BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

July 9, 2007

Ms. Kelly Lewandowski
Chief, Site Control Section
New York State Department of
Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7020

Re: **Steel Winds II**
1951 Hamburg Turnpike, Lackawanna, New York
BCP Application

Dear Ms. Lewandowski:

On behalf of our client, BQ Energy, LLC, Benchmark Environmental Engineering & Science, PLLC has prepared the enclosed Brownfield Cleanup Program (BCP) application for the above-referenced site. Enclosed for your review are one original signed copy and one electronic copy of the BCP application. A hard copy of these documents has also been sent to the individuals listed below.

Please do not hesitate to contact us with any questions.

Sincerely,
Benchmark Environmental Engineering & Science, PLLC

Thomas H. Forbes, P.E.
Project Manager

Enc.

c: M. Doster, NYSDEC Reg. 9 (w/ enc.)
C. O'Connor, NYSDEC (w/ enc.)
P. Curran, BQ Energy, LLC (w/ enc.)

Brownfield Cleanup Program Application

for Steel Winds II Site
Lackawanna, New York

BQ Energy, LLC
Patterson, New York

July 2007

0083-005-100

Prepared By:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

726 Exchange Street, Suite 624, Buffalo, New York | phone: (716) 856-0599 | fax: (716) 856-0583

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

BROWNFIELD CLEANUP PROGRAM (BCP)

ECL ARTICLE 27 / TITLE 14

DEPARTMENT USE ONLY
BCP SITE #:_____

7/06

Section 1 Requestor Information

NAME BQ Energy, LLC		
ADDRESS 20 Jon Barrett Road		
CITY/TOWN Patterson, NY	ZIP CODE 12563	
PHONE 845-228-3460	FAX 845-228-3470	E-MAIL pcurran@bqpes.com
NAME OF REQUESTOR'S REPRESENTATIVE Paul Curran, P.E.		
ADDRESS 20 Jon Barrett Road		
CITY/TOWN Patterson, NY	ZIP CODE 12563	
PHONE 845-228-3460	FAX 845-228-3470	E-MAIL pcurran@bqpes.com
NAME OF REQUESTOR'S CONSULTANT Benchmark Environmental Engineers & Scientists, PLLC (Thomas H. Forbes, P.E.)		
ADDRESS 726 Exchange Street, Suite 624		
CITY/TOWN Buffalo, NY	ZIP CODE 14210	
PHONE 716-856-0599	FAX 716-856-0583	E-MAIL forbes@benchmarkees.com
NAME OF REQUESTOR'S ATTORNEY David Flynn, Phillips Lytle LLP		
ADDRESS 3400 HSBC Center		
CITY/TOWN Buffalo, NY	ZIP CODE 14203	
PHONE 716-847-8400	FAX 716-852-6100	E-MAIL dflynn@phillipslytle.com

THE REQUESTOR MUST CERTIFY THAT HE/SHE IS EITHER A PARTICIPANT OR VOLUNTEER IN ACCORDANCE WITH ECL § 27-1405 (1) BY CHECKING ONE OF THE BOXES BELOW:

☐ PARTICIPANT

A requestor who either 1) was the owner of the site at the time of the disposal of hazardous waste or discharge of petroleum or 2) is otherwise a person responsible for the contamination, unless the liability arises solely as a result of ownership, operation of, or involvement with the site subsequent to the disposal of hazardous waste or discharge of petroleum.

☑ VOLUNTEER

A requestor other than a participant, including a requestor whose liability arises solely as a result of ownership, operation of or involvement with the site subsequent to the disposal of hazardous waste or discharge of petroleum.

NOTE: By checking this box, the requestor certifies that he/she has exercised appropriate care with respect to the hazardous waste found at the facility by taking reasonable steps to: i) stop any continuing discharge; ii) prevent any threatened future release; and iii) prevent or limit human,environmental, or natural resource exposure to any previously released hazardous waste.

Requestor Relationship to Property (check one):

Previous Owner Current Owner Potential /Future Purchaser ✓ Other Lessee

If requestor is not the site owner, requestor will have access to the property throughout the BCP project. ☑ Yes ☐ No

(Note: proof of site access must be submitted for non-owners)

Section II. Property Information Summary Sheet

PROPERTY NAME: Steel Winds II

ADDRESS/LOCATION 1951 Hamburg Turnpike CITY/TOWN Lackawanna ZIP CODE 14218

MUNICIPALITY(IF MORE THAN ONE, LIST ALL):
City of Lackawanna

COUNTY Erie SITE SIZE (ACRES) 55.47

LATITUDE (degrees/minutes/seconds) 42 ° 48 ' 54.56" LONGITUDE (degrees/minutes/seconds) 78 ° 51 ' 23.57" "

HORIZONTAL COLLECTION METHOD: ☐ SURVEY ☐ GPS ☑ MAP HORIZONTAL REFERENCE DATUM: NAD83

FOR EACH PARCEL, FILL OUT THE FOLLOWING TAX MAP INFORMATION (if more than three parcels, attach additional information)

Parcel Address	Parcel No.	Section No.	Block No.	Lot No.	Acreage
1951 Hamburg Turnpike (Partial)		141.11	1	1.111	970.819

1. Do the property boundaries correspond to tax map metes and bounds? ☐ Yes ☑ No
   If no, please attach a metes and bounds description of the property.
2. Is the required property map attached to the application? (application will not be processed without map) ☑ Yes ☐ No
3. Is the property part of a designated En-zone pursuant to Tax Law § 21(b)(6)? ☑ Yes ☐ No

For more information go to: http://www.nylovesbiz.com/BrownField_Redevelopment/default.asp.

If yes, identify area (name) Census Tract 012200

☐ 50% ☑ 100% of the site is in the En-zone (check one)

PROPERTY DESCRIPTION NARRATIVE:

The site is currently a transportation corridor and adjacent vacant land on the elevated Lake Erie shoreline. The property is slag fill land that was created by the former owner/occupant, Bethlehem Steel Corp.

List of Existing Easements (type here or attach information)

Easement Holder	Description
South Buffalo RR Co.	Railroad Tracks

List of Permits issued by the NYSDEC or USEPA Relating to the Proposed Site (type here or attach information)

Type	Issuing Agency	Description

Initials of each Requestor: RFC _____ _____ _____ _____ _____ _____

Section III. Current Site Owner/Operator Information

OWNER'S NAME (if different from requestor) Tecumseh Redevelopment, Inc.		
ADDRESS 4020 Kinross Parkway		
CITY/TOWN Richfield, Ohio	ZIP CODE 44286	
PHONE 330-659-9165	FAX 330-659-7434	E-MAIL keith.nagel@mittalsteel.com
OPERATOR'S NAME (if different from requestor or owner) TurnKey Environmental Restoration, LLC (Paul Werthman, P.E.)		
ADDRESS 726 Exchange Street, Suite 624, Buffalo, NY 14210		
CITY/TOWN Buffalo, New York	ZIP CODE 14210	
PHONE 716-856-0635	FAX 716-856-0583	E-MAIL pwerthman@benchmarkees.com

Section IV. Requestor Eligibility Information (Please refer to ECL § 27-1407)

If answering "yes" to any of the following questions, please provide an explanation as an attachment.

1. Are any enforcement actions pending against the requestor regarding this site? ☐ Yes ☑ No
2. Is the requestor subject to an existing order relating to contamination at the site? ☐ Yes ☑ No
3. Is the requestor subject to an outstanding claim by the Spill Fund for this site? ☐ Yes ☑ No
4. Has the requestor been determined to have violated any provision of ECL Article 27? ☐ Yes ☑ No
5. Has the requestor previously been denied entry to the BCP? ☐ Yes ☑ No
6. Has the requestor been found in a civil proceeding to have committed a negligent or intentionally tortious act involving contaminants? ☐ Yes ☑ No
7. Has the requestor been convicted of a criminal offense that involves a violent felony, fraud, bribery, perjury, theft, or offense against public administration? ☐ Yes ☑ No
8. Has the requestor knowingly falsified or concealed material facts or knowingly submitted or made use of a false statement in a matter before the Department? ☐ Yes ☑ No
9. Is the requestor an individual or entity of the type set forth in ECL 27-1407.8(f) that committed an act or failed to act, and such act or failure to act could be the basis for denial of a BCP application? ☐ Yes ☑ No

Section V. Property Eligibility Information (Please refer to ECL § 27-1405)

1. Is the property listed on the National Priorities List? ☐ Yes ☑ No
2. Is the property listed on the NYS Registry of Inactive Hazardous Waste Disposal Sites? ☐ Yes ☑ No
   If yes, please provide: Site #_____ Class # _____
3. Is the property subject to a permit under ECL Article 27, Title 9, other than an Interim Status facility? ☐ Yes ☑ No
   If yes, please provide: Permit type:_____ EPA ID Number:_____
   Date permit issued:_____ Permit expiration date:_____
4. Is the property subject to a cleanup order under navigation law Article 12 or ECL Article 17 Title 10? ☐ Yes ☑ No
   If yes, please provide: Order #_____
5. Is the property subject to a state or federal enforcement action related to hazardous waste or petroleum? ☐ Yes ☑ No
   If yes, please provide explanation as an attachment.

Section VI. Project Description

Please attach a description of the project which includes the following components:

- Purpose and scope of the project
- Estimated project schedule

Section VII. Property's Environmental History

To the extent that existing information/studies/reports are available to the requestor, please attach the following:

1. **Environmental Reports**
   A phase I environmental site assessment report prepared in accordance with ASTM E 1527 (American Society for Testing and Materials: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process), and all environmental reports related to contaminants on or emanating from the site.
   If a final investigation report is included, indicate whether it meets the requirements of ECL Article 27-1415(2): ☐ Yes ☐ No

2. **Sampling Data: Indicate known contaminants and the media which are known to have been affected:**

Contaminant Category	Soil	Groundwater	Surface Water	Sediment	Soil Gas
Petroleum					
Chlorinated Solvents					
Other VOCs					
SVOCs					
Metals					
Pesticides					
PCBs					
Other*					

*Please describe: _____

3. **Suspected Contaminants: Indicate suspected contaminants and the media which may have been affected:**

Contaminant Category	Soil	Groundwater	Surface Water	Sediment	Soil Gas
Petroleum	X	X			
Chlorinated Solvents					
Other VOCs					
SVOCs	X				
Metals	X				
Pesticides					
PCBs	X				
Other*					

*Please describe: _____

4. INDICATE KNOWN OR SUSPECTED SOURCES OF CONTAMINANTS:

☐ Above Ground Pipeline or Tank ☐ Lagoons or Ponds ☐ Underground Pipeline or Tank ☐ Surface Spill or Discharge
☑ Routine Industrial Operations ☑ Dumping or Burial of Wastes ☐ Septic tank/lateral field ☐ Drums or Storage Containers
☐ Adjacent Property ☐ Seepage Pit or Dry Well ☐ Foundry Sand ☐ Electroplating
☑ Coal Gas Manufacture ☐ Industrial Accident ☐ Unknown
Other: _____

5. INDICATE PAST LAND USES:

☑ Coal Gas Manufacturing ☐ Manufacturing ☐ Agricultural Co-op ☐ Dry Cleaner ☐ Salvage Yard ☐ Bulk Plant
☐ Pipeline ☐ Service Station ☐ Landfill ☐ Tannery ☐ Electroplating ☐ Unknown
Other: _____

6. **Owners**
   A list of previous owners with names, last known addresses and telephone numbers (describe requestor's relationship, if any, to each previous owner listed. If no relationship, put "none").
7. **Operators**
   A list of previous operators with names, last known addresses and telephone number (describe requestor's relationship, if any, to each previous operator listed. If no relationship, put "none").

Section VIII Contact List Information

Please attach, at a minimum, the names and addresses of the following:

1. The chief executive officer and zoning board chairperson of each county, city, town and village in which the property is located.
2. Residents, owners, and occupants of the property and properties adjacent to the property.
3. Local news media from which the community typically obtains information.
4. The public water supplier which services the area in which the property is located.
5. Any person who has requested to be placed on the contact list.
6. The administrator of any school or day care facility located on or near the property.
7. The location of a document repository for the project (e.g., local library). In addition, attach a copy of a letter sent to the repository acknowledging that it agrees to act as the document repository for the property.

Section IX Land Use Factors (Please refer to ECL § 27-1415(3))

Current Use: ☐ Residential ☐ Commercial ☐ Industrial ☑ Vacant ☐ Recreational (check all that apply)

Intended Use: ☐ Unrestricted ☐ Residential ☐ Commercial ☑ Industrial

Please check the appropriate box and provide an explanation as an attachment if appropriate. Provide a copy of the local zoning classifications, comprehensive zoning plan designations, and/or current land use approvals.

	Yes	No
1. Do current historical and/or recent development patterns support the proposed use? (See #12 below re: discussion of area land uses)	☑	☐
2. Is the proposed use consistent with applicable zoning laws/maps?	☑	☐
3. Is the proposed use consistent with applicable comprehensive community master plans, local waterfront revitalization plans, designated Brownfield Opportunity Area plans, other adopted land use plans?	☑	☐
4. Are there any Environmental Justice Concerns? (See §27-1415(3)(p)).	☐	☑
5. Are there any federal or state land use designations relating to this site?	☐	☑
6. Do the population growth patterns and projections support the proposed use?	☑	☐
7. Is the property accessible to existing infrastructure?	☑	☐
8. Are there important cultural resources, including federal or state historic or heritage sites or Native American religious sites within ½ mile?	☐	☑
9. Are there important federal, state or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species within ½ mile?	☑	☐
10. Are there floodplains within ½ mile?	☑	☐
11. Are there any institutional controls currently applicable to the property?	☑	
12. Describe on attachment the proximity to real property currently used for residential use, and to urban, commercial, industrial, agricultural, and recreational areas.		
13. Describe on attachment the potential vulnerability of groundwater to contamination that might migrate from the property, including proximity to wellhead protection and groundwater recharge areas.		
14. Describe on attachment the geography and geology of the site.		

Statement of Certification and Signatures

(By requestor who is an individual)

I hereby affirm that information provided on this form and its attachments is true and complete to the best of my knowledge and belief. I am aware that any false statement made herein is punishable as a Class A misdemeanor pursuant to section 210.45 of the Penal Law.

Date: _____ Signature: _____ Print Name: _____

(By an requestor other than an individual)

I hereby affirm that I am Managing Director (title) of BQ Energy (entity); that I am authorized by that entity to make this application; that this application was prepared by me or under my supervision and direction; and that information provided on this form and its attachments is true and complete to the best of my knowledge and belief. I am aware that any false statement made herein is punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Date: 7-09-07 Signature: PAUL CURRAN Print Name: PAUL CURRAN

SUBMITTAL INFORMATION:

Three (3) complete copies are required.

- **Two (2)** copies, one hard copy with original signatures and one electronic copy in Portable Document Format (PDF) on a CD or diskette, must be sent to:

  Chief, Site Control Section
  New York State Department of Environmental Conservation
  Division of Environmental Remediation
  625 Broadway
  Albany, NY 12233-7020

- **One (1)** hard copy must be sent to the DEC regional contact in the regional office covering the county in which the site is located. Please check our website for the address of our regional offices: http://www.dec.state.ny.us/website/der/index.html

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FOR DEPARTMENT USE ONLY

BCP SITE T&A CODE: _____ **LEAD OFFICE:** _____

LIST OF APPLICATION ATTACHMENTS

NYSDEC Brownfield Cleanup Program Application
BQ Energy, LLC – Steel Winds II Site
Lackawanna, New York

Attachment No.	Description
1	Property Owner Authorization Letter
2	Site Maps & Legal Description
3	Project Description and Schedule
4	Previous Environmental Investigations/Assessments
5	Listing of Previous Site Owners
6	Listing of Previous Site Operators
7	Contact List Information
8	Document Repository Confirmation Letter
9	Environmental Factors and Historic Land Use Considerations
10	Nearby Land-Use Map & Description
11	Groundwater Vulnerability Assessment
12	Description of Site Geography/Geology
13	Site-Wide Deed Restriction

ATTACHMENT 1

PROPERTY OWNER AUTHORIZATION LETTER

Tecumseh Redevelopment Inc.
4020 Kinross Lakes Parkway
Richfield, Ohio 44286-9000

June 18, 2007

Mr. Paul Curran
BQ Energy, LLC
20 Jon Barrett Rd
Suite 2
Patterson, New York 12563-2164

Re: Brownfields Cleanup Program Application
BQ Energy, LLC – Steelwinds II Development
Access to 1951 Hamburg Turnpike, Lackawanna, NY

55-47 KAN

Dear Mr. Curran:

Tecumseh Redevelopment Inc. is the owner of 1951 Hamburg Turnpike, Lackawanna, NY and acknowledges BQ Energy, LLC as an applicant for ~~38.0~~ acres, more or less, within our site for a wind energy project under the New York State Brownfield Cleanup Program (BCP) for this property. Tecumseh Redevelopment authorizes BQ Energy, LLC unlimited access to the property proposed for the BCP to perform required environmental investigations, testing and remedial activities.

Please contact me at (330) 659-9165 if you have questions or require additional information.

Sincerely,

Keith Nagel
General Manager

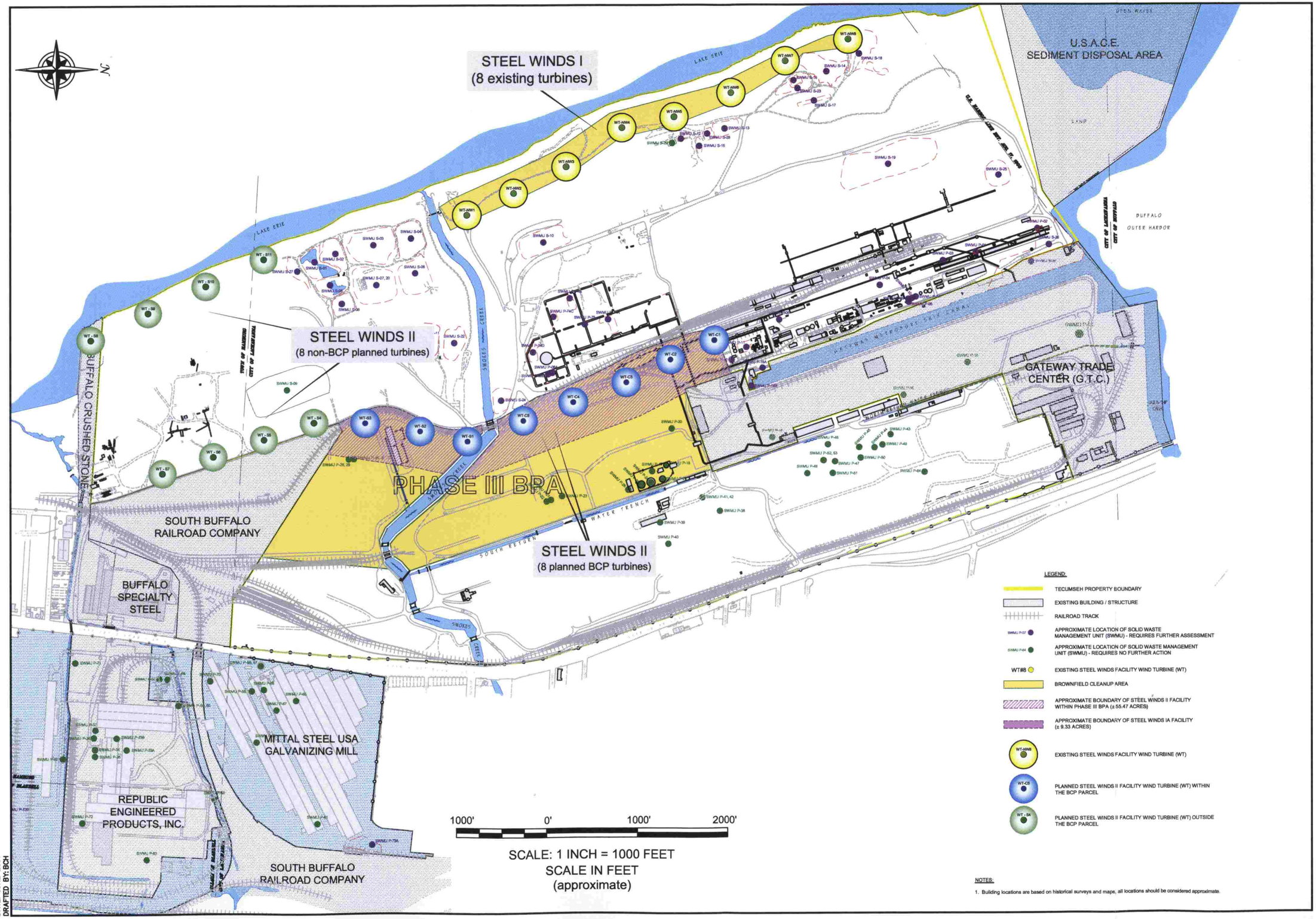
cc: Bill Shaklee, Squire, Sanders and Dempsey
Paul Werthman, TurnKey Environmental Restoration

ATTACHMENT 2

SITE MAPS & LEGAL DESCRIPTION

METES & BOUNDS DESCRIPTION

A Metes & Bounds description for the approximate 55.47-acre Steel Winds II BCP Parcel is being prepared and will be submitted to the New York State Department of Environmental Conservation under separate cover prior to issuance of the Brownfield Cleanup Agreement.



NOTES:

1. Building locations are based on historical surveys and maps, all locations should be considered approximate.

BENCHMARK
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728 EXCHANGE STREET
SUITE 824
BUFFALO, NEW YORK 14210
(716) 856-0599

JOB NO.: 0083-004-100

SITE PLAN

BROWNFIELD CLEANUP PROGRAM APPLICATION

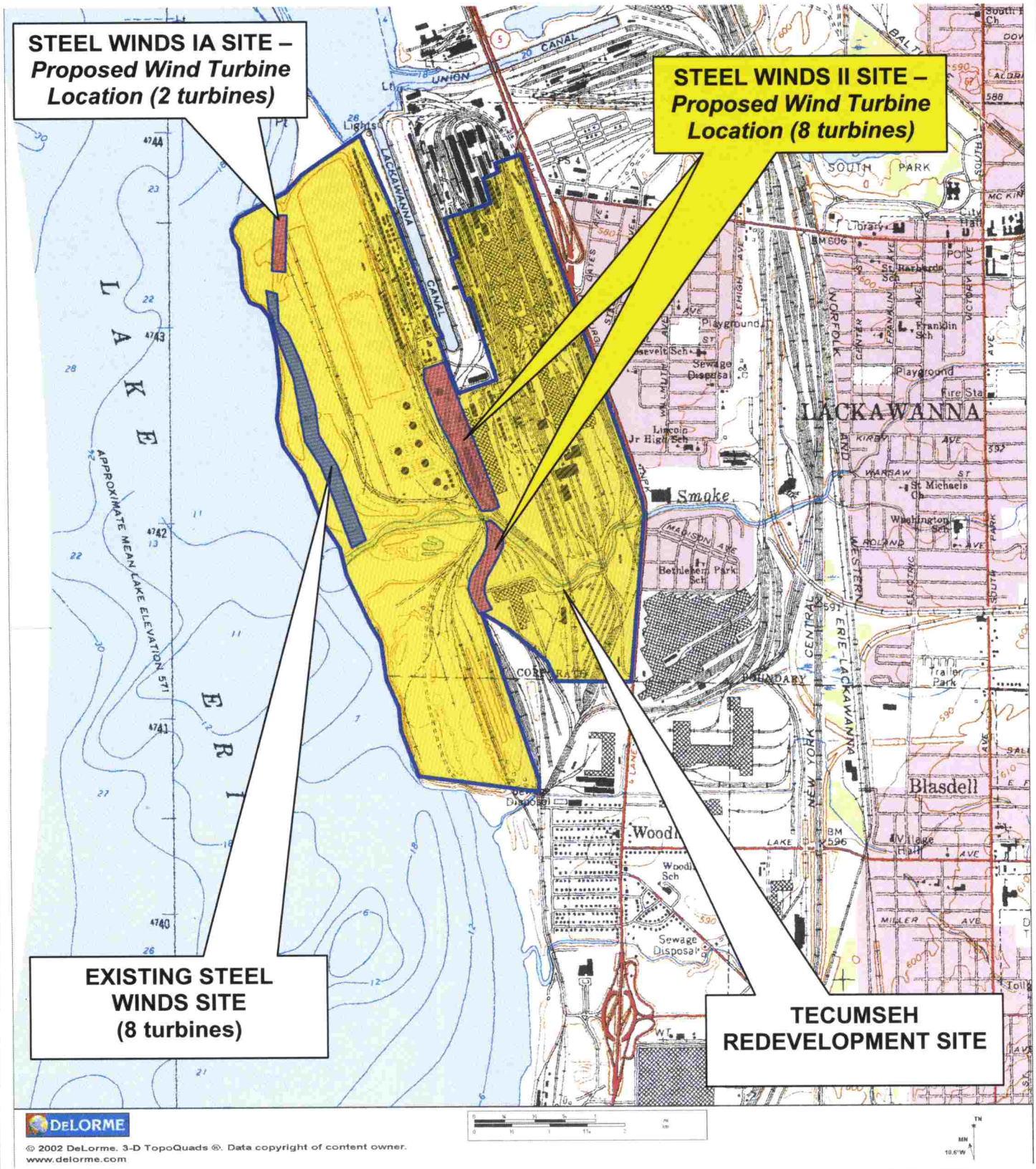
STEEL WINDS II SITE
LACKAWANNA, NEW YORK

PREPARED FOR
BQ ENERGY, LLC

FIGURE 2-1

F:\CAD\Benchmark\BQ Energy\Steel Winds 2\BCP Application\Attachments\Figure 02-1A, Planned Wind Turbine Locations.dwg
DATE: JUNE 2007
DRAFTED BY: BCH

FIGURE 2-2



FILEPATH=X:\cad\benchmark\bq energy\steel winds 1a\bcp application\attachments\Figure 02-2j usgs topographic map.dwg

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DATE: JUNE 2007

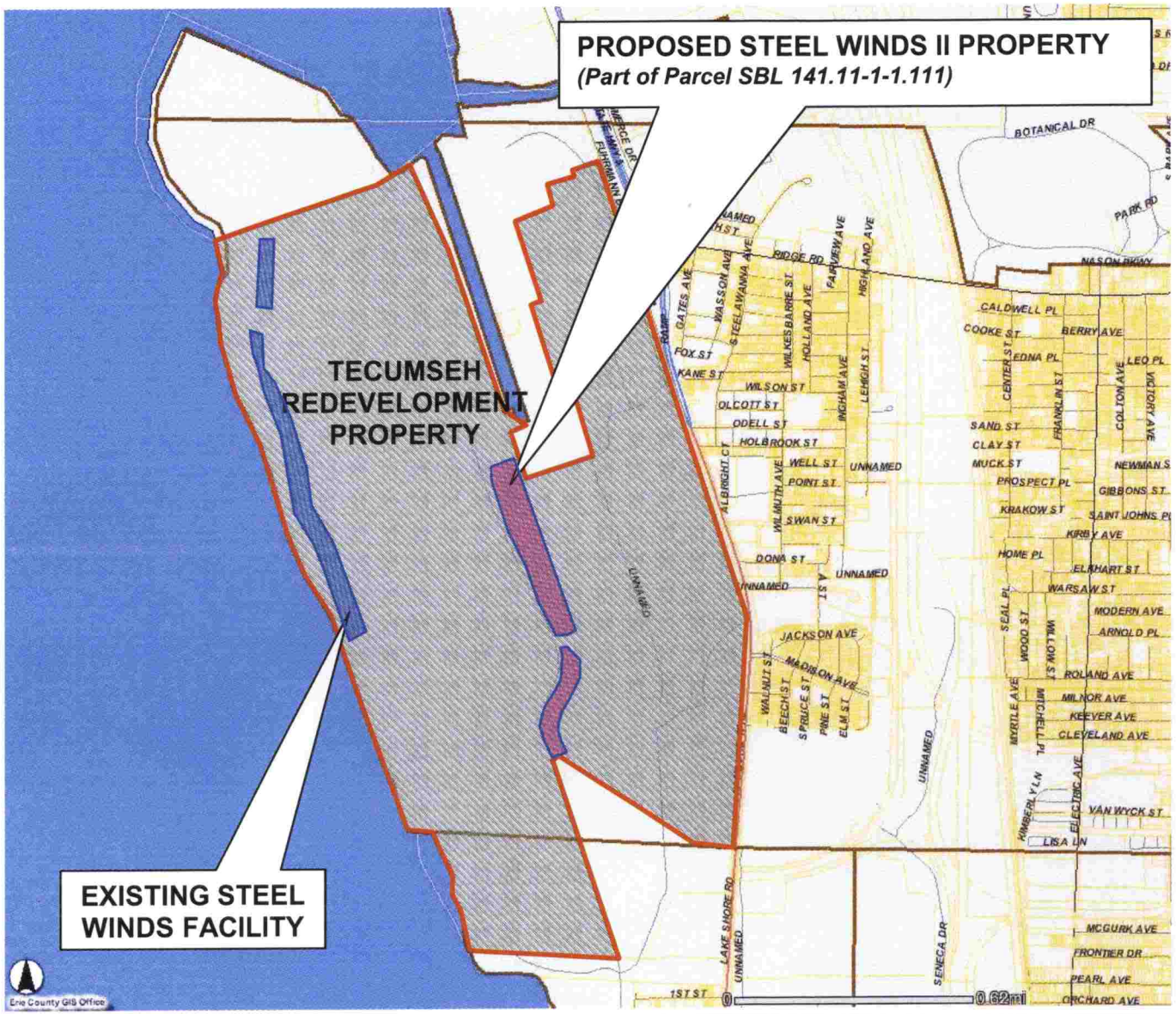
DRAFTED BY: BCH

USGS TOPOGRAPHIC MAP

BROWNFIELD CLEANUP PROGRAM APPLICATION

STEEL WINDS II SITE
LACKAWANNA, NEW YORK

PREPARED FOR
BQ ENERGY, LLC



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DRAFTED BY: BCH

TAX MAP

BROWNFIELD CLEANUP PROGRAM APPLICATION

STEEL WINDS II SITE
LACKAWANNA, NEW YORK

PREPARED FOR
BQ ENERGY, LLC

FIGURE 2-3

ATTACHMENT 3

PROJECT DESCRIPTION & SCHEDULE

Project Description and Schedule

Background

Tecumseh Redevelopment, Inc. (Tecumseh) owns approximately 1,100 acres of land at 1951 Hamburg Turnpike; approximately 2 miles south of the City of Buffalo (see Attachment 2 Figure 2-1). The majority of Tecumseh's property is located in the City of Lackawanna (the City), with portions of the property extending into the Town of Hamburg. Tecumseh's property is bordered by: NY State Route 5 (Hamburg Turnpike) on the east; Lake Erie to the west and northwest; and other industrial properties to the south and the northeast. Figure 2-2 (in Attachment 2) provides an overview of the Tecumseh Property, including major leased or licensed parcels, and adjacent parcels owned by others.

The Tecumseh property is located on a portion of the site of the former Bethlehem Steel Corporation (BSC) Lackawanna Works in a primarily industrial area. The property was formerly used for the production of steel, coke and related products by BSC. Steel production on the property was discontinued in 1983 and the coke ovens ceased activity in 2000. Tecumseh acquired the property, along with other BSC assets, out of bankruptcy in 2003.

A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of the entire former Bethlehem Steel Lackawanna Works was initiated by BSC under an Administrative Order issued by the United States Environmental Protection Agency (USEPA) in 1990. Tecumseh completed the RFI in January 2005. In August 2006, USEPA approved the RFI and terminated Bethlehem Steel's (and in turn Tecumseh's) obligation under the 1990 Administrative Order. Tecumseh is presently negotiating an Order on Consent with the New York State Department of Environmental Conservation (NYSDEC) to undertake corrective measures at certain solid waste management units (SWMUs) primarily on the western slag fill and coke manufacturing portion of the property. In addition, Tecumseh has applied for and received NYSDEC acceptance of three parcels, referred to as Business Park Phase I, II and III, into the NY State Brownfield Cleanup Program (see Figure 3-1). Brownfield Cleanup Agreements have been signed for all three of these parcels. Business Park Phase I encompasses approximately 102 acres, and is presently in the final stages of a Remedial Investigation and Alternatives Analysis Report (RI/AAR). Phases II and III encompass approximately 173 and 128 acres, respectively, and are slated to undergo remedial investigation. A fourth parcel, encompassing 29 acres along the Lake Erie shoreline, was also investigated and is presently undergoing final remedial measures under the NY State Brownfield Cleanup Program. Eight wind turbines and supporting power generation equipment and infrastructure are presently operating on this parcel, which is referred to as the "Steel Winds Site."

Redevelopment of the Tecumseh property, including the existing BCP Sites, is guided by a Master Plan (see Figure 3-1). Specifically, in April 2005 Tecumseh signed a Memorandum of Understanding (MOU) with Erie County and the City of

Lackawanna to promote redevelopment of the former BSC Lackawanna property following cleanup. The resultant Master Plan calls for a variety of site uses, including wind energy, passive recreation and business development.

Project Description

BQ Energy, LLC is considering construction of additional wind turbines on the Tecumseh property. Specifically, BQ Energy is contemplating construction of sixteen additional turbines, seven to eight of which will be located along the western boundary of the Phase III Business Park Area of the Tecumseh property. These seven to eight additional turbines will occupy approximately an approximate 55.47-acre parcel deemed "Steel Winds II." The Steel Winds II Site is the subject of this BCP application. The Steel Winds II BCP Site would be extended along the full length of the western boundary of Phase III Business Park. As this parcel is already in the BCP as part of Tecumseh Redevelopment, Inc.'s Phase III Business Park, this application seeks to "carve out" or reassign this portion of the Phase III Business Park to BQ Energy, LLC for the express purpose of expediting the RI/AAR and expanding the wind farm on this portion of the site under the BCP. BQ Energy, LLC is in the process of negotiating a lease with Tecumseh for this project.

Known and Suspected Environmental Conditions

The 128-acre Phase III Business Park Area was formerly used to house a portion of BSC's steel making operations. Specific processes and steel making facilities performed on or proximate to the Phase III Business Park Area parcel included:

- Open Hearth furnaces
- Basic Oxygen Furnace
- Blooming Mill
- Sinter Plant
- Finishing Mills
- Mould Warming
- Rail Servicing
- Electrical Substations
- Wastewater Treatment Plants
- Structural Shipping Yard
- Oxygen Plant
- Roll Shop

Six SWMUs (i.e., P-12, and P-28 through P-32) are present on or within the proposed Steel Winds II BCP Site. BSC performed assessments for all twenty of these SWMUs during the RCRA Facility Assessment (RFA) that preceded the RFI. Based on the assessment findings, USEPA Region II issued "No Further

Based on the assessment findings, USEPA Region II issued "No Further Assessment" designations for SWMUs P-28 through P-32 in 1988 based on the absence of hazardous waste disposal. However, SWMU P-12 indicates the presence of elevated concentrations of SVOCs and metals in soils and VOCs in site groundwater. Based on the Site history and SWMU investigation reports, the following environmental concerns have been identified on the proposed subject BCP Site.

- The likely impact of surface soils by base-neutral semi-volatile organic compounds (SVOCs) associated with oils, greases, and fuels associated with the operation of locomotive engines, steel mills, petroleum bulk storage and other historic steel manufacturing operations.

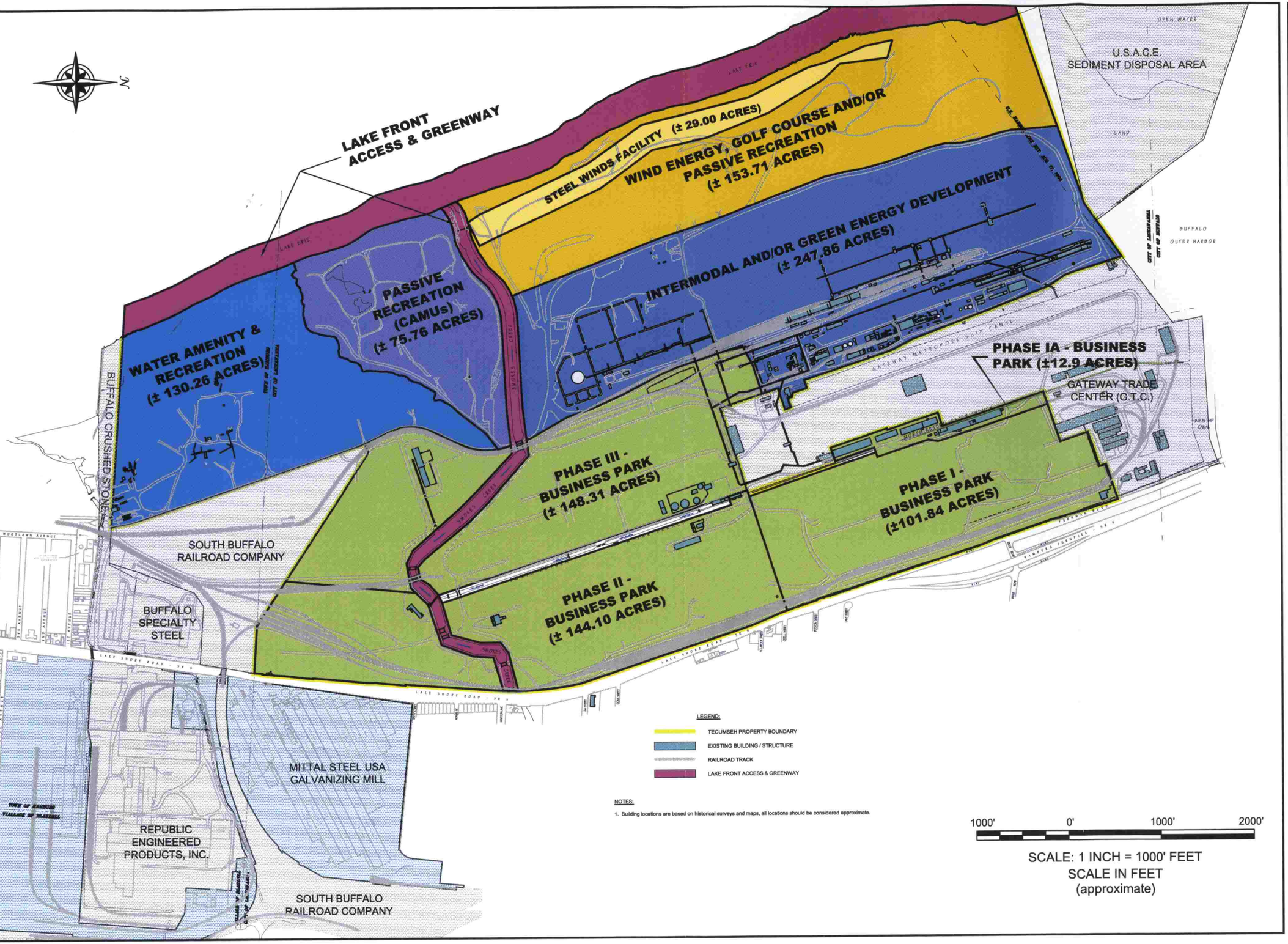
- The potential impact of surface and subsurface soils by metals associated with steel manufacturing operations.

- Potential soil and groundwater impacts from volatile organic compounds associated with petroleum storage and/or disposal in discrete onsite areas.

A site investigation will be performed in support of the BCP to determine the nature and extent of impacts from these known and suspect environmental conditions on this parcel.

Schedule

A proposed Project Schedule is attached as Figure 3-2.



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(716) 856-0599

JOB NO.: 0083-004-100

REDEVELOPMENT MASTER PLAN

BROWNFIELD CLEANUP PROGRAM

STEEL WINDS II SITE
LACKAWANNA, NEW YORK

PREPARED FOR
BQ ENERGY, LLC

FIGURE 3-1

DATE: JUNE 2007
DRAFTED BY: BCH

I:\CAD\Benchmark\BQ Energy\Steel Winds 2\BCP Application\Attachments\Figure 3-1; Redevelopment Master Plan.dwg

PROJECT SCHEDULE
STEELWINDS II
BROWNFIELD CLEANUP AND REDEVELOPMENT

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

ID	Task Name
1	BCP Pre-Application Meeting
2	Submit Final Application
3	NYSDEC Application Review, Comments
4	Application Revisions
5	Advertise BCP Appln, Distribute Fact Sheet
6	Public Comment Period
7	BC Agreement Issued
8	BC Agreement Reviewed/Executed
9	Develop RI Work Plan
10	NYSDEC Work Plan Review/Revisions
11	Advertise RI Work Plan, Distribute Fact Sheet
12	Public Comment Period
13	Soil Sampling & Analysis
14	Groundwater Well Installation & Development
15	Well Sampling & Analysis
16	Soil & Groundwater Data Review & Validation
17	Data Summary/Interpretation
18	Draft RI Report Preparation
19	NYSDEC RI Report Review/Revisions
20	RI Report Fact Sheet Issued
21	Prepare RD Report with Remedial Alts Assessment
22	RD Report Review/Revisions
23	Issue Fact Sheet
24	Public Comment Period
25	Remedy Construction/Infrastructure
26	Engineering Report
27	Issue Eng. Report Fact Sheet
28	COC, Institutional Control Fact Sheet

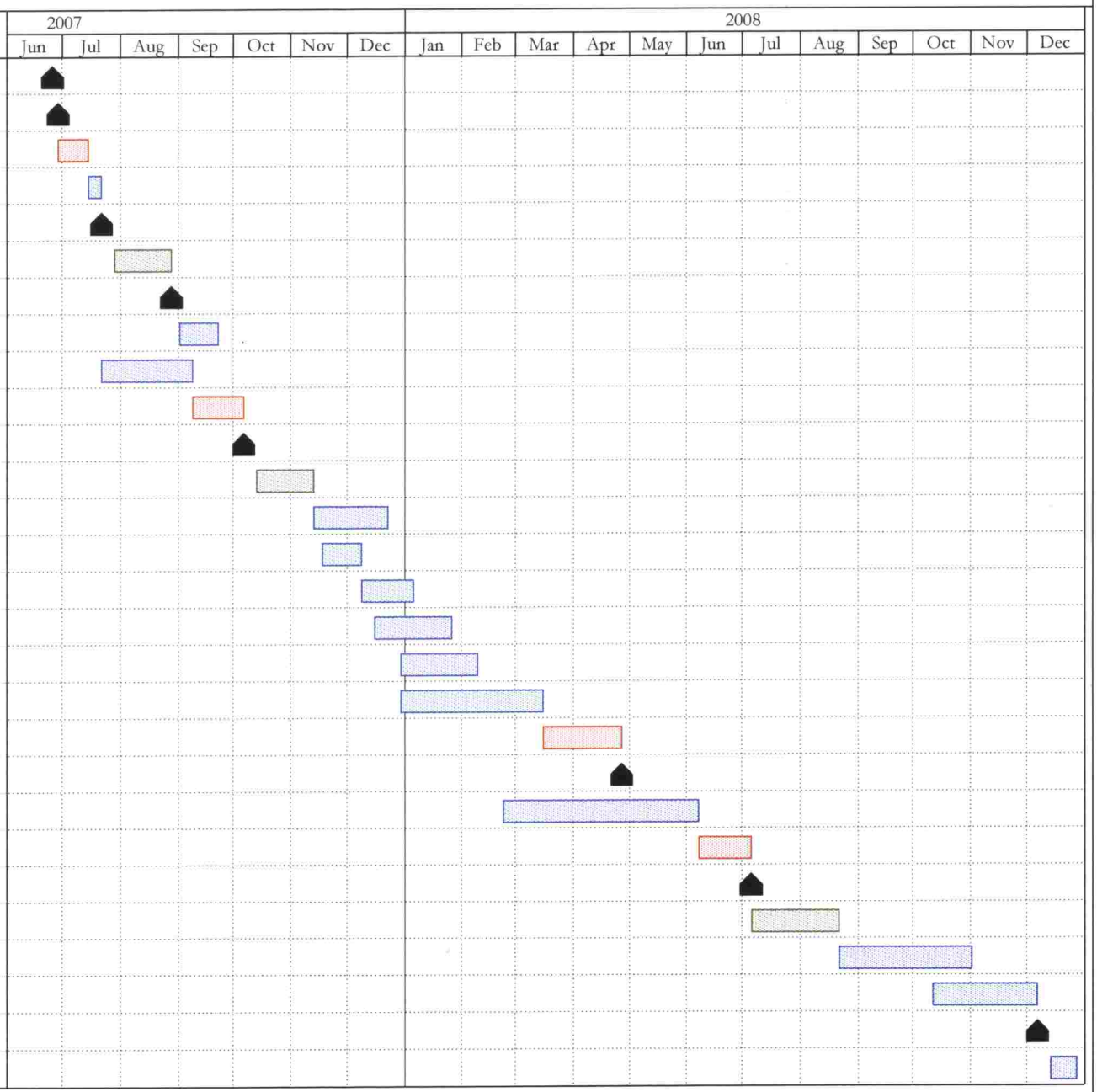

FIGURE 3-2

ATTACHMENT 4

PREVIOUS ENVIRONMENTAL INVESTIGATIONS/ASSESSMENTS

PREVIOUS ENVIRONMENTAL INVESTIGATIONS/ASSESSMENTS

Attached are copies of the text portion of each of the SWMU Assessment Reports for the SWMUs encompassed by the Steel Winds II Site (i.e., SWMU P-12, and SWMUs P-28 through P-32). A copy of the full RCRA Facility Investigation (RFI) Report, including appendices, has been submitted to the Regional office of the New York State Department of Environmental Conservation under separate cover.

Tab P-12

SWMU ASSESSMENT REPORT
SPILL CLEANUP SOIL STORAGE AREA
(SWMU P-12)

BETHLEHEM STEEL CORPORATION
LACKAWANNA, NEW YORK

September 2004

BETHLEHEM STEEL CORPORATION
2600 HAMBURG TURNPIKE
LACKAWANNA, NEW YORK 14218

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1.0 INTRODUCTION

This report documents the results of an environmental assessment of the Spill Cleanup Soil Storage Area at Bethlehem Steels Corporation's (BSC) Lackawanna, New York facility. The Spill Cleanup Soil Storage Area was identified as Solid Waste Management Unit (SWMU) P-12 in the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) for the facility (USEPA 1988) due to its one-time use as an oil-contaminated material storage area for a 1987 spill cleanup. The United States Environmental Protection Agency (USEPA) has required that a RCRA Facility Investigation (RFI) of this and other SWMUs at the BSC facility be completed in accordance with the Administrative Order on Consent (AOC) signed by BSC and USEPA in 1990 (USEPA 1990). The RFI has been conducted in phases (Phases I, IIA, IIB, IIC, and III), and included field work consisting of the collection and analysis of environmental samples from SWMUs and other areas throughout the property. This report evaluates SWMU data available to BSC as of November 2001.

In 1992, BSC submitted a Preliminary SWMU Assessment Report for SWMU P-12. Attachment A provides USEPA comments regarding the preliminary SWMU Assessment. Additional information has been incorporated into this report to further address the USEPA comments. Copies of the comments are provided in Attachment A.

1.1 Description

SWMU P-12 is a 30- by 40-foot rectangular area that was used to temporarily store 368 tons of oil-contaminated soil generated during the cleanup of a 1987 "debenzolized" wash oil spill. It is located in an area just outside the southeast corner of the adjacent Benzol Plant enclosure (Figure 1). The Benzol Plant is situated at the southern end of BSC's Lackawanna Coke Division facility. The Coke Division extends along the entire west side of the Gateway Metroport Ship Canal (Ship Canal). The ground elevation of the SWMU is approximately 584 feet BSC plant datum; the groundwater table is approximately 4 to 6 feet below grade.

SWMU P-12 is an at-grade area enclosed on its north, west, and east sides by a 5-foot concrete wall and on the south side by an asphalt road that is approximately 6 inches higher than the SWMU P-12 surface. Although the SWMU is surrounded by the walls and an adjacent road, surface water can run off the area to the southeast, where it drains around the wall and back into the southeastern portion of the Benzol Plant and eventually infiltrates into the ground.

1.2 History

In May 1987, approximately 5,000 gallons of "debenzolized" wash oil (oil) was spilled at the Benzol Plant. The contained oil was pumped from the spill area to a concrete-lined pit (#17 Pit) equipped with a steam siphon for transferring the oil to the South Interceptor Sump. From there, the oil was recycled back into the coke-making byproduct process. Although most of the oil from the spill was recovered, some of it was absorbed by surface fill material, which consisted primarily of fine, compacted steel-making slag. An inspection of outfalls that discharge into the Ship Canal, confirmed that no oil entered the canal as a result of the spill. The spill report for this incident is provided in Appendix A.

Following the recovery of the oil, 368 tons of oil-contaminated slag was removed from the spill site and transferred to the area identified as SWMU P-12, which was prepared to handle the contaminated slag. Preparation of the SWMU P-12 containment area included:

- Spreading a layer of fresh slag fines on the ground.
- Placing a 10-mil plastic sheet over the area.
- Laying lengths of perforated PVC pipe in a manifold arrangement and connecting it to a pump to collect leachate (note: no drawings of the soil storage leachate collection system are available).

The oil-contaminated slag was placed within the containment area in an approximate 20-foot by 40-foot area. Leachate was collected through the PVC pipes and pumped to the south interceptor sump for recycling. On several occasions between 1987 and 1992, the oil-contaminated slag was turned over with a clamshell bucket for aeration, thereby assisting in the natural biodegradation of residual oil.

In May 1992, the oil-contaminated slag, the plastic cover, and the PVC pipe were removed from SWMU P-12 and the materials disposed of at the CID Landfill in Chaffee, New York, a commercial solid waste facility. Copies of the disposal application and approval letter are provided in Appendix A. Waste disposal manifests are not available and presumed lost.

On February 20, 1996, BSC filed a declaration in the Erie County Clerk's Office limiting future use of the property around and including SWMU P-12. Under the deed restriction, future use of the property shall be limited to industrial use only. Industrial use includes manufacturing, assembling, warehousing, and related railroad, port, and shipping activities. The deed restriction also prevents the installation and operation of extraction or water wells for purposes other than environmental remediation use.

In June 1992, SWMU P-12 was inspected by BSC to verify that the soil removal was properly completed (field records from BSC's June 1992 inspection are not available). A representative of Dames & Moore inspected the unit in September 1996. The unit was recently inspected by URS in June 2000. Both inspections found the SWMU to be a flat, moderately vegetated slag surface. The SWMU inspection field notes are included in Appendix B.

2.0 SAMPLING AND ANALYSIS

Between 1989 and 1999, waste, surface soil and groundwater sampling was conducted in and near SWMU P-12 on several occasions. The stored waste material was sampled in 1989 for waste characterization purposes, while subsequent soil and groundwater sampling were conducted as part of the RFI following established site investigation procedures.

Surface soil samples were collected from below the area where the waste was stored in 1995 during the Phase IIC RFI (BSC, 1994) sampling program. The groundwater near SWMU P-12 was sampled over several phases of the investigation, starting in 1995 and concluding in 1999. All groundwater sampling was conducted in accordance with USEPA approved work plans for the appropriate sampling phases (BSC 1990; 1989; 1993; 1994; 1997; 1999a). A complete list of the site-specific compounds targeted for analysis during the RFI site investigations is provided in Table 1 followed by the laboratory data qualifiers. Laboratory analytical reports are provided in Section II of the RFI.

2.1 Stored Waste Sampling

In November 1989, a sample of the oil-contaminated slag stored in SWMU P-12 was collected and analyzed by the Toxicity Characteristic Leaching Procedure (TCLP). The sample was analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals, and pesticides/herbicides.

The 1989 TCLP results, when compared to regulatory concentration levels as listed in 40 CFR Part 261, indicate that the materials in SWMU P-12 were non-hazardous. The analytical report is provided in Appendix C.

2.2 Soil Sampling

During the facility-wide Phase IIC RFI in February 1995, two grab surface soil samples, P12-1 and P12-2 (both from the 0- to 6-inch interval), were collected from SWMU P-12 to aid in assessing potential health risks and exposure pathways. The Phase IIC sample locations are

shown in Figure 1. The samples were described as a gray-brown sand and fine to coarse gravel. No organic odors were noted. The grab samples were submitted for TCLP, Synthetic Precipitation Leaching Procedure (SPLP), and total constituent analysis. The sample records are provided in Appendix D.

2.2.1 Total Constituent Results

Detectable concentrations of two VOCs, benzene and total xylenes, were reported for both surface samples. Concentrations ranged from 1.3 micrograms per kilogram (ug/kg) for total xylenes in sample P12-1 to 4.7 ug/kg for benzene in sample P12-2.

Thirteen SVOCs were detected in the two samples. Although relative concentrations for each sample were similar, in general, the concentrations in P12-2 were higher than in P12-1. Concentrations ranged from 210 ug/kg of naphthalene to 1,300 ug/kg of fluoranthene. The three compounds with the highest concentrations are benzo(a)anthracene (560 ug/kg), benzo(b)fluoranthene (380 ug/kg), and fluoranthene (1,300 ug/kg).

Eleven metals were detected in the two samples. The highest concentration was in calcium [159,000 milligrams per kilogram (mg/kg) in P12-2]. The remaining metals ranged from 0.70 mg/kg of cadmium to 1,690 mg/kg of potassium, both in sample P12-2.

Analytical results from the 1995 Phase IIC surface soil sampling are presented in Table 2.

2.2.2 SPLP Results

SPLP analysis was conducted to more closely mimic the effect of compounds leaching from the soil due to rainwater infiltration. The analysis was performed in accordance with the USEPA's SW 846 Method 1312 protocols. The SPLP results help evaluate what compounds could potentially leach from the soil into the ground surface.

The analytical results indicated detectable concentrations of two VOCs; benzene [0.012

milligrams per liter (mg/L)] and 1,1,1-trichloroethane (0.002 mg/L). No VOCs were detected in P12-2. There were no SVOCs detected in either sample. Metals detected in sample P12-1 were calcium (31.7 mg/L) and potassium (11.0 mg/L), while metals detected in sample P12-2 were arsenic (0.024 mg/L) and calcium (27.3 mg/L). The 1995 SPLP results are presented in Table 3.

2.2.3 TCLP Results

TCLP results were compared to regulatory concentration levels as listed in the 40 CFR Part 261. The TCLP results indicate that the material in SWMU P-12 does not meet TCLP criteria. The analytical results for the 1995 sampling are summarized in Table 3.

2.3 Groundwater Sampling

Groundwater quality in the area of SWMU P-12 appears to have been affected by historic leaks and spills from underground piping and storage tanks associated with the Benzol Plant area (SWMU P-11). Although groundwater flow is influenced by the presence of the Ship Canal, periodic groundwater level monitoring of the monitoring wells and piezometers indicate that a groundwater mound is present beneath the Benzol Plant area. This mound affects localized groundwater flow beneath SWMU P-12. Figures 2 and 3 show groundwater contours around SWMU P-12 in the fill and underlying sand unit, respectively.

To assess groundwater conditions near SWMU P-12, monitoring well MWN-31A, located approximately 60 feet upgradient from SWMU P-12, and monitoring well MWN-30A located approximately 100 feet downgradient from SWMU P-12 were sampled. Since 1994, sporadic groundwater sampling of these wells has been conducted over several phases of the RFI. The two most recent sampling events that included both wells were completed in August/September 1995 and November 1999 were used to evaluate groundwater conditions in the vicinity of SWMU P-12. Analytes sampled for in 1999 followed RFI protocol (see Table 1) and consisted of VOCs, SVOCs, metals (total and dissolved) and inorganic parameters. Five dissolved gases were also analyzed.

2.3.1 Groundwater Results

Laboratory analysis of the samples revealed detectable concentrations of VOCs, SVOCs, and metals in both the upgradient and downgradient wells in the 1999 sampling event. The only VOCs detected in the wells were benzene, ethylbenzene, toluene, and total xylenes. Concentrations for all four VOCs were lower in the downgradient well.

Several SVOCs, total metals, and dissolved metals were detected during the 1999 sampling event. Concentrations in the downgradient well were similar to, or lower than, those concentrations observed in the upgradient well.

The concentrations of VOCs in downgradient well MWN-30A, between 1995 and 1999 show an increase in benzene concentration. The three remaining VOCs detected decreased in concentration compared to 1995 analytical results. In general, the detected SVOCs increased in concentrations in well MWN-30A from 1995 to 1999. Conversely, the concentration of all four VOCs detected decreased in upgradient well MWN-31A between 1995 and 1999. Similarly, numerous SVOCs detected in 1995 were not detected above the laboratory practical quantitative limits (PQLs) in 1999. This indicates that VOCs and SVOCs detected in MWN-30A in the 1999 sampling event are likely sourced from the upgradient benzol area (MWN-31A).

Table 4 summarizes detected groundwater analytical results for both the upgradient and downgradient wells, and shows analytes with reported concentrations above the PQLs for any sample collected from the wells. The detected analyte concentrations are shown with their respective USEPA data qualifiers, summarized on the page preceding Table 2. Analytes that were not detected in either well for all sample events are not shown.

2.4 Summary of Analytical Results

Review of the analytical data revealed that the oil-contaminated material stored in SWMU P-12 from 1989 to 1992, as well as the surface material present beneath the former stockpile, does not meet TCLP criteria.

The 1999 groundwater analytical results showed that the highest concentrations of VOCs were present in the upgradient well MWN-31A. SVOCs and metals detected in the downgradient well MWN-30A had concentrations similar to, or lower than, concentrations

detected in upgradient well MWN-31A. Additionally, the 1995 groundwater results, when compared to the 1999 event, indicates that the detected SVOCs and VOCs in MW-30A in 1999 are likely sourced from the upgradient benzol plant (MWN-31A). Of the four SVOCs detected in the downgradient well (acenaphthalene, fluorene, naphthalene, and phenanthrene), only naphthalene and phenanthrene was detected in the 1995 surface soil samples. Additionally, no SVOCs were detected in the 1989 TCLP extract of the former waste or the 1995 TCLP and SPLP extract of the surface materials found in the SWMU.

A comparison of the groundwater analytical results to the TCLP results of the waste material and the TCLP, SPLP, and total constituent results of the surface soil shows that there is no additive effect from the former storage of materials in SWMU P-12 on the groundwater.

3.0 RISK ASSESSMENT

While this report evaluates data exclusively for SWMU P-12, a human health risk assessment, as described in the *Human Health Risk Assessment Work Plan* (BSC 1997), was conducted for SWMU Group PA-4, which includes both SWMU P-12, the Soil Spill Cleanup Storage Area and SWMU P-11, the Benzol Plant Tank Storage Area. The results of the Tier 1 Human Health Risk Assessment (HHRA) are presented here and are organized into the following sections: Data Evaluation, Exposure Assessment, Toxicity Assessment, Risk Characterization and Uncertainty Analysis. The major components of this HHRA have previously been presented in Human Health Risk Assessment Report, Part IV of this RFI Report. Therefore, the following sections provide summary overviews of previously presented information. This section, therefore, serves as a summary report, bringing together all associated and related work from previous risk assessment deliverables, and providing the conclusions of the SWMU-specific risk assessment.

3.1 Data Evaluation

SWMU P-12, along with SWMU P-11, is included in SWMU Group PA-4 (Figure 4). Placing these SWMUs into group PA-4 was done in accordance with ID No. 1, with the main purpose being to increase the size of analytical data sets for SWMUs with similar operations, types of constituents, and proximity of the SWMUs to neighboring units. Therefore, this risk assessment uses SWMU material data collected from both SWMU P-11 and P-12. The associated uncertainties of grouping these two SWMUs are presented in the Uncertainty Analysis section.

A list of 96 constituents of potential interest (COPIs) was developed for the Bethlehem Steel Corporation Lackawanna, New York site based on USEPA and industry studies (BSC 1998). The list contains hazardous constituents that could be present in the waste streams as a result of integrated iron and steel plant operations, such as those historically conducted at the Lackawanna site. Human Health Risk Assessment ID No. 1 (BSC 1998) established the chemicals of potential concern (COPCs) for each SWMU at the Lackawanna Site. The COPCs were determined by sequentially applying the following criteria, as applicable, to each COPI on a

medium by medium basis for each SWMU and watercourse: 1) the chemical was detected in at least 5% of the samples, 2) the chemical was detected in at least one sample at a level above background (*i.e.*, the maximum concentration was above background concentration for chemicals in surficial SWMU material only), and 3) the chemical was positively detected in at least one sample at a level above the applicable screening criterion [*i.e.*, USEPA Region III Risk Based Concentrations (RBCs), USEPA Soil Screening Levels (SSLs), or NYSDEC Ambient Water Quality Standards and Guidance values]. In accordance with ID No. 1, a background comparison was not made for the subsurface SWMU material in this report.

The sampling data for SWMU Group PA-4 (as presented in Section 2.0 of this report and the report for SWMU P-11) were evaluated in order to identify the site-related COPCs for the SWMUs. The COPCs were originally determined in ID No. 1, however, as some screening criteria have been revised, and because additional USEPA Region 2 comments have been received (USEPA 2003) since ID No. 1 was submitted, this screening process has also been updated (Tables 5 through 7). The screening criteria are current as of 2000.

Table 5 presents the screening of the surficial SWMU material, Table 6 presents the screening of the subsurface SWMU material, and Table 7 presents the screening of groundwater. Two inorganic (arsenic and chromium), and no volatile or semivolatile COPCs were identified in surficial SWMU material. Benzene, toluene, xylenes, and naphthalene were identified in subsurface SWMU material. Four volatile organic, six volatile semivolatile, sixteen volatile semi-volatile, seven metals and one miscellaneous COPC (cyanide) were identified in the Coke Oven Area groundwater

Representative chemical concentrations were calculated for each COPC. For those datasets with sample sizes of less than ten, the maximum concentration was used. Three samples were collected of the surficial material in SWMU Group PA-4, therefore, the maximum concentration was used to represent all COPCs in surface SWMU material. Eleven samples were collected in subsurface SWMU material, therefore, a 95% UCL was calculated as the representative concentration. SWMU Group PA-4 is located in the Coke Oven Groundwater Zone; for all groundwater COPCs except acenaphthene, benzo(b)fluoranthene, and benzo(k)fluoranthene, at least ten samples were collected. The COPCs and their representative

concentrations are presented in Table 8. If a chemical's representative concentration exceeds its saturation limit in soil, or its solubility limit in groundwater, this is noted in Table 8. Exceedance of either of these levels could indicate the presence as free phase chemical (either solid or liquid). These representative concentrations are used in the SWMU Group PA-4 risk characterization.

3.2 Exposure Assessment

The exposure assessment conducted for SWMU P-12 included a review of current and future human receptor scenarios and potential exposure pathways, as related to the COPCs. In general, exposure pathways by which a human receptor could come into contact with SWMU material are defined by four components (USEPA 1989):

- A source and mechanism of constituent release to the environment;
- An environmental transport mechanism;
- A point of potential human contact with the affected medium, and
- A route of entry into humans.

If any one of these components is missing, the pathway is considered incomplete and does not contribute to receptor exposure.

Human Health Risk Assessment ID No. 2 (BSC 1999b) presented the current and future human receptor scenarios and potentially complete exposure pathways for each of the SWMUs identified at the Lackawanna Site. Subsequent USEPA Region 2 comments identified additional potentially complete exposure pathways. The initial identification of COPCs in ID No. 1 was also integral in determining potentially complete exposure pathways, based on COPC presence in each medium (*i.e.*, surface SWMU material, subsurface SWMU material or groundwater) and their volatility (*e.g.*, inorganics in groundwater do not present a complete exposure pathway as they are not volatile and groundwater is not used as a drinking water source). Potential exposure pathways for SWMU P-12 are presented in Table 9.

For SWMU P-12, the potential receptor scenarios include a current non-BSC commercial/industrial worker, a future commercial/industrial worker, a future construction worker, a future utility/maintenance worker, a trespasser, a future marina worker, a future greenway user, a future fenceline resident, and a present fenceline resident. As previously established in ID No. 2, the potentially complete exposure pathways are as follows. The current non-BSC commercial/industrial worker was evaluated for inhalation of particulates from surficial SWMU material, and inhalation of ambient vapors from groundwater and subsurface SWMU material. For the future commercial/industrial worker and trespasser scenarios, potentially complete exposure pathways include direct contact (*i.e.*, inhalation, ingestion and dermal contact) with surface SWMU material and inhalation of ambient vapors from Coke Oven Zone groundwater and subsurface SWMU material. The future commercial/industrial worker is also evaluated for exposure to indoor vapors emanating from groundwater and subsurface SWMU material. For the future utility/maintenance worker and future construction worker, potentially complete exposure pathways include direct contact with surface and subsurface SWMU material, and inhalation of volatile COPCs from, and dermal contact with, the COPCs in groundwater. For the future marina worker, future greenway user, and present and future resident scenarios, the inhalation of particulates in surficial SWMU material, and inhalation of vapors in subsurface SWMU material are potentially complete exposure pathways evaluated in this SWMU-specific risk assessment.. The current and future residential scenarios and future marina worker scenario represent potential exposure scenarios located off site.

3.3 Toxicity Assessment

A toxicity assessment characterizes the relationship between the exposure to a COPC and the frequency of adverse health effects that could result from such an exposure (dose-response). The end result of the dose-response assessment is the determination of human uptake levels that provide an adequate measure of protection to exposed persons for carcinogenic and noncarcinogenic endpoints. The derivation of acceptable levels of exposure (*e.g.*, risk-based screening levels; RBSLs) and the manner in which these levels are used in this HHRA are discussed below.

Tier 1 RBSLs were calculated and compared to the representative SWMU Group PA-4 COPC concentrations. The RBSLs are defined as concentrations of COPCs in media that are not expected to produce any adverse health effects under assumed exposure conditions. The equations used to calculate the RBSLs follow basic USEPA risk assessment principles (USEPA 1989, 1996). Conservative exposure parameters, as defined by the ASTM Standard (ASTM 1995) and USEPA guidance (USEPA 1989, 1991a, and 1991b), and USEPA toxicity criteria (USEPA 2000); were inputs into these equations to develop the RBSLs. As some of the toxicity criteria have been updated by the USEPA since originally presented in ID No. 1, they are presented in Table 10 of this HHRA. The toxicity criteria are current as of 2000 (USEPA 2000a). The above information was used to calculate Tier 1 RBSLs for COPCs in SWMU material and groundwater, for each of the nine receptor exposure scenarios.

For this risk assessment, vapor dispersion modeling was performed to enable estimation of potential exposure to airborne COPCs emanating from subsurface SWMU material; the equations and parameters used were presented in ID. No 2 (BSC 1999b). Modeling was performed using the USEPA Industrial Source Complex Short-Term Model (ISCST3, version 99155) and with meteorological data collected at a monitoring station at the Lackawanna site in 1991. For the current non-BSC worker scenario, Tier 1 RBSLs were calculated based on the maximum estimated impacts in the northern, middle, and southern regions of the site. For this Tier 1 assessment, the most conservative RBSL (*i.e.*, lowest) of the regions was used to represent the current, non-BSC worker scenario. Particle dispersion modeling was not performed for Tier 1 RBSLs; instead, it was conservatively assumed that the receptor is actually present on the SWMU.

Certain items should be discussed in reference to the RBSL calculations. First, the future commercial/industrial worker scenario RBSL for direct contact with arsenic (0.94 mg/kg) is below the arsenic background level established for the site (12 mg/kg). As the background level was deemed an appropriate screening value in a previous step of the HHRA, it was used as the default RBSL in lieu of the future commercial/industrial worker scenario RBSL. It should also be noted that the chromium in surface SWMU material was conservatively assumed to be hexavalent chromium in the absence of data indicating the valence state. This is considered to be a conservative approach as hexavalent chromium is more toxic than other forms of chromium,

and it is unlikely that all of the chromium found in SWMU Group PA-4 surface material is hexavalent.

It should be noted that, in groundwater, many of the RBSLs calculated were greater than the chemicals' solubility in water. This indicates that, based on the predicted amount of chemical volatilization, pure product in the groundwater would not pose an inhalation health threat from these chemicals. The representative concentration of several chemicals in groundwater are greater than their respective solubility limits in water. The solubility limits of these chemicals are indicated in Table 11.

Similarly, some of the RBSLs calculated for the COPCs in subsurface SWMU material have been determined to be health protective at concentrations that are greater than the chemicals' saturation limit in soils. However, it is important to consider that chemical emissions from soil to air reach a plateau at the chemical's saturation limit, and volatile emissions will not increase above this level, regardless of how much more chemical is added to the soil. In other words, the exposure concentration for an inhalation-only scenario cannot exceed a chemical's saturation limit. Furthermore, RBSLs that are above the saturation limit are not likely to pose increased inhalation risks or hazards (USEPA 1996). Therefore, RBSLs that are based only upon the inhalation pathway are capped at the saturation limit for that chemical, and "> saturation limit" is indicated in such situations (Table 10). RBSLs that are not based solely on inhalation were not capped at the saturation limit, as the potential exposure concentrations are greater than the saturation limit for direct contact scenarios (*e.g.*, dermal contact, ingestion).

Lastly, some of the RBSLs for COPCs in SWMU material were determined to be health protective at levels that are greater than 1,000,000 parts per million (mg/kg); such cases are noted by the following indicator ">1,000,000" in Table 10. For those RBSLs that were based on inhalation, if a calculated RBSL is greater than both the saturation limit in soil and 1,000,000 mg/kg, ">1,000,000" is shown in Table 10.

A comparison of the representative COPC concentrations to RBSLs for each of the exposure scenarios is presented in Table 11. This comparison provides a preliminary screening of potential risk to the specific receptor populations and exposure pathways identified for this

SWMU. For the current non-BSC commercial/industrial worker scenario, the representative concentrations of benzene in subsurface SWMU material and groundwater exceed both the cancer and noncancer RBSLs for inhalation of ambient vapors.

For the future commercial/industrial worker scenario, arsenic in surface SWMU material exceeds the cancer direct contact RBSL (which defaulted to the background concentration). For the indoor inhalation pathway, in subsurface SWMU material, the benzene concentration exceeds both the cancer and noncancer RBSLs, and naphthalene and toluene exceed the noncancer RBSLs. In groundwater, the benzene concentration exceeds both the cancer and noncancer RBSLs and naphthalene exceeds the noncancer RBSL. For the ambient inhalation pathway, representative concentrations of benzene in subsurface SWMU material and groundwater are greater their RBSLs.

For the future construction worker scenario, the arsenic surface SWMU material RBSL is exceeded, and subsurface SWMU material RBSLs for benzene and naphthalene are exceeded. Also for this receptor, for the inhalation of ambient vapors from and dermal contact with groundwater pathway, the following COPCs' representative concentrations exceed their respective RBSLs: benzene, bis(2-ethylhexyl)phthalate and naphthalene.

For the future utility/maintenance worker scenario, the noncancer and cancer RBSLs for benzene in subsurface SWMU material are exceeded for the direct contact pathway, and the inhalation of ambient vapors and dermal contact with groundwater pathways. Present and future fenceline resident RBSLs are exceeded for inhalation of ambient benzene vapors from subsurface SWMU material. For all other scenarios, chemicals and pathways, the representative concentrations are below the respective RBSLs.

In accordance with Part IV of the RFI, those COPCs that do not exceed the Tier 1 RBSLs are not evaluated further. For those COPCs that exceed Tier 1 RBSLs, the risk to human health is evaluated further in the Tier 1 Risk Characterization.

3.4 Risk Characterization

Risk characterization involves estimating the magnitude of potential adverse health effects of the COPCs and summarizing the nature of the health impact to the defined receptor populations. It combines the results of the toxicity and exposure assessments to provide numerical estimates of health risk.

In accordance with the Work Plan, those COPCs that exceed an RBSL were further evaluated in a Tier 1 Risk Characterization, or HHRA. A Tier 1 HHRA provides an estimate of risk and hazard based on a comparison of the RBSL (*i.e.*, health-protective levels) to the COPC concentrations (*i.e.*, site-specific levels). Specifically, for those COPCs, that exceed an RBSL, a screening-level hazard index (SLHI) was calculated to evaluate noncarcinogenic health effects, and a total screening-level cancer risk ($SLCR_{total}$) was calculated to evaluate carcinogenic effects. The SLHI and $SLCR_{total}$ methodologies are based on USEPA guidance (USEPA 1989) and are described in Part IV of the RFI. . The Tier 1 HHRA results are presented in Table 12.

3.4.1 Noncarcinogenic Hazards

The noncancer hazards were assessed in this HHRA using a hazard quotient approach (USEPA 1989). For each COPC, the noncarcinogenic RBSL was compared to the COPCs representative concentration to determine the screening level hazard quotient (SLHQ) for that chemical. The equation is as follows:

$$SLHQ = \frac{\text{Representative concentration}_{COPC/medium}}{RBSL_{COPC/medium/receptor/pathway}}$$

The SLHQs for each chemical are summed to create a total Screening-Level Hazard Index ($SLHI_{total}$) for each pathway. The smaller the SLHQ/SLHI, the greater the degree of protection for that pathway. Based on the above equation, all RBSLs that are exceeded will create an SLHQ greater than1. In accordance with USEPA (USEPA 1989), if the SLHI is less than 1, the risks are considered negligible. Those $SLHI_{total}$s that exceed 1 were further evaluated by developing target organ-specific SLHIs. This process is appropriate as only certain chemicals

affect similar biological target endpoints, and thus, it is only relevant to quantify the additive effects of these chemicals.

The SLHQs and SLHIs are presented in Table 12. The $SLHI_{total}$ for the non-BSC commercial/industrial worker scenario is 3.0, as a result of inhalation of ambient benzene vapors from subsurface SWMU material and groundwater. The SLHIs were also evaluated for exposure pathway-specific scenarios for the non-BSC commercial/industrial worker. The SLHI for inhalation of ambient vapors from groundwater is 1.6 (benzene is the sole contributor); for inhalation of ambient vapors from subsurface SWMU material, the SLHI is 1.5 (benzene is the sole contributor). Target organ SLHIs were also evaluated. For the non-BSC commercial/industrial worker exposed to ambient air, the blood/immune system SLHI is 3.0 (benzene in groundwater and subsurface SWMU material).

The future commercial/industrial worker was evaluated for both exposure to both indoor and ambient air. As a worker will not be exposed to both ambient and indoor air simultaneously in a given day, the inhalation of ambient and indoor air SLCRs were evaluated separately. The $SLHI_{total}$ for future commercial/industrial worker exposed to ambient air is 1.6, and the $SLHI_{total}$ for the indoor future commercial/industrial worker is 526. SLHIs were also evaluated for exposure pathway-specific scenarios for the future commercial/industrial worker. The SLHI for inhalation of ambient vapors from groundwater is 1.6 (benzene is the sole contributor); for inhalation of indoor vapors from groundwater, the SLHI is 287 (attributable to benzene and naphthalene).

For the future commercial/industrial worker exposed to ambient air, the blood/immune system SLHI is 1.6 (benzene in groundwater). For the indoor worker, the blood/immune system SLHI is 518 (benzene in subsurface SWMU material and groundwater and naphthalene in groundwater), the liver/kidney SLHI is 2.2 (toluene in subsurface SWMU material), and the upper respiratory system SLHI is 5.7 (naphthalene in subsurface SWMU material and groundwater).

The $SLHI_{total}$ for the future construction worker scenario is 605; it is a result of direct contact (including vapor inhalation) with benzene and naphthalene in subsurface SWMU

material, and inhalation of benzene vapors from and dermal contact with groundwater. Target organ SLHIs for the future construction worker are as follows: the blood/immune system SLHI is 592, due to benzene in subsurface SWMU material and groundwater, and the total upper respiratory system SLHI is 12, due to naphthalene in subsurface SWMU material and groundwater.

The $SLHI_{total}$ for the future utility worker scenario is 56; it is a result of direct contact (including vapor inhalation) with benzene in subsurface SWMU material, and inhalation of benzene vapors from and dermal contact with groundwater. The only target organ SLHI for the utility/maintenance worker is the blood/immune system SLHI (benzene).

3.4.2 Carcinogenic Risk

In an HHRA, carcinogenic health risks are defined in terms of the probability of an individual developing cancer over a lifetime as the result of exposure to a given chemical at a given concentration (USEPA 1989). The incremental probability of developing cancer over a lifetime (*i.e.*, the theoretical excess lifetime cancer risk) is the additional risk above and beyond the cancer risk an individual would face in the absence of the exposures characterized in this risk assessment. In this Tier 1 HHRA, cancer risk was evaluated according to the following equation:

$$SLCR = \frac{\text{Representative concentration}_{COPC/medium}}{RBSL_{COPC/medium/receptor/pathway}} x \text{ Target Risk Level}$$

Cancer risks are summed regardless of the differences in target organ, weight-of-evidence for human carcinogenicity, or potential chemical interactions (*e.g.*, antagonistic or synergistic effects). This approach is consistent with USEPA's current approach to carcinogenic effects, which is to assume effects are additive unless adequate information to the contrary is available (USEPA 1989). Based on USEPA methodology (USEPA 1989) and as discussed in the Work Plan (BSC 1997), if the total screening level cancer risk ($SLCR_{total}$) for each receptor/pathway is equal to or less than 1×10^{-4}, the risks are considered to be negligible.

Benzene in subsurface SWMU material and coke oven area groundwater is responsible for carcinogenic risks above the benchmark for one receptor scenario (the future commercial/industrial worker) via assumed indoor air exposures.

For the current non-BSC commercial/industrial worker scenario, the $SLCR_{total}$ for the ambient worker is 1×10^{-5}, which results from inhalation of vapors from subsurface SWMU material and groundwater (benzene is the sole contributor). As mentioned earlier, because a worker will not be exposed to both ambient and indoor air simultaneously during the day, a $SLCR_{total}$ for each scenario was developed. For the future commercial/industrial worker scenario, the ambient $SLCR_{total}$ is 4×10^{-5} and the indoor $SLCR_{total}$ is 2×10^{-3}. These $SLCR_{total}$s were further evaluated by media type. The SLCR for direct contact with surficial SWMU material is 3×10^{-5} (arsenic). The SLCR for inhalation of ambient vapors from subsurface SWMU material is 3×10^{-6}, and for inhalation of indoor vapors is from subsurface SWMU material, the SLCR is 1×10^{-3}; for both pathways, benzene is the sole contributor. The SLCR for inhalation of ambient vapors from groundwater is 7×10^{-6}, and for inhalation of indoor vapors from groundwater, the SLCR is 1×10^{-3}; for both pathways, benzene is also the sole contributor.

For the future construction worker scenario, the $SLCR_{total}$ is 4×10^{-5}. The SLCR for direct contact with surficial SWMU material is 2×10^{-6} (arsenic comprises the entire risk). The SLCR for direct contact with subsurface SWMU material is 2×10^{-5}, (benzene comprises the entire risk). The SLCR for inhalation of ambient vapors from and dermal contact with groundwater is 1×10^{-5}, and benzene and bis(2-ethylhexyl)phthalate contribute to the risk.

For the future utility/maintenance worker, the ambient $SLCR_{total}$ is 1×10^{-5}. The SLCR for direct contact with subsurface SWMU material is 4×10^{-6}, (benzene comprises the entire risk). The SLCRs for inhalation of ambient vapors from and dermal contact with groundwater is 6×10^{-6}, (benzene comprises the entire risk). For the present and future fenceline residents, the ambient $SLCR_{total}$ is 2×10^{-6}; the risk is from inhalation of benzene vapors from subsurface SWMU material.

3.5 Conclusion

The results of the Tier 1 HHRA are that levels of benzene, naphthalene and toluene in subsurface SWMU material and benzene and naphthalene in groundwater exceed noncarcinogenic RBSLs, producing a hazard index greater that the Tier 1 noncarcinogenic benchmark of 1.0 for certain scenarios. Also, levels of benzene in subsurface SWMU material, and in groundwater exceed carcinogenic RBSLs, and produce carcinogenic risk levels greater than the Tier 1 carcinogenic risk benchmark of 1×10^{-4}.

Specifically, for the current non-BSC commercial/industrial worker scenario, the calculated non-carcinogenic hazard level for benzene in subsurface SWMU material and groundwater is greater than the Tier 1 hazard benchmark.

For the future commercial/industrial worker scenario, calculated risk and hazard levels for benzene, toluene and naphthalene in subsurface SWMU material; benzene in groundwater (ambient inhalation); and benzene and naphthalene in groundwater (indoor inhalation); are greater than the Tier 1 risk benchmarks.

For the future construction worker scenario, calculated risk and hazard levels for benzene and naphthalene in subsurface SWMU material and benzene in groundwater (ambient inhalation and dermal contact) are greater than the Tier 1 noncarcinogenic benchmarks.

Lastly, for the future utility/maintenance worker scenario, the calculated risk level for benzene in subsurface SWMU material and groundwater is greater than the Tier 1 noncarcinogenic benchmark. It is also important to note that, as indicated in Table 8, all of the levels of the COPCs in the subsurface SWMU material are greater than their saturation limits in soil.

Based on these results, further evaluation may be completed during the Corrective Measures Study (CMS) and could include a Tier 2 assessment or an evaluation of corrective measures. The uncertainties inherent in these conclusions are presented in the Uncertainty Analysis that follows. The grouping of SWMUs P-11 and P-12 into SWMU Group PA-4 could present the greatest uncertainty with this HHRA.

3.6 Uncertainty Analysis

There are multiple sources of uncertainty that can be identified for any risk assessment. These include, among others, uncertainty associated with the toxicity criteria used to derive dose-response factors, uncertainties associated with exposure parameters used in the exposure assessment, and uncertainties associated with combining exposure parameters and toxicity criteria to characterize risk.

In the development of any health assessment, some level of uncertainty is introduced each time an assumption is relied upon to describe a dynamic parameter. Some assumptions have a significant scientific basis while others do not, which can result in the selection and use of conservative, default exposure parameters in the exposure assessment. The selection of multiple conservative assumptions in the exposure assessment generally results in an overestimation of potential health risks associated with exposure to specific chemical constituents. The primary areas of uncertainty for this risk assessment are qualitatively discussed below.

3.6.1 Exposure Scenarios

The evaluation of exposure scenarios that are not necessarily representative of realistic exposures based on current and future land use creates uncertainty in the overall risk potential of the SWMU and the site. Some exposure scenarios evaluated in this risk assessment are not realistic in terms of planned redevelopment for the site. For instance, evaluation of an indoor future industrial/commercial worker scenario is required for almost every SWMU on the Lackawanna site (USEPA 1999b). There is a deed restriction on SWMU P-12, and the placement of a building on SWMU P-12 site is not planned. Thus, Tier 1 risks are generated for an indoor worker scenario which does not currently exist, nor is likely to exist in the future.

3.6.2 Site Sampling and Representative Concentrations

The SWMU sampling locations were selected in an attempt to identify the highest concentrations of chemicals at the site. Sample biasing was accomplished based on visual

observations and photoionization detector readings. Thus, the sampling activities are thought to have characterized the most highly impacted areas of the SWMU, and not an average, which is a more appropriate measure for risk characterization. This is conservative, as a potential receptor is not expected to remain on, or inhale particulates from, one portion of the SWMU for his or her entire exposure duration. Therefore, it is believed that the maximum concentrations used in this HHRA are likely to overstate the average site concentrations.

It should also be noted that, for benzene in groundwater, and for all of the COPCs in SWMU material (with the exception of xylene in subsurface SWMU material) the maximum concentration was used as the representative concentration in this HHRA. This was either because an insufficient number of observations were available to calculate a 95% UCL, or because the calculated 95% UCL exceeds the maximum concentration. The representative concentrations were used to compare to the RBSLs calculated for this HHRA, and ultimately determine the chemicals of concern in this HHRA. Use of the maximum concentrations based on biased sampling is a very conservative methodology utilized in this HHRA.

It should also be pointed out that the maximum concentrations of all of the subsurface SWMU COPCs were greater than the chemicals' saturation limits (Table 8). Thus, as it is conservative to use the maximum concentration, it should still be noted that free phase material (solid or liquid) likely exists. Additionally, the maximum concentration of arsenic in surface SWMU material is an estimated value. Thus, the confidence in risk calculations involving this concentration is somewhat less than for other calculations.

3.6.3 COPC Selection Process

The COPCs evaluated for this SWMU Group (PA-4) were identified in the Human Health Risk Assessment Interim Deliverable (ID) No. 1 (BSC 1998). These chemicals were selected in part because of their representative concentrations exceeded Region III RBCs (USEPA 2000b) for residential scenarios. Since residential exposures are not realistic for any of the on-site scenarios, some chemicals have been retained as COPCs, that are not likely to pose a potential threat to most of the human receptors, evaluated here.

3.6.4 Grouping of SWMUs P-11 and P-12

In accordance with ID No. 1, SWMU P-12 is included, along with SWMU P-11, in SWMU Group (PA-4). As mentioned previously, this is due to their proximity to one another, their similarities in process waste, and amount of samples taken for each SWMU. From 1987 to 1992, SWMU P-12 was used as a spill cleanup soil storage area for oil-contaminated slag from the benzol plant. Before its use as a storage area, a layer of fresh slag fines was placed on the ground, a plastic liner was placed on the slag fines, and a drainage system was put in place. No subsurface samples were collected at SWMU P-12, and thus the subsurface data used for SWMU Group PA-4 was collected from SWMU P-11 only. Therefore, benzene, toluene, xylene and naphthalene in subsurface material may not accurately represent chemicals to further evaluate for SWMU P-12. Although SWMU P-11 and P-12 were grouped together for risk assessment purposes according to ID No. 1, it is likely that the subsurface contaminants in SWMU P-11 are not similar to the material in SWMU P-12. Nonetheless, the only technically defensible reason for combining SWMUs into a single exposure area is when the assumed receptor is equally likely to randomly contact the entire area. It is unknown (and therefore uncertain) whether this assumption would be accurate under future conditions.

3.6.5 Exposure Parameters

Several conservative default exposure parameters (*e.g.*, inhalation rates, exposure frequency, exposure duration) were incorporated into the exposure assessment to define general population behavior. For example, for the industrial/commercial worker scenarios, default exposure parameters are intended to be conservative and representative of an individual who is consistently present at the site 24 hours a day, 250 days a year, in the area of highest concentration. It is more likely that the exposure of an industrial worker to a *particular SWMU* (*i.e.*, SWMU material) on the Lackawanna site is limited to an average of only a few hours a day, 2 weeks year. Most parameters incorporated into the exposure assessment to define the receptor scenarios are conservative values and used to define a worst-case population behavior. The net effect of using multiple conservative exposure assumptions is the overestimation of potential health risks.

Additionally, for a receptor population such as an industrial worker or a resident (*i.e.* where exposure duration is greater than 250 days/year), exposure frequency typically is corrected in site-specific health risk assessments for the fraction of the year when outdoor exposure to soil will be limited due to severe weather conditions such as snow, ice, rain and freezing temperatures (USEPA 1989). This factor is called a meteorological factor. Because of the geographical location of the Lackawanna site, a correction factor for weather conditions would be reasonable. In this Tier 1 human health risk assessment, exposure did not exclude days when the temperature is less than 32°F, when there is snow cover, or the ground was wet from other forms of precipitation. For this SWMU, the Tier 1 RBSLs were exceeded for the future commercial/industrial worker scenarios. Thus, applying a more realistic exposure frequency and a meteorological factor would result in higher RBSLs.

3.6.6 Toxicity Assessment

Noncarcinogenic Criteria- Toxicity information for many of the COPCs is limited for humans. Consequently, depending on the quality and extent of toxicity information, varying degrees of uncertainty are associated with the calculated toxicity values. The USEPA derives reference concentrations (RfC; inhalation exposures) and reference doses (oral exposures) for chemicals using an uncertainty factor (UF) approach. The uncertainty factor for naphthalene, for instance, is 3000. This was derived by applying a UF of 10 to account for extrapolation of the mouse study to humans, another UF of 10 to account for sensitive humans, another UF of 10 to account for extrapolation from a LOAEL to a NOAEL, and a final UF of 3 to account for lack of an appropriate reproductive study. In general, the procedures used to extrapolate from animals to humans in toxicity studies include conservative uses of uncertainty factors so that potential effects on humans are likely overestimated rather than underestimated. It is widely accepted in the scientific community that low doses of toxicants may be detoxified by any one of several processes present in human organ systems (Ames *et al.* 1987). As a result, humans may not react to the same degree as the population of genetically homogeneous laboratory animal populations used in standard bioassays.

Carcinogenic Criteria- USEPA cancer SFs are developed using variations of the Linear Multistage Model (LMS) for carcinogenicity. The LMS is highly conservative as it assumes

linearity between dose and effect to zero dose assuming no threshold for carcinogenicity. However, the human body has mechanisms to detoxify most chemicals particularly at low doses, and therefore many scientists believe that most, if not all carcinogens only cause cancer above a "threshold dose."

The carcinogenic COPCs evaluated for SWMU Group P-4 include benzene and arsenic. The inhalation slope factors for benzene and arsenic are based on human data from occupational exposure studies, and thus an extrapolation from animal data is not necessary, thereby reducing some uncertainty in the slope factors. However, there is still significant uncertainty associated with the low-dose extrapolation (environmental exposures are relevant in the low-dose range) used to generate the slope factors. The USEPA has used its default linear model to estimate risks in the low-dose range citing lack of carcinogenic mode of action information. Thus, should this information become available, the low-dose carcinogenic risks for benzene and arsenic may be evaluated differently.

Absence of Inhalation Toxicity Criteria - Although toxicity information is generally available for the most significant chemicals and exposure routes in this HHRA, there were some COPCs in this HHRA for which no inhalation toxicity criteria (RfDs or cancer slope factors) exist. In the absence of data, either the oral RfD or oral SF was used to evaluate inhalation exposures. This extrapolation assumes that the chemical is equitoxic by both routes of exposure (oral and inhalation). The letter "R" on Table 10 notes these instances. It is more conservative to evaluate these chemicals for inhalation exposures than to not evaluate them at all. Thus, this method potentially overestimates inhalation risks for COPCs evaluated as such. This uncertainty is not applicable to the inhalation RfCs or slope factors for the COPCs that exceed their Tier 1 RBSLs (benzene, naphthalene, and arsenic) at this SWMU.

3.6.7 Risk Characterization

Uncertainties in the risk characterization portion of the risk assessment for the site are a combination of the uncertainties associated with both the dose-response assessment and the exposure assessment. As discussed above, the assumptions and parameters used for both the dose response and exposure assessments are extremely conservative. In addition, since the

toxicity criteria and exposure parameters are combined in the risk characterization, the conservatism is compounded.

3.6.8 Uncertainty Analysis Summary

This Tier 1 HHRA includes uncertainties and conservative assumptions that, in general, effectively combine to overestimate the potential current and future exposures. The major sources of uncertainty contributing to the conservatisms in this HHRA are summarized below:

- Evaluation of an indoor industrial/commercial worker scenario
- Biased SWMU sample collection
- Use of maximum concentrations as representative concentrations
- Grouping of SWMU P-12 and SWMU P-11 into SWMU Group PA-4
- Compounding effect of multiple conservative exposure parameters
- No meteorological factor adjustment
- Confidence in toxicity criteria

The net effect of the uncertainties of this HHRA is the generation of risk and hazard estimates that probably far exceed any true exposure conditions that currently exist or which could possibly exist in the future.

4.0 CONTAINMENT

SWMU P-12 is an at-grade, rectangular area approximately 30 feet by 40 feet, enclosed on the north, west, and east sides by a 5-foot concrete wall. An asphalt road that is approximately 6 inches higher than the SWMU P-12 surface bounds the south side. Surface water can run off the SWMU area to the southeast, where it flows into the Benzol Plant area and eventually infiltrates into the ground. At present, the unit is a flat area, covered with slag fines that are exposed to wind and rain. The contaminated slag and soil that were stored temporarily in SWMU P-12 have been removed and, therefore, no waste currently exists within the SWMU.

During storage from 1987 to 1992, the oil-contaminated slag was stockpiled above grade on a plastic sheet. The stockpiled material was underlain by a perforated pipe placed above the plastic sheet that collected the oily leachate for subsequent recycling within the Benzol Plant. The material was left uncovered in a contained area so that it could be overturned periodically to promote biodegradation of the oil in the material. The stockpiled material, leachate collection system, and plastic liner was removed and disposed of off site in 1992 (Appendix B).

5.0 CONCLUSIONS

Based on a review of the data, it may be concluded that:

- Oil-contaminated material was temporarily stored in SWMU P-12 from 1987 to 1992. During the storage of the oil-contaminated material engineering controls, including a plastic liner and leachate collection system, were established to contain the stored material prior to disposal.

- Oil-contaminated material was removed and disposed of off site in May 1992.

- TCLP results from analysis of 1989 oil-contaminated material samples and the 1995 Phase IIC surface soil grab samples confirm that both the oil-contaminated material and underlying surface soil does not meet the TCLP criteria.

- The former storage of waste does not appear to have had an additive effect on the groundwater. Groundwater analytical results show that the highest concentrations of VOCs and SVOCs, the most likely contaminants to be associated with the oil-contaminated material, were generally present in the upgradient well.

- A comparison of the groundwater analytical results to the TCLP results of the waste material and the TCLP, SPLP, and total constituent results of the surface material shows that there is no additive effect to groundwater from the former storage of materials in SWMU P-12 to the groundwater.

- Groundwater beneath SWMU P-12 is impacted by the adjacent upgradient Benzol/Plant area (SWMU P-11).

- For the current non-BSC commercial/industrial worker scenario, the calculated noncarcinogenic hazard index is greater than the Tier 1 benchmark for benzene in subsurface SWMU material and groundwater. For the future commercial/industrial

worker scenario, the calculated noncarcinogenic hazard index generated by benzene, toluene, and naphthalene in subsurface SWMU material and benzene and naphthalene in groundwater is greater than the Tier 1 noncarcinogenic benchmark; and the carcinogenic risk from benzene in subsurface SWMU material and groundwater exceeds the Tier 1 carcinogenic benchmark.

- For the future construction worker scenario, benzene and naphthalene in subsurface SWMU material exceeds the noncarcinogenic hazard benchmark. For the future utility/maintenance worker, benzene in subsurface SWMU material is greater than the Tier 1 noncarcinogenic benchmark.

- All the COPCs in subsurface SWMU material exceed their saturation limits in soil.

Based on these results and in accordance with the Work Plan, further evaluation may be completed during the Corrective Measures Study (CMS) and could include a Tier II assessment or an evaluation of corrective measures.

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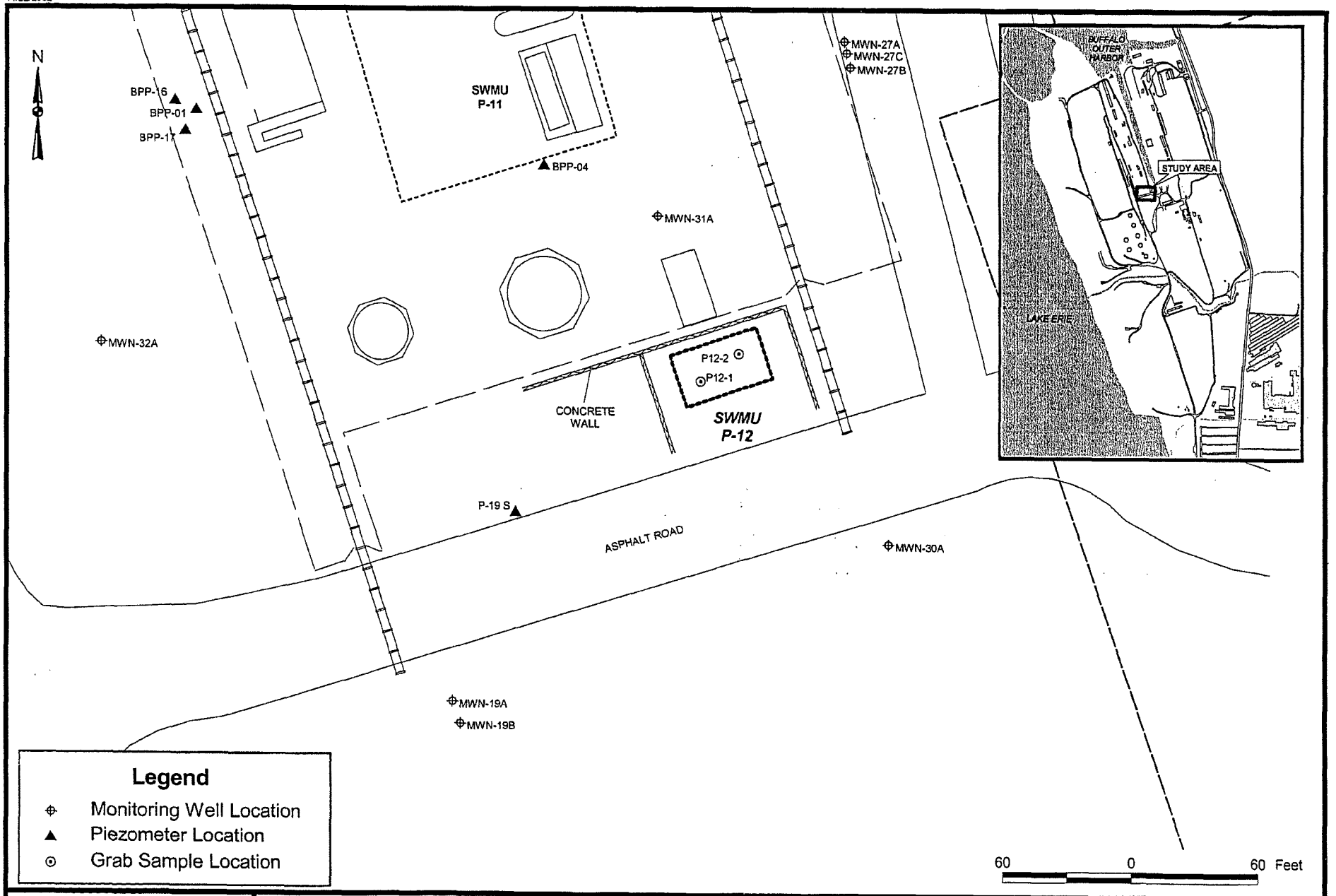
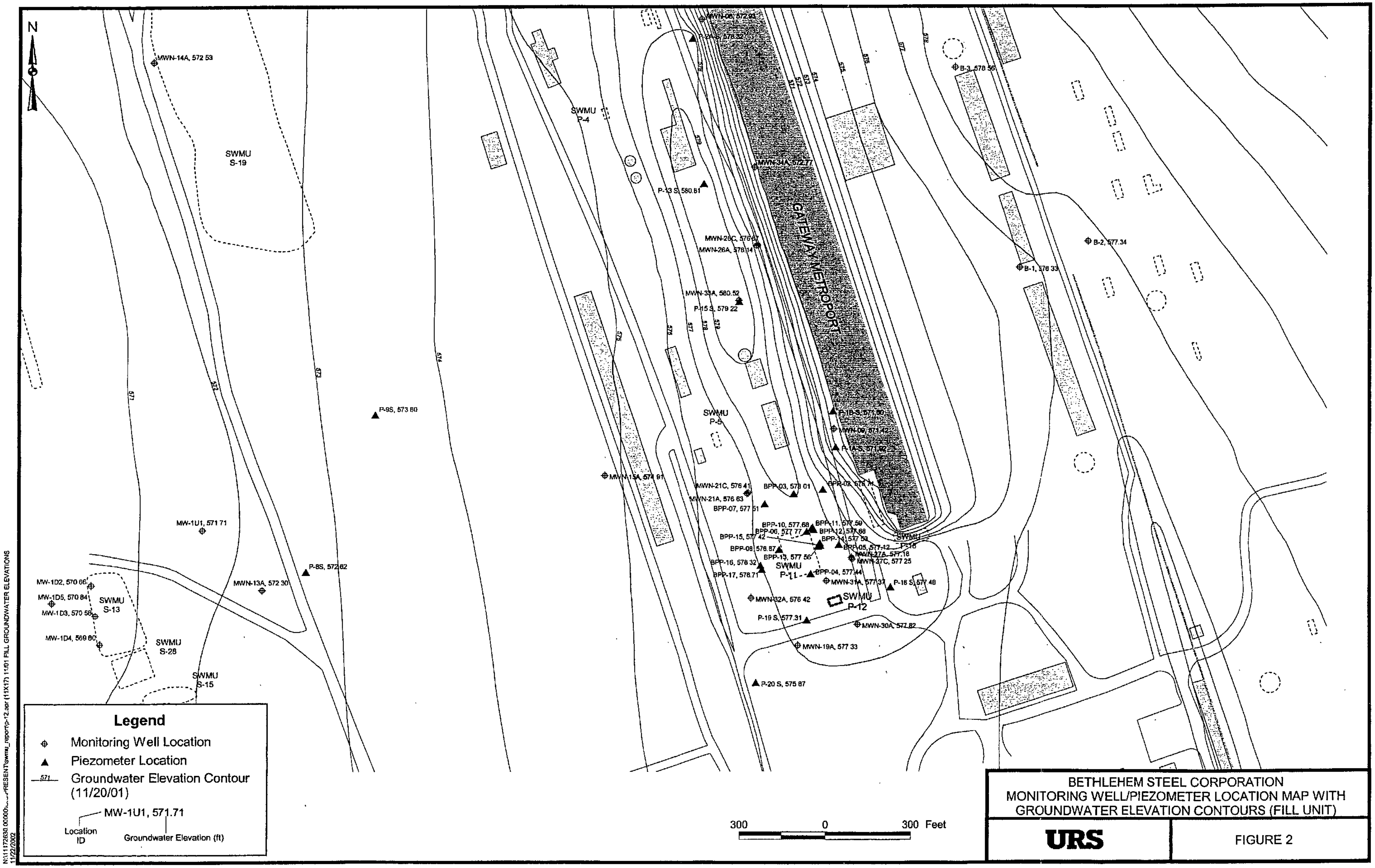
N:\11172630.00000\GIS\PRESENT\swmu_report\p-12.apr SWMU P-12 SAMPLING LOCATIONS
11/22/2002



URS	BETHLEHEM STEEL CORPORATION SITE LOCATION MAP SHOWING SAMPLE LOCATIONS FOR: SPILL CLEAN-UP STORAGE AREA (SWMU P-12)	FIGURE 1

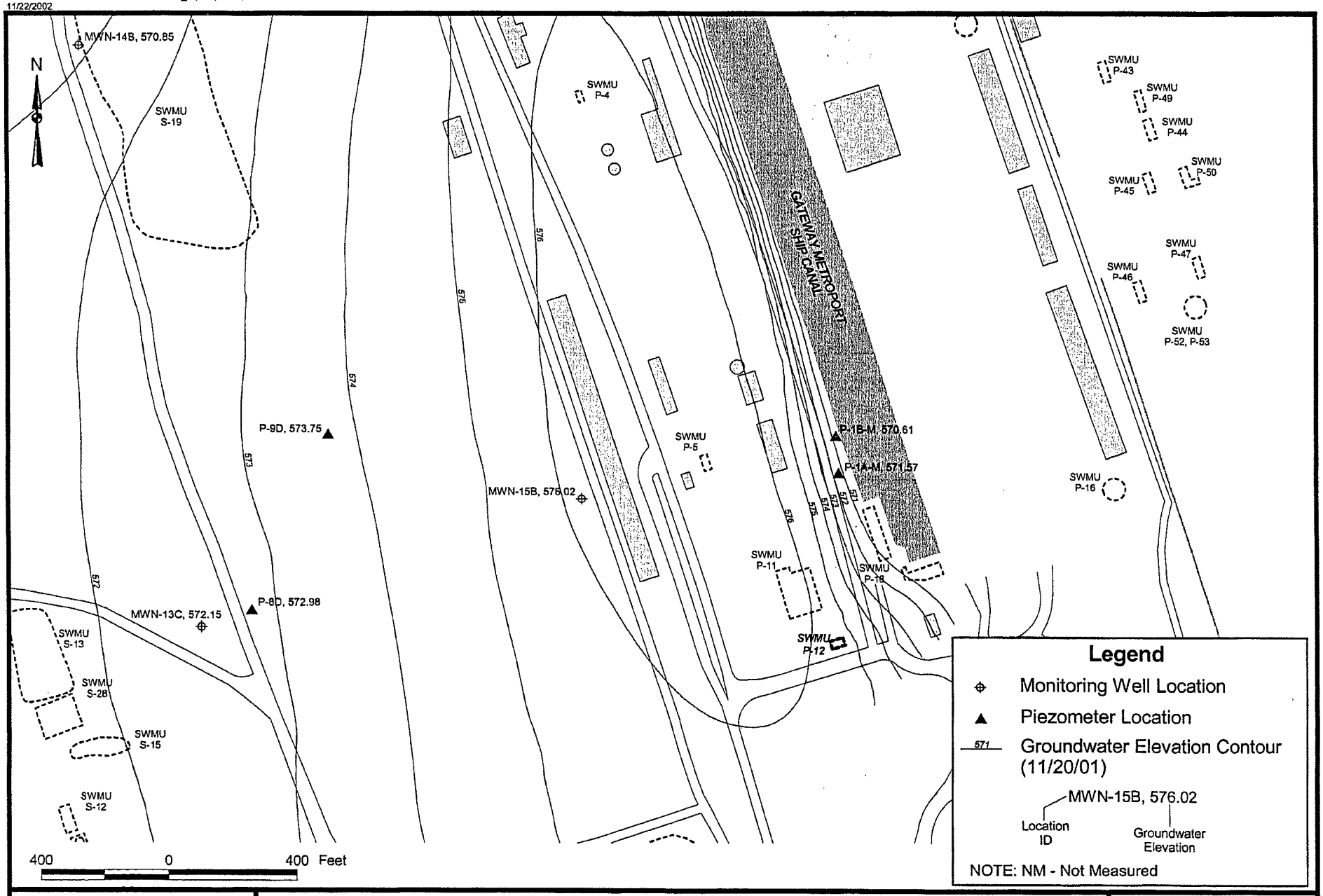


BETHLEHEM STEEL CORPORATION
MONITORING WELL/PIEZOMETER LOCATION MAP WITH GROUNDWATER ELEVATION CONTOURS (FILL UNIT)

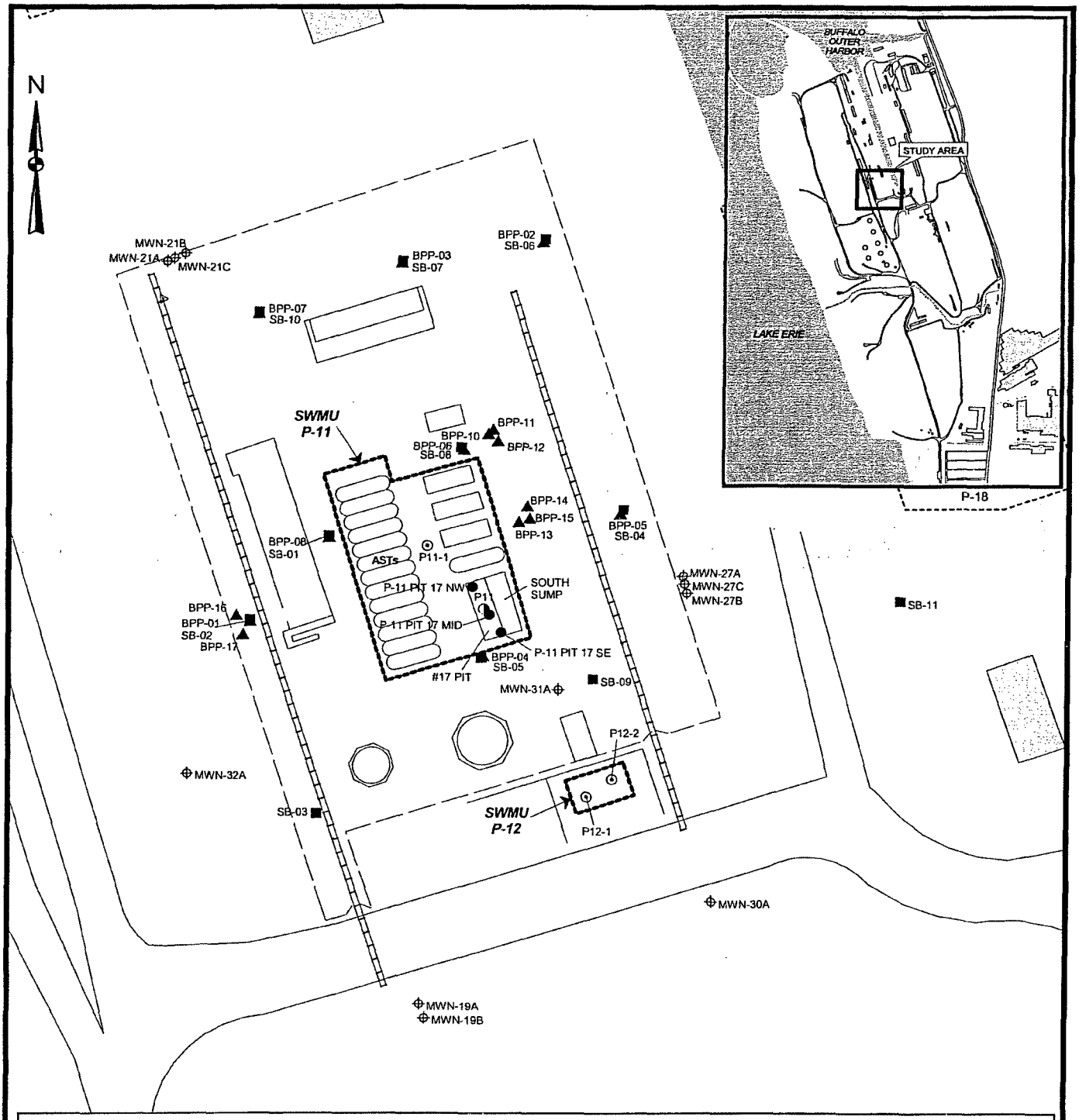
URS

FIGURE 2

N:\11172630.00000\GIS\PRESENT\swmu_report\p-12.apr 11/01 SAND GROUNDWATER ELEVATIONS
11/22/2002



URS	BETHLEHEM STEEL CORPORATION MONITORING WELL/PIEZOMETER LOCATION MAP WITH GROUNDWATER ELEVATION CONTOURS (SAND UNIT)	FIGURE 3



Legend

- Monitoring Well
- Piezometer
- Soil Boring
- Grab Sample Location
- Waste Water Sample Location (1994)
- Waste Water Sample Location (1998)
- Fence
- Railroad
- SWMU Boundary
- Group PA-4 SWMU Boundary

100 0 100 Feet

URS	BETHLEHEM STEEL CORPORATION SWMU GROUP PA-4 (SWMUS P-11 AND P-12) SHOWING SAMPLING LOCATIONS	FIGURE 4

J:\M200008bsc.15\gis\PRES\ENTswmu_report\p-11.apr SWMU P-11/P12 SAMPLE LOCATIONS
4/20/2001

SWMU's P-28 Through P-32

SWMU ASSESSMENT REPORTS
WATER QUALITY CONTROL STATION NO. 1
BETHLEHEM STEEL CORPORATION,
LACKAWANNA, NEW YORK

December 1988

Prepared for:

BETHLEHEM STEEL CORPORATION
Lackawanna, New York 14218

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SWMU ASSESSMENT REPORT

WATER QUALITY CONTROL STATION (WQCS) NO. 1

BETHLEHEM STEEL CORPORATION

LACKAWANNA, NEW YORK

The NEIC has identified five separate SWMUs at WQCS No. 1, and has assigned numbers P-28 through P-32 to these SWMUs. The five SWMUs are identified as follows:

WQCS No. 1
45" x 90" Slabbing Mill Process Water

P-28 Main Settling Tank

P-29 Five Sand Filters

P-30 North (Main) Scale Pit

P-31 South (Trimmer) Scale Pit

P-32 Scarfer Pit

The 45" x 90" slabbing mill received steel ingots that were charged first into gas-fired soaking pits for reheating. After reheating, the ingots were sent to the mill and rolled into slabs. During the rolling and scarfing operations, large quantities of water were used for cooling purposes as well as to keep the slab clean of iron oxide scale. The water was collected and sent via the mill sluice to the mill scale pit (North [Main] Scale Pit) and to the scarfer pit.

The solids (roll scale) that were settled out in the mill and scarfer pits were periodically removed by overhead crane and then sent to the sinter plant for recycling. The slabs, after rolling, were sheared to length and the slab crops dropped to the crop pit (South

[Trimmer] Scale Pit) where they were cooled with water and periodically removed and sent to the steelmaking furnaces for recycling. The water from the mill pits was pumped to WQCS No. 1's main settling tank and sand filters (P-28 and P-29) for additional treatment (see Appendix B [Drawing No. 224226]). The treated effluent from WQCS No. 1 was discharged to Smokes Creek pursuant to the Lackawanna plant's SPDES-permit.

The performance and design characteristics of WQCS No. 1 were used by EPA as a basis for developing Effluent Limitations Guidelines and Standards (ELGS) for Best Available Technology (BAT) treatment for hot forming mill waste water.

Main Settling Tank (P-28)

Description. The main settling tank (P-28) is located approximately 175 feet northwest of the 45" x 90" slabbing mill and is constructed of steel (see Appendix B [Drawing No. 224226]). The main settling tank is situated directly above a concrete support slab. The elevation of the top of the slab is 587.0 feet and the ground elevation is 586.5 feet. In addition to support, the concrete pad provides a relatively impermeable layer between the main settling tank and the underlying soils and groundwater. The concrete pad slopes toward the center to a floor drain.

All wastewater treated in the main settling tank was either diverted to the sand filters where it received additional treatment or flowed by gravity to the scarfer high-pressure pumps for reuse in the mills.

Known Releases of Hazardous Constituents. Based on information provided by BSC, there have been no known hazardous constituents released from the main settling tank during its entire 14 year period of operation, and, based on E & E's site inspection, no release attributes were observed. During active operations, the low oil and grease concentrations typically found in the effluent are not considered to be a threat to human health or the environment.

History of Use. The unit was constructed and activated in 1969 and was taken out of service in August 1983 due to plant shutdown. At that time, the main settling tank was drained to the mill scale pit. During operation, the unit was used for removing the total suspended solids (TSS) and oil and grease from the mill effluent. During active operation, available BSC monitoring information confirms that oil and grease concentrations in the effluent were low (e.g., less than 15 ppm).

Analytical Results. On July 3, 1980, an analysis for EP toxicity metals was performed on the main settling tank sludge and was found to be below regulatory action levels (see Appendix A, p.1).

Containment. Though no structural integrity tests have been performed on the main settling tank, daily visual checks were made by the environmental control division during the period of tank operation and there has never been evidence of tank failure. In light of the steel and concrete containment, the semi-closed process loop, the high viscosity of any residual sludge, and the barrier provided by the concrete pad, migration of substances beyond the WQCS system is not a concern. If a spill were to have occurred when the tank was operating, the floor drain would have collected the liquids and directed the spilled materials to the main scale pit. In conclusion, the steel tank and the sloped concrete pad used in conjunction with a floor drain was an adequate design to prevent release of spillage during its operation, and is consistent with engineering practices for containment.

Conclusions

It is apparent that during the operation of P-28 there was no release of hazardous waste or constituents to environmental media. The main settling tank was part of the WQCS No. 1 system design which was considered to be a favorable design at the time of EPA's development of ELGS. The settling tank was drained when taken out of service in 1983. The tank contains rainwater which does not pose a threat if released. The concrete pad beneath the unit forms a relatively impermeable barrier to migration of any liquids released, although no liquid releases have ever been observed. Since there has been no likely release of hazardous waste or constituents to environmental media, BSC believes that SWMU P-28 should require no further action.

The unit will be dismantled during 1989 and the steel tank will be scrapped for recycling.

Five Sand Filters (P-29)

Description. The five sand filters (P-29) are located approximately 175 feet northwest of the 45" x 90" slabbing mill. Each of the five sand filters are a separate closed container constructed of steel (see Appendix B [Drawing No. 224226]). The five sand filters are situated directly above a concrete support slab. The elevation of the top of the slab is 587.0 feet and the ground elevation is 586.5 feet. In addition to support, the concrete pad provides a relatively impermeable layer between the five sand filters and the underlying soils and groundwater. The concrete pad slopes towards the center to a floor drain.

All wastewater treated in the five sand filters had been previously treated by the main settling tank and the scale pits. After the sand filter treatment, the effluent was discharged through a SPDES-permitted outfall.

Known Releases of Hazardous Constituents. Based on information provided by BSC there has been no known hazardous constituents released from the five sand filters during the entire 14-year period of operation, and, based on E & E's site inspection, no release attributes were observed. During active operations, the low oil and grease concentrations typically found in the effluent are not considered to be a threat to human health or the environment.

History of Use. The unit was constructed and activated in 1969 and was taken out of service in August 1983 due to plant shutdown. At that time, the five sand filters were backwashed and drained to the main scale pit. During operation the unit was used for removing the total suspended solids (TSS) and oil and grease from the mill effluent. During active operation, available BSC monitoring information confirm that oil and grease concentrations in the effluent were low (e.g., less than 15 ppm).

Analytical Results. On July 3, 1980, an analysis for EP toxicity metals was performed on the main settling tank sludge and was found to

be below regulatory action levels. Because of the interconnected system design, it has been assumed for purposes of this report that the metals concentrations in the sand filters will be at similar levels (see Appendix A, p.1).

Containment. Though no structural integrity tests were performed on the five sand filters, daily visual checks were made by the environmental control division during the period of filter operation, and there has never been evidence of filter tank failure. In light of the closed containment, the high viscosity of any residual sludge, and a concrete pad, migration of substances beyond the WQCS system is not a concern. If a spill were to occur, the floor drain would collect the liquids and direct the spilled materials to the main scale pit. In conclusion, during operation, the filter tanks and the sloped concrete pad used in conjunction with a floor drain functioned adequately to prevent release of spillage and is consistent with engineering practices for containment.

Conclusions

It is apparent that during the operation of P-29 there was no release of hazardous waste or constituents to environmental media. The five sand filters were part of the WQCS No. 1 system design which was considered to be a favorable design at the time of EPA's development of ELGS. The five sand filters were backwashed and drained when taken out of service in 1983. The concrete pad beneath the unit forms a relatively impermeable barrier to migration of any liquids released, although no liquid releases have ever been observed. Since there has been no likely release of hazardous waste or constituents to environmental media, BSC believes the SWMU P-29 should require no further action.

The unit will be dismantled during 1989 and the filter media will be analyzed and based on the results will be properly disposed of in accordance with appropriate federal, state, and local laws and regulations. The steel will be scrapped for recycling.

North Main Scale Pit (P-30)

Description. The north main scale pit (P-30) is located on the northwest side of the 45" x 90" slabbing mill and is also known as the mill scale pit (and will be referred to as such throughout this assessment).

The mill scale pit is constructed of reinforced pozzolith concrete (see Appendix B [Drawing No. 224226]). Sheet piling was used as the outside form for the pit. A water seal was continuous between slabs and walls. The pit is approximately 26 feet wide, 100 feet long, and 44 feet deep. The poured concrete walls and slab are 1 foot, 6 inches thick and 5 feet thick, respectively.

Presently, standing water in the pit is approximately 11 feet below the top of the pit at an elevation of 577 feet above mean sea level (AMSL) which is close to the expected water table elevation.

Known Release of Hazardous Constituents. Based on information provided by BSC, there has been no observed release of water from the mill scale pit, and, based on E & E's site inspection, no release attributes were observed.

Based on the engineering drawings (see Appendix B [Drawing No. 224226]), it is clear that during active operations the water level in this pit was held at 552 feet AMSL, which is well below lake level and hence below the water table. This means that releases from the pit into the groundwater during operations were impossible. Presently, the surface water elevation in the mill scale pit is approximately equal to the groundwater table elevation, allowing flow of groundwater into the pit and vice versa depending upon the relative water levels and influx from precipitation. If any flow from the pit to groundwater has occurred since 1983, it is minimal and the low concentrations of oil and grease (1.5 mg/L) indictated by pit water analyses (see Appendix A, p.3) would not pose a threat to human health or the environment.

History of Use. The unit was constructed and activated in 1961 and was taken out of service in August 1983 due to plant shutdown. At that time, scale was removed from the pit by an overhead crane with clam

bucket. During operation, the unit was used for collecting and recovering roll scale for recycling. During the period 1961 to 1969 wastewater from the mill scale pit was discharged directly to Smokes Creek. After 1969, cooling water was pumped from the mill pit to the main settling tank and five sand filters for treatment to remove any suspended solids and oil and grease, thus allowing the water to be recycled or discharged to Smokes Creek.

Analytical Results. On July 3, 1980, an analysis for EP toxicity metals was performed on the main settling tank sludge and was found to be below regulatory action levels. Since the main settling tank is connected to the mill scale pit and is designed to receive and remove suspended solids from the mill scale pit, it is assumed for purposes of this report that the metals concentrations would be similar (see Appendix A, p.1). A sample of the water standing in the mill scale pit was collected and analyzed for oil and grease in November 1988 and were found to be at a very low level of 1.5 mg/L, only slightly above the detection limit of 1.0 mg/L (see Appendix A, p.3).

Containment. Migration of any residual roll scale from the mill pit is not a concern given the containment structure and the physical state of the roll scale. Similarly, based on the containment and analytical data on the pit water, migration of pit water to groundwater is not a significant concern. November 1988 analyses have shown that oil and grease levels of the pit water is minimal (1.5 mg/L) and thus any flow between the pit and groundwater since 1983 would have minimal impact. Groundwater gradients in the area are low and rates of flow are estimated to be less than 1 foot per day. Thus impacts of the unit on groundwater quality are considered to be negligible.

Conclusions. It is apparent that any release of water from the mill scale pit to groundwater will not have a significant impact on water quality. The pit was dredged out by clam shell when taken out of service in 1983 and by all indication little or no scale remains in the pit. The pit is scheduled to be closed during 1989 by filling with clean backfill material. Since there has been no likely release of

hazardous waste or constituents to environmental media of consequence, BSC believes the SWMU P-30 should require no further action.

South Trimmer Scale Pit (P-31)

Description. The south trimmer scale pit (P-31) is located on the northwest side of the 45" x 90" slabbing mill and is approximately 150 feet south of the scarfer pit. The south trimmer scale pit is also known as the crop pit (and will be referred to as such throughout this assessment). The crop pit is constructed of reinforced concrete (see Appendix B [Drawing No. 224226]). Sheet piling was used as the outside form for the pit. A water seal was continuous between slabs and walls. The pit is approximately 17 feet wide, 42 feet long, and 15 feet deep. The poured concrete walls and slab are 2 feet thick and 4 feet thick, respectively.

Presently, standing water in the pit is approximately 11 feet below the top of the pit at an elevation of 577 feet AMSL which is close to the expected water table elevation.

Known Releases of Hazardous Constituents. Based on information provided by BSC, there have been no known hazardous constituents released from the crop pit during its entire operating history, and, based on E & E's site inspection, no release attributes were observed.

Based on the engineering drawings (see Appendix B [Drawing No. 224226]), it is clear that during active operations the water level in this pit was held at 566 feet AMSL, which is well below lake level and hence below the water table. This means that releases from the pit into the groundwater during operations were impossible. Presently, the surface water elevation in the crop pit is approximately equal to the groundwater table elevation, allowing flow of groundwater into the pit and vice versa depending upon the relative water levels and subsequent influx from precipitation. If any flow is from the pit to groundwater, it is minimal and the low concentrations of oil and grease (1.0 mg/L) indicated by pit water analyses (see Appendix A, p.3) would not pose a threat to human health or the environment.

History of Use. The unit was constructed and activated in 1961 and was taken out of service in August 1983 due to plant shutdown and, at that time, cropped ends were removed from the pit by an overhead crane

with magnet. During operation this unit was used for collecting and recovering for recycling steel slab cropped ends. During the period 1961 to 1969, wastewater would flow out of the crop pit by gravity to the scarfer pit where the wastewater was discharged to Smokes Creek. After 1969 cooling water from the crop pit would flow by gravity to the scarfer pit where it would be directed to the main settling tank and five sand filters for treatment to remove any suspended solids and oil and grease, thus allowing the water to be recycled or discharged to Smokes Creek.

Analytical Results. On July 3, 1980, an analysis for EP toxicity metals was performed on the main settling tank sludge and was found to be below regulatory action levels (see Appendix A, p.1). For purposes of this report, we have made a worst case assumption that the pit water contains very low oil and grease concentrations at the 1.0 mg/L detection limit and metals concentrations are similar to the main settling tank sludge. This assumption was made since there are direct connections between the crop pit and other units, though the other connected pit waters are either downstream from the crop pit or treated prior to recirculation through the crop pit (see Appendix A, p.3).

Containment. Migration of any residual cropped ends from the pit is not a concern given the containment structure and the physical state of the cropped ends. Similarly, based on the containment of the concrete structures, the semi-closed process loop during operations, and the analytical data on the pit water, migration of pit water to groundwater is not a significant concern. November 1988 analyses indicate that oil and grease levels of the pit water are minimal (at or less than 1.0 mg/L) and thus any flow between the pit and groundwater since 1983 would have minimal impact. Groundwater gradients in the area are low and rates of flow are estimated to be less than 1 foot per day. Thus, impacts of the unit on groundwater quality are considered to be negligible.

Conclusions. It is apparent that during the operation of the crop pit (P-31) there was no likely release of hazardous waste or constitu-

ents to environmental media of consequence. The majority of the steel cropped ends contained in the pit were removed by an overhead crane with a magnet when taken out of service in 1983, although some cropped ends remain in the pit. The pit is scheduled to be closed during 1989, at which time the balance of the cropped ends will be removed for recycling and the pit will be filled with clean fill material. Since there has been no likely release of hazardous waste or constituents to environmental media of consequence, BSC believes the SWMU P-31 should require no further action.

Scarfer Pit (P-32)

Description. The scarfer pit (P-32) is located on the northwest side of the 45" x 90" slabbing mill. The scarfer pit is constructed of reinforced pozzolith concrete (see Appendix B [Drawing No. 224226]). Sheet piling was used as the outside form for the pit. A water seal was continuous between slabs and walls. The pit is approximately 26 feet wide, 80 feet long, and 32 feet deep. The poured concrete walls and slab are 1 foot, 6 inches thick and 4 feet thick, respectively.

Presently, standing water in the pit is approximately 11 feet below the top of the pit at an elevation of 577 feet AMSL which is close to the expected water table elevation.

During the period 1961 to 1969, wastewater from the scarfer pit was discharged to Smokes Creek. After 1969 all wastewater that flowed out of the scarfer pit was directed to the main settling tank for treatment. After treatment in the main settling tank, the wastewater was either diverted to the sand filters where it received additional treatment, and returned to the scarfer high-pressure pumps for reuse in the mills or discharged to Smokes Creek.

Known Releases of Hazardous Constituents. Based on information provided by BSC, there have been no known hazardous constituents released from the scarfer pit during its operating history, and, based on E & E's site inspection, no release attributes were observed.

Based on the engineering drawings (see Appendix B [Drawing No. 224226]), it is clear that during active operations the water level in this pit was held at 565 feet AMSL, which is well below lake level and hence below the water table. This means that releases from the pit into the groundwater during operations were impossible. Presently, the surface water elevation in the scarfer pit is approximately equal to the groundwater table elevation, allowing flow of groundwater into the pit and vice versa depending upon the relative water levels and influx from precipitation. If any flow from the pit to groundwater has occurred since 1983, it is minimal and the low concentrations of oil and grease (1.0 mg/L) indicated by pit water analyses (see Appendix A, P.3), would not pose a threat to human health or the environment.

History of Use. The unit was constructed and activated in 1961 and was taken out of service in August 1983 due to plant shutdown and at that time, the majority of scarfer spittings contained in the pit were removed by an overhead crane with clam bucket. During operation this unit was used for collecting and recovering for recycling scarfer spittings. During the period 1961 to 1969, wastewater from the scarfer pit was pumped directly to Smokes Creek. After 1969 cooling water was pumped from the pit to the main settling tank and five sand filters for treatment to remove any suspended solids and oil and grease, thus allowing the water to be recycled or discharged to Smokes Creek.

Analytical Results. A sample of the water standing in the scarfer pit was collected and analyzed in November 1988 which indicated oil and grease at the detection limit of 1.0 mg/L (see Appendix A, p.3). An EP toxicity metals test was conducted on the scarfer spittings and was found to be below regulatory action levels (see Appendix A, p.2).

Containment. Migration of any residual scarfer spittings from the scarfer pit is not a concern, given the containment structure and the physical state of the spittings. Based on the analytical data for the pit water and spittings, any migration of pit water is not a concern as flow between the pit and groundwater since 1983 would have been minimal. Groundwater gradients in the area are low and rates of flow are estimated to be less than 1 foot per day. Thus impacts of the unit on groundwater quality are considered to be negligible.

Conclusions

It is apparent that during the operation of the scarfer pit (P-32) there was no likely release of hazardous waste or constituents to environmental media of consequence. The scarfer pit was cleaned out by clam shell when taken out of service in 1983, although some scarfer spittings remain in the pit. The pit will be closed in 1989 at which time all scarfer spittings will be removed for recycling and the pit will be filled with clean backfill material. Since no release of hazardous waste or constituents to environmental media of consequence has likely occurred, BSC believes the SWMU P-32 should require no further action.

APPENDIX A

ANALYTICAL DATA

Table 1 - Extraction Procedure (EP) Toxicity Test Results[*]
Water Quality Control (WQC) Station Sludges[**]
Lackawanna, New York Operations, Bethlehem Steel Corporation

Sample Identification	Identification of Surface Impoundment(s) Generating Sludge	Identification of Surface Impoundment(s) Receiving Sludge	Sample Date	EP Extract Metals Concentrations (ppm)							
				As	Ba	Cd	Cr	Pb	Hg	Se	Ag
(P-28) WQC #1 Sludge	90" Slabbing Mill Scale Pit	N/A-Recycled to Sinter Plant	7/03/80	<0.01	0.86	<0.01	0.25	0.14	<0.002	<0.01	<0.02
WQC #2 Sludge	13" Bar Mill Scale Pit	N/A-Recycled to Sinter Plants	7/03/80	<0.01	0.49	<0.01	0.10	0.98	<0.002	<0.01	<0.02
WQC #3 Sludge	BOF Final Thickener	B, C, F, & G	7/02/80	<0.01	2.1	0.01	<0.02	0.11	0.002	<0.01	<0.02
WQC #3A Sludge	Sinter Plant Thickener	C	1/21/83	<0.02	0.25	0.08	<0.02	1.68	<0.002	0.03	<0.01
WCQ #5 Sludge	32" Rail Mill Scale Pit	A & E	7/03/80	<0.01	0.59	<0.01	0.04	2.1	<0.002	0.03	<0.02
WCQ #6 Sludge	79" Hot Strip Mill Thickener	A & E	7/02/80	<0.01	0.43	<0.01	<0.02	<0.02	<0.002	<0.01	<0.02
WQC #7 Sludge	Cold Strip Mills Thickener	B, C, F, & G	7/03/80	<0.01	2.1	<0.01	<0.02	0.24	<0.002	<0.01	<0.02
WQC #7 Sludge	Cold Strip Mills Thickener	G	6/02/83	0.33	3.75	0.06	0.94	0.04	0.003	0.31	<0.01
WQC #7 Sludge	Cold Strip Mills Thickener	G	7/01/83	0.04	1.09	0.02	0.16	0.06	<0.002	0.01	<0.01

* EP Toxicity tests were conducted in accordance with procedures outlined in 40 CFR 261, Appendices II and III. With respect to the samples collected during 1980, the solid waste extractions and subsequent extract analyses were performed by Bethlehem's Corporate Research Department Laboratory in Bethlehem, Pennsylvania and Princeton Testing Laboratory in Princeton, New Jersey, respectively. Sludge samples collected after 1980 were tested for the characteristic of EP Toxicity by the ARO Corporation's Environmental Laboratory in Buffalo, New York.

** WQC stations are wastewater treatment facilities that discharge(d) treated wastewater through outfalls permitted under NPDES permit number NY0001368. Only WQC stations #2 and #7 have continued to operate at Bethlehem's Lackawanna, New York site after 1983, and only Surface Impoundment G (which receives WQC #7 sludge, exclusively) is currently active.

N/A - Not applicable

ecology and environment, inc.
International Specialists in the Environment

LABORATORY REPORT

FOR
BETHLEHEM STEEL CORPORATION

JOB #: U-9303, (21.024)

RE:

SAMPLE DATE: 10/26/88

P.O. NO.: 5001049624-010

DATE RECEIVED: 10/26/88

SAMPLED BY: Client

SAMPLE TYPE: Solid

DELIVERED BY: Client

RESULTS OF CHEMICAL ANALYSIS OF EXTRACTS FROM EP TOXICITY TESTS

E & E Lab # 88:	30368	30369	Maximum Allowable Concentration
Results in: (mg/L)	(P-32) SCARFER PIT	(P-32) SCARFER PIT	(mg/L)
Client Sample I.D.:	1	2	
Arsenic	<0.50	<0.50	5.0
Barium	<5.00	<5.00	100.0
Cadmium	<0.10	<0.10	1.0
Chromium	<0.50	<0.50	5.0
Lead	<0.50	<0.50	5.0
Mercury	<0.0008	<0.0008	0.2
Selenium	<0.50	<0.50	1.0
Silver	<0.50	<0.50	5.0

Analytical References: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, Second Edition, U.S. EPA, 1982.

Supervising Analyst: Mary Walker (signature)

Date: 11/21/88

ecology and environment, inc.
International Specialists in the Environment

LABORATORY REPORT

FOR
BETHLEHEM STEEL CORPORATION

JOB #: U-9303, (21.024)
RE:

SAMPLE DATE: 10/26/88
P.O. NO.: 5001049624-010

DATE RECEIVED: 10/26/88
SAMPLED BY: Client

SAMPLE TYPE: Water
DELIVERED BY: Client

E & E Lab # 88:	30370	30371
Client Sample ID:	(P-32) Scarfer Pit	(P-30) Mill Pit
Results in: mg/L unless noted		
Oil and Grease	1.0	1.5
pH,S.U.	7.30	8.24

Analytical References: "Methods for the Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1983.

Supervising Analyst: Gary Hahn/kb
Date: 11/21/88

APPENDIX B

DRAWINGS

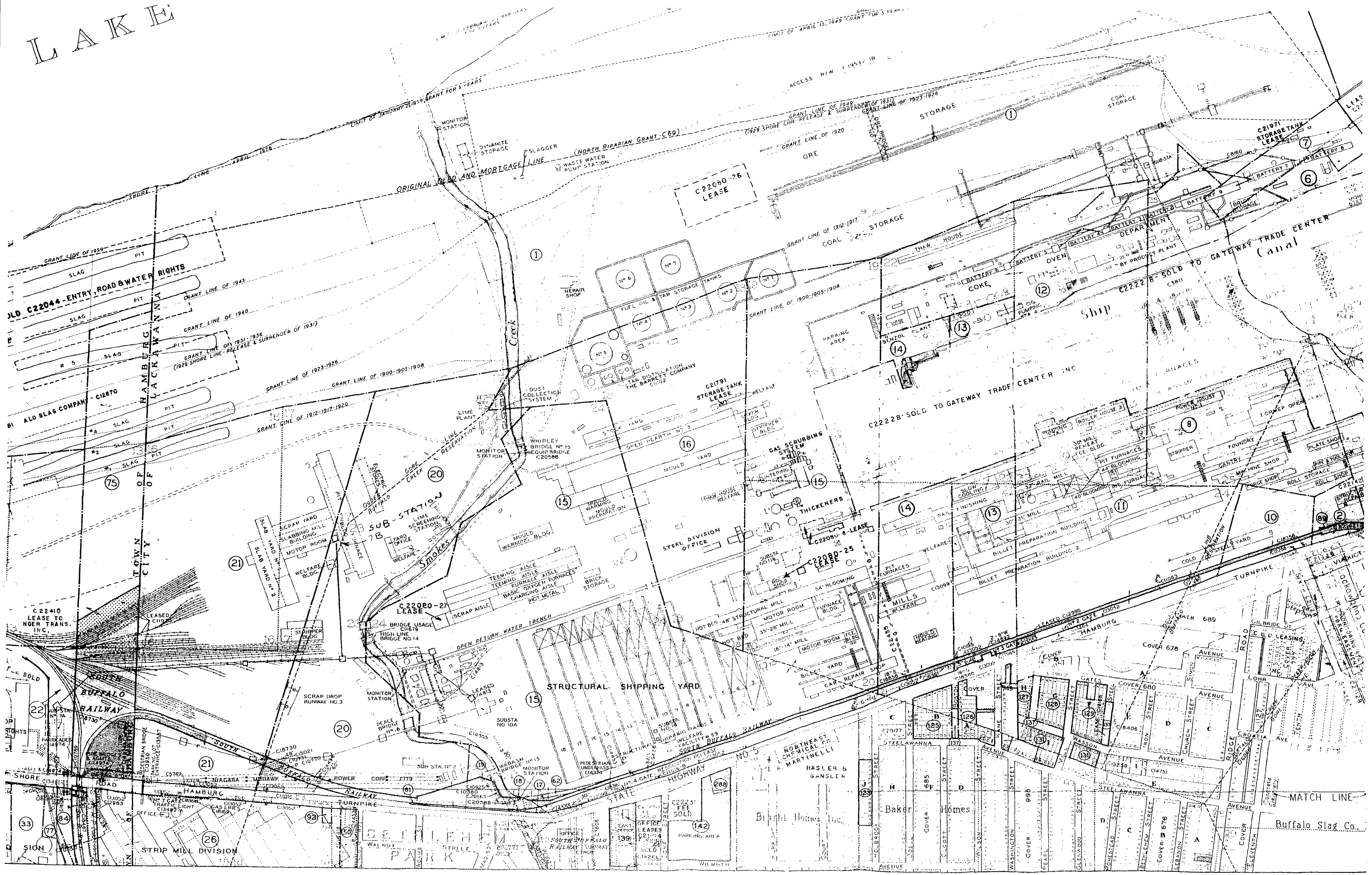
ATTACHMENT 5

LISTING OF PREVIOUS SITE OWNERS

A copy of the Real Estate Records for the appropriate Tract Nos. show the ownership of the property. The overall Tract Sketch is used to locate each tract. Currently, Tecumseh Redevelopment, Inc. owns the property. As indicated on the Records for each Tract, Tecumseh has owned the property since 2003.

Bethlehem Steel Corporation has dissolved. Certain assets of BSC are presently owned by Mittal Steel USA. Mr. Myles Lalley of Mittal Steel is a former BSC employee with knowledge of past BSC Lackawanna site operations. Mr. Lalley's contact information is presented below.

Mr. Myles Lalley
Environmental Supervisor
Mittal Steel USA
3175 Lakeshore Rd.
Blasdell, New York 14219
Tel. 716-821-3213



LAKE
ORIGINAL DEED AND MORTGAGE LINE
(NORTH RIPARIAN GRANT C-69)
GRANT LINE OF 1959
GRANT LINE OF 1943
GRANT LINE OF 1940
GRANT LINE OF 1931-1936
(1929 SHORE LINE RELEASE & SURRENDER OF 1931)
GRANT LINE OF 1923-1926
GRANT LINE OF 1900-1905-1908
GRANT LINE OF 1912-1917-1920
GRANT LINE OF 1949
GRANT LINE OF 1920
SOLD C22044-ENTRY, ROAD & WATER RIGHTS
BUFFALO SLAG COMPANY - C12870
SLAG
PIT
TOWN OF HAMBURG
CITY OF LACKAWANNA
MONITOR STATION
DYNAMITE STORAGE
SLAGGER
WASTE WATER PUMP STATION
ORE
STORAGE
COAL STORAGE
C22080-26 LEASE
ACCESS R/W
Creek
REPAIR SHOP
FUEL OIL & TAR STORAGE TANKS
TAR DISTILLATION THE BARRETT COMPANY
DUST COLLECTION SYSTEM
LIME PLANT
WHIRLEY BRIDGE No 15
C21791 STORAGE TANK LEASE
STOCK YARD
OPEN HEARTH No 3
MOULD YARD
GAS SCRUBBING SYSTEM
SINTERING
THICKENERS
STEEL DIVISION OFFICE
MOULD WARMING BLDG.
TEEMING AISLE
FURNACE AISLE
BASIC OXYGEN FURNACES
CHARGING AISLE
HOT METAL
SCRAP AISLE
BRICK STORAGE
C22080-27 LEASE
OPEN RETURN WATER TRENCH
STRUCTURAL SHIPPING YARD
SUB-STATION 7B
LIME SCREENING STATION
SCRAP YARD
SLABBING MILL BUILDING
MOTOR ROOM
WELFARE BLDG.
SLAB YARD No 1
SLAB YARD No 2
STRIPPER BLDG
C22410 LEASE TO
SOUTH BUFFALO RAILWAY
SCRAP DROP RUNWAY NO.3
MONITOR STATION
PEACE BRIDGE No 6
HIGH LINE BRIDGE NO.14
SUBSTA NO 10A
WABASH BRIDGE No 13
C22080-8-LEASE
C22080-25 LEASE
54" BLOOMING
MILLS
48" STRUCTURAL MILL
35"-26" MILL
18"-14" MILL
MOTOR ROOM
BILLET YARD
CAR REPAIR SHOP
PIT FURNACES
THAW HOUSE
COKE OVEN DEPARTMENT
BATTERY
BY PRODUCT PLANT
BENZOL PLANT
PARKING AREA
C22228-SOLD TO GATEWAY TRADE CENTER INC
GATEWAY TRADE CENTER
Ship Canal
POWER HOUSE
BOILER HOUSE
FOUNDRY
MACHINE SHOP
STRIPPER
ROLL STORAGE
PLATE SHOP
SLOW COOLING
FINISHING
BILLET PREPARATION BUILDING 1
BILLET PREPARATION BUILDING 2
COLD STEEL YARD
TURNPIKE
HAMBURG
NIAGARA
MOHAWK
POWER CORP
STATE HIGHWAY NO. 5
NORTHEAST CHEMICAL CO.
MARTINELLI
HASLER & GANSLER
STEELAWANNA AVENUE
Baker Homes
Buffalo Homes Inc.
BETHLEHEM PARK
STRIP MILL DIVISION
PARKING AREA
MATCH LINE
Buffalo Slag Co.
C & D LEASING INC.
GILBRIDE ST.
RIDGE ROAD
WASSON
GATES
CHURCH STREET
IRON STREET
WASHINGTON
PEARL
SHORE ROAD

BK 1802a-3m-2,46-BSCo.

Subsidiary Companies of Bethlehem Steel Corporation

REAL ESTATE RECORD

OWNER	PLANT	LOCATION	TRACT No.
Bethlehem Steel Corporation ~~Bethlehem Steel Company~~	Lackawanna	C-176 Lackawanna, Erie County, N. Y.	1 ~~9-6-15~~

DESCRIPTION:-

Situated on waters of Lake Erie. Comprising Lots 19 & 20 of Ogden Gore. Survey and Lot 24 of the Buffalo Creek Indian Reservation. Formerly 6-6-T-15.

CLASSIFICATION	AREA
Fee	185.98 Ac.

FOR LOCATION SEE KEY MAP No. 9-6-500-2 & 5

DATE	TITLE CHAIN
6/30/1899	J. J. Albright to Stony Point Land Co. Abstract D6-16
7/26/1900	Stony Point Land Co. to L.I.&S. Co. D6-8
4/29/1902	L.I.&S. Co. to L.S.Co. ~~N.Y. D-16~~ D6-47
10/10/1922	L.S.Co. to B.S.Co. of N. Y. & Name changed to B.I.&S. Corp. D6-1
5/13/1924	B.I.&S. Corp. to B.S.Co. of Pa. to B.I.&S. Corp. 7/28/1924 D6-2 & D9-435
7/12/1935	B.I.&S. Corp. to B.S.Co. D9-247 Title Opinion 9-1236 C 6445
12/31/1964	B.S.Co. merged into B.S.Corp. C 18813
9/15/1989	So. Buffalo Railway Company to B.S.Corp. D1-1148 C 22424

DATE	DISPOSITION	FILE No.	AREA SOLD	NET AREA
12/18/41	South Buffalo Railway Co.	C 10380	0.24 Ac.	185.74 Ac
10/11/1954	Buffalo Tank Corp.	C 11016-3	2.074 "	183.666 Ac
12/31/1985	Gateway Trade Center Inc.	C 22228	8.784 Ac.	174.882 A
9/15/1989	So. Buffalo Railway Company to B.S.Corp. (PURCHASE)	D1-1148	2.3367 Ac.	177.2187
5/ 6/2003	Tecumseh Redevelopment Inc.			

28353 (Rev.A 4-60)
(Old BK 1802a)

Subsidiary Companies of Bethlehem Steel Corporation

REAL ESTATE RECORD

OWNER	PLANT	LOCATION	TRACT No.
Bethlehem Steel Corporation ~~Bethlehem Steel Company~~	Lackawanna	City of Lackawanna, Erie County, N.Y.	1-6-15

DESCRIPTION:-

CLASSIFICATION	AREA
Fee	185.98 Ac.

FOR LOCATION SEE KEY MAP No.

DATE	TITLE CHAIN

DATE	DISPOSITION	FILE No.	AREA SOLD	NET AREA

28353 (Rev.A 4-60)
(Old BK 1802a)

Subsidiary Companies of Bethlehem Steel Corporation

REAL ESTATE RECORD

OWNER	PLANT	LOCATION	TRACT No.
Bethlehem Steel Corporation	Lackawanna	City of Lackawanna, Erie County, New York	1-6-15

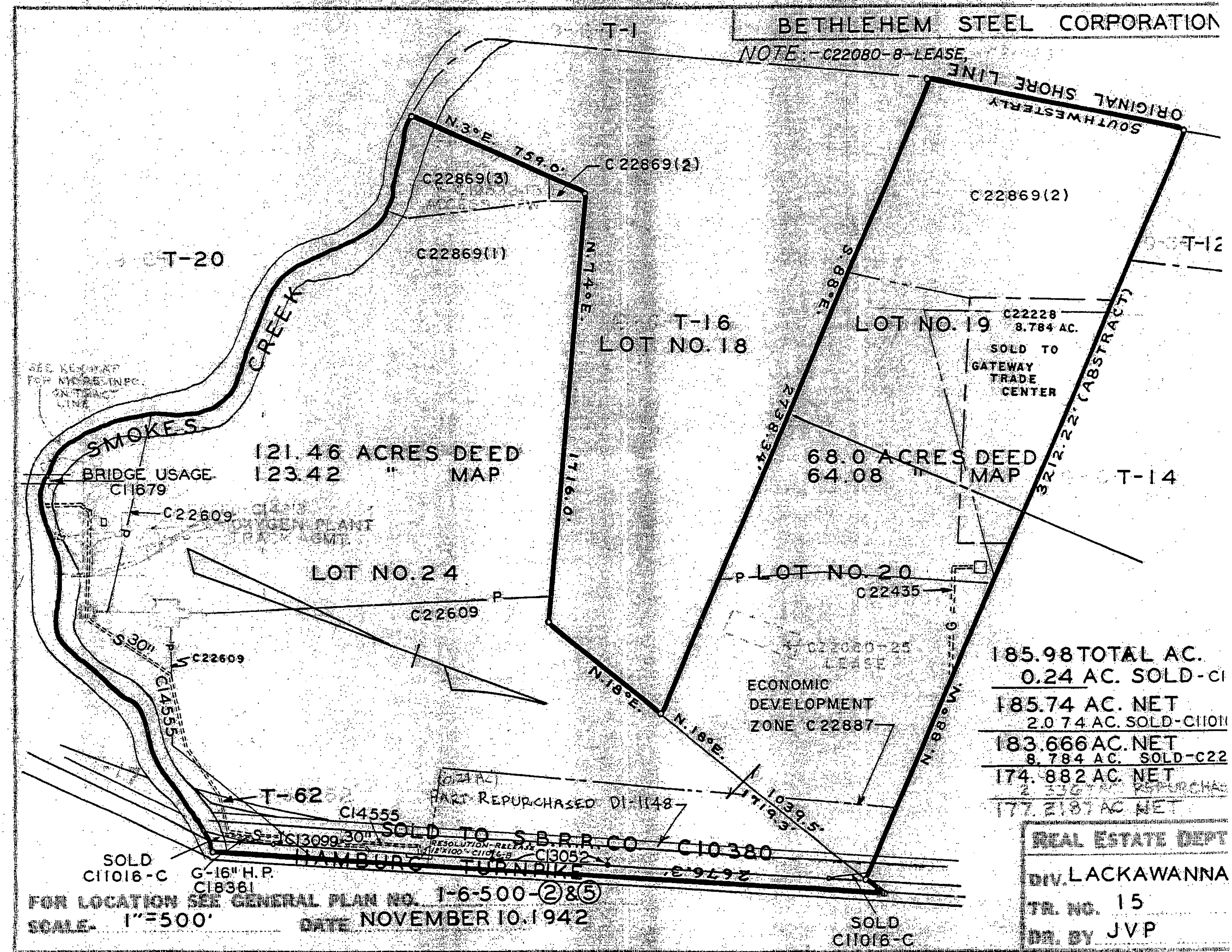
DESCRIPTION:-
Situated on waters of Lake Erie. Comprising Lots 19 and 20 of Ogden Gore. Survey and Lot 24 of the Buffalo Creek Indian Reservation. Formerly 6-6-T-15.

CLASSIFICATION	AREA
FEE	185.98 Ac.

FOR LOCATION SEE KEY MAP No. 9-6-500-2 & 5

DATE	TITLE CHAIN

DATE	DISPOSITION	FILE No.	AREA SOLD	NET AREA


BETHLEHEM STEEL CORPORATION
NOTE:-C22080-8-LEASE.
T-1
ORIGINAL SHORE LINE
SOUTHWESTERLY
N.3°E. 759.0.
C22869(2)
C22869(3)
C22869(2)
C22869(1)
T-20
T-12
SMOKES CREEK
N.74°E.
T-16
LOT NO. 18
S.8°E.
LOT NO. 19
C22228
8.784 AC.
SOLD TO
GATEWAY
TRADE
CENTER
3212.22' (ABSTRACT)
2238.34'
121.46 ACRES DEED
123.42 " MAP
68.0 ACRES DEED
64.08 " MAP
T-14
BRIDGE USAGE
C11679
C22609
1716.0'
LOT NO. 24
LOT NO. 20
C22435
C22609
C22609
S 30"
C14555
N.18°E.
N.18°E.
N.88°W.
ECONOMIC
DEVELOPMENT
ZONE C22887
185.98 TOTAL AC.
0.24 AC. SOLD-C1
185.74 AC. NET
2.074 AC. SOLD-C1101
183.666 AC. NET
8.784 AC. SOLD-C22
174.882 AC. NET
177.2187 AC. NET
1719.3'
1039.5'
T-62
PART REPURCHASED D1-1148
C14555
SOLD TO S.B.R.R. CO
C10380
S-C13099-30"
C13052
HAMBURG TURNPIKE
2676.3'
SOLD
C11016-C
G-16" H.P.
C18361
FOR LOCATION SEE GENERAL PLAN NO. 1-6-500-②&⑤
SCALE- 1"=500'
DATE NOVEMBER 10, 1942
SOLD
C11016-C
REAL ESTATE DEPT
DIV. LACKAWANNA
TR. NO. 15
DR. BY JVP

BK 1802a-3m-2,46-BSCo.

Subsidiary Companies of Bethlehem Steel Corporation

REAL ESTATE RECORD

OWNER	PLANT	LOCATION	TRACT No.
Bethlehem Steel Corporation ~~Bethlehem Steel Company~~	Lackawanna	City of Lackawanna, Erie County, N. Y.	1 9-6-16

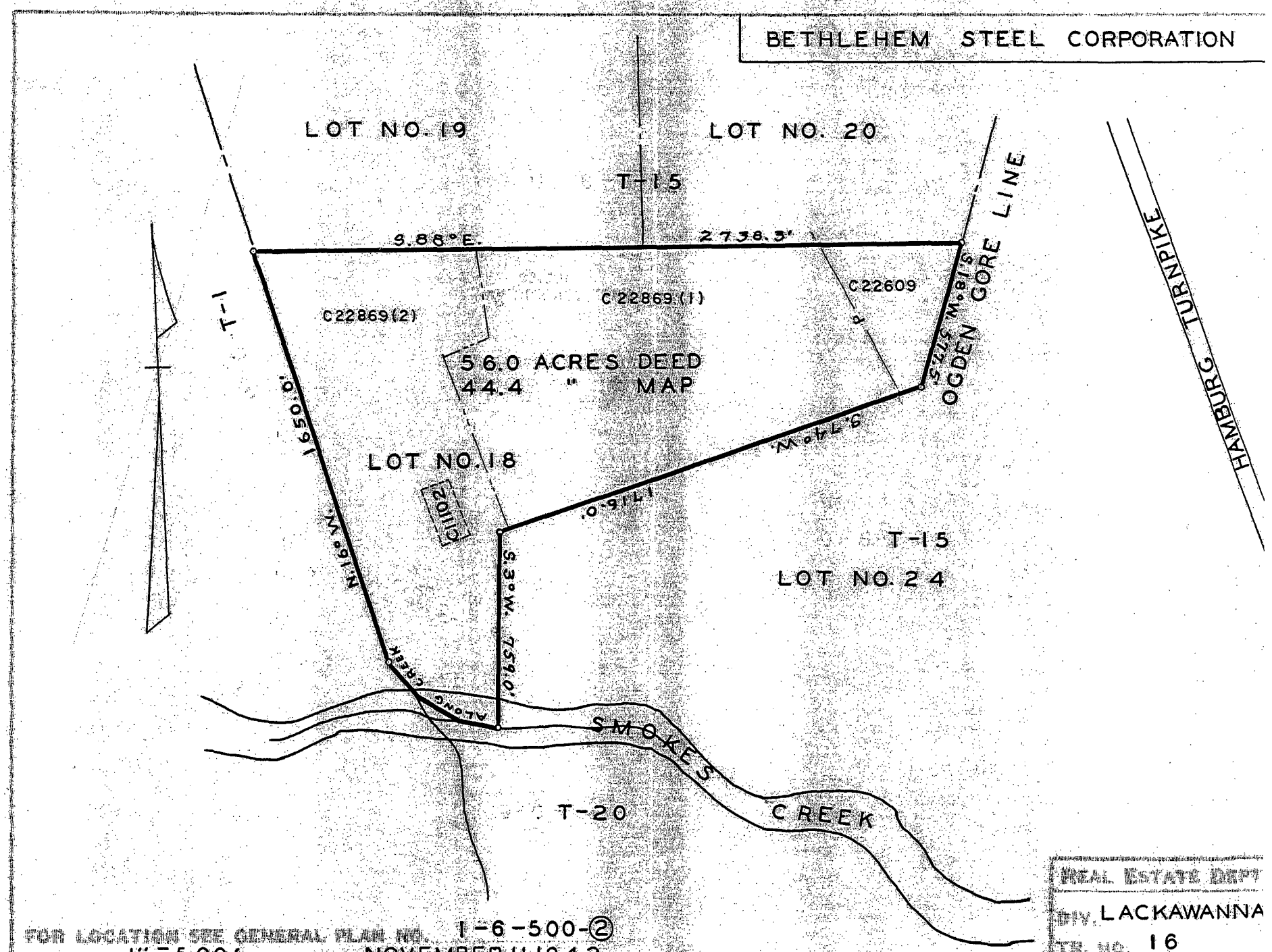
DESCRIPTION:-	CLASSIFICATION	AREA
Along waters of Lake Erie. Being Lot No. 18 of the Ogden Gore Survey. Formerly 6-16-T-16	Fee	44.4 Ac.

FOR LOCATION SEE KEY MAP No. 1 9-6-500-2

DATE	TITLE CHAIN
6/30/1899	J. J. Albright to Stony Point Land Co. Abstract 26-17
7/26/1900	Stony Point Co. to L.I.&S. Co. D6-8
4/29/1902	L.I.&S. Co. to L.S.Co. ~~N.Y. D-16~~ D6-47
10/10/1922	L.S.Co. to B.S.Co. of N.Y. & Name changed to B.I.&S. Corp. D6-1
5/13/1924	B.I.&S. Corp. to B.S.Co. of Pa. to B.I.&S. Corp. 7/28/1924 D6-2 & D9-435
7/12/1935	B.I.&S. Corp. to B.S.Co. D9-247 Title Opinion 9/12/46 C-446-5
12/31/1964	B.S.Co. merged into B.S.Corp. C 18813

DATE	DISPOSITION	FILE No.	AREA SOLD	NET AREA
5/ 6/2003	Tecumseh Redevelopment Inc.			

BETHLEHEM STEEL CORPORATION



FOR LOCATION SEE GENERAL PLAN NO. 1-6-500-②

SCALE. 1" = 500' DATE NOVEMBER 11, 1942

REAL ESTATE DEPT
DIV. LACKAWANNA
TR. NO. 16
DR. BY JVP

BK 1802a-3m-2,46-BSCo.

Subsidiary Companies of Bethlehem Steel Corporation

REAL ESTATE RECORD

OWNER	PLANT	LOCATION	TRACT No.
Bethlehem Steel Corporation ~~Bethlehem Steel Company~~	Lackawanna	City of Lackawanna, Erie County, N. Y.	1 9-6-20

DESCRIPTION:-

Land along south bank of Smokes Creek west of Hamburg Road.
Formerly 6-6-T-21.

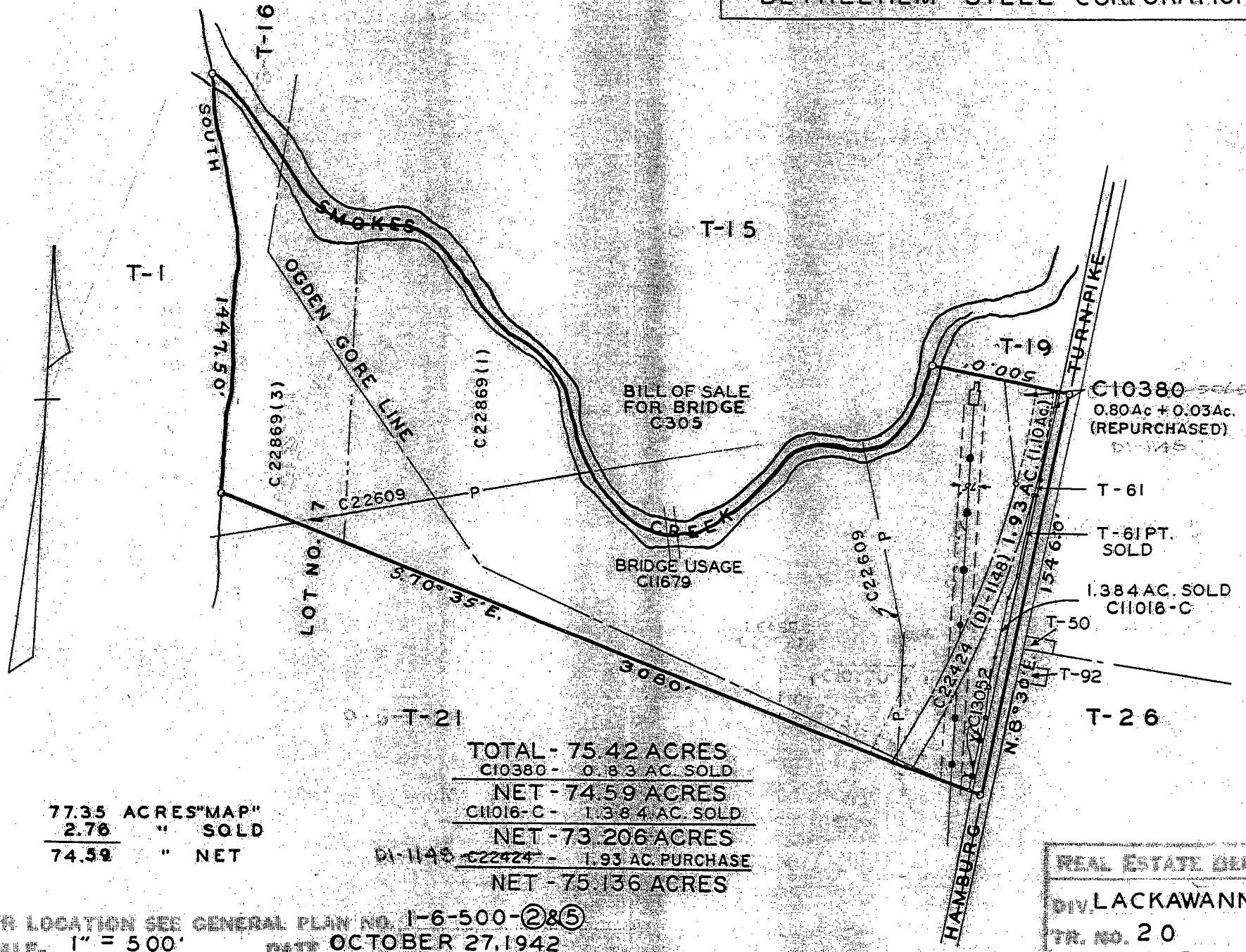
CLASSIFICATION	AREA
Fee	75.42 Ac.

FOR LOCATION SEE KEY MAP No. 1 9-6-500-2 & 5

DATE	TITLE CHAIN
7/28/1900	Stony Point Land Co. to L.I.&S. Co. D6-8 Abstract 26-27
4/29/1902	L.I.&S. Co. to L.S. Co. ~~N.Y. D-16~~ D6-47
10/10/1922	L.S.Co. to B.S.Co. of N.Y. & Name change to B.I.&S. Corp. D6-1
5/13/1924	B.I.&S. Corp. to B.S.Co. of Pa. to B.I.&S. Corp. 7/28/1924 D6-2 & D9-435
7/12/1935	B.I.&S. Corp. to B.S.Co. D9-247 Title Opinion 9/12/24 Contract
12/31/1964	B.S.Co. merged into B.S.Corp. C 18813 73.206 Ac.
9/15/1989	So. Buffalo Railway Company to B.S.Corp. D1-1148 C 22424

DATE	DISPOSITION	FILE No.	AREA SOLD	NET AREA
12/18/41	Deed - South Buffalo Railway Co.	C 10380	0.83 Ac.	74.59 Ac.
10/11/1954	Buffalo Tank Corp.	C 11016-3	1.384 "	73.206 "
~~XXXXXXXX~~	~~XXXXXXXXXXXXXXXXXXXXXX~~	~~XXXX~~		
9/15/1989	South Buffalo Railway Company to B.S.Corp. Merger (PURCHASE)	D1-1148	1.930 Ac.	75.136 Ac.
5/6/ 2003	Tecumseh Redevelopment Inc.			

BETHLEHEM STEEL CORPORATION



77.35 ACRES "MAP"
2.76 " SOLD
74.59 " NET

TOTAL - 75.42 ACRES
C10380 - 0.83 AC. SOLD
NET - 74.59 ACRES
C11016-C - 1.384 AC. SOLD
NET - 73.206 ACRES
D1-1148 C22424 - 1.93 AC. PURCHASE
NET - 75.136 ACRES

FOR LOCATION SEE GENERAL PLAN NO. 1-6-500-②&⑤
SCALE 1" = 500' DATE OCTOBER 27, 1942

REAL ESTATE DEPT.
DIV. LACKAWANNA
TR. NO. 20
DR. BY JVP

BK 1802a-3m-2,46-BSCo.

Subsidiary Companies of Bethlehem Steel Corporation

REAL ESTATE RECORD

OWNER	PLANT	LOCATION	TRACT No.
Bethlehem Steel Corporation ~~Bethlehem Steel Company~~	Lackawanna	City of Lackawanna & Town of Hamburg Erie County, N. Y.	1 9-6-21

DESCRIPTION:-

Land between Lake Erie and Hamburg Road North of Woodlawn.
Formerly 6-6-T-22.

68.63 Town of Hamburg
76.53 City of Lackawanna
145.16

FOR LOCATION SEE KEY MAP No. 1 9-6-500-1,2,4 & 5

CLASSIFICATION	AREA
Fee	145.16 Ac.

TITLE CHAIN

DATE	
7/26/1900	Stony Point Land Co. to L.I.&S. Co. D6-8 **Abstract D6-23**
4/29/1902	L.I.&S. Co. to L.S.Co. N.Y. ~~XXXX~~ D6-47 10/21/1922
10/10/1922	L.S.Co. to B.S.Co. of N.Y. & Name changed to B.I.&S. Corp. / D6-1
5/13/1924	B.I.&S. Corp. to B.S.Co. of Pa. to B.I.&S. Corp. 7/28/1924 D6-2 & D9-435
7/12/1935	B.I.&S. Corp. to B.S.Co. D9-247 **Title Opinion 9/12/1936 C 6046-5**
12/31/1964	**B.S.Co. merged into B.S.Corp. C 18813 143.599 Ac.**
9/15/1989	So. Buffalo Railway Company to B.S.Corp. D1-1148 C 22424

DATE	DISPOSITION	FILE No.	AREA SOLD	NET AREA
10/11/1954	Buffalo Tank Corp. D36-5	C 11016-3	1.561 Ac.	143.599 Ac.
12/21/1983	Erie County Industrial Development Agency ~~(XXXXXXXXXXXXXXXXXXXX In Hamburg Turnpike)~~	C 21124	12.022 Ac.	131.577 Ac.
5/28/1985	Lake Shoe Gateway Associates	C 22044	16.02 Ac.	115.557 Ac.
9/15/1989	South Buffalo Railway Company	C 22424	38.778 Ac.	76.779 Ac.
9/15/1989	South Buffalo Railway Company to B.S. Corp. (PURCHASE)	D1-1148	1.510 Ac.	78.289 Ac.
5/ 6/2003	Tecumseh Redevelopment Inc.			

28353 (Rev.A 4-60)
(Old BK 1802a)

Subsidiary Companies of Bethlehem Steel Corporation

REAL ESTATE RECORD

OWNER	PLANT	LOCATION	TRACT No.
Bethlehem Steel Corporation	Lackawanna	City of Lackawanna & Town of Hamburg, Erie County, N.Y.	1-6-21

DESCRIPTION:-

CLASSIFICATION	AREA
FEE	145.16 Ac.

FOR LOCATION SEE KEY MAP No.

DATE	TITLE CHAIN

DATE	DISPOSITION	FILE No.	AREA SOLD	NET AREA

28353 (Rev.A 4-60)
(Old BK 1802a)

Subsidiary Companies of Bethlehem Steel Corporation

REAL ESTATE RECORD

OWNER	PLANT	LOCATION	TRACT No.
Bethlehem Steel Corporation	Lackawanna	City of Lackawanna, Town of Hamburg, County of Erie, New York	1-6-21

DESCRIPTION:-

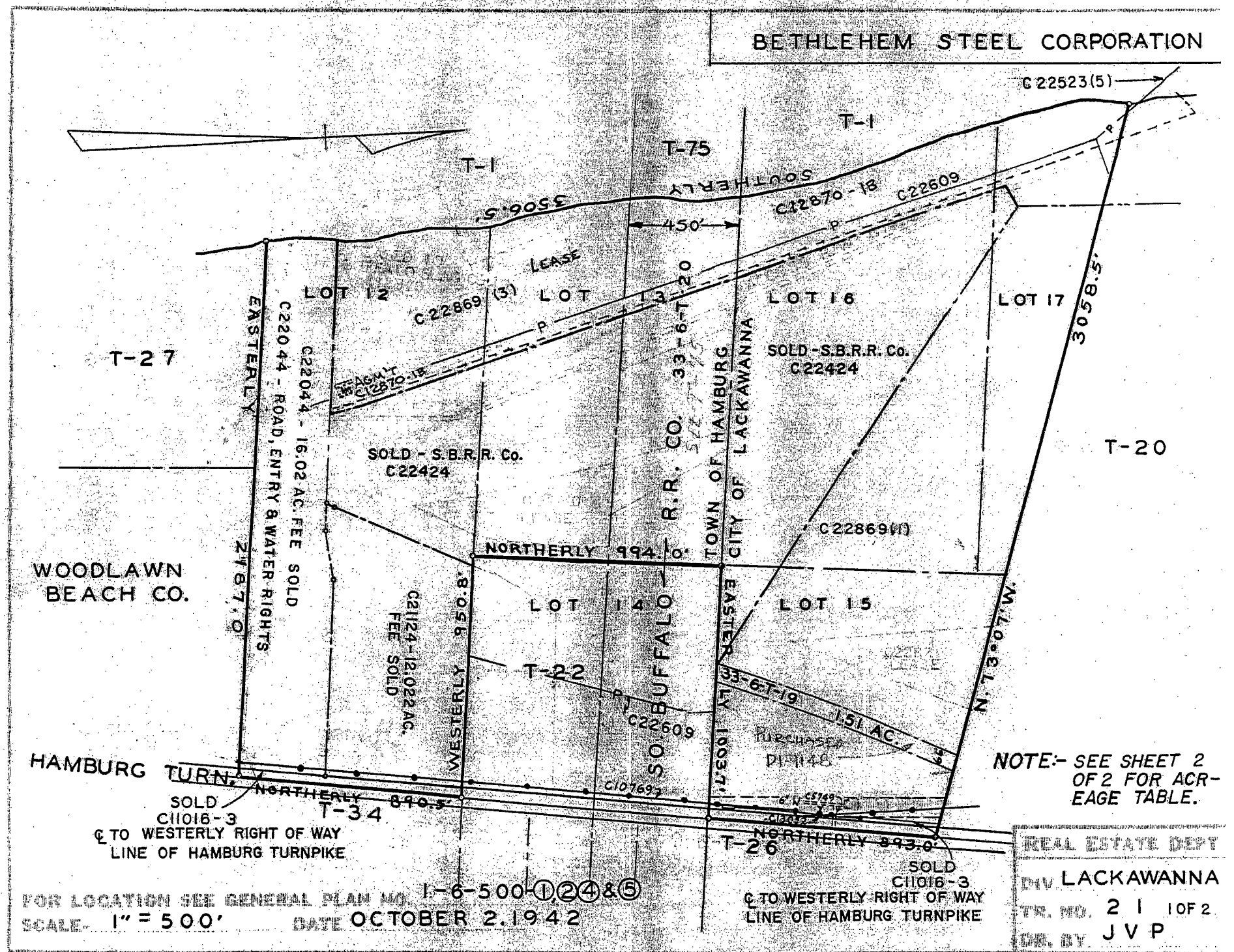
CLASSIFICATION	AREA
FEE	145.16 Ac.

FOR LOCATION SEE KEY MAP No.

DATE	TITLE CHAIN

DATE	DISPOSITION	FILE No.	AREA SOLD	NET AREA

BETHLEHEM STEEL CORPORATION



NOTE:- SEE SHEET 2 OF 2 FOR ACREAGE TABLE.

FOR LOCATION SEE GENERAL PLAN NO. 1-6-500-①②④&⑤

SCALE- 1" = 500' DATE OCTOBER 2.1942

REAL ESTATE DEPT

DIV LACKAWANNA

TR. NO. 21 1 OF 2

DR. BY J V P

BETHLEHEM STEEL CORPORATION

160.84 AC. FEE "MAP"
15.68 AC. FEE SOLD ← P.S.B.R.R. C.

NET - 145.16 AC. FEE
C11016-3 — 1.561 AC. FEE — SOLD

NET - 143.599 AC. FEE
C21124 - 12.022 AC. FEE - SOLD

NET - 131.577 AC. FEE
C22044 ——— 16.020 AC. FEE SOLD

NET - 115.557 AC. FEE
C22424 ——— 38.778 AC. FEE - SOLD.

NET - 76.779 AC. FEE
D1-1148 ——— 1.510 AC. FEE - PURCHASE

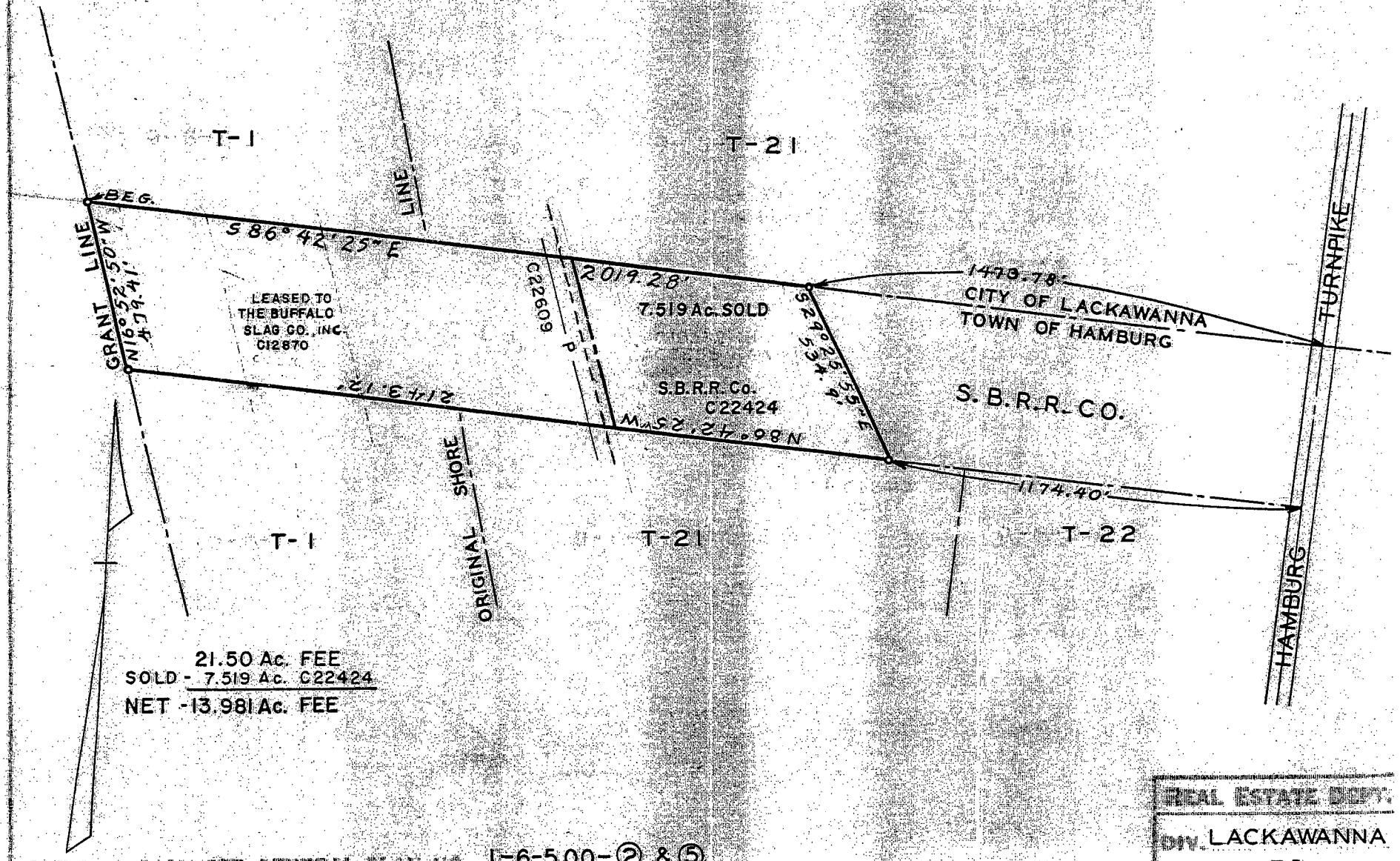
NET - 78.289 AC. FEE

FOR LOCATION SEE GENERAL PLAN NO. 1-6-500-1,2,4 & 5
SCALE- DATE

REAL ESTATE DEPT.
DIV. LACKAWANNA
TR. NO. 21 2 OF 2
DR. BY

A1973 (9-68)

BETHLEHEM STEEL CORPORATION



FOR LOCATION SEE GENERAL PLAN NO. 1-6-500-② & ⑤

SCALE 1" = 400' DATE 7-14-43

REAL ESTATE DEPT.

DIV. LACKAWANNA

TR. NO. 75

DR. BY JVP

ATTACHMENT 6

LISTING OF PREVIOUS SITE OPERATORS

In addition to the Owners in Attachment 5, attached are Real Estate Records from the Title Chain and Tract that list Mortgages and Easements for specific Tracts on the property. Tract Nos. and sketches are shown on the cover sheet in Attachment 5.

Bethlehem Steel Corporation has dissolved. Certain assets of BSC are presently owned by Mittal Steel USA. Mr. Myles Lalley of Mittal Steel is a former BSC employee with knowledge of past BSC Lackawanna site operations. Mr. Lalley's contact information is presented below.

Mr. Myles Lalley
Environmental Supervisor
Mittal Steel USA
3175 Lakeshore Rd.
Blasdell, New York 14219
Tel. 716-821-3213

DATE	MORTGAGE
~~5/13/24~~	~~Consolidated Mortgage (B.S.Corp.) 5th Suppl. C 6046-5~~ ~~S. M. SATISFIED AND DISCHARGED 1/1979~~
~~3/18/1952~~	~~Release of Mtg. - G.T.Co. to Buffalo Tank Corp. 2.074 Ac. - D36-5~~

DATE	EASEMENTS
8/28/1902	Easement for power line on west side of Hamburg Turnpike - The Buffalo General Elec. Co. C 4878
5/15/1950	Agreement for telephone line to New York Telephone Co. C 13099
4/7/1950	Agreement for anchors and guy wires to New York Telephone Co. C 13052
1/5/1951	City of Lackawanna releases all interest in strip of land 12' x 100' at Gate No. 4 C 11016-B
10/1/1947	Roadway rights on railroad bridge - South Buffalo Railway Co. to B. S. Co. C 11679
9/10/1956	R/W for sanitary sewer to City of Lackawanna C 14555 (1) Amended 11/14/1963
~~1/20/1956~~	~~Agreement and lease for oxygen supply system to Linde Air Products Co. C 14813 Superseded 6/15/61 & 3/2/64~~
10/15/1958	Side track agreement - S.B.Rwy.Co.,B.S.Co. and Linde Company. C 14813
11/21/1961	Easement for gas pipelines to Iroquois Gas Corp. C 18361 Amended 7/9/1962 Amended 8/13/1963, 1/21/2000
~~11/10/1964~~	~~Agreement - Right of Entry - B.S.Co. and The United States of America - C 12023 Cancelled 10/20/70~~
~~3/ 2/1964~~	~~Agreement and lease for oxygen supply system to Union Carbide Corp., Linde Div. - C 14813 Canc'd 7/11/1966~~
~~7/11/1966~~	~~Agreement & lease for oxygen supply system site to Union Carbide Corp., Linde Div. C 14813 Amend. 11/5/1974~~
~~3/31/1967~~	~~Memo. of Agreement - Concession Site to Cease Commissary Services, Inc. C 6756 Can. 5/31/1983~~ ~~Can. 1/1/81~~
~~7/19/1967~~	~~Easement for Sewer Line & Water Line - South Buffalo Railway Co. C 19456 to B.S.Corp Can. 9/15/1989~~
~~1/ 9/1981~~	~~Agmt. & Lease for oxygen supply site to Union Carbide C 14813 Cancelled 8/31/1988~~
~~9/27/1982~~	~~License Agmt. - Permission of Entry - New York State Dept. of Environmental Conservation - C 21928 Term.~~ ~~9/14/1983~~
4/ 7/1950	Easement for anchors and guys to Niagara Mohawk Power Corp. C 13052
~~9/20/1984~~	~~Lease to Amadori Construction, Inc. C 22080-8 Amended 10/23/87, 8/11/88,7/24/89~~ ~~Term. 9/30/1990~~
[redacted]	
~~3/1/1986~~	~~Lease - 54" Roll Shop Office - Power Electric Company C 22080-24 Amend. 3/4/88,2/1/89,1/25/90~~
~~6/ 5/1986~~	~~License-Letter-Agreement - Williams-Hand-Tool-Inc. - C 22080-9 Can. 7/10/1986~~ ~~Term. 4/30/1990~~
12/31/1985	Bill of Sale - Gateway Trade Center Inc. C 22228
12/31/1985	Easement Agmt. - Gateway Trade Center Inc. C 22228
~~12/19/1986~~	~~Lease - Murdock Wakelam, Inc. C 22080-25 Amend. 5/3/1991 Term. 12/31/1991~~
4/ 3/1987	Cooling Water Agreement - County of Erie and B.S.Corp. C 22362
~~9/ 8/1987~~	~~License - permission to enter lands for inspection and improvements - Penn Iron and Metal Company~~ C 22080-27
~~10/15/1987~~	~~Lease - Penn Iron and Metal Company, Inc.~~ / ~~C 22080-27 Amended 4/12/1989 Cancelled 10/14/1992~~ (now AmSource)
~~4/ 5/1988~~	~~Ltr. Agmt. - National Fuel Gas Distribution Corporation C 22435~~

DATE	MORTGAGE

DATE	EASEMENTS
6/27/1988	R/W Agmt. - 16" gas line - B.S.Corp. and So. Buffalo Rwy. Co. to National Fuel Gas Distribution Company C 22435 Assigned to B.S.Corp. 9/15/1989
~~5/ 5/1989~~	~~Letter Agmt. (License) - Shoobers Marina, Incorporated C 22443 Expired 8/1/1989~~
7/10/1989	Letter of Intent - Gateway Trade Center, Inc. C 22521(1)
~~7/26/1989~~	~~License - Erie Energy Associates (by Oxford Energy of New York, Inc.) C 22521(2) Terminated 9/30/1989~~
~~7/26/1989~~	~~License - Erie Energy Associates (by Oxford Energy of New York, Inc.) C 22521(2) Amended 11/9/1989 Terminated 12/31/1989~~
~~1/31/1985~~	~~Lease - Storage Space - Ciesla Electric Construction Company, Inc. C 22080-14 Amended 3/13/1986, 10/23/1987, 9/7/1988, 11/18/91 Cancelled 9/30/1994~~
9/24/1956	R/W Agmt. - South Buffalo Railway Company and City of Lackawanna C 14555(2) Assigned to B.S.Corp. 9/15/1989
9/15/1989	Agmt. - South Buffalo Railway Company C 22424(16)
3/29/1907	R/W Agmt. - Lackawanna Steel Company to Bell Telephone Company of Buffalo C 10868
~~1/16/1974~~	~~Agmt. - B.S.Corp. and Erie County C 20335 Cancelled 2/18/1991~~
2/11/1987	City of Lackawanna Local Law No. 3 establishing New York State Economic Development Zone C22887 Amended 3/16/1987
6/ 7/1991	R/W - Niagara Mohawk Power Corporation C 22609
6/17/1991	Bill of Sale - Niagara Mohawk Power Corporation C 22609
~~11/ 1/1991~~	~~License - Herbert F. Darling, Inc. C 22443(2) Terminated 11/9/1991~~
~~1/10/1992~~	~~License - Herbert F. Darling, Inc. C 22443(2) Term. 1/14/1992~~
~~1/27/1992~~	~~License - Herbert F. Darling, Inc. C 22443(2)~~
~~5/13/1992~~	~~License - Advance Metals Recycling C 22080-30 Term. 6/30/1992~~
~~7/ 1/1992~~	~~Lease - Advance Metals Recycling C 22080-30 Terminated 6/30/1994~~
~~10/14/1992~~	~~Lease - Amsource C 22080-27 Terminated 10/15/1993 Amend. 2/25/1994, Term. 5/31/1994~~
12/30/1993	Agmt. - B.S.Corp., Gateway Trade Cneter, Inc., and Buffalo Crushed Stone, Inc. C 22228-1
2/17/1994	Bill of Sale - Gateway Trade Center, Inc. - Ore Conveyer System C 22228-7
2/17/1994	Bill of Sale - Gateway Trade Center, Inc. - Crusher Station 1s Bldg.) C 22228-7
2/17/1994	Bill of Sale - Gateway Trade Center, Inc. - water pipelines C 22228-7
2/20/1996	**Declaration of Conditions, Covenants and Restrictions-Parcel C, Filled Lands C 22869(3)**

DATE	MORTGAGE

DATE	EASEMENTS
2/20/1996	Declaration of Conditions, Covenants and Restrictions - Parcel A Coke Ovens C 22869(2)
2/20/1996	Declaration of Conditions, Covenants and Restrictions - Parcel A Frontage Land C 22869(1)
~~11/10/1999~~	~~License Agreement - Herbert F. Darling, Inc. C 22443~~
12/ 9/1999	Agreement for Advance Payment - Commissioner of Transportation for the People of the State of New York C 23309

DATE	MORTGAGE
~~5/12/24~~	~~Consolidated Mortgage (B.S. Corp.) 5th Suppl. C 6046-5~~ ~~S. M. SATISFIED AND DISCHARGED 1/1/1978~~

DATE	EASEMENTS
4/24/41	C 11102 B.S.Co. to The Barrett Co. Tar distilling plant.
~~1/16/1974~~	~~Easement Agreement - Access for Men & Equipment Etc. to Erie County XXXXXXXXX C 20335 Can. 2/18/1991~~
~~7/22/1981~~	~~Letter Agmt. - Use of Storage Tank to B.S.Corp. from Betz Laboratories Inc. C 21791 Can. prior to 10/30/1995~~
~~9/27/1982~~	~~License Agmt. - Permission of Entry - New York State Dept. of Environmental Conservation C 21928 Term. 9/14/1983~~
4/ 3/1987	Cooling Water Agreement - County of Erie and B.S.Corp. C 22362
7/10/1989	Letter of Intent - Gateway Trade Center, Inc. C 22521(1).
~~7/26/1989~~	~~License - Erie Energy Associates (by Oxford Energy of New York, Inc.) C 22521(2) Terminated 9/30/1989~~
~~7/26/1989~~	~~License - Erie Energy Associates (by Oxford Energy of New York, Inc.) C 22521(2) Amend. 11/9/1989 Term. 12/31/1989~~
~~7/20/1989~~	~~License - Browning Ferris Industries, Inc. C 22463 Cancelled 9/30/1989~~
6/ 7/1991	R/W - Niagara Mohawk Power Corporation C 22609
6/17/1991	Bill of Sale - Niagara Mohawk Power Corporation C 22609
2/20/1996	**Declaration of Conditions, Covenants and Restrictions - Parcel A Frontage Land C 22869(1)**
2/20/1996	**Declaration of Conditions, Covenants and Restrictions - Parcel B Coke Ovens C 22869(2)**
~~7/ 1/2000~~	~~License - Buffalo Fuel Corporation C 23331~~ Terminated 1/8/2001

DATE	MORTGAGE
~~5/12/34~~	~~Consolidated Mortgage (D.S.Corp.) 5th Suppl. C 8046-5~~
~~3/18/1952~~	~~Release of Mtg. - G.T.Co. to Buffalo Tank Corp. 1,384 Ac. - D36-5~~

DATE	EASEMENTS
8/28/1902	Easement for power line on west side of Hamburg Turnpike - The Buffalo General Elec. Co. C 4878
~~4/6/45~~	~~Power Line - Both. Iron & St. Corp. to N.I.A.G.A.R.A. Co. C 179~~ Released 2/6/1997
4/7/1950	Agreement for anchors and guy wires to New York Telephone Co. C 13052.
10/1/1947	Roadway rights on railroad bridge - South Buffalo Railway Co. to B. S. Co. C 11679.
~~11/10/1964~~	~~Agreement - Right of Entry - B.S.Co. and The United States of America C 12023~~ Cancelled ~~10/20/70~~
11/21/1972	Bill of Sale between So. Buffalo Railway Co. & B.S.Corp. C 305
~~1/16/1974~~	~~Easement Agreement - Access for Men & Equipment Etc. to Erie County. C 20335~~ Can. ~~2/18/1991~~
4/ 7/1950	**Easement for anchors and guys to Niagara Mohawk Power Corp.. C 13052** ~~6/6/1990 Term. 1/31/1994~~
~~8/ 1/1984~~	~~Lease - Store Space - Conomos Management, Inc. C 22080-2 (FSC Bldg.)~~ Amended ~~6/17/1985,10/23/87,7/8/88,~~
~~8/ 1/1984~~	~~Lease - Erection Shop Building - Conomos Management, Inc. C 22080-2~~ Amended ~~6/17/1985,10/23/87,7/8/88,~~ ~~6/29/1989,6/6/1990~~ ~~Terminated 1/31/1994~~
4/ 3/1987	Cooling Water Agreement - County of Erie and B.S.Corp. C 22362
~~12/31/1987~~	~~Lease - Great Lakes Trnscom Services C 22080-19 Terminated 6/22/1988~~
~~8/ 1/1988~~	~~Lease - Sherland Equipment Corporation C 22080-19~~ Amended ~~6/29/1989,6/29/1989~~ Term. ~~10/1/1990~~
~~1/15/1925~~	~~R/W Agmt. - South Buffalo Railway Company and Niagara, Lockport & Ontario Power Company C 179~~ Can. 4/15
4/ 8/1936	R/W Agmt. - South Buffalo Railway Company and Niagara, Lockport and Ontario Power Company C 179
9/15/1989	Agmt. - South Buffalo Railway Company C 22424(16)
3/29/1907	~~R/W Agmt. - Lackawanna Steel Co. to Bell Telephone Co. of Buffalo C 10868~~
6/ 7/1991	R/W - Niagara Mohawk Power Corporation C 22609
6/17/1991	Bill of Sale - Niagara Mohawk Power Corporation C 22609
~~3/15/1994~~	~~Lease - Slinger Transport, Inc. C 22821 Can. 10/31/1995~~
2/20/1996	**Declaration of Conditions, Covenants and Restrictions - Parcel C, Filled Lands C 22869(3)**
2/20/1996	**Declaration of Conditions, Covenants and Restrictions - Parcel A, Frontage Land C 22869(1)**
1/1/2002	License Agreement between Bethlehem Steel Corporation and Canadian National Railway Company C23331 as assigned to Grand Trunk Railroad Inc. 10/1/2002

DATE	MORTGAGE
	S. M. SATISFIED AND
5/18/34	Consolidated Mortgage (B.S.Corp.) 5th Suppl. C 6046-5 DISCHARGED 1/6/1972
3/18/1952	Release of Mtg. - G.T.Co. to Buffalo Tank Corp. 1.561 Ac. - D36-5

DATE	EASEMENTS
8/28/1902	Easement for power line on west side of Hamburg Turnpike - The Buffalo General Elec. Co. C 4878
10/11/1907	Transmission Line R/W to Niagara Lockport & Ontario Power Co. C 86 - Can. 4/6/1945
xxxx5xxxx	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx C 179.
8/31/1927	W.N.Y. Water Co. Drainage Rt. C 5858 to open ditch on land Consent to Assignment to Erie Co. Water Auth.
	C 5749 R/W for water line - Granted 6/14/37 12/15/1953 - C 10659 - Can. 5/28/1985
11/10/1942	Power Line Agr. S.B.R.R. Co. & B.S.Co. C 10769 (Appurtenance)
1/1/1949	Lease - B. S. Co. to The Buffalo Slag Co., Inc. C 12870 - Amended 6/30/1958 Cancelled 12/31/1961
1/11/1950	R/W for Electric Power Line - Niagara Mohawk Power Co. C 12997 Cancelled 6/7/1966
4/7/1950	Agreement for anchors and guy wires to New York Telephone Co. C 13052 Part.Can. 5/28/1985
6/21/1950	Wire Attachment Agreement to Buffalo Slag Co., Inc. C 13116 - Can. 5/28/1985
11/21/1960	Sewage Agreement - Woodlawn Sewer District and B.S.Co. C 12876-73 - Renewed 12/16/1964 Trans. to Purch. 11/1/7
1/1/1962	Lease for slag plant site to The Buffalo Slag Co., Inc. C 12870 Amended 4/3/1964, 1/25/1965, 4/13/1966
4/1/1966	Easement for gas line to Iroquois Gas Corp. C 19095 Part Can. 5/28/1985 4/20/1967, 2/6/1973, 7/11/75, 10/1/76
6/7/1966	Easement for power line to Niagara Mohawk Power Co. C 12997 Part Can. 5/28/1985 5/21/1977 Can. 1/1/81
1/16/1974	Easement Agreement - Access for Men & Equipment, Etc. to Erie County C 19532 xRx Can. 5/28/1985
6/23/1978	Letter Agreement - Permission of Entry to Blasdell-Woodlawn Lions Club C21165 Part Can. 5/28/1985
7/5/1957	Agreement for treatment and disposal of sewage with Woodlawn Sewer District C 12876-73 Renewed 5/25/60, 12/16/1964, 1/4/1979 Transferred to Purcha 11/1/79
4/26/1960	R/W - pole & 2 anchors - Niagara Mohawk Power Corp. C 13689 Can. 12/21/1983
8/20/1981	License Agreement - Permission of Entry to Baynes Construction Co., Inc. C 10659 Can. 4/30/82
1/1/1981	Lease and easements for slag plant site to Buffalo Slag Co. C 12870 Amend. 3/17/82 Can. 11/1/1984
12/29/1981	xxxAssignment of R/W Agmt. with Erie County Water Authority C 65
6/21/1982	License Agreement - Permission of Entry - Herbert F. Darling, Inc. C 21668 Term. 10/82
4/6/1945	Transmission line R/W to Niagra Lockport & Ontario Power Co. C 86 Part Can. 5/28/1985
4/7/1950	Easement for anchors and guys to Niagara Mohawk Power Corp. C 13052 Can. 5/28/1985
11/10/1952	Easement for vacuum pumping bldg. and power line to W.N.Y. Water Co. C 65 Assigned to Erie Co. Water Auth. 12-29-1981
4/7/1950	Easement for anchors and guys to Niagara Mohawk Power Corp. C 13052
4/6/1945	Transmission line R/W to Niagara Lockport & Ontario Power Co. C 179 Released 2/6/1997
5/28/1985	Easement for railroad tracks - South Buffalo Railway Company C 305 Can. 5/28/1985
12/21/1983	Easement - Erie County Industrial Development Agency [illegible]

DATE	MORTGAGE

DATE	EASEMENTS
11/4/1983	~~A/S with H. J. Williams Co., Inc. C 21124~~ C 21124
12/21/1983	Amendment, Assignment, Acceptance and Consent with Buffalo Specialty Products, Inc./ Amended 12/22/1983
12/21/1983	Bill of Sale to Erie County Industrial Dev. Agency C 21124
~~12/21/1983~~	~~Easement for sanitary sewer to Erie Co. Ind. Development Agency C 12876-73 Can. 5/28/1985~~
11/ 1/1984	Lease - Site for Slag Processing Facilities - Buffalo Crushed Stone, Inc. C 12870 Part. Can. 5/28/85, Amended 12/27/84, 8/28/1986
~~5/28/1985~~	~~Easement for railroad tracks - South Buffalo Railway Company C 305 Can. 5/28/1985~~
~~3/16/1988~~	~~Lease - Land - Singer Transport, Inc. from South Buffalo Rwy. Co. and B.S.Corp. C 22410 Can. 3/1/1989~~
~~3/ 1/1989~~	~~Lease - Land - So. Buffalo Rwy. Co. and B.S.Corp. to Singer Transport, Inc. C 22410 Assigned 9/15/1989~~
9/15/1989	Agmt. - South Buffalo Railway Company C 22424(16)
3/29/1907	R/W Agmt. - Lackawanna Steel Company to Bell Telephone Co. of Buffalo C 10868
6/ 7/1991	R/W - Niagara Mohawk Power Corporation C 22609
6/17/1991	Bill of Sale - Niagara Mohawk Power Corporation C 22609
6/14/1937	Agreement - Erie County Water Authority C 5749
~~3/15/1994~~	~~Lease - Singer Transport, Inc. C 22821 Can. 10/31/1995~~
5/31/1995	R/W Agmt. - Niagara Mohawk Power Corporation C 22523(5)
9/21/1994	Bill of Sale - BRW Steel Corporation C 22756-1(ix)
[redacted]	[redacted]
2/20/1996	**Declaration of Conditions, Covenants and Restrictions - Parcel C, Filled Lands C 22869(3)**
	APPURTENANT RIGHTS
9/15/1989	R/W - South Buffalo Railway Company to B.S.Corp. C 22424(3)
9/15/1989	R/W - South Buffalo Railway Company to B.S.Corp. C 22424(6)
9/15/1989	R/W - South Buffalo Railway Company to B.S.Corp. C 22424(10)
9/15/1989	R/W - South Buffalo Railway Company to B.S.Corp. C 22424(11)
9/15/1989	R/W - South Buffalo Railway Company to B.S.Corp. C 22424(12)
9/28/1957	Permit - Town of Hamburg to B.S.Corp. C 14794
7/ 1/1950	Fire protection service agreement with Western New York Water Company C 5749(2)
verbal	Agreement - Buffalo Crushed Stone, Inc. and B.S.Corp. C 12870
[redacted]	[redacted]

DATE	MORTGAGE

DATE	EASEMENTS
2/20/1996	**Declaration of Conditions, Covenants and Restrictions - Parcel A, Frontage Land C 22869(1)**
1/1/2002	License Agreement to Canadian National Railway Company C23331 as assigned to Grand Trunk Railroad Incorporated October 1, 2002

DATE	MORTGAGE
~~7/6/45~~	~~Consolidated Mortgage 35th Suppl. Tr. 7 C 6046-35~~ ~~SATISFIED AND DISCHARGED 1/1/1979~~

DATE	EASEMENTS
~~1/ 1/1962~~	~~Lease for slag plant site to The Buffalo Slag Company, Inc. C 12870~~ ~~Amended 4/3/1964, 1/25/1965, 4/13/1~~ 6/1/1977 ~~Can. 1/1/1981~~ ~~7/11/1975, 10/1/1976, 5/21/77~~ 4/20/1967, 2/6/1973,
~~1/16/1974~~	~~Easement Agreement Access for Men & Equipment, Etc. to Erie County~~ ~~C 20335 Can. 2/18/1991~~
~~1/ 1/1981~~	~~Lease and easements for slag plant site to Buffalo Slag Co. C 12870 Amend. 3/17/82~~ Can. 11/1/1984
~~3/16/1988~~	~~Lease Land Singer Transport, Inc. from South Buffalo Ry. Co. and B.S.Corp. C 22410 Can. 3/1/1989~~
~~3/ 1/1989~~	~~Lease, Land So. Buffalo Ry. Co. and B.S.Corp. to Singer Transport, Inc. C 22410~~ ~~Assigned 9/15/1989~~
11/ 1/1984	Lease Agreement - Buffalo Crushed Stone, Inc. C 12870 Part. Can. 5/28/1985, Amended 12/27/1984, 8/28/1986
2/20/1996	**Declaration of Conditions, Covenants, and Restrictions - Parcel C, Filled Lands C 22869(3)**

ATTACHMENT 7

CONTACT LIST INFORMATION

New York State Contacts

Director Abby Snyder
N.Y.S. D.E.C., Region 9
270 Michigan Avenue
Buffalo, NY 14203

Mr. Maurice Moore
N.Y.S. D.E.C., Region 9
270 Michigan Avenue
Buffalo, NY 14203

Mr. Stan Radon
N.Y.S. D.E.C., Region 9
270 Michigan Avenue
Buffalo, NY 14203

Ms. Megan Gollwitzer
N.Y.S. D.E.C., Region 9
270 Michigan Ave.
Buffalo, N.Y 14203

Mr. Cameron O'Connor
N.Y.S. D.O.H.
584 Delaware Avenue
Buffalo, NY 14202

Senator Charles Schumer
U.S. Senate, Suite 660
130 South Elmwood Avenue
Buffalo, NY 14202

Senator Hillary Rodham-Clinton
U.S. Senate
Larkin Building, Suite 511
726 Exchange Street
Buffalo, NY 14210

Senator William Stachowski
58th District, N.Y.S. Senate
2030 Clinton Street
Buffalo, NY 14206

Congressman Brian Higgins
Larkin Building, Suite 601
726 Exchange Street
Buffalo, NY 14210

Assemblyman Jack Quinn Jr
146th Assembly District
3812 South Park Avenue
Blasdell, NY 14219

Assemblyman Mark J.F. Schroeder
145th Assembly District
2019 Seneca Street
Buffalo, NY 14210

Erie County Contacts

Commissioner Anthony Billittier
Erie Co. Health Dept., Rm 931
95 Franklin Street
Buffalo, NY 14202

Mr. Peter Camaratta
Erie County Industrial Development Agency
275 Oak Street
Buffalo, NY 14203

Honorable Joel Giambra
Erie County Executive
95 Franklin Street
Buffalo, NY 14202

Commissioner Andrew Eszak
Erie County Department of Environment and Planning
Rath County Office Building
95 Franklin Street
Buffalo, NY 14202

Mr. Paul Kranz
Erie County Department of Environment and Planning
Rath County Office Building
95 Franklin Street
Buffalo, NY 14202

Mr. Christopher S. Pawenski
Erie County Department of Environment and Planning
Rath County Office Building
95 Franklin Street, Room 1056
Buffalo, NY 14202

Daniel Kozub
Erie County Legislator – District 1
609 Ridge Road
Lackawanna, New York 14218

City of Lackawanna
Mayor Norman L. Polanski, Jr.
City of Lackawanna Offices
714 Ridge Road
Lackawanna, NY 14218

Supplier of Potable Water
Erie County Water Authority
350 Ellicott Square Building
295 Main Street
Buffalo, NY 14203

Local News Media

The Buffalo News
1 News Plaza
Buffalo, NY 14240

WBEN News Radio 930
Entercom Radio of Buffalo
500 Corporate Pkwy
Suite 200
Buffalo, NY 14226

WKBW-TV
7 Broadcast Plaza
Buffalo, NY 14202

News Director
WGRZ TV Channel 2
259 Delaware Avenue
Buffalo, NY 14202

News Director
WIVB TV Channel 4
2077 Elmwood Avenue
Buffalo, NY 14207

News Director
Time Warner
795 Indian Church Road
West Seneca, NY 14224

News Director
WB 49
699 Hertel Avenue, Suite 100
Buffalo, NY 14207

Mark Scott, News Director
WBFO 88.7/WOLN 91.3
3435 Main Street
Buffalo, NY 14214-3001

News Director
Infinity Radio
14 Lafayette Square # 1300
Buffalo, NY 14203-1913

News Director
Citadel Communications
50 James E Casey Dr
Buffalo, NY 14206-2367

Jim Ranney, News Director
WNED 94.5/970 AM
PO Box 1263
Buffalo, NY 14240-1263

Annemarie Franczyk
Business First of Buffalo, Inc.
465 Main Street
Buffalo, NY 14203-1793

Editor
Challenger
1303 Fillmore Avenue
Buffalo, NY 14211-1205

Editor
Pennysavers
49 E Main Street
Springville, NY 14141-1245

Editor
South Buffalo News
2703 S Park Avenue
Buffalo, NY 14218-1511

Editor
ARTVOICE
810 Main Street
Buffalo, NY 14202

Document Repository
Lackawanna Public Library
560 Ridge Road
Lackawanna, NY 14218
Attn: Jennifer Hoffman, Librarian
Phone: (716) 823-0630

Local School
Lackawanna City School
Superintendent Paul G. Hashem
245 South Shore Boulevard
McKinley School Administrative Building
Lackawanna, NY 14218
Phone: (716) 827-6767

Nearby Properties and Owners:

Nearby properties and owners are listed on the attached spreadsheet.

Property Owners - Companies & Organizations

Property Address		Owner 1	Mailing Address				
No.	Street	Name	No.	Street	City	State	Zip
60	Commerce Dr.	One Commerce Drive Properties, Inc.	60	Commerce Dr.	Lackawanna	NY	14218
100	Commerce Dr.	Kenworth of Buffalo NY, Inc.	100	Commerce Dr.	Lackawanna	NY	14218
170	Commerce Dr.	Crown Atlantic Co., LLC		P.O. Box 353	McMurray	PA	15317
47	Gates Ave.	Lackawanna Municipal Housing A	135	Odell	Lackawanna	NY	14218
0	Hamburg Tpke.	Gateway Trade Center, Inc.		P.O. Box 880	Buffalo	NY	14224
2256	Hamburg Tpke.	City of Lackawanna	714	Ridge Rd.	Lackawanna	NY	14218
2290	Hamburg Tpke.	City of Lackawanna	714	Ridge Rd.	Lackawanna	NY	14218
2300	Hamburg Tpke.	T&T Andolino Properties, LLC	2300	Hamburg Tpke.	Lackawanna	NY	14218
2350	Hamburg Tpke.	RAF Supply, Inc.	2350	Hamburg Tpke.	Lackawanna	NY	14218
2770	Hamburg Tpke.	State of New York	182	E. Union St.	Allegany	NY	14706
0	Kane St.	City of Lackawanna	714	Ridge Rd.	Lackawanna	NY	14218
18	Kane St.	Fruci Apartments LLC		P.O. Box 116	West Seneca	NY	14224
10	N. Gates Ave.	Punto Franco Ltd. c/o Lincoln Securities Corp.	155	Great Arrow Dr.	Buffalo	NY	14207
31	N. Gates Ave.	Safety Kleen Systems, Inc. c/o Burr Wolf		P.O. Box 27713	Houston	TX	77227
41	N. Gates Ave.	Safety Kleen Systems, Inc. c/o Burr Wolf		P.O. Box 27713	Houston	TX	77227
70	N. Gates Ave.	Marotta Leasing, Inc.	70	N. Gates Ave.	Lackawanna	NY	14218
121	N. Gates Ave.	Puglisi Funding, Inc.	50	Ridge Rd.	Lackawanna	NY	14218
17	Odell St.	RAF Supply, Inc.	2350	Hamburg Tpke.	Lackawanna	NY	14218
0	Ridge Rd.	LCDC	640	Ridge Rd.	Lackawanna	NY	14218
10	Ridge Rd.	55 North Gates Avenue, LLC	5500	Pebble Beach Dr.	Hamburg	NY	14075
43	Ridge Rd.	City of Lackawanna	714	Ridge Rd.	Lackawanna	NY	14218
47	Ridge Rd.	City of Lackawanna	714	Ridge Rd.	Lackawanna	NY	14218
50	Ridge Rd.	Puglisi Funding, Inc.	50	Ridge Rd.	Lackawanna	NY	14218

Property Owners - Companies & Organizations							
Property Address		Owner 1	Mailing Address				
No.	Street	Name	No.	Street	City	State	Zip
55	Ridge Rd.	City of Lackawanna	714	Ridge Rd.	Lackawanna	NY	14218
15	Simon Ave.	City of Lackawanna	714	Ridge Rd.	Lackawanna	NY	14218
22	Simon Ave.	BGI Interiors, Inc.	22	Simon Ave.	Lackawanna	NY	14218
36	Simon Ave.	City of Lackawanna	714	Ridge Rd.	Lackawanna	NY	14218
0	Steelawanna Ave.	T&T Andolino Properties, LLC	2300	Hamburg Tpke.	Lackawanna	NY	14218
243	Steelawanna Ave.	RAF Supply, Inc.	2350	Hamburg Tpke.	Lackawanna	NY	14218

Property Owners - Individuals

Property Address		Owner 1		Owner 2		Mailing Address				
No.	Street	First Name	Last Name	First Name	Last Name	No.	Street	City	State	Zip
109	Gates Ave.	Stephen	Yerkovich	c/o Edward	Yerkovich	6180	Old Lake Shore Rd	Lakeview	NY	14085
113	Gates Ave.	Stephen	Yerkovich	c/o Edward	Yerkovich	6180	Old Lake Shore Rd	Lakeview	NY	14085
13	Kane St.	Angel R.	Mercado			13	Kane St.	Lackawanna	NY	14218
17	Kane St.	Angel R.	Mercado			13	Kane St.	Lackawanna	NY	14218
23	Kane St.	Ellen M.	Pauley-Blaze			23	Kane St.	Lackawanna	NY	14218
30	Kane St.	Gobran	Albanna			60	Holland Ave.	Lackawanna	NY	14218
33	Kane St.	Joseph J.	Pajak			33	Kane St.	Lackawanna	NY	14218
34	Kane St.	Gobran	Albanna			60	Holland Ave.	Lackawanna	NY	14218
36	Kane St.	Daniel S.	Cizdziel			5304	Big Tree Rd.	Orchard Park	NY	14127
37	Kane St.	Joseph J.	Pajak			33	Kane St.	Lackawanna	NY	14218
38	Kane St.	Daniel S.	Cizdziel			5304	Big Tree Rd.	Orchard Park	NY	14127
39	Kane St.	Daniel S.	Cizdziel			5304	Big Tree Rd.	Orchard Park	NY	14127
42	Kane St.	Daniel S.	Cizdziel			5304	Big Tree Rd.	Orchard Park	NY	14127
46	Kane St.	Daniel S.	Cizdziel			5324	Big Tree Rd.	Orchard Park	NY	14127
48	Kane St.	Daniel S.	Cizdziel			5324	Big Tree Rd.	Orchard Park	NY	14127
143	Steelawanna Ave.	Barbara A.	Peoples			26	Wilson St.	Lackawanna	NY	14218
145	Steelawanna Ave.	Elnora	Williams			2295	Ferrier Rd.	Eden	NY	14057
149	Steelawanna Ave.	Lena Pearl	Flippen			20	Holland Ave.	Lackawanna	NY	14218
155	Steelawanna Ave.	Annie & Tom	Morman			88	Wasson	Lackawanna	NY	14218
161	Steelawanna Ave.	Milicia (estate)	Evanovich	James	Evanovich	161	Steelawanna Ave.	Lackawanna	NY	14218

ATTACHMENT 8

DOCUMENT REPOSITORY CONFIRMATION LETTER

TURNKEY ENVIRONMENTAL RESTORATION, LLC

June 7, 2007

Ms. Jennifer Hoffman
Buffalo & Erie County Public Library
Lackawanna Public Library Branch
560 Ridge Road
Lackawanna, NY 14218
(716) 823-0630

Re: Document Repository for Steel Winds 2, Lackawanna, NY
BQ Energy, LLC
NYSDEC Brownfield Cleanup Program

Dear Ms. Hoffman:

Per my telephone conversation with Ms. Victoria Dale, thank you for agreeing to the Lackawanna Public Library Branch acting as the document repository for the above-referenced site. We will be forwarding the Brownfield Cleanup Program Application and associated documents for review by the interested public.

Please contact us if you have any questions or require additional information

Sincerely,
TurnKey Environmental Restoration, LLC

Lori Riker

Lori E. Riker, P.E.
Senior Project Engineer

c: File: 0083-005-100

ATTACHMENT 9

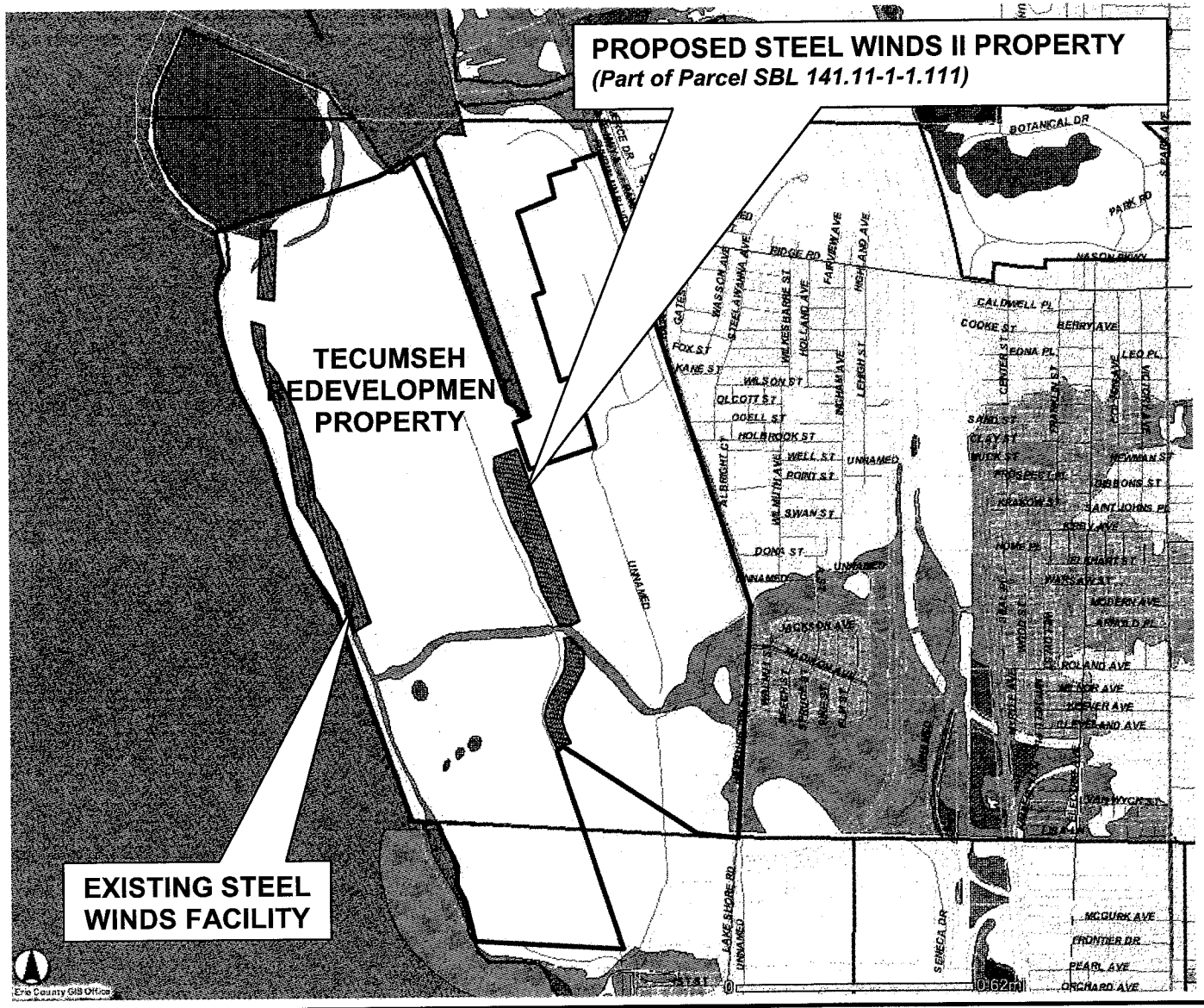
ENVIRONMENTAL FACTORS, HISTORIC LAND USE CONSIDERATIONS AND FLOODPLAIN MAP

Information related to 'important federal, state or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats or endangered or threatened species proximate to the site was researched and reported in the "Revised Draft RCRA Facility Investigation Report, Part III: Ecological Risk Assessment" Former Bethlehem Steel Corporation, September 2004. Excerpts from this reference are included in this attachment for inclusion into the BCP Application. The following provides a brief summary of the attachment:

- There are no wetlands on the former BSC Site. As such, there are no wetlands on the proposed Steel Winds II BCP Site.

- The former BSC site is "adjacent to a Significant Coastal Fish and Wildlife Habitat, Smokes Creek Shoals." The significance is due to the importance of Smokes Creek Shoals as a walleye spawning area. The proposed Steel Winds II BCP Site is located to the north and south of Smokes Creek.

- There are no threatened or endangered species, nor important plant habitats listed at the former BSC Site. As such, there are no similar concerns on the proposed Steel Winds II BCP Site.



LEGEND

- Municipalities
- Parcels
- Railroads

Road Names

Local Roads

- Interstate
- Primary Federal / State
- Secondary State / County
- Local Road

- Ponds
- Streams
- Federal Wetlands
- State Wetlands
- 100yr Floodplain

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0083-004-100

DATE: JUNE 2007

DRAFTED BY: BCH

STATE AND FEDERAL WETLAND/FLOODPLAIN MAP

BROWNFIELD CLEANUP PROGRAM APPLICATION

LACKAWANNA, NEW YORK
STEEL WINDS II SITE

PREPARED FOR
BQ ENERGY, LLC

FIGURE 9-1

Excerpt from "Revised Draft RCRA Facility Investigation Report, Part III: Ecological Risk Assessment" Former Bethlehem Steel Corporation, July 1998.)

identify potential runoff pathways from the site SWMUs to the on-site and off-site watercourses (discussed on a SWMU-by-SWMU basis in Parts V and VI of this RFI report). The slag fill is generally very porous, meaning that precipitation typically is taken into the slag before substantial runoff occurs. Exceptions include precipitation that falls on the shoreline embankments (e.g., along Lake Erie) that slope towards a water body.

There is a state-regulated wetland area to the northeast of the site, approximately 1 mile from the site boundary, but other than some riparian wetlands along the margins of Smokes Creek, there are no wetlands on the site itself (see Figure 3-5). This nearby offsite wetland appears to be a remnant of what was probably, before industrialization of the area, a much larger wetland associated with the Buffalo River. Part of this wetland lies within the Tifft Farm Nature Preserve operated by the Buffalo Museum of Science. WETLANDS

Natural Resources Information Review

Information concerning the natural resources of the site vicinity was requested from the U.S. Fish and Wildlife Service and the following New York State Department of Environmental Conservation (NYSDEC) entities:

- Natural Heritage Program
- Significant Habitats Program
- Bureau of Fisheries, Lake Erie Unit
- Environmental Disturbance Investigation Unit
- Toxic Substances Monitoring Program.

Information was obtained also from the State University College at Buffalo. The type of information obtained from these entities is identified in the following paragraphs; the complete information is available from these entities or is attached hereto.

The NYSDEC's Natural Heritage Program provided a letter stating that the site is "adjacent to a Significant Coastal Fish and Wildlife Habitat, Smokes Creek Shoals" (Appendix A). According to Floyd Cornelius of the Bureau of Fisheries, Lake Erie Unit (Dunkirk, NY), the Smokes Creek Shoals habitat is mainly important as a walleye spawning area. In the 1994 Annual Report, the Lake Erie Unit asserted that "the Buffalo Harbor muskellunge fishery is truly exceptional and of SEE ATTACHED LETTER

statewide significance." The letter from the Natural Heritage Program office also indicated that there were no threatened or endangered species listed at the site.

NYSDEC's Toxic Substances Monitoring Program reported the results of tissue analyses on fish taken from Lake Erie at Lackawanna for chlorinated organics, mercury and arsenic in 1978; PCBs and some pesticides in 1979 and 1980; and PCBs, mercury, and some pesticides in 1987. Fish tissues obtained from this area had concentrations of these substances that were not different from other relatively uncontaminated areas. In 1994, the NYSDEC Division of Fish and Wildlife added polycyclic aromatic hydrocarbons (PAHs) to the list of analytes for the first time (NYSDEC 1994). Concentrations of PAHs in young-of-the-year fish collected at Smokes Creek were below detection limits (acenaphthene, acenaphthylene, anthracene, fluoranthene, fluorene, chrysene, benzo(a)anthracene, benzo(b)anthracene, benzo(a)pyrene, pyrene) or quantitation limits (benzo(k)anthracene, phenanthrene). This document is included as Appendix B.

NYSDEC's Division of Fish and Wildlife sent five reports in response to BSC's request for information. These reports are included as Appendix C. They describe historical accounts of fish mortality near the site. No reports dated after 1975 were received from NYSDEC, and the NYSDEC did not provided fish mortality reports pertaining to other incidents near the site but not attributed to BSC discharges.

The State University College at Buffalo conducted field studies at Smokes Creek in 1985 and 1986 in order to investigate potential toxicity in the creek and occurrence of walleye spawning (Appendix D). The location of stations in these studies is shown on Figure 3-6. In the 1985 field study, the benthic fauna were characterized, sediment toxicity testing was conducted, and walleye spawning was assessed.

More recent studies of the water quality in Smokes Creek (except as performed as part of this RFI) are not available; however, information from toxicity testing (for SPDES permit purposes) of the BSC Galvanized Products Division discharges at outfalls 216 and 217, a non-contact cooling and operating water discharge from the Coke Oven operations (outfall 223) in 1992 and 1993 concluded that there was no evidence of acute toxicity to test organisms from these discharges (Appendix E). In addition, in 1991 New York State reclassified Smokes Creek from a Class D stream to a Class C stream as a result of water quality improvements.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York 14203-2999
(716) 851-7010

Michael D. Zagata
Commissioner

July 18, 1995

Mr. Bill Starkel
Six Piedmont Center
Suite 500
3525 Piedmont Road
Atlanta, GA 30305

Natural Heritage Request
Bethlehem Steel RCRA Facility
City of Lackawanna, Erie County

Dear Mr. Starkel:

I have reviewed our Natural Heritage Data for Significant Habitats and threatened and endangered species at the above location.

The referenced project is adjacent to a Significant Coastal Fish and Wildlife Habitat; Smoke Creek Shoals.

For more information, contact Mr. Steve Mooradian, Regional Fisheries Manager, NYSDEC Region 9, 128 South Street, Olean, NY 14760; phone (716)372-0645.

There are no threatened or endangered species listed at the site. The Significant Habitat and Natural Heritage files are continually changing. The information in this letter should not be substituted for an on-site survey that may be required for environmental assessment.

Sincerely,

Mark Kandel
Sr. Wildlife Biologist

MK/dah

cc: Mr. Steve Mooradian, Regional Fisheries Manager

Many of the important species were identified floristically, but because the site is generally characterized by simple communities in early stages of primary succession, many habitats were characterized on a floristic basis as well. Annual and perennial life histories were assessed for important species using information presented in Fernald (1970) and United States Soil Conservation Service (1982). Bare ground was included as a cover type because it can be indicative of stress to vegetation. Estimates of the height of shrubs and trees were also made. Surficial materials were described qualitatively including observational parameters such as color, grain size, thickness, and moisture condition.

Because both physical and chemical stressors may result in vegetational changes, notes were made on signs of physical disturbance and estimates of the length of time since the disturbance. SWMU boundary conditions tended to be similar to surrounding habitat, so descriptions of the vegetation around 26 SWMUs provided the information needed for habitat characterization. A vegetation map prepared in 1993 for the SFA (Appendix E) and site-wide observations of wildlife and vegetation were also used for assessing habitat extent and resource quality. Photographs were taken to document surface conditions on or around each SWMU.

Prior to the 1995 observations, an ecological survey of the SFA was performed in May 1993 (Appendix E). The map of the SFA vegetation referenced earlier was produced, and notes were made of the animal species observed, including their relative abundance and behavior. Most conspicuous was a large nesting colony of ring-billed gulls observed around the Corps of Engineers spoil disposal area off of the north end of the site. Nesting colonies of bank swallows and rough-winged swallows were also noted at several locations along the SFA where the slag formed cliffs or steep banks.

Little evidence was observed to indicate frequent use of the terrestrial portion of the site by wildlife. Given the disturbed nature of terrestrial habitat on the site, this is not surprising. Some wildlife species such as beaver, deer, fox, rabbits and raccoons would be expected to forage in some of the less disturbed portions of the site for food such as forbes and small trees by deer, and small rodents, beetles and forbes by the other species. Small insectivores or seed-eating birds would also forage on the site for beetles, flying insects and seeds.

The survey made use of the Erie County Waterfront Master Plan (Saratoga Associates 1991) for information about natural resources in the study area, which included the coastal zone for the entire county. Lists of animals and plants expected to inhabit the study area, in both aquatic and

terrestrial environments, are also included in this resource. Important habitats for fish are presented therein as well. According to Saratoga Associates (1991), and based on on-site observations, there are no wetlands of appreciable size, threatened or endangered species, nor important plant habitats at this site.

The results of the survey indicated that most of the SFA is not vegetated (Figure 3-9). Almost all of the vegetated areas are in very early stages of primary succession, where the dominant plants are typically hardy and fast-growing, and have seeds that disperse over a large area. The most frequently encountered plants around the SWMUs are goldenrods (*Solidago* spp.), wild carrot (*Daucus carota*), staghorn sumac (*Rhus typhina*) and eastern cottonwood (*Populus deltoides*). Although cottonwoods were frequently seen, they were usually young. Little cover was provided by trees around the SWMUs (Table 3-1). The majority of the areas are typified by a perennial forb cover or bare ground. The patterns of cover seen around the SWMUs were typical of the SFA in general. Only a few locations, such as SWMU S-4 and a small area on the northwest edge of SWMU-22, have been undisturbed long enough to develop small woodlots.

Although there is evidence of recent and ongoing physical disturbance, mainly from environmental investigations, many areas in Zones 2, 3 and 4 have probably been substantially undisturbed for the 14 years since the cessation of steel-making on the site in 1983. Given this length of time, the dominance of herbs and persistence of bare ground indicate that the plant community in the SFA is developing at a slow pace characteristic of primary succession in this climate and on this type of substrate. In addition to disturbance, seed dispersal and substrate quality undoubtedly contribute to the observed successional rate.

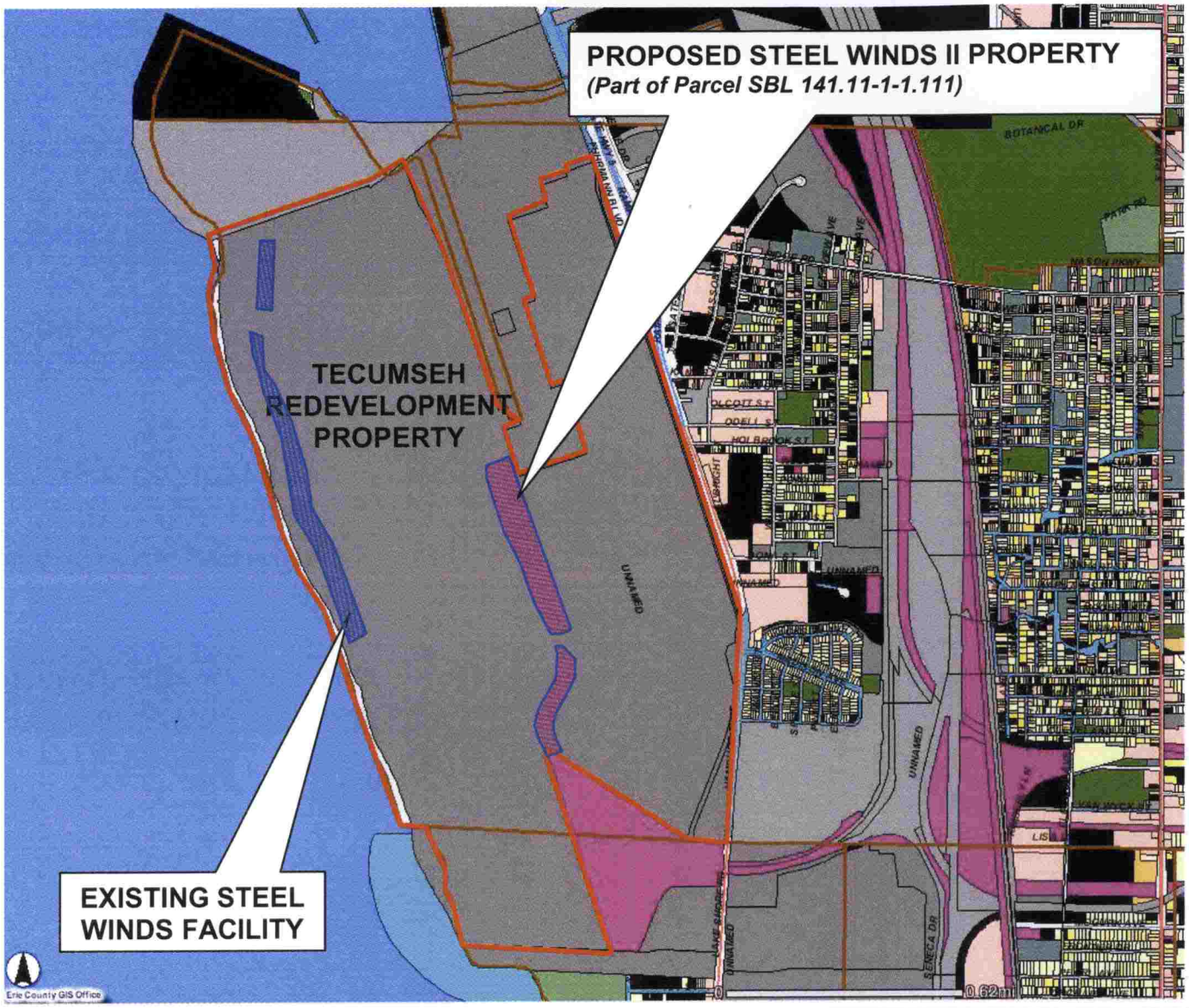
Seed dispersal appears to be somewhat important to the development of the site's vegetation community. Nearly all the trees on the SFA, large and small, are in the willow family (Salicaceae). The willow family is characterized by seeds with long, silky down that enables them to be carried considerable distances by the wind. However, herbs mature much faster than trees, and coverage of bare ground by diverse herbs would be expected to have occurred within the 14 years since disturbances related to steel making operations ceased. As discussed below, potentially toxic materials in soils (if those effects can actually be distinguished from physical effects of site-related materials) appeared to be important only within SWMUs, leaving continued disturbance and substrate quality as the most likely explanation for lack of a diverse herb community at the site.

ATTACHMENT 10

NEARBY LAND USE MAP & DESCRIPTION

Land Use

The 1,100-acre property owned by Tecumseh Redevelopment is largely vacant with the exception of existing wind turbines, rail and some limited industrial tenant occupancy. The Tecumseh property is roughly bounded by NYS Route 5 to the east; Lake Erie to the west; the property boundary of the Gateway Trade Center Property and the U.S Army Corps of Engineers sediment disposal area to the north; and South Buffalo Railroad Company and Buffalo Crushed Stone property to the south (see Figure 2-1 in Attachment 2). Outside of these neighboring properties, the majority of the surrounding property is currently zoned as industrial or commercial with some mixed use residential property (See Figure 10-1).



LEGEND

- Municipalities

Parcels (Landuse)

- Resid. Single Family
- Resid. Two Family
- Resid. Three Family
- Other Residential
- Vacant
- Commercial
- Recreational
- Community Service
- Industrial
- Public Service
- Conservation Area / Park
- Other

- Railroads

Road Names

Local Roads

- Interstate
- Primary Federal / State
- Secondary State / County
- Local Road

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0083-004-100

DATE: JUNE 2007

DRAFTED BY: BCH

REGIONAL LAND USE MAP

BROWNFIELD CLEANUP PROGRAM APPLICATION

LACKAWANNA, NEW YORK
STEEL WINDS II SITE

PREPARED FOR
BQ ENERGY, LLC

FIGURE 10-1

ATTACHMENT 11

GROUNDWATER VULNERABILITY ASSESSMENT

Potential Vulnerability of Groundwater to Contamination

The historical use of the Site would indicate that groundwater is likely contaminated. There is a deed restriction (Attachment 13) that prohibits the use of groundwater from the entire approximately 1,100-acre BSC site. Consequently, no groundwater supply wells are present on the 1,100-acre property. Regionally, groundwater in the area has not been developed for industrial, agriculture, or public supply purposes. Municipal potable water service is provided off-site and on-site by the Erie County Water Authority. Groundwater vulnerability would potentially be related to potential environmental impacts on the offsite area to the east of the Site, and related to the discharge of groundwater to Lake Erie.

Groundwater Flow/Recharge

Groundwater elevation maps completed during the RFI (Reference 1) indicate that groundwater flows west across the Phase II Business Park Area into the South Return Water Trench and east across the Phase III Business Park Area into the South Return Water Trench, which empties into Smokes Creek. In addition, groundwater flows from the Steel Winds II Site into Smokes Creek, which eventually discharges into Lake Erie, and toward Lake Erie.

Recommendations

Further work is required to characterize groundwater on the Steel Winds II BCP property. Monitoring wells to refine the groundwater flow patterns; discharge rates and groundwater quality will be needed.

Reference:

1. United States Environmental Protection Agency (USEPA), National Enforcement Investigation Center (NEIC). 1988. RCRA Facility Assessment, Bethlehem Steel Corporation, Lackawanna, New York, September.

ATTACHMENT 12

DESCRIPTION OF SITE GEOGRAPHY/GEOLOGY

1.0 SITE GEOGRAPHY

1.1 LAND USE AND DEMOGRAPHY

The Site is located in an urbanized area of the City of Lackawanna, Erie County, NY. The Site is currently owned by Tecumseh Redevelopment, Inc. Land use surrounding the Site includes primarily industrial and commercial properties, with some residential/mixed use and vacant properties (see Figure 10-1 in Attachment 10). The population of the City of Lackawanna in 2000 was 19,064 (2000 U.S. Census). The 2004 population estimate for the City of Lackawanna is 18,394 (a decline of 3.5%). The 2000 population in Erie County was 950,265 compared to the 2004 estimated population of 936,318 (a decline of 1.5%). The average household income in the City of Lackawanna in 2000 was $29,354.

1.2 SITE TOPOGRAPHY, PHYSIOGRAPHY, AND DRAINAGE

The proposed Steel Winds II BCP Site is generally flat. The United States Geological Survey Buffalo, SW, New York Quadrangle (see Figure 2-2 in Attachment 2) indicates that the Site generally slopes west toward Lake Erie, with a gentle slope toward Smokes Creek. Due to the granular nature of the slag/soil fill, there is very little ponded stormwater or runoff since most of the precipitation seeps into the highly permeable slag/soil fill.

1.3 SITE STRUCTURES AND VEGETATION

The proposed Steel Winds II Site contains no discernable features, except for a building on the south end of the Site, former slag-filled access roads, and railroad tracks. The land surface is sparsely vegetated with voluntary indigenous shrubs, grasses, weeds, and emergent trees.

2.0 SITE GEOLOGY

The United States Department of Agriculture Soil Survey of Erie County, New York indicates that the Site is covered by surface soil classified as Urban Land; soil consisting of paved, foreign, or disturbed soils. Drilling logs from monitoring wells constructed near the Site indicate the upper 2 to 8 feet are typically composed of steel and iron-making slag and/or other fill material. The fill is underlain by Lacustrine clays and silts that are, in turn, underlain by shale or limestone bedrock. Bedrock is about 60 feet below grade near Route 5.

ATTACHMENT 13

SITE-WIDE DEED RESTRICTION

THIS IS NOT
A BILL

Erie County Clerk's Office
County Clerk's Recording Page

[redacted]

Control # 199602210963

Index DEED LIBER

Book 10897 Page 6053

No. Pages 0017

Instrument DECL RSTRCT COV
Date : 2/21/1996
Time : 2:52:44

Return To:

BOX 374 JAP

BETHLEHEM STEEL CORPORATION

MORTGAGE TAX

Serial #

City/Town $ .00

S.M.A. $ .00

Trans. Auth. $ .00

Total $ .00

COUNTY	$	56.00
	$	.00
[illegible]	$	5.00
	$	.00
	$	.00
	$	.00
	$	.00
	$	.00
	$	.00
Total:	$	61.00

STATE OF NEW YORK
Erie County Clerk's Office

WARNING - THIS SHEET CONSTITUTES THE CLERKS ENDORSEMENT, REQUIRED BY SECTION 316-A(5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK DO NOT DETACH

DAVID J SWARTS
County Clerk

TRANSFER TAX

Transfer Tax $ .00

Amount $ .00

Transfer Tax #

D108976053

Box 374

JAP

DECLARATION
OF
CONDITIONS, COVENANTS AND RESTRICTIONS

Made By: Bethlehem Steel Corporation
1170 Eighth Avenue
Bethlehem, Pennsylvania 18016-7699

Dated: February 20, 1996

R 29129

779-16 RR 963

DECLARATION OF CONDITIONS, COVENANTS AND RESTRICTIONS

THIS DECLARATION OF CONDITIONS, COVENANTS AND RESTRICTIONS, made this 20th day of February, 1996, by Bethlehem Steel Corporation, a corporation duly formed and existing under the laws of the State of Delaware, authorized to do business in the State of New York, and having its principal place of business in the City of Bethlehem, Lehigh County, Pennsylvania, with a mailing address of 1170 Eighth Avenue, Bethlehem, Pennsylvania 18016-7699 (hereinafter "BSC"),

W I T N E S S E T H:

WHEREAS, BSC is the owner of certain noncontiguous lands adjacent to the eastern shore of Lake Erie situate partly in the City of Lackawanna, partly in the Town of Hamburg and partly in the Village of Blasdell, all in the County of Erie, State of New York, containing in the aggregate approximately 1,215 acres, and encompassing approximately 2.5 miles in an approximate north-south direction and approximately 1.4 miles in an approximate east-west direction, which were formerly part of the site of an integrated steel plant, and a portion of which lands is described and delineated more particularly in SCHEDULE B herein (said portion shall be hereinafter referred to as the "Premises"); and

WHEREAS, the history of the Premises is described more fully in SCHEDULE A herein; and

WHEREAS, certain governmental agencies and BSC have conducted environmental investigations at and near the Premises, the scope, result and impact of each of which are described more fully in SCHEDULE A herein; and

WHEREAS, BSC seeks to impose conditions, covenants and restrictions on the Premises for the purpose of promoting, benefitting, preserving and protecting the health and safety of the public and the environment all as related to the foregoing.

NOW, THEREFORE, (i) BSC, on behalf of itself, its successors and assigns, hereby declares and (ii) each and every person or entity who shall be an owner of the Premises or any part thereof, hereby covenants and agrees on behalf of itself, its successors and assigns, that the Premises or any part thereof shall be held, transferred, sold, conveyed, occupied and developed subject to the following conditions, covenants and restrictions:

1. The Premises or any part thereof shall be limited to industrial use only, which shall include manufacturing, assembling, warehousing, and related railroad, port and shipping activities, together with office space and other facilities including laboratories incidental to such uses, but incidental uses such as day care centers, nursery schools or other facilities that are designed or intended to be primarily for use or occupancy by multiple numbers of persons under the age of eighteen (18) years shall not be permitted.

2. No wells for the extraction or use of water from beneath the surface of the Premises or any part thereof shall be installed, built, permitted or utilized on the Premises or any part thereof for any purpose whatsoever; provided, however, that BSC may install, use, operate and maintain monitoring wells and treatment wells, including the extraction and treatment of water therefrom, solely for the purpose of monitoring, treating or remediating such water; and provided, further, that any other owner of the Premises or any

part thereof may install, use, operate and maintain monitoring wells and treatment wells, including the extraction and treatment of water therefrom, on the part of the Premises so owned by such owner, solely for the purpose of monitoring, treating or remediating such water.

3. Any activity or use not specifically permitted hereby or any activity prohibited pursuant hereto shall be forbidden.

A. Purpose.

It is the intent of BSC by means of said conditions, covenants and restrictions to promote, benefit, preserve and protect the health and safety of the public and the environment by preventing any activity or use not specifically permitted above or any activity prohibited pursuant to paragraphs 1 and 2 above.

B. Conditions, Covenants and Restrictions to Run with the Premises.

Said conditions, covenants and restrictions shall run with the Premises and every part thereof and shall bind all owners and occupiers of the Premises or any part thereof, and their respective successors and assigns; all parties claiming by, through, or under them or any of them shall be taken to hold, agree and covenant with all owners of the Premises or any part thereof, and their respective successors and assigns and each of them, to conform to and observe said conditions, covenants and restrictions.

C. Enforceability.

Said conditions, covenants and restrictions shall inure to the benefit of and be enforceable by BSC and by each and every person or entity, including BSC,

who shall be an owner of the Premises or any part thereof, and their respective successors and assigns, and shall also benefit BSC, its successors and assigns, for so long as BSC shall (i) own any property either adjacent or proximal to the Premises or any part thereof or (ii) be responsible under any law, ordinance, rule or regulation for the presence of hazardous wastes or hazardous constituents or both upon or within the Premises or any part thereof or in said property adjacent or proximal to the Premises or any part thereof but said conditions, covenants and restrictions shall not give rise, by implication or otherwise, to a reciprocal condition, covenant or restriction burdening or binding upon the other lands or any part thereof of BSC benefitted hereby, by actions at law or by suits in equity. As it may be impossible to measure monetarily the damages which may accrue to the beneficiaries hereunder by reason of a violation of this Declaration, any beneficiary hereunder shall be entitled to relief by way of injunction or specific performance, as well as any other relief available at law or in equity, to enforce the provisions hereof.

The failure of any beneficiary hereunder to enforce any provision of this Declaration shall in no event be construed as a waiver of the right of that beneficiary or any other beneficiary hereunder to do so thereafter, as to the same or a similar violation occurring prior or subsequent thereto. No liability shall attach to BSC or any subsidiary or other affiliate of BSC (or any officer, director, employee, member, agent, committee or committee member of any of them) or to any other beneficiary hereunder

(excepting, however, the subject owner in breach) for failure to enforce the provisions of this Declaration.

If BSC or any other beneficiary hereunder successfully brings an action to extinguish a breach or otherwise enforce the provisions of this Declaration, the costs of such action, including legal fees, shall become a binding, personal obligation of the owner in breach.

D. Amendments and Termination.

Any amendment or termination of this Declaration affecting any part of the Premises shall require the written consent of all owners of the Premises or any part thereof, which consent shall not be unreasonably withheld, and of BSC, or its successors or assigns, whose consent may be withheld in its sole discretion.

Any amendment or termination of this Declaration shall not become effective until the instrument evidencing such change has been duly recorded in the Erie County Clerk's Office.

Neither this Declaration nor any amendment to this Declaration shall be interpreted as permitting any action or thing prohibited by the applicable laws, ordinances, rules or regulations of any governmental authority having jurisdiction over the part of the Premises affected or by specific restrictions imposed by any other instrument relating to the Premises or to such part of the Premises.

No change of conditions or circumstances shall operate to amend this Declaration, and this Declaration may be amended only in the manner provided herein.

The determination by any court of competent jurisdiction that any provision of this Declaration is unenforceable invalid or void shall not affect the enforceability or validity of any other provision hereof.

IN WITNESS WHEREOF, BSC has executed this Declaration as of the day and year first above written.

ATTEST:

Assistant Secretary

BETHLEHEM STEEL CORPORATION,
by

A. E. Moffitt, Jr.
Vice President