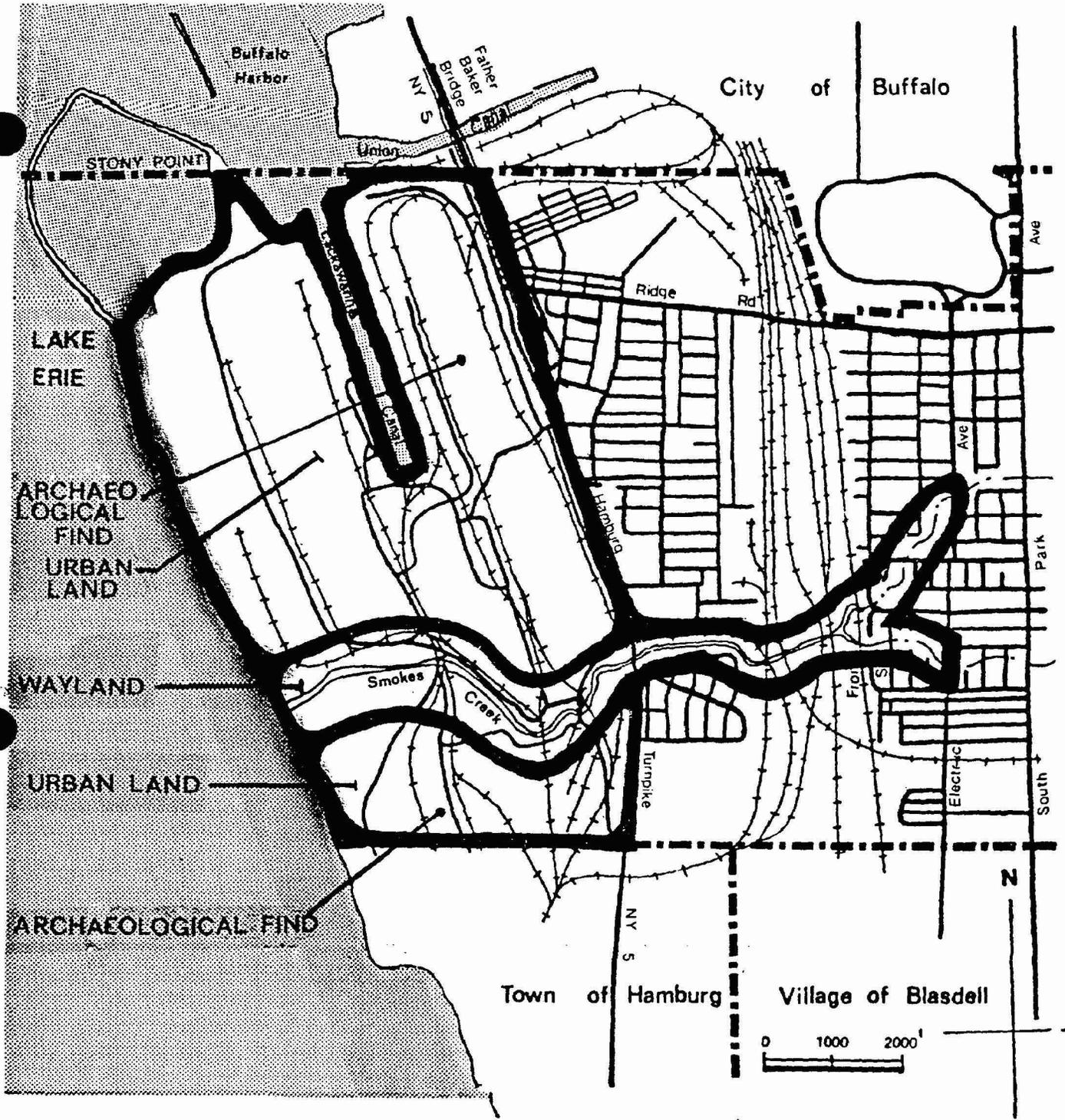
Slag deposits along the shoreline cover over 400 acres of land to a depth of 40'.

**5. Hydrology, Flooding, and Erosion:**

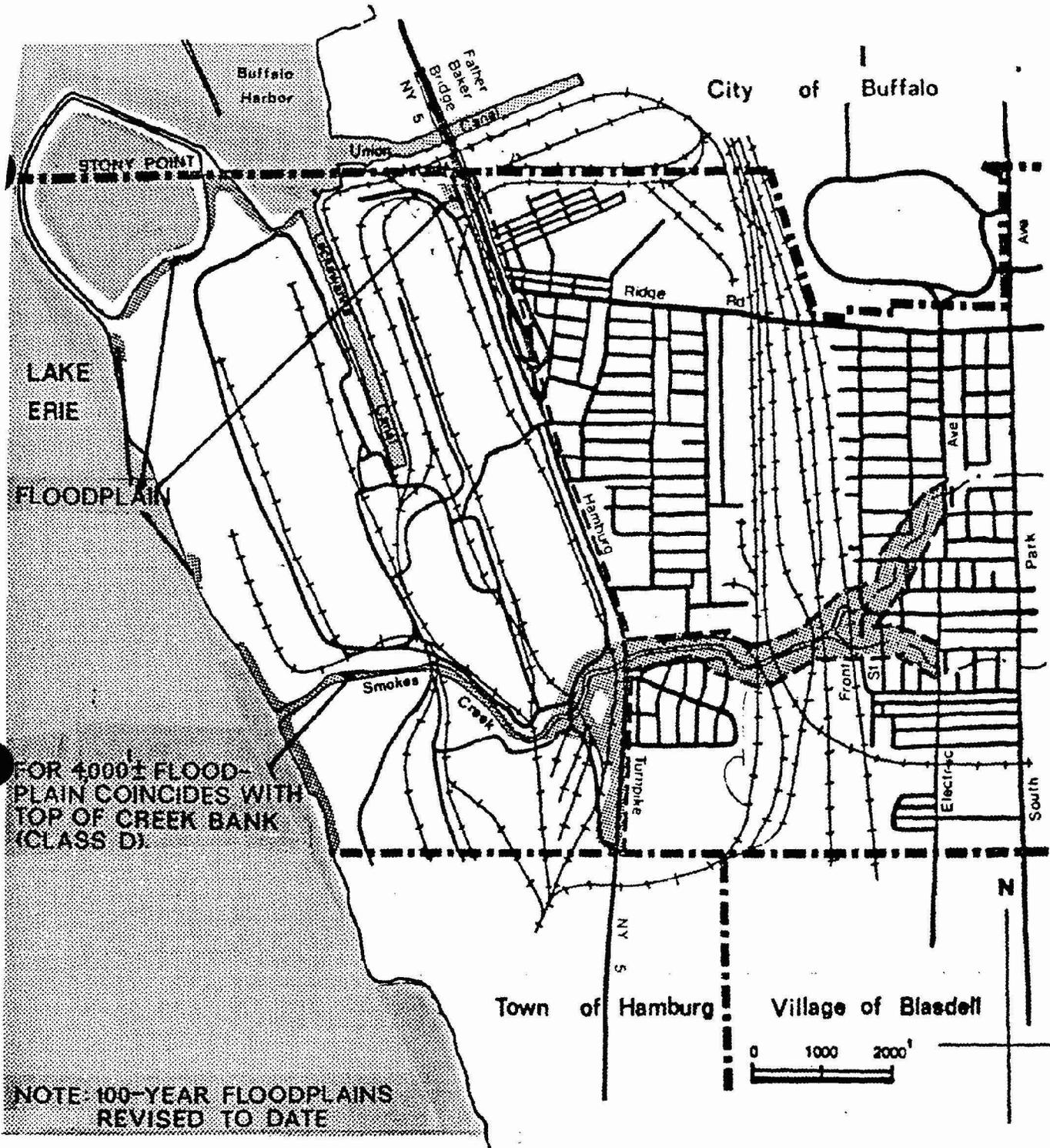
Smoke's Creek is the only stream to traverse the waterfront area. This creek's branches drain a large area of Lackawanna, Hamburg, and Orchard Park. Smoke's Creek has a "D" classification. (See Appendix A for description of classification.)

Lake Erie has been designated a class "C" water body to a distance of roughly 1,000' offshore; beyond this limit the Lake has been designated "Class A - Special (International Boundary Waters) in accordance with 6NYCRR 839.6, Item No. 3. The Lackawanna Ship Canal, 4,000' long and 200' wide, is class "D". The southern limits of the Buffalo Outer Harbor are class "C". (For classification descriptions, see Appendix A).

A flood hazard area, as well as a floodway, has been identified along the entire length of Smoke's Creek within the City by the Federal Emergency Management Agency. Such flood-prone areas coincide in many locations with the top of the Creek's banks. Several smaller flood



<p>LOCAL WATERFRONT REVITALIZATION PROGRAM</p> <p>ERIE COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING</p>	<p>MAP 4</p> <p>SOILS</p> <p>CITY OF LACKAWANNA</p>
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LOCAL WATERFRONT REVITALIZATION PROGRAM  
 ERIE COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING

MAP 5  
 HYDROLOGY /  
 EROSION  
 CITY OF LACKAWANNA

hazard areas have been designated along the Lake Erie shoreline, as well. See Map 5 which displays the locations of such areas.

Flooding at one time was a major problem along Smoke's Creek. U.S. Army Corps of Engineers flood control projects featuring channel straightening and bank stabilization have significantly diminished the likelihood of flood damage in developed portions of Lackawanna. These improvements are fully documented in a letter and accompanying report of July 13, 1959 from the Secretary of the Army to the House of Representatives (86th Congress, 1st Session, House Document No. 200, U.S. Government Printing Office).

Within the former Bethlehem complex Smokes Creek is occasionally subjected to a reversal of normal flow during conditions of high lake levels and strong westerly winds which result in Lake Erie water entering the Creek. Typically, however, flooding does not result from these conditions. Erosion is not a major problem within the LWA.

**6. Off-Shore Conditions:**

Channels in the Buffalo Outer Harbor are maintained by the U.S. Army Corps of Engineers at a 28' depth.

Reference should be made to sub-section II-7 for a thorough description of the Smoke's Creek Shoal habitat. The depth of Smoke's Creek and its branches from its mouth to Electric Avenue ranges from 1 to 3 meters with the deeper channels located close to Lake Erie. This information was contained in NYSDEC report entitled A Habitat Inventory of Smoke's Creek (date unknown).

**7. Air and Water Quality:**

Air quality in the Lackawanna waterfront area has noticeably improved since the 1970's, partly as a result of improved emission controls and partly due to cutbacks in industrial activities. The amount of atmospheric pollutants is in compliance with State and federal limits. Recent air quality monitoring of this factor by the Erie County Department of Environment and Planning (during 1983-84) shows that TSP values range from 36 to 50 mg/cubic meter, well below the federal standard of 75 mg/cubic meter. Lackawanna has been reclassified as being in attainment of TSP.

In 1984, the New York State Dept. of Environmental Conservation issued Order 84-135 which, for the Bethlehem Steel complex, identified those facilities which were permanently shut down, those which are temporarily inactive, and those to remain in operation which require the imposition of air quality controls. The primary effects of this order require repair and modifications in coke oven facilities and operations, and institution of a fugitive dust control program (generally consisting of applying water to paved roadways) in order to reduce particulate emissions to acceptable standards.

The coke oven operation is controlled by State permits. However, when the production of coke oven gas drops below 1.5 million cubic feet per hour, the desulfurization and sulfur recovery units do not operate effectively. The State has allowed an exemption for those low production periods, thus resulting in foul odors emanating from the plant during those periods.

In addition to odor problems, the coke oven operation causes visual pollution to the surrounding area. A thick white plume billows out of the smokestack, visible for miles in all directions and disincentive to long-term site redevelopment. Air emission source standards established by NYSDEC are not being met by Bethlehem Steel Corporation relative to their coke over operations. Legal action is being pursued by NYSDEC.

Historically, water quality along the Lackawanna shoreline has been poor. Although direct discharges of industrial wastewater have been practically eliminated, past discharges have noticeably contaminated bottom sediment in the vicinity. During storms, contaminated sediment becomes re-suspended in lake water and is subject to transport and redeposition elsewhere in the lake and the Niagara River. The Report of the Niagara River Toxics Committee (October 1984) documents various concentrations of metals and polynuclear aromatics (PAH's) in sediment samples obtained from Smoke's Creek, the Lackawanna Ship Canal, and the Lake Erie open-dredged material disposal site. During steelmaking, Bethlehem was a major discharger of lead and zinc.

Hazardous wastes were disposed of on a 50-acre site along the Lackawanna shoreline. The site consists of a landfill and lagoon. Hazardous waste disposal ceased in 1983. The site received spent pickle liquor, tar sludge, ammonia still lime sludge, and metal sludge, and a large amount of assorted scrap metals, sand, gravel and slag cinders. Both NYSDEC and the U.S. Army Corps of Engineers are involved in closure plans at these sites. A hydro-geologic investigation was completed in October, 1985, and the report concluded that there has not been much impact from these sites. However, the NYSDEC recently classified the area as a Class 2 site, indicating that it represents a significant threat to public health or environment. Closure and post-closure plans are being evaluated by Bethlehem Steel Corp., NYSDEC, USEPA, and the U.S. Army Corps of Engineers prior to finalizing specific mitigation measures.

#### **8. Fish and Wildlife Habitats:**

Lake Erie provides a habitat for a variety of cool and cold water gamefish species, as well as panfish. The more common gamefish species sought by sport anglers are walleye, smallmouth bass, rainbow/steelhead trout, brown trout and coho and chinook salmon. Common panfish species include perch and rock bass. Lake Erie in the species include perch and rock bass. Lake Erie in the vicinity

of the mouth of Smoke's Creek has traditionally been a popular fishing area among local sport fishermen.

Smoke's Creek Shoals is located on the shore line of Lake Erie, on the boundary between the City of Lackawanna and the Town of Hamburg, Erie County. The fish and wildlife habitat is an approximately 500-acre area of open water, generally located within a one-half mile radius of the mouth of Smoke's Creek (see Map 5A). This area encompasses a broad, productive, littoral zone, where water depths are generally less than 20 feet below mean low water, and the bottom substrate is a mixture of sand, gravel, and rubble. The entire shoreline bordering Smoke's Creek Shoals has been modified through filling or bulkheading in conjunction with adjacent industrial development (steel mills). Smoke's Creek Shoals has been designated by the New York State Secretary of State as a coastal fish habitat of Statewide significance.

Smoke's Creek Shoals is one of only a few sizeable areas of relatively shallow, gravelly shoals in the Erie County portion of Lake Erie. Apparently, wave action and inflows from Smoke's Creek provide adequate water circulation in the area to prevent siltation of the bottom substrate. This extensive littoral zone probably serves as an important spawning area for a variety of warm water fish species, especially walleye, along with yellow perch and smallmouth bass. Observations of walleye in and around the mouth of Smoke's Creek during the spawning period (mid-March - early May) generally suggest that the adjacent shoals attract a major lake-spawning concentration. Concentration areas such as this are unusual in Erie County.

As a result of concentrations of smallmouth bass, walleye, and panfish at Smoke's Creek Shoals, this area attracts significant recreational fishing pressure during late spring and early summer. See the appendix to this section for a complete description of this habitat.

In addition to the shoals area, Smoke's Creek between Route 5 and Lake Erie may be the site of substantial walleye spawning. A recent study by the State University of New York College at Buffalo entitled, "Smoke's Creek: An Important Spawning Habitat for Walleye in Eastern Lake Erie?" and submitted to the NYSDEC in 1985 concluded that the Creek was not presently a viable spawning area for walleye due to surrounding environmental conditions. The report did indicate, however, that some walleye do migrate into the area for spawning purposes, as well as in the Creek mouth.

The Lake Erie area offshore from Lackawanna is used by migratory waterfowl during the spring and fall. The largest colony of nesting ring-billed gulls on the Niagara Frontier is located adjacent to the Stony Point disposal area.

**9. Zoning:**

The WRA west of Route 5 is zoned M-D, Mixed-Development District. This allows a variety of uses subject to submittal and approval of a consolidated development plan for each proposal. Specific regulations are established during the consolidated development plan review process. Virtually all uses permitted in other zoning districts are allowed in the District if the above-mentioned development plan is sound. The following uses are not allowed: banks, finance, insurance and real estate offices; tailor shops; taverns. See Appendix C for the text of this district.

In addition, a Flood Plain Overlay District has been established for special flood hazard areas within the City. Within the waterfront area, flood hazard areas have been identified along Smokes Creek and Lake Erie. The Flood Plain Overlay District limits development within flood-prone lands and the alteration of natural flood plains and stream channels.

The Smoke's Creek corridor east of Route 5 is bordered by various zoning districts including light industrial, planned industrial, and residential zones. Reference should be made to Map 6 for a description of applicable zoning regulations.

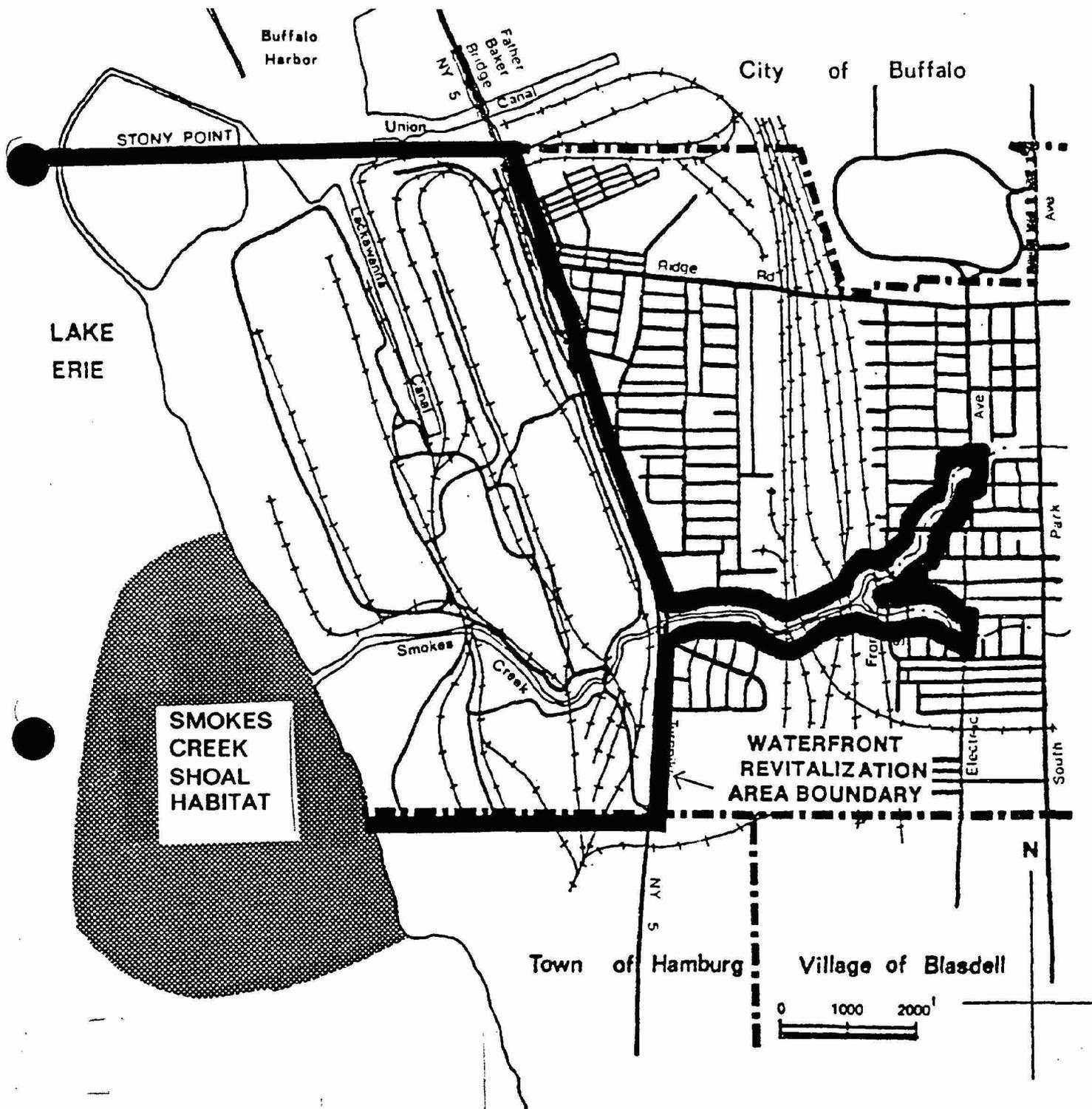
**10. Historical and Archaeological Sites:**

There are no structures listed, or eligible for listing, on the National Register of Historic Places within the Lackawanna WRA. A zone of archaeological sensitivity has, however, been identified by the New York State Office of Parks, Recreation and Historic Preservation in the vicinity of Route 5 and Smoke's Creek. In addition, a survey of archaeological sites undertaken by the State University of New York at Buffalo in March 1984 suggests that two sites may be located either within the LWA, or within a one-kilometer proximity to the area in the vicinity of Smoke's Creek.

The former Bethlehem Steel employment office near the Buffalo-Lackawanna city line is an early twentieth century structure which is both architecturally and historically significant. The structure's historic significance comes from its association with the Bethlehem Steel Corporation, while the architectural importance stems from its classical, revival style of grey brick on a rusticated ashlar basement. It is topped with a hipped roof. The building, however, is not presently listed on the National or State Registers of Historic places.

**11. Public Access and Recreation:**

Public Access to Lackawanna's Lake Erie shoreline is non-existent. The banks of Smoke's Creek are fully developed and privately-owned. No recreation facilities exist within the LWA. As such, a major



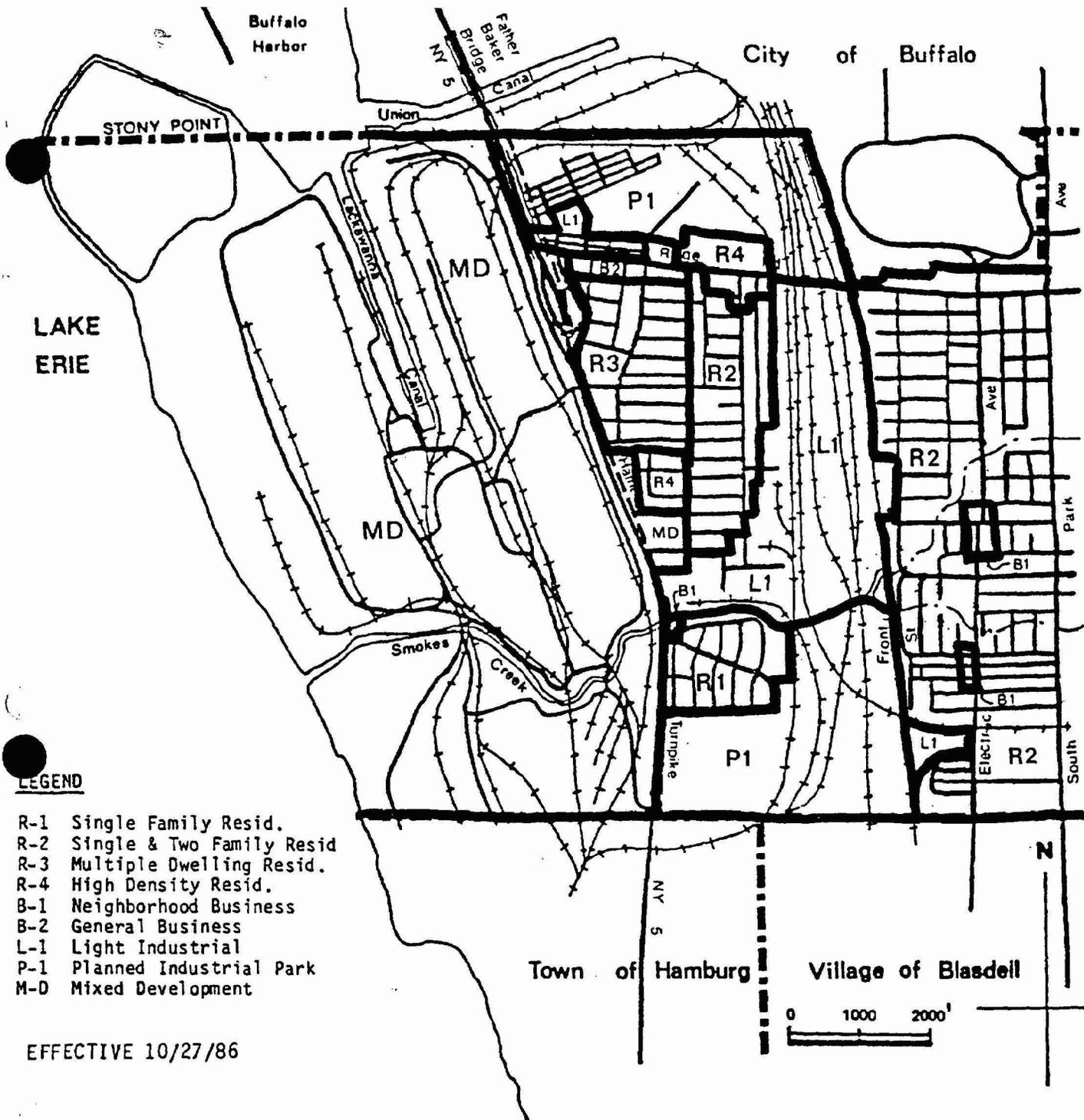
LOCAL WATERFRONT REVITALIZATION PROGRAM

ERIE COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING

Source: New York State Department of Environmental Conservation

MAP 5A  
SMOKES  
CREEK  
SHOALS

CITY OF LACKAWANNA



**LEGEND**

- R-1 Single Family Resid.
- R-2 Single & Two Family Resid
- R-3 Multiple Dwelling Resid.
- R-4 High Density Resid.
- B-1 Neighborhood Business
- B-2 General Business
- L-1 Light Industrial
- P-1 Planned Industrial Park
- M-D Mixed Development

EFFECTIVE 10/27/86

<p style="text-align: center;"><b>LOCAL WATERFRONT REVITALIZATION PROGRAM</b></p> <p style="text-align: center;">ERIE COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING</p>	<p><b>MAP 6</b></p> <p><b>EXISTING ZONING</b></p> <p><b>CITY OF LACKAWANNA</b></p>
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component of the redevelopment of the waterfront will be the incorporation of water-related recreation and public access to the Lake Erie and Smokes Creek shorelines.

**12. Water-Dependent Uses:**

Historically, the Bethlehem Steel complex has been dependent upon Lake Erie for transportation and industrial processing. Although steelmaking has been curtailed, the coke ovens remain active and require water for their operation. In addition, an independent water system is maintained to serve the Bethlehem complex.

The Gateway Metroport is a major deepwater port channel handling commercial cargo. Buffalo Crushed Stone and Bethlehem Steel especially depend upon this facility for transportation.

**13. Aesthetics:**

The visual environment of the Lackawanna waterfront is dominated by massive industrial buildings which are discolored and otherwise deteriorated, and by rail lines, overhead utilities, extensive parking, fences, and roads. The Father Baker Bridge has been a dominant feature at the Lackawanna-Buffalo city line. In Lackawanna, Lake Erie is not visible from Route 5 and points east. Landscaping is virtually non-existent. Overall aesthetic quality within the Waterfront Revitalization Area is poor.

**C. MAJOR RECENT AND PLANNED IMPROVEMENTS**

The following information describes recent and future waterfront improvements for the shoreline. This provides good background material on the level of public and private investment and suggests possible opportunities for additional improvements.

Prior to listing the projects, it is important to note that a portion of the WRA was recently designated by New York State as an Economic Opportunity Zone (EOZ). The EOZ boundaries are reflected on Map 7A. This designation provides attractive financial incentives to industries locating in the area and will be used as a major marketing tool to redevelop the site.

The recent and planned improvements within the LWA are noted below:

1. Port Terminal Building: A grant application has been submitted by the Erie County Industrial Development Agency to the Federal Economic Development Administration. This will provide funds for construction of a large warehouse structure adjacent to the port and better accommodate port activities.
2. Ridge Road Extension: The ECIDA has submitted preliminary application materials to the Federal Economic Development Administration. The road extension and accompanying infra-structure improvements will

provide better access and vehicle circulation to the north end of the former Bethlehem complex.

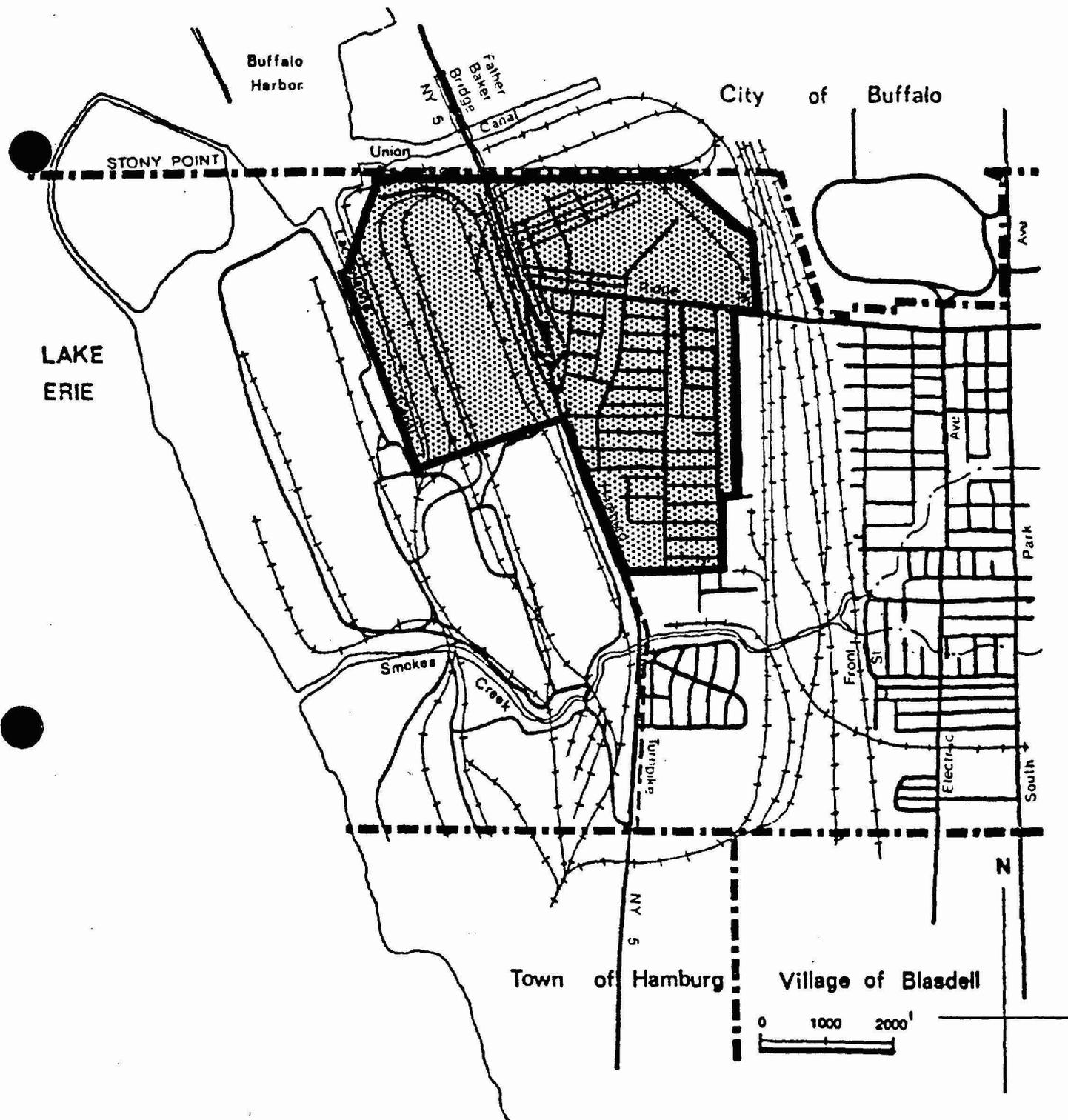
3. Father Baker Bridge Replacement: As mentioned earlier, the New York State, Department of Transportation is undertaking a major replacement of the Father Baker Bridge. The latter spans various railroad bridges and the Union Ship Canal. The south bridge abutment is within the City of Lackawanna, with the north abutment being in the City of Buffalo.

#### D. CRITICAL ISSUES

Given the privately-owned nature of the Lackawanna waterfront and ongoing studies concerning the future of the Bethlehem complex, difficulties in creating an effective waterfront revitalization program are numerous. However, several issues of particular importance to the community have been articulated and should be emphasized.

There is profound municipal concern about the steel plant's future status and consequent effects on the local tax base. Of special importance is the desire to continue private ownership of most waterfront land in order to maintain this tax base. The vast network of existing infrastructure represents both a substantial capital investment and a significant urban resource which may become endangered through abandonment.

Despite these justifiable concerns, there is also considerable local sentiment for opening portions of the Lackawanna waterfront to the public. Lackawanna is the only waterfront municipality in Western New York having no public access to its own shoreline. However, implementation of any such proposals to provide public shoreline access await the development of general policy objectives incorporating the goals of private industry, municipal agencies and the public at large.



LOCAL WATERFRONT REVITALIZATION PROGRAM  
 ERIE COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING

MAP 7A  
**ECONOMIC OPPORTUNITY ZONE**  
 CITY OF LACKAWANNA

INVENTORY AND ANALYSIS  
APPENDIX

SMOKE CREEK SHOALS HABITAT

COASTAL FISH AND WILDLIFE HABITAT RATING FORM

Name of Area: Smoke Creek Shoals

SEP 18 1987

County(ies): Erie

Town(s): Lackawanna, Hamburg

7.5' Quadrangle(s): Buffalo SE, NY

	(IS) Individual Score		(R) Replace- ability		(ISxR) Final Score
ECOSYSTEM RARITY (ER): Relatively large, shallow, gravel and rubble shoal, uncommon in Erie County.	9.0 ---	x	1.0 ---	=	9.0 ---
SPECIES VULNERABILITY (SV): No endangered, threatened, or special concern species are known to reside in the area.	0 ---	x	1.0 ---	=	0.0 ---
HUMAN USE (HU): Recreational fishery for walleye attracts many anglers from through- out Erie County.	4 ---	x	1.0 ---	=	4.0 ---
POPULATION LEVEL (PL): Concentrations of walleye in this area are unusual in Erie County, although it is not known if spawn- ing is successful.	4 ---	x	1.0 ---	=	4.0 ---

REPLACEABILITY (R): 1.0  
Uncertain of ability to replace the  
habitat or the population level.

SIGNIFICANCE = [(ERxR)+(SVxR)+(HUxR)+(PLxR)] = 17.0

\*\*\*SIGNIFICANT COASTAL FISH AND WILDLIFE\*\*\*

PROJECT NARRATIVE

SMOKE CREEK SHOALS

LOCATION AND DESCRIPTION OF HABITAT:

Smoke Creek Shoals is located on the shoreline of Lake Erie, on the boundary between the City of Lackawanna and the Town of Hamburg, Erie County (7.5' Quadrangle: Buffalo SE, N.Y.). The fish and wildlife habitat is an approximate 500 acre area of open water, generally located within a one-half mile radius of the Smoke Creek. This area encompasses a broad, productive, littoral zone, where water depths are generally less than 20 feet below mean low water, and the bottom substrate is a mixture of sand, gravel, and rubble. The entire shoreline bordering Smoke Creek Shoals has been modified through filling or bulkheading in conjunction with adjacent industrial development (steel mills). Smoke Creek drains approximately 33 square miles of industrial, residential and abandoned agricultural land, and most of the channel has been modified for flood control purposes.

FISH AND WILDLIFE VALUE:

Smoke Creek Shoals is one of only a few sizeable areas of relatively shallow, gravelly shoals in the Erie County portion of Lake Erie. Apparently, wave action and inflows from Smoke Creek provide adequate water circulation in the area to prevent siltation of the bottom substrate. This extensive littoral zone probably serves as an important spawning area for a variety of warmwater fish species, especially walleye, along with yellow perch and smallmouth bass. Observations of walleye in and around the mouth of Smoke Creek during the spawning period (mid-March - early May, generally) suggest that the adjacent shoals attract a major lake-spawning concentration. Concentration areas such as this are unusual in Erie County. Walleye entered Smoke Creek to spawn in 1985 but did not appear to be successful.

As a result of the abundant walleye population at Smoke Creek Shoals, this area attracts significant recreational fishing pressure during late spring and early summer, primarily by residents of the Buffalo metropolitan area. Boat access to the fishery is available from the Small Boat Harbor in Buffalo. Reproduction of walleye at Smoke Creek Shoals may also contribute to the Lake Erie commercial fishery for this species, located farther offshore in waters greater than 55 feet deep.

IMPACT ASSESSMENT:

Any activity that substantially degrades water quality, increases temperature or turbidity, alters water depths, or reduces physical diversity of bottom substrate at Smoke Creek Shoals could affect the fisheries resources of this area. Discharges of sewage, stormwater runoff, or industrial wastewater, containing heavy sediments loads or chemical pollutants could result in adverse impacts on fish populations. Activities such as dredging, oil and gas drilling, and solid waste disposal are all potential causes of permanent habitat degradation. Construction of breakwalls or jetties in the area may increase

sedimentation, resulting in loss of suitable spawning habitat of walleye. Temporary habitat disturbances would be most detrimental during fish spawning and nursery periods (mid-March - July for most warmwater species); any necessary human disturbance of the littoral zone should be scheduled during fall or winter to minimize potential impacts on fisheries use of the area. Thermal discharges, depending on time of year, could also have adverse effects on fish populations in the area, since spawning activities and survival are directly affected by water temperature. Installation and operation of water intakes could have a significant impact on fish concentrations, through impingement of juveniles and adults, or entrainment of eggs and larval stages.

KNOWLEDGEABLE CONTACTS:

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Floyd Cornelius or Don Einhouse  
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NYSDEC - Significant Habitat Unit  
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APPROXIMATE MEAN LAKE ELEVATION 571

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4745000m. N.

47'30"

BUFFALO METROPOLITAN URBAN AREA  
BOUNDARY IS DEFINED AS FOLLOWING  
THE SHORELINE

1 010 000  
FEET

Athol Springs

Bay View

Quac: Buffalo SE, NY  
Area Name: Smoke Creek Shoals  
Habitat Boundary:  
Page 1 of 1

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