Site Management Plan

Brownfield Cleanup Program
Steel Winds Lackawanna Site

Lackawanna, New York
Site No. C915205

September 2007 0141-001-101

Prepared For

BQ Energy, LLC
Steel Winds Project, LLC

Prepared By:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

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

Site Management Plan (SMP) Checklist
for BCP, ERP, SSF and VCP sites

Site Name: **Steel Winds Lackawanna Site**
Location: **Lackawanna, New York**
Site No.: **C915205**

Project Manager:

The SMP for a site remedial program must include at a minimum an Institutional and Engineering Control Plan as well as provision for the periodic certification of the institutional control and engineering controls (IC/EC certification) and may include, as required by the remedy, a Site Monitoring Plan and Operation & Maintenance Plan. Each of these individual areas of reporting will need to meet the minimum requirements detailed below.

The SMP being reviewed addresses:

☑ The entire site

An operable unit of the site identified as:_____

An IRM for operable unit ___ identified as_____

A groundwater restriction or short term engineering control for an otherwise unrestricted use site

The SMP period for this site, after an initial one year review, will be:

☑ **Annually** □ **Every 2 years** □ **Every 3 years** □ **Every 5 years** □ **Other**:_____

Institutional and Engineering Control Plan:

☑ Must include a complete description of all institutional and/or engineering controls employed at the site, including the mechanisms that will be used to continually implement, maintain, monitor, and enforce such controls both by the applicant, the applicant's successors and assigns, and by state or local government is presented. **[OM&M Plan (Part I) and SFMP (Part II)]**

☑ A copy of the environmental easement with proof of filing with the responsible municipal authority; **[Part III of SMP]**

☑ Appropriate plans for implementation of the engineering and institutional controls, such as for handling soils removed from beneath a soil cover or cap during maintenance or redevelopment of the site. This would include development of media-specific implementation plans, such as plans for:

☑ Soil management which detail procedures for handling soil excavated from below a soil cover or cap during maintenance or redevelopment of the site (e.g., a soils management plan); or **[SFMP (Part II)]**

Treatment requirements to allow the use of contaminated groundwater, in lieu of groundwater use restrictions; or

Installation/operation of sub-slab vapor depressurization systems, or other types of systems to address vapor intrusion;

☑ Engineering control inspection plans, for the remedy as implemented or to be installed as part of the site development, such as for a cap or cover system. **[OM&M Plan Section 2.3]**

☑ Provision for the preparation and submittal of a site monitoring plan, to include the IC/EC certification as well as all other reporting of the IC/ECs, site monitoring and/or operation and maintenance of the remedy. **[Attached]**

Institutional Control and Engineering Control (IC/EC) Certification: The applicant or site owner must make a periodic certification of the IC/EC to the Department. The requirements of this periodic IC/EC certification will be described in the SMP and the certification must be included in the site management report, which is prepared and submitted for the Department approved certification period. The IC/EC certification will: **[OM&M Plan Section 2.0 and Attachments A1-A3]**

☑ Clearly identify the periodic certification period.

☑ Include a complete description of all institutional and/or engineering controls employed at the site, including the mechanisms that will be used to continually implement, maintain, monitor, and enforce such controls both by the applicant, the applicant's successors and assigns, and by state or local government.

☑ Include an evaluation of the plans developed for implementation of the engineering and institutional controls, regarding the continued effectiveness of any institutional and/or engineering controls required by the decision document for a site.

☑ Allow for access by the Department- to the site to evaluate continued maintenance of such controls.

☑ Provide a certification prepared by a professional engineer or other qualified environmental professional, which must certify that the institutional controls and/or engineering controls employed at such site are:

- unchanged from the previous certification, unless otherwise approved by the Department, consistent with the SMP;
- in place and effective;
- performing as designed; and
- that nothing has occurred that would impair the ability of the controls to protect the public health and environment; or constitute a violation or failure to comply with any operation and maintenance plan for such controls.

☑ For BCP sites: For those sites determined to be non-significant threat sites, but where contaminants in groundwater contravene drinking water standards at the site border, in addition to the items noted above; the remedial party will also have to certify: **[OM&M Plan Attachment A3]**

☑ On a yearly basis that no new information has come to the site owner`s attention, including groundwater monitoring data from wells located at the site boundary, to indicate that the assumptions made in the qualitative exposure assessment of offsite contamination are no longer valid; and

☑ Every five years that the assumptions made in the qualitative exposure assessment remain

valid.

Site Monitoring Plan: Includes, as appropriate for the site remedy, sampling and analysis plans for monitoring **groundwater**, soil vapor or another media as identified by the decision document for the site, designed to: **[Long-Term Groundwater Monitoring Plan, Attachment A4 of OM&M Plan]**

If none is required for the remedy which is the subject of this SMP check here

☑ Assess the remedy's compliance with groundwater standards.

Assess the remedy's compliance with the cleanup objectives of any other impacted media.

☑ Evaluate site information periodically to confirm that the remedy continues to be effective for the protection of public health and the environment.

☑ Prepare the necessary reports of the results of this monitoring for a period determined by the Department.

Operation & Maintenance Plan: Includes, as appropriate for the site remedy, a plan(s) which: **[OM&M Plan – Attachment A4; Long-Term Groundwater Monitoring Plan, and Attachment A5; ORC Monitoring & Maintenance Plan]**

If none is required for the remedy which is the subject of this SMP check here

☑ Identify the operation and maintenance activities necessary for the continued operation of the components of the remedy, including provision for evaluation of the systems and recommendations to optimize performance.

☑ Evaluating site information periodically to confirm that the remedy continues to be effective for the protection of public health and the environment.

☑ Preparing the necessary reports of the results of this evaluation for a period determined by the Department.

Completed by:_____ Date:_____
Project Manager

Reviewed by: _____ Date:_____
Section Chief/Regional HWR Engineer

BROWNFIELD CLEANUP PROGRAM

SITE MANAGEMENT PLAN

STEEL WINDS LACKAWANNA SITE
LACKAWANNA, NEW YORK

(NYSDEC SITE #C915205)

September 2007 0141-001-101

Prepared for:

BQ Energy, LLC
&
Steel Winds Project, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

TABLE OF CONTENTS

PART I

OPERATION, MONITORING, & MAINTENANCE PLAN

SITE MANAGEMENT PLAN
PART I

OPERATION, MONITORING, & MAINTENANCE PLAN

STEEL WINDS LACKAWANNA SITE
LACKAWANNA, NEW YORK

September 2007 0141-001-101

Prepared for:

BQ Energy, LLC
&
Steel Winds Project, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

OPERATION, MONITORING & MAINTENANCE PLAN

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF ATTACHMENTS

1.0 INTRODUCTION

1.1 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 Figure 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.

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 Bethlehem Steel Corporation (BSC). The approximately 29-acre Steel Winds Brownfield Cleanup Program (BCP) parcel that is the subject of this report is located within the portion of the site referred to as the Slag Fill Area along the Lake shore north of Smokes Creek (see Figure 2). The Slag Fill Area was created from the deposition of dredge spoils by the US Army Corps of Engineers and later from the deposition of iron and steel making slag by Bethlehem Steel (starting in 1937).

In September 2006, BQ Energy, LLC and the New York State Department of Environmental Conservation (NYSDEC) entered into a Brownfield Cleanup Agreement (BCA) for the wind energy facilities and the associated property, hereafter referred to as the "Steel Winds Site," "subject property," or the "BCP Site." BQ Energy has entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines and supporting power generation equipment and infrastructure on the Steel Winds Site. Eight turbines and related equipment are presently operating on the Site.

In December 2006, TurnKey Environmental Restoration, LLC (TurnKey) initiated a Site Investigation (SI) to more fully characterize slag/fill and groundwater at the Steel Winds Site by collecting representative samples of on-site source area slag/fill, slag/fill outside the

wind turbine footprints but within Site boundaries, and groundwater quality. Prior to the SI, an Interim Remedial Measure (IRM) was conducted from September 13 to October 18, 2006 during the excavation of the of the eight wind turbine foundation locations to assess and remediate, if necessary, impacted soil/fill based on visual impacts and olfactory criteria established in the approved BCP Work Plan.

Based on the results of the initial SI and a supplemental off-site soil/fill and groundwater sampling program (performed May/June 2007) in the vicinity of wind turbines WT-1 and WT-8, the final remedial measures for the Site include: a 12-inch soil cover system over those areas of the Site that were not covered by wind turbine foundations or new site access roads and in-situ enhanced aerobic bioremediation of naphthalene-impacted groundwater in the vicinity of WT-1.

1.2 Purpose and Scope

This Operation, Monitoring, & Maintenance Plan (OM&M Plan) has been prepared for inclusion in the Site Management Plan (SMP). The sole purpose of this Plan, and that of the Soil/Fill Management Plan (S/FMP), is to identify and scope post-remediation requirements necessary to ensure protection of both the environment and human health during use of the Site, subsequent to completion of Brownfield cleanup activities. Toward that end, post-remediation requirements will need to be implemented by the current Site Developer (BQ Energy), as well as subsequent Site Managers/Developers, to comply with the BCA terms and conditions. This Plan summarizes the tasks and obligations required by those parties.

1.3 Operation, Monitoring, and Maintenance Program Responsibility

The Site Manager/Developer will be responsible for all monitoring, implementation, maintenance, and reporting as required by the OM&M Plan. The NYSDEC will be informed of any change in ownership, redevelopment, site configuration, or subdivision of the property and the "Responsible Party" information below will be revised and resubmitted.

Implementation of this OM&M Plan will continue until such time as the NYSDEC determines the long-term obligations, including those described in the Long-Term Groundwater Monitoring Plan (Attachment A4) and the ORC Monitoring and Maintenance Plan (Attachment A5), have been fulfilled.

The Site Manager/Developer will verify that any and all persons on-site have an appropriate Health and Safety Plan prior to construction and/or maintenance activities. Additionally, contact information for the party responsible for implementation of the OM&M program will be supplied to the NYSDEC for their files. Currently on file, the responsible party for the Steel Winds Lackawanna Site is:

Steel Winds Project, LLC
20 Jon Barrett Road
Suite 2
Patterson, New York 12563
Attn: Paul Curran, P.E.

2.0 OM&M PLAN COMPONENTS

The Operation, Maintenance, & Monitoring (OM&M) Plan for this Site consists of three major components:

- Long-Term Groundwater Monitoring (LTGWM) Plan
- ORC Monitoring & Maintenance Plan
- Annual Inspection & Certification Program

Each of these components is described within this section.

2.1 Long-Term Groundwater Monitoring (LTGWM) Plan

Attachment A4 of this document includes the LTGWM Plan that is required at the Site to monitor the effectiveness of the soil cover system and focused groundwater treatment implemented in accordance with the BCA. Groundwater quality trends shall continue to be monitored along the perimeters of the Site in accordance with the schedule presented in Attachment A4, Table 1.

2.2 ORC Monitoring & Maintenance

Attachment A5 of this document includes the ORC Monitoring & Maintenance Plan that is required at the Site to monitor/assess the application and effectiveness of the ORC remediation program and document regular maintenance of the ORC wells. The monitoring and maintenance of this engineering control is the obligation of the Site Manager/Developer.

2.3 Annual Inspection & Certification Program

The Steel Winds Site, including wells and other physical components, shall be inspected annually by a qualified person representing the Site Manager/Developer. This qualified person shall at a minimum hold a 4-year college degree in environmental sciences or engineering, and be supervised by a New York State Licensed Professional Engineer.

The Annual Certification shall be stamped and signed by a New York State Licensed Professional Engineer and must certify and attest that the institutional and engineering controls employed at the Site are unchanged from the previous certification and:

- Are in place and effective.
- Are performing as designed.
- That nothing has occurred that would impair the ability of the controls to protect the public health and environment.
- That nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls.
- Access is available to the Site to evaluate continued maintenance of such controls.

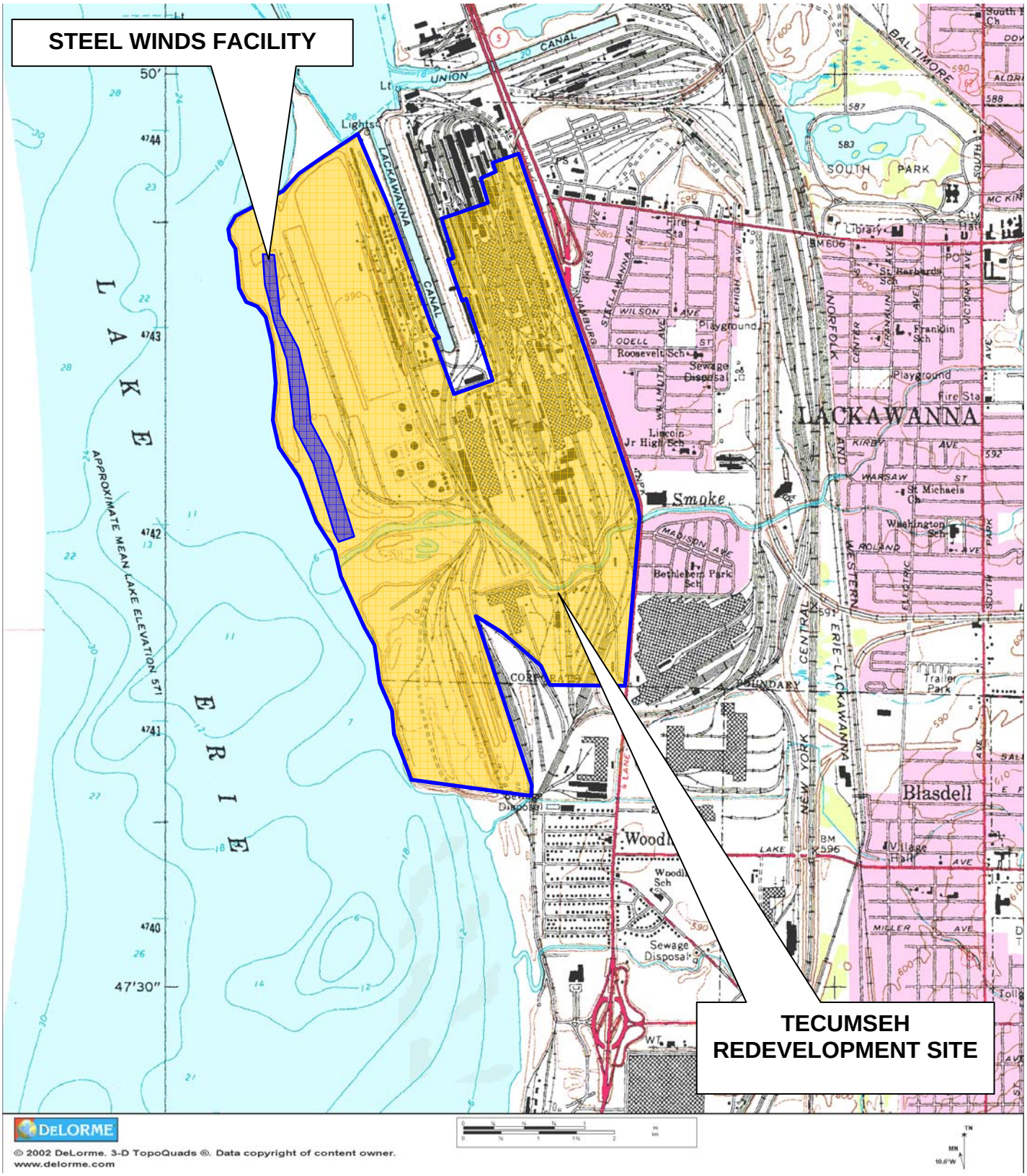
The Annual Certification will primarily consist of a completed NYSDEC Institutional and Engineering Controls Certification Form stamped and signed by a New York State Licensed Professional Engineer (Attachment A3). In addition to this certification, the completed Environmental Inspection Form (Attachment A1) and associated supporting documents (e.g., ORC Monitoring & Maintenance Form) will be required. The Corrective Action Certification (Attachment A2) will be required only if the annual inspection documents an inconsistency or malfunction of the engineering and/or institutional controls for the Site (e.g., soil cover breach). If maintenance, repair, or corrective action is required, the Site Manager/Developer shall notify the NYSDEC and schedule repairs. The NYSDEC shall be informed by the Site Manager/Developer when the repairs have been completed.

The Site Manager/Developer shall also certify on a yearly basis that no new Site information has become available, including groundwater monitoring data from wells located at the Site boundary, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid. This information can be included in either the Annual Certification documentation or the Long Term Groundwater Monitoring Annual Report.

Every five years, the Site Manager/Developer shall document and certify that the assumptions made in the qualitative exposure assessment remain valid.

FIGURES

FIGURE 1



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0141-001-101

DATE: NOVEMBER 2007

DRAFTED BY: BCH

SITE LOCATION AND VICINITY MAP

SITE MANAGEMENT PLAN - PART I: OM&M PLAN

STEEL WINDS FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR

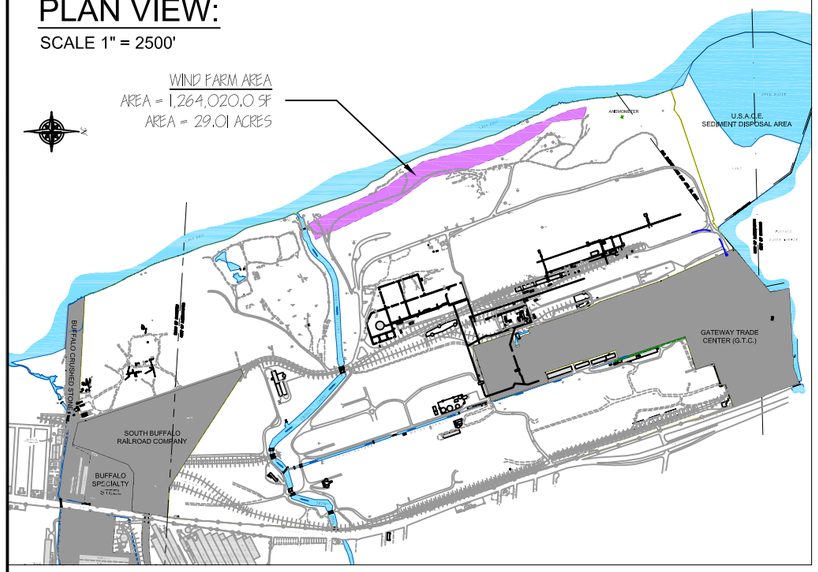
STEEL WINDS PROJECT, LLC

FILEPATH=F:\CAD\TurnKey\BQ Energy & Process Energy\Steel Winds (BQ)\Site Management Plan\Part I - OM&M Plan\Figure 1; Site Vicinity and Location Map.dwg

F:\CAD\TurnKey\BQ Energy & Process Energy\Steel Winds (BQ)\Site Management Plan\Part I - OM&M Plan\Figure 2; Steel Winds Site Plan.dwg

PLAN VIEW:

SCALE 1" = 2500'



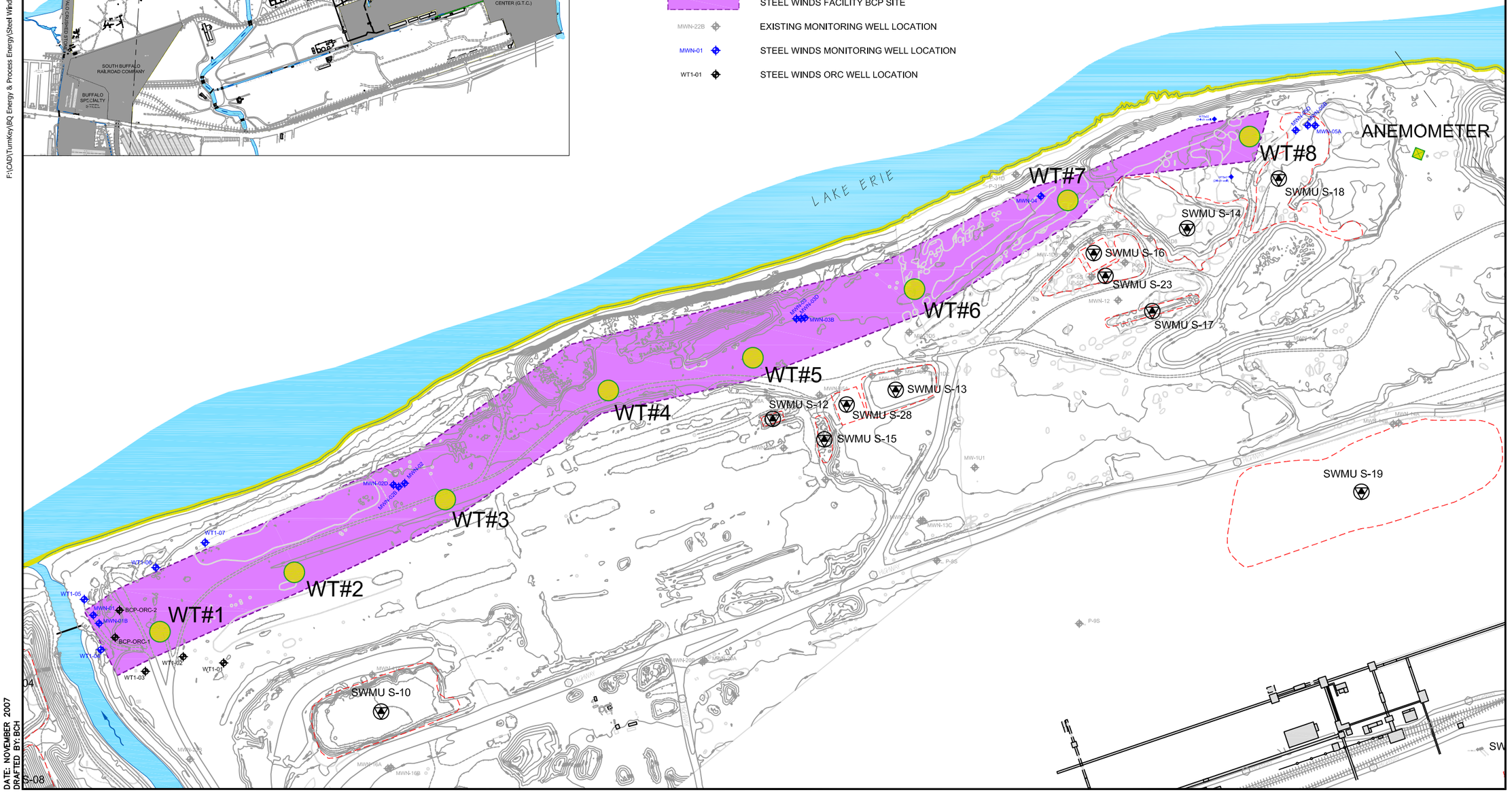
LEGEND:

- TECUMSEH PROPERTY BOUNDARY
- EXISTING BUILDING / STRUCTURE
- RAILROAD TRACK
- WT#1 — WIND TURBINE (WT) LOCATION (8)
- ANEMOMETER LOCATION
- SWMU P-07 — APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES FURTHER ASSESSMENT
- APPROXIMATE BOUNDARY OF SWMU
- STEEL WINDS FACILITY BCP SITE
- MWN-22B — EXISTING MONITORING WELL LOCATION
- MWN-01 — STEEL WINDS MONITORING WELL LOCATION
- WT1-01 — STEEL WINDS ORC WELL LOCATION

N

400' 0' 400' 800'

SCALE: 1 INCH = 400 FEET
SCALE IN FEET
(approximate)



DATE: NOVEMBER 2007
DRAFTED BY: BCH

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 824
BUFFALO, NEW YORK 14210
(716) 856-0599

JOB NO.: 0141-001-101

SITE PLAN

SITE MANAGEMENT PLAN - PART I: OM&M PLAN

STEEL WINDS I FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR
STEEL WINDS FACILITY, LLC

FIGURE 2

ATTACHMENT A1

ENVIRONMENTAL INSPECTION FORM

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Environmental Inspection Form
Operation, Monitoring, & Maintenance Plan

Property Name:		Project No.:	
Client:			
Property Address:		City, State:	Zip Code:
Property ID: (Tax Assessment Map)	Section:	Block:	Lot(s):
Preparer's Name:		Date/Time:	

CERTIFICATION

The results of this inspection were discussed with the Site Manager/Developer. Any corrective actions required have been identified and noted in this report, and a supplemental Corrective Action Form has been completed. Proper implementation of these corrective actions have been discussed with the Site Manager/Developer, agreed upon, and scheduled.

Preparer / Inspector:	**Date:**
Signature:	
Next Scheduled Inspection Date:	

Final Surface Cover / Vegetation

In accordance with the Soil/Fill Management Plan, the integrity of the vegetative soil cover or other surface coverage (e.g., asphalt, concrete) over the entire Site must be maintained. The following documents the condition of the above.

1. Final Cover is in Place and in good condition?	☐ yes	☐ no	☐ N/A
Cover consists of (mainly):			
2. Evidence of erosion?	☐ yes	☐ no	☐ N/A
3. Cracks visible in pavement?	☐ yes	☐ no	☐ N/A
4. Evidence of distressed vegetation/turf?	☐ yes	☐ no	☐ N/A
5. Evidence of unintended traffic and/or rutting?	☐ yes	☐ no	☐ N/A
6. Evidence of uneven settlement and/or ponding?	☐ yes	☐ no	☐ N/A
7. Damage to any surface coverage?	☐ yes	☐ no	☐ N/A

If yes to any question above, please provide more information below.

Environmental Inspection Form
Operation, Monitoring, & Maintenance Plan

Property Security & Access

1. Is access controlled by perimeter fencing? ☐ yes ☐ no ☐ N/A
   If not, please note: _____
2. Is fencing in need of repair? ☐ yes ☐ no ☐ N/A
3. Area access gates in working order? ☐ yes ☐ no ☐ N/A
4. Sufficient signage posted (No Trespassing)? ☐ yes ☐ no ☐ N/A
5. Has there been any noted or reported trespassing? ☐ yes ☐ no ☐ N/A

Please note any irregularities/ changes in site access and security: _____

Property Use Changes / Site Development

Has the property usage changed, or site been redeveloped since the last inspection?

☐ yes ☐ no ☐ N/A

If yes, please list with date: _____

Environmental Inspection Form
Operation, Monitoring, & Maintenance Plan

ORC Well Monitoring and Maintenance

Is there ORC mitigation present on-site? ☐ yes ☐ no ☐ N/A

Are the wells currently intact and operational? ☐ yes ☐ no ☐ N/A

Has regular maintenance and monitoring been documented and enclosed or referenced?
☐ yes ☐ no ☐ N/A

Long-Term Ground Water Monitoring

Is there a plan in place and currently being followed? ☐ yes ☐ no ☐ N/A

Are the wells currently intact and operational? ☐ yes ☐ no ☐ N/A

When was the most recent sampling event report and submittal? Date: _____

When is the next projected sampling event? Date: _____

New Information

Has any new information been brought to the owner/engineer's attention regarding any and/or all engineering and institutional controls and their operation and effectiveness?
☐ yes ☐ no ☐ N/A

Comments: _____

This space for Notes and Comments

Please include the following Attachments:

1. Site Sketch
2. Photographs

ATTACHMENT A2

CORRECTIVE ACTION CERTIFICATION

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

Corrective Action Certification
Operation, Monitoring, & Maintenance Plan

Property Name:		Project No.:	
Client:			
Property Address:		City, State:	Zip Code:
Property ID: (Tax Assessment Map)	Section:	Block:	Lot(s):
Preparer's Name:		Date/Time:	

Issue Addressed

The Environmental Inspection of the above property determined the need for corrective action. This form has been completed to document the required corrective action and it's implementation.

Description of Site Issue identified during Environmental Inspection (include sketch & photographs):

Corrective Action Taken

Date Completed:

Describe Action Taken (include sketch & photographs):

Certification of Implementation

The signatory hereby certifies that the corrective action as described in this form has been completed in accordance with all relevant requirements of the Soil/Fill Management Plan and other applicable documents.

Preparer / Inspector: **Date:**

Signature:

Please verify inclusion of the following Attachments:

1. Site Sketch
2. Photographs

ATTACHMENT A3

NYSDEC INSTITUTIONAL AND ENGINEERING CONTROLS CERTIFICATION FORM

Enclosure 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **C915205**

Site Name **Steel Winds Lackawanna Site**

Site Address: 1951 Hamburg Turnpike Zip Code: 14218

City/Town: Lackawanna

County: Erie, County

Current Use: Wind turbine power generation facility

Intended Use: Commercial / Industrial Redevelopment

Verification of Site Details **Box 2**

		YES	NO
1.	Are the Site Details above, correct?	☐	☐
	If NO, are changes handwritten above or included on a separate sheet?	☐	
2.	Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	☐
3.	Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	☐
4.	Has a change-of-use occurred since the initial/last certification?	☐	
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
5.	For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment for offsite contamination are no longer valid?	☐	☐
	If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	☐	
6.	For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years) ?	☐	☐

SITE NO. C915205

Description of Institutional Control

	YES	NO
1. Compliance with the Site Management Plan (SMP) for the implemented remedy:	□	□
2. The groundwater beneath the Site is not used as a potable water source or for any other use without prior written permission of the Department:	□	□
3. Groundwater monitoring as specified in the SMP:	□	□
4. In the event that buildings are constructed, a Department-approved evaluation of potential sub-slab vapor impacts will be required	□	□

Description of Engineering Control

	YES	NO
1. Maintenance of the 12-inch soil cover system and vegetation over the Site:	□	□

Control Certification Statement

For each Institutional or Engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(d) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control.

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

IC/EC CERTIFICATIONS
SITE NO. C915205

Box 5

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 & 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ at _____,
print name print business address

am certifying as _____(Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

_____ _____
Signature of Owner or Remedial Party Rendering Certification Date

Box 6

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in Box 4 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ at _____,
print name print business address

am certifying as a Qualified Environmental Professional for the _____

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

_____ _____ _____
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification | Stamp (if Required) | Date

Enclosure 2

Certification of Institutional Controls/ Engineering Controls (ICs/ECs)
Step-by-Step Instructions, Certification Requirements and Definitions

The Owner, or Remedial Party, and when necessary, a Professional Engineer (P.E.), or the Qualified Environmental Professional (QEP), must review and complete the IC/EC Certification Form, sign the IC/EC Certifications Signature Page, and return it, along with the Periodic Review Report (PRR), within 45 days of the date of this notice.

Please use the following instructions to complete the IC/EC Certification.

I. Verification of Site Details (Box 1 and Box 2):

Answer the six questions in the Verification of Site Details Section. Questions 5 and 6 refer to only sites in the Brownfield Cleanup Program. ECL Section 27-1415-7(c) is included in **IV. IC/EC Certification Requirements**. The Owner and/or your P.E. or QEP may include handwritten changes and/or other supporting documentation, as necessary.

II. Verification of Institutional / Engineering Controls (Box 3 and Box 4)

Review the listed Institutional / Engineering Controls, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party is to petition the Department requesting approval to remove the control.

2. Select "YES" or "NO" for **Control Certification** for each IC/EC, based on Sections (a)-(e) of the **Control Certification Statement**.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Project Manager. If the Department has any questions or concerns regarding the completion of the certification, the Project Manager will contact you.

3. If you cannot certify "Yes" for each Control, please continue to complete the remainder of this **Control Certification** form. Attach supporting documentation that explains why the **Control Certification** cannot be rendered, as well as a statement of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Control Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is conducted.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Project Manager. Once the corrective measures are complete a new Periodic Review Report (with IC/EC Certification) is to be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 5 and Box 6):

1. If you certified "Yes" for each Control, please complete and sign the IC/EC Certifications page. To determine WHO signs the **IC/EC Certification,** please use Table 1. Signature Requirements for the IC/EC Certification, which follows.

Table 1. Signature Requirements for Control Certification Page

Type of Control	Example of IC/EC	Required Signatures
IC only	Environmental Easement Deed Restriction.	A site or property owner or remedial party.
IC with an EC which does not include a treatment system or engineered caps.	Fence, Clean Soil Cover, Individual House Water Treatment System, Vapor Mitigation System	A site or property owner or remedial party, and a QEP. (P.E. license not required)
IC with an EC that includes treatment system or an engineered cap.	Pump & Treat System providing hydraulic control of a plume, Part 360 Cap.	A site or property owner or remedial party, and a QEP with a P.E. license.

IV. IC/EC Certification Requirements:

Division of Environmental Remediation Program Policy requires periodic certification of IC(s) and EC(s) as follows:

For Environmental Restoration Projects: N.Y. Envtl Conserv.Law Section 56-0503 (Environmental restoration projects; state assistance)

For State Superfund Projects: Envtl Conserv.Law Section 27-1318. (Institutional and engineering controls)

For Brownfields Cleanup Program Projects: Envtl Conserv.Law Section 27-1415. (Remedial program requirements)

Envtl Conserv.Law Section 27-1415-7(c) states:

(c) At non-significant threat sites where contaminants in groundwater at the site boundary contravene drinking water standards, such certification shall also certify that no new information has come to the owner's attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of offsite contamination are no longer valid. Every five years the owner at such sites shall certify that the assumptions made in the qualitative exposure assessment remain valid. The requirement to provide such certifications may be terminated by a written determination by the Commissioner in consultation with the Commissioner of Health, after notice to the parties on the brownfield site contact list and a public comment period of thirty days.

Voluntary Cleanup Program: Applicable program guidance.

Petroleum Remediation Program: Applicable program guidance.

Federal Brownfields: Applicable program guidance.

Manufactured Gas Plant Projects: Applicable program guidance (including non-registry listed MGPs).

WHERE to mail the signed Certification Form by Thursday, May 24, 2007 (45 days of the date of the notice):

New York State Department of Environmental Conservation
Division of Environmental Remediation

Attn: , Project Manager

Please note that extra postage may be required.

V. Definitions

"Engineering Control" (EC), means any physical barrier or method employed to actively or passively contain, stabilize, or monitor contamination, restrict the movement of contamination to ensure the long-term effectiveness of a remedial program, or eliminate potential exposure pathways to contamination. Engineering controls include, but are not limited to, pavement, caps, covers, subsurface barriers, vapor barriers, slurry walls, building ventilation systems, fences, access controls, provision of alternative water supplies via connection to an existing public water supply, adding treatment technologies to such water supplies, and installing filtration devices on private water supplies.

"Institutional Control" (IC), means any non-physical means of enforcing a restriction on the use of real property that limits human and environmental exposure, restricts the use of groundwater, provides notice to potential owners, operators, or members of the public, or prevents actions that would interfere with the effectiveness of a remedial program or with the effectiveness and/or integrity of operation, maintenance, or monitoring activities at or pertaining to a remedial site.

"Professional Engineer" (P.E.) means an individual or firm licensed or otherwise authorized under article 145 of the Education Law of the State of New York to practice engineering.

"Property Owner" means, for purposes of an IC/EC certification, the actual owner of a property. If the site has multiple properties with different owners, the Department requires that the owners be represented by a single representative to sign the certification.

"Oversight Document" means any document the Department issues pursuant to each Remedial Program (see below) to define the role of a person participating in the investigation and/or remediation of a site or area(s) of concern. Examples for the various programs are as follows:

BCP (after approval of the BCP application by DEC) - Brownfield Site Cleanup Agreement.
ERP (after approval of the ERP application by DEC) - State Assistance Contract.
Federal Superfund Sites - Federal Consent Decrees, Administrative Orders on Consent or Unilateral Orders issued pursuant to CERCLA.
Oil Spill Program - Order on Consent, or Stipulation pursuant to Article 12 of the Navigation Law (and the New York Environmental Conservation Law).
State Superfund Program - Administrative Consent Order, Record of Decision.
VCP (after approval of the VCP application by DEC) - Voluntary Cleanup Agreement.
RCRA Corrective Action Sites- Federal Consent Decrees, Administrative Orders on Consent or permit conditions issued pursuant to RCRA.

“Qualified Environmental Professional” (QEP), means a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases to the surface or subsurface of a property or off-site areas, sufficient to meet the objectives and performance factors for the areas of practice identified by this Part. Such a person must:

(1) hold a current professional engineer’s or a professional geologist’s license or registration issued by the State or another state, and have the equivalent of three years of full-time relevant experience in site investigation and remediation of the type detailed in this Part; or

(2) be a site remediation professional licensed or certified by the federal government, a state or a recognized accrediting agency, to perform investigation or remediation tasks consistent with Department guidance, and have the equivalent of three years of full-time relevant experience.

“Qualitative Exposure Assessment” means a qualitative assessment to determine the route, intensity, frequency, and duration of actual or potential exposures of humans and/or fish and wildlife to contaminants.

“Remedial Party” means a person implementing a remedial program at a remedial site pursuant to an order, agreement or State assistance contract with the Department.

“Site Management” (SM) means the activities undertaken as the last phase of the remedial program at a site, which continue after a Certificate of Completion is issued. Site management is conducted in accordance with a site management plan, which identifies and implements the institutional and engineering controls required for a site, as well as any necessary monitoring and/or operation and maintenance of the remedy.

“Site Management Plan” (SMP) means a document which details the steps necessary to assure that the institutional and engineering controls required for a site are in-place, and any physical components of the remedy are operated, maintained and monitored to assure their continued effectiveness, developed pursuant to Section 6 (DER10 Technical Guide).

“Site Owner” means the actual owner of a site. If the site has multiple owners of multiple properties with ICs and/or ECs, the Department requires that the owners designate a single representative for IC/EC Certification activities.

ATTACHMENT A4

LONG-TERM GROUNDWATER MONITORING PLAN

OPERATION, MONITORING & MAINTENANCE PLAN ATTACHMENT A4

LONG-TERM GROUNDWATER MONITORING PLAN

STEEL WINDS LACKAWANNA SITE
LACKAWANNA, NEW YORK

September 2007 0141-001-101

Prepared for:

BQ Energy, LLC
&
Steel Winds Project, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

LONG-TERM GROUNDWATER MONITORING PLAN

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ATTACHMENTS

1.0 INTRODUCTION

This groundwater monitoring program has been designed to monitor the effectiveness of the site-wide soil cover system and the proposed WT-1 Vicinity Oxygen Release Compound (ORC) in-situ groundwater treatment to be implemented at the Steel Winds Lackawanna Site in accordance with the Steel Winds Brownfield Cleanup Program SI/RAR/IRM Report.

The remedial approach implemented will effectively mitigate the observed WT-1 vicinity groundwater impacts particularly focusing on the downgradient groundwater quality, including the nearby and downgradient surface water body receptor Smokes Creek. Mitigation effectiveness will be evaluated through the implementation of this Long-Term Groundwater Monitoring Plan (LTGWM Plan) and the ORC Maintenance and Monitoring Plan (Attachment 5 of the Site Management Plan).

The proposed Long Term Groundwater Monitoring Program will provide for the comprehensive monitoring, documentation and evaluation of groundwater quality trends within and along the perimeter of the Site.

2.0 GROUNDWATER MONITORING PROGRAM

2.1 Monitoring Network

The long-term groundwater monitoring network for this program is presented in Table 1. Figure 1 presents the monitoring well locations. As shown on Table 1 and Figure 1, the monitoring network includes all existing on-site monitoring wells. If any existing wells identified to be in the Groundwater Monitoring Program become damaged or unusable, they will be replaced within 30 days of discovery or completion of construction activities.

In order to validate the effectiveness of ORC *Advanced*™ treatment in the vicinity of WT-1, groundwater monitoring will be conducted at selected wells, as summarized in Table 2. Initially, a baseline round of sampling will be performed on the two newly installed ORC wells to identify the aquifer conditions prior to the installation of this material. After ORC *Advanced*™ has been installed in the designated delivery wells WT1-01, WT1-02, WT1-03 BCP-ORC-1 and BCP-ORC-2, groundwater samples will be collected semi-annually for the first 2 years from downgradient wells MWN-01, MWN-01B, WT1-04, and WT1-05, as well as one upgradient ORC well, WT1-02 (see Figure 1) for analysis of STARS List VOCs and SVOCs (base neutral compounds). One downgradient ORC well, BCP-ORC-1, will also be sampled for analysis of STARS List VOCs to document ORC efficacy in the target impact zone at the point of treatment, as treatment impacts are not initially expected to be significant in downgradient monitoring wells. At the end of the 2-year monitoring period, the analytical results will be reviewed for each monitoring well to determine whether the parameter list can be reduced for the subsequent three years of monitoring.

2.2 Groundwater Flow and Hydrodynamics

Groundwater elevation data will be collected during each sampling event and an isopotential map prepared annually.

2.3 Groundwater Sampling

2.3.1 Sampling Frequency

Each groundwater monitoring well in the Groundwater Monitoring Program will be sampled on an annual basis for the first 5 years. Following a review of the data after the 5-year monitoring program, a determination will be made as to which monitoring wells will continue to be sampled, if any, and at what frequency.

2.3.2 Sampling Method

The monitoring wells in the program will be sampled using USEPA Region II Low Stress (i.e., low-flow) Purging and Sampling technique. The low-flow method produces samples with lower turbidity and smaller volumes of purge water than using conventional bailer techniques. Low-flow sampling also produces less agitation of the groundwater. As a result, the low-flow method provides a more representative sample, in relation to actual groundwater conditions, by not drastically altering the chemistry of the groundwater while withdrawing the sample. Benchmark's Field Operating Procedure (FOP) for the low-flow technique is provided as Attachment A4-1.

2.3.3 Analyses

For the first year, groundwater samples will be analyzed for the parameters and analytical methods presented in Table 1. After the first year, the parameter list will be reviewed for each monitoring well to determine whether it can be reduced based on the analytical results as well as the proposed activities for the Site.

2.4 Statistical Evaluations

2.4.1 Parameters of Interest

Based on historic and recent groundwater analytical results, the following parameters of interest will be statistically evaluated for all water quality monitoring wells in the program:

- **VOCs** – BTEX (i.e., benzene, ethylbenzene, toluene, and total xylenes)

- **SVOCs** – cPAHs (i.e., benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indo(1,2,3-cd)pyrene) as well as naphthalene.

- **Metals** – arsenic, barium, chromium, and manganese.

- Any parameters exceeding the New York State Groundwater Quality Standards/Guidance Values (GWQS/GV) for two consecutive events.

For each "parameter of interest," statistical tables in spreadsheet form will be generated that include parameter concentration for each sampling event number, laboratory detection limit, moving average, standard deviation, and mean. The moving average will involve averaging four sequential concentrations in succession for analytical data.

2.4.2 Data Evaluation

For each monitoring location, a graph will be generated that has the individual sample results and moving average concentration versus sampling event (i.e., time). A trend line will be plotted of the moving average, and evaluated to assess an increasing, decreasing, or neutral trend (neutral is having no significant increasing or decreasing trend). The results will be interpreted in the following manner:

- If an increasing concentration trend occurs for two consecutive monitoring events and the concentrations of each of the monitoring events are above GWQS/GV, an evaluation will be made to determine the potential cause and an assessment of additional groundwater remedial alternatives will be conducted for implementation at the Site.

- If there is a neutral concentration trend for four consecutive monitoring events (after source removal or implementation of remedial measure), an evaluation will be made to determine the potential cause and an assessment of additional groundwater remedial alternatives will be conducted for implementation at the Site.

- If there is a decreasing long-term trend in a monitoring well for all parameters for eight consecutive monitoring events, that location will be considered for reduced monitoring or elimination from further monitoring subject to NYSDEC approval.

3.0 REPORTING

Annual monitoring reports will be provided to the NYSDEC, Region 9 Office, by March 1 of each calendar year and will include the following information: graphs with trend lines, sampling data, discussion of results, isopotential map, analytical data (presented as tables and figures), and an engineering and geologic evaluation of the data. Any and all changes to the Monitoring Program will be approved by the NYSDEC prior to implementation.

TABLES

TABLE 1

GROUNDWATER MONITORING NETWORK

Well Designation	Analytical Parameters [1]					
	STARS VOCs [2]	SVOCs (BN) [3]	Arsenic [4]	Barium [4]	Chromium [4]	Manganese [4]
MWN-01	x	x				
MWN-01B	x	x				
MWN-02	x	x				
MWN-02B	x	x	x			
MWN-02D			x	x	x	
MWN-03	x	x				
MWN-03B			x	x	x	x
MWN-03D	x	x		x		x
MWN-04	x	x				

Notes:

1. All analyses will be performed via SW-846 methodologies with Category B equivalent deliverables package.
2. STARS List VOCs via Method 8021B.
3. TCL SVOCs via Method 8270C, base-neutrals (BN) only.
4. Method 6010 B for arsenic, barium, chromium, and manganese.

TABLE 2

ORC MONITORING NETWORK AND SAMPLE FREQUENCY

Parameter [1]	Baseline [2]	Year 1		Year 2		Year 3	Year 4	Year 5
		Semi-Annual	Semi-Annual	Semi-Annual	Semi-Annual	Annual	Annual	Annual
Downgradient Wells MWN-01, MWN-01B, WT1-04, and WT1-05, plus one upgradient ORC Well								
STARS VOCs [3]	x	x	x	x	x	TBD	TBD	TBD
SVOCs (BN) [4]	x	x	x	x	x	TBD	TBD	TBD
Downgradient ORC Well								
STARS VOCs [3]		x	x	x	x	TBD	TBD	TBD
SVOCs (BN) [4]		x	x	x	x	TBD	TBD	TBD

Notes:

1. All analyses will be performed via SW-846 methodologies with Category B equivalent deliverables package.
2. Baseline sampling for 2 new ORC wells only.
3. STARS List VOCs via Method 8021B.
4. TCL SVOCs via Method 8270C, base-neutrals (BN) only.

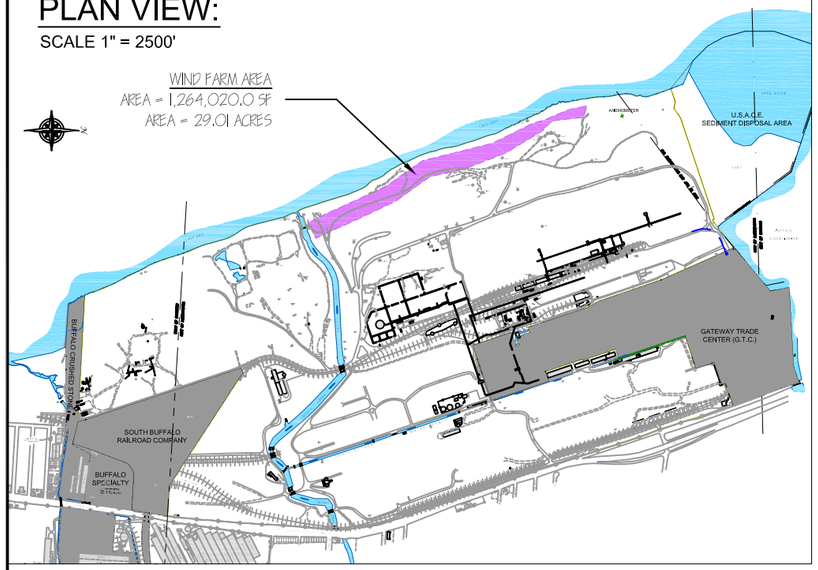
TBD = to be determined.

FIGURES

F:\CAD\TurnKey\BQ Energy & Process Energy\Steel Winds (BQ)\Site Management Plan\Part I - OM&M Plan\Attachment A4 - LTGWM Plan\Figure 1; Existing GW and ORC Monitoring Well Networks.dwg

PLAN VIEW:

SCALE 1" = 2500'



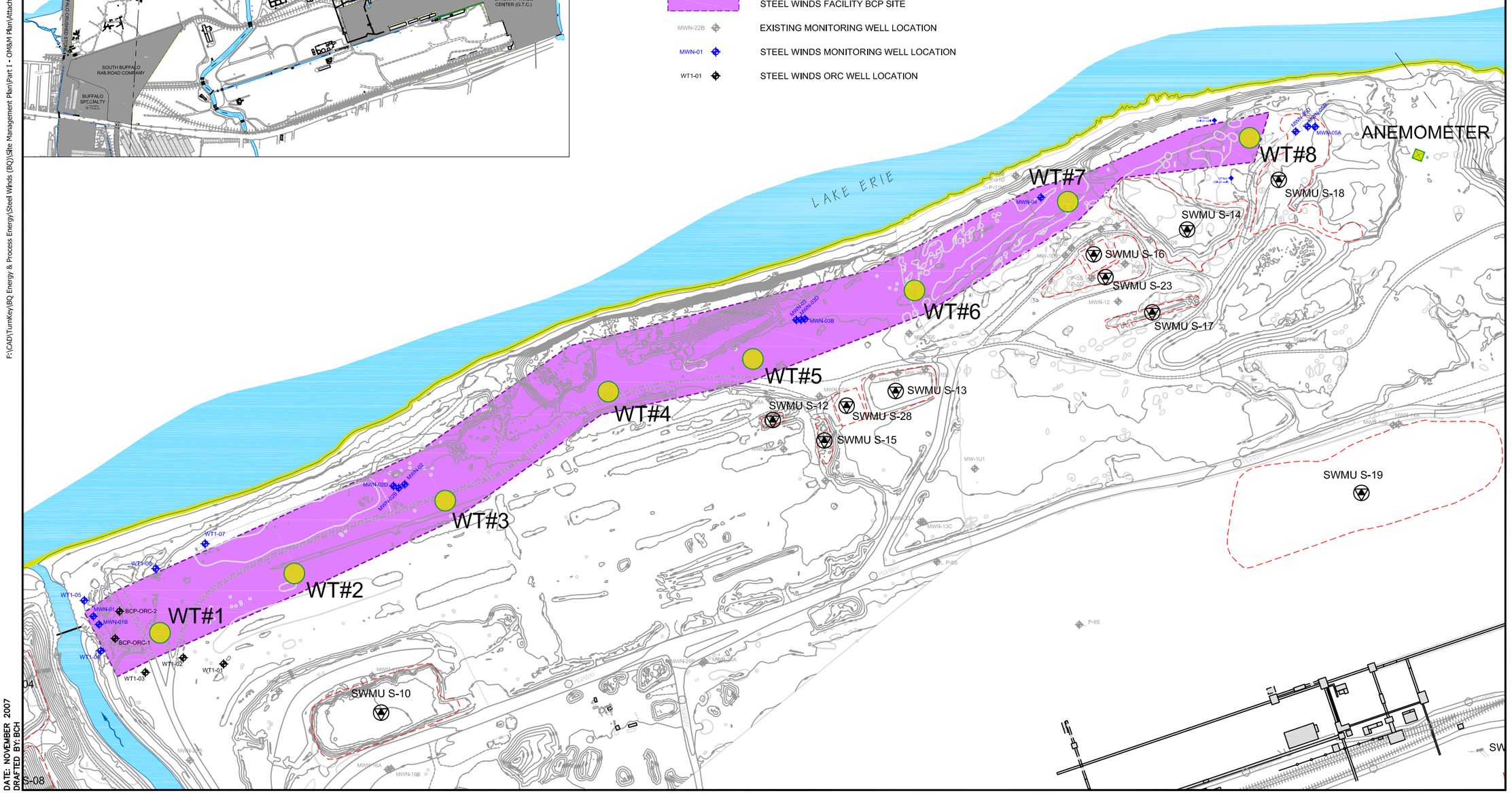
LEGEND:

- TECUMSEH PROPERTY BOUNDARY
- EXISTING BUILDING / STRUCTURE
- RAILROAD TRACK
- WT#1 — WIND TURBINE (WT) LOCATION (8)
- ANEMOMETER LOCATION
- SWMU P-07 — APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES FURTHER ASSESSMENT
- APPROXIMATE BOUNDARY OF SWMU
- STEEL WINDS FACILITY BCP SITE
- MWN-22B — EXISTING MONITORING WELL LOCATION
- MWN-01 — STEEL WINDS MONITORING WELL LOCATION
- WT1-01 — STEEL WINDS ORC WELL LOCATION

N

400' 0' 400' 800'

SCALE: 1 INCH = 400 FEET
SCALE IN FEET
(approximate)



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 824
BUFFALO, NEW YORK 14210
(716) 856-0599

JOB NO.: 0141-001-101

EXISTING GROUNDWATER & ORC MONITORING WELL NETWORKS

SITE MANAGEMENT PLAN - PART I: OM&M PLAN (ATTACHMENT 4)

STEEL WINDS I FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR
STEEL WINDS FACILITY, LLC

FIGURE 1

DATE: NOVEMBER 2007
DRAFTED BY: BCH

ATTACHMENT A4-1

LOW-FLOW PURGING/SAMPLING STANDARD OPERATING PROCEDURE

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

FIELD OPERATING PROCEDURES

Low-Flow (Minimal Drawdown) Groundwater Purging & Sampling Procedure

FOP 031.0

LOW FLOW (MINIMAL DRAWDOWN) GROUNDWATER PURGING & SAMPLING PROCEDURES

PURPOSE

This procedure describes the methods used for performing low flow (minimal drawdown) purging, also referred to as micro-purging, at a well prior to groundwater sampling to obtain a representative sample from the water-bearing zone. This method of purging is used to minimize the turbidity of the produced water. This may increase the representativeness of the groundwater samples by avoiding the necessity of filtering suspended solids in the field prior to preservation of the sample.

Well purging is typically performed immediately preceding groundwater sampling. The sample should be collected as soon as the parameters measured in the field (i.e., pH, specific conductance, dissolved oxygen, Eh, temperature, and turbidity) have stabilized.

PROCEDURE

1. Water samples should not be taken immediately following well development. Sufficient time should be allowed to stabilize the groundwater flow regime in the vicinity of the monitoring well. This lag time will depend on site conditions and methods of installation but may exceed one week.

2. Prepare the electronic water level indicator (e-line) in accordance with the procedures referenced in the Benchmark's Groundwater Level Measurement FOP and decontaminate the e-line probe and a lower portion of cable following the procedures referenced in the Benchmark's Non-disposable and Non-dedicated Sampling Equipment Decontamination FOP. Store the e-line in a protected area until use. This may include wrapping the e-line in clean plastic until the time of use.

3. Calibrate all sampling devices and monitoring equipment in accordance with manufacturer's recommendations, the site Quality Assurance Project Plan (QAPP) and/or Field Sampling Plan (FSP). Calibration of field

instrumentation should be followed as specified in Benchmark's Calibration and Maintenance FOP for each individual meter.

4. Inspect the well/piezometer for signs of vandalism or damage and record condition on the Groundwater Well Purge & Sample Collection Log form (sample attached). Specifically, inspect the integrity of the following: concrete surface seal, lock, protective casing and well cover, well casing and J-plug/cap. Report any irregular findings to the Project Manager.

5. Unlock and remove the well protective cap or cover and place on clean plastic to avoid introducing foreign material into the well.

6. Monitor the well for organic vapors using a PID, as per the Work Plan. If a reading of greater than 5 ppm is recorded, the well should be allowed to vent until levels drop below 5 ppm before proceeding with purging.

7. Lower the e-line probe slowly into the monitoring well and record the initial water level in accordance with the procedures referenced in Benchmark's Groundwater Level Measurement FOP. Refer to the construction diagram for the well to identify the screened depth.

8. Decontaminate all non-dedicated pump and tubing equipment following the procedures referenced in the Benchmark's Non-disposable and Non-dedicated Sampling Equipment Decontamination FOP.

9. Lower the purge pump or tubing (i.e., low-flow electrical submersible, peristaltic, etc.) slowly into the well until the pump/tubing intake is approximately in the middle of the screened interval. Rapid insertion of the pump will increase the turbidity of well water, and can increase the required purge time. This step can be eliminated if dedicated tubing is already within the well.

   Placement of the pump close to the bottom of the well will cause increased entrainment of solids, which may have settled in the well over time. Low-flow purging has the advantage of minimizing mixing between the overlying

stagnant casing water and water within the screened interval. The objective of low-flow purging is to maintain a purging rate, which minimizes stress (drawdown) of the water level in the well. Low-flow refers to the velocity with which water enters the pump intake and that is imparted to the formation pore water in the immediate vicinity of the well screen.

10. Lower the e-line back down the well as water levels will be frequently monitored during purge and sample activities.

11. Begin pumping to purge the well. The pumping rate should be between 100 and 500 milliliters (ml) per minute (0.03 to 0.13 gallons per minute) depending on site hydrogeology. Periodically check the well water level with the e-line adjusting the flow rate as necessary to stabilize drawdown within the well. If possible, a steady flow rate should be maintained that results in a stabilized water level (drawdown of 0.3 feet or less). If the water level exceeds 2 feet below static and declining, slow the purge rate until the water level generally stabilizes. Record each pumping rate and water level during the event.

    The low flow rate determined during purging will be maintained during the collection of analytical samples. At some sites where geologic heterogeneities are sufficiently different within the screened interval, high conductivity zones may be preferentially sampled.

12. Measure and record field parameters (pH, specific conductance, Eh, dissolved oxygen (DO), temperature, and turbidity) during purging activities. In lieu of measuring all of the parameters, a minimum subset could be limited to pH, specific conductance, and turbidity or DO.

    Water quality indicator parameters should be used to determine purging needs prior to sample collection in each well. Stabilization of indicator parameters should be used to determine when formation water is first encountered during purging. In general, the order of stabilization is pH, temperature, and specific conductance, followed by Eh, DO and turbidity. Performance criteria for determination of stabilization should be based on water-level drawdown, pumping rate and equipment specifications for measuring indicator

parameters. An in-line flow through cell to continuously measure the above parameters may be used. The in-line device should be disconnected or bypassed during sample collection.

13. Purging will continue until parameters of water quality have stabilized. Record measurements for field indicator parameters (including water levels) at regular intervals during purging. The stability of these parameters with time can be used to guide the decision to discontinue purging. Proper adjustments must be made to stabilize the flow rate as soon as possible.

14. Record well purging and sampling data in the Project Field Book or on the attached Groundwater Well Purge & Sample Collection Log (sample attached). Measurements should be taken approximately every three to five minutes, or as merited given the rapidity of change.

15. Purging is complete when field indicator parameters stabilize. Stabilization is achieved after all field parameters have stabilized for three successive readings. Three successive readings should be within ± 0.1 units for pH, ± 3% for specific conductance, ± 10 mV for Eh, and ± 10% for turbidity and dissolved oxygen. These stabilization guidelines are provided for rough estimates only, actual site-specific knowledge may be used to adjust these requirements higher or lower.

    An in-line water quality measurement device (e.g., flow-through cell) should be used to establish the stabilization time for several field parameters on a well-specific basis. Data on pumping rate, drawdown and volume required for parameter stabilization can be used as a guide for conducting subsequent sampling activities.

16. Collect all project-required samples from the discharge tubing at the flow rate established during purging in accordance with Benchmark's Groundwater Sample Collection Procedures FOP. **If a peristaltic pump and dedicated tubing is used, collect all project-required samples from the discharge tubing as stated before, however volatile organic compounds should be collected in accordance with the procedure presented in the next**

section. Continue to maintain a constant flow rate such that the water level is not drawn down as described above. Fill sample containers with minimal turbulence by allowing the ground water to flow from the tubing along the inside walls of the container.

17. If field filtration is recommended as a result of increased turbidity, an in-line filter equipped with a 0.45-micron filter should be utilized.

18. Replace the dedicated tubing down the well taking care to avoid contact with the ground surface.

19. Restore the well to its capped/covered and locked condition.

20. Upon purge and sample collection completion, slowly lower the e-line to the bottom of the well/piezometer. Record the total depth to the nearest 0.01-foot and compare to the previous total depth measurement. If a significant discrepancy exists, re-measure the total depth. Record observations of purge water to determine whether the well/piezometer had become silted due to inactivity or damaged (i.e., well sand within purge water). Upon confirmation of the new total depth and determination of the cause (i.e., siltation or damage), notify the Project Manager following project field activities.

PERISTALTIC PUMP VOC SAMPLE COLLECTION PROCEDURE

The collection of VOCs from a peristaltic pump and dedicated tubing assembly shall be collected using the following procedure.

1. Once all other required sample containers have been filled, turn off the peristaltic pump. The negative pressure effects of the pump head have not altered groundwater remaining within the dedicated tubing assembly and as such, this groundwater can be collected for VOC analysis.

2. While maintaining the pressure on the flexible tubing within the pump head assembly, carefully remove and coil the polyethylene tubing from the well; taking care to prevent the tubing from coming in contact with the ground

surface and without allowing groundwater to escape or drain from the tubing intake.

3. Once the polyethylene tubing is removed, turn the variable speed control to zero and reverse the pump direction.

4. Slowly increase the pump rate allowing the groundwater within the polyethylene tubing to be "pushed" out of the intake end (i.e., positive displacement) making sure the groundwater within the tubing is not "pulled" through the original discharge end (i.e., negative displacement). Groundwater pulled through the pump head assembly CANNOT be collected for VOC analysis.

5. Slowly fill each VOC vial by holding the vial at a 45-degree angle and allowing the flowing groundwater to cascade down the side until the vial is filled with as minimal disturbance as possible. As the vial fills, slowly rotate the vial to vertical. **DO NOT OVERFILL THE VIAL, AS THE PRESERVATIVE WILL BE LOST.** The vial should be filled only enough so that the water creates a slight meniscus at the vial mouth.

6. Cap the VOC vials leaving no visible headspace (i.e., air-bubbles). Gently tap each vial against your hand checking for air bubbles.

7. If an air bubble is observed, slowly remove the cap and repeat Steps 5 and 6.

ATTACHMENTS

Groundwater Well Purge & Sample Collection Log (sample)

REFERENCES

United States Environmental Protection Agency, 540/S-95/504, 1995. *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures.*

Benchmark FOPs:

007 *Calibration and Maintenance of Portable Dissolved Oxygen Meter*
008 *Calibration and Maintenance of Portable Field pH/Eh Meter*
009 *Calibration and Maintenance of Portable Field Turbidity Meter*
011 *Calibration and Maintenance of Portable Photoionization Detector*
012 *Calibration and Maintenance of Portable Specific Conductance Meter*
022 *Groundwater Level Measurement*
024 *Groundwater Sample Collection Procedures*
040 *Non-Disposable and Non-Dedicated Sampling Equipment Decontamination*
046 *Sample Labeling, Storage and Shipment Procedures*

LOW FLOW (MINIMAL DRAWDOWN) GROUNDWATER PURGING & SAMPLING PROCEDURES

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

LOW FLOW METHOD GROUNDWATER PURGE & SAMPLE COLLECTION LOG

Project Name:	WELL LOCATION:
Project Number:	Sample Matrix: groundwater
Client:	Weather:

WELL DATA: DATE: TIME:

Casing Diameter (inches):	Casing Material:
Screened interval (fbTOR):	Screen Material:
Static Water Level (fbTOR):	Bottom Depth (fbTOR):
Elevation Top of Well Riser (fmsl):	Ground Surface Elevation (fmsl):
Elevation Top of Screen (fmsl):	Stick-up (feet):
Standing volume in gallons:	
[(bottom depth - static water level) x vol calculation in table per well diameter]:	

Volume Calculation

Well Diameter	Volume gal/ft
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469

PURGING DATA: Pump Type:

Is equipment dedicated to location? yes no	Is tubing ded…ion? yes no
Depth of Sample (i.e. Level of Intake) (fbTOR):	…roximate Purg… (gal/…

Time	Water Level (fbTOR)	Accumulated Volume (gallons)	pH (units)	Temperature (degrees C)	S…ific …	DO (mg…	…mV)	Appearance & Odor
	Initial							

SAMPLING DATA: DATE: START TIME: END TIME:

Method: low-flow with dedica…	Was well sampled to dryness? yes no
Initial Water Level (fbTOR):	Was well sampled below top of sand pack? yes no
Final Water Level (fbTOR):	Field Personnel:

PHYSICAL & CHEMICAL DATA:

	WATER QUALITY MEASUREMENTS					
Appearance:	pH (units)	TEMP. (°C)	SC (uS)	TURB. (NTU)	DO (ppm)	ORP (mV)
Color:						
Odor:						
Sediment Present?						

REMARKS:

PREPARED BY:

ATTACHMENT A5

ORC MONITORING & MAINTENANCE PLAN

OPERATION, MONITORING & MAINTENANCE PLAN ATTACHMENT A5

ORC MAINTENANCE & MONITORING PLAN

STEEL WINDS LACKAWANNA SITE
LACKAWANNA, NY

(NYSDEC BCP SITE #C915205)

September 2007 0141-001-101

Prepared for:

BQ Energy, LLC
&
Steel Winds Project, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

1.1 Background and History

Tecumseh Redevelopment, Inc. (Tecumseh) owns approximately 1,100 acres of land at 1951 Hamburg Turnpike, approximately 2 miles south of the City of Buffalo. 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.

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 Bethlehem Steel Corporation (BSC). The approximately 29-acre Steel Winds Brownfield Cleanup Program (BCP) parcel that is the subject of this report is located within the Slag Fill Area along the Lake shore north of Smokes Creek. The Slag Fill Area was created from the deposition of dredge spoils by the US Army Corps of Engineers and later from the deposition of slag by Bethlehem Steel (starting in 1937).

In September 2006, BQ Energy and the NYSDEC entered into a Brownfields Cleanup Agreement for the wind energy facilities and the associated property, hereafter referred to as the "Steel Winds Site," "subject property," or the "BCP Site." BQ Energy, LLC has entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines and supporting power generation equipment and infrastructure on the Steel Winds Site.

2.0 ORC SYSTEM

2.1 General

Following completion of the initial Site Investigation (December 2006) and IRM activities (September/October 2006) associated with the wind turbine excavations, TurnKey Environmental Restoration, LLC conducted a supplemental off-site soil/fill and groundwater sampling program (May/June 2007) in the vicinity of wind turbines WT-1 and WT-8 to further assess and characterize on-site and off-site soil/fill and groundwater impacts in these areas. With the exception of naphthalene, the results of the supplemental investigation in the vicinity of WT-1 were not conclusive with respect to on-site and off-site contributions to groundwater quality and demonstrated that the imparts are variable and difficult to quantify in this area. However, since groundwater at this end of the Site shows impacts upgradient and downgradient, groundwater remediation for this portion of the Site was evaluated. The remedial approach for the impacted groundwater in the vicinity of WT-1 is Enhanced Aerobic Bioremediation via Oxygen Release Compound (ORC®) *Advanced*™ filter socks.

2.2 ORC Well Installation

Three new off-site groundwater monitoring wells (WT1-01 through WT1-03) were installed in May/June of 2007 upgradient of wells MWN-01 and MWN-01B (see Figure 1) to assist in the supplemental groundwater investigation in the vicinity of WT-1. These wells will be part of the planned ORC delivery system. Each boring location was advanced into the unconsolidated overburden soil/fill to a depth of approximately 35 feet below ground surface (fbgs). Each monitoring well was constructed of 4-inch I.D. flush-joint Schedule 40 PVC solid riser and machine slotted screen (0.010-inch slot size). The monitoring well screen was approximately 10 feet in length. Refer to Appendix A5-1 for ORC well installation documentation. In addition to these three "off-site" wells, two additional on-site ORC delivery wells (designated as BCP-ORC-1 and BCP-ORC-2 on Figure 1) were installed in October 2007 upgradient of wells MWN-01 and MWN-01B. The well construction and installation techniques were the same as those used for the new off-site wells.

ORC "socks" were suspended in existing monitoring wells WT1-01 through WT1-03 and newly installed monitoring wells BCP-ORC-1 through BCP-ORC-3 to slowly release oxygen to the shallow water column and saturated soils. Figure 2 provides a detail of an ORC sock well.

3.0 ORC MAINTENANCE & MONITORING

3.1 ORC Maintenance

In-situ treatment using ORC is directly dependent on providing an adequate supply of oxygen in groundwater for aerobic biodegradation to occur. As a result, timely and regular replacement of depleted ORC socks within supply wells is critical. Initial research has shown that ORC well socks deplete within approximately 6 months, requiring replacement at that time. Sock replacement and monitoring will occur at this frequency; until such time as it is displayed or documented that it can be reduced and still meet demand. Periodic consultation with the ORC provider will also be necessary to determine this timeframe. Any changes to the original replacement and sampling frequency of 6 months will be documented and submitted to the NYSDEC for approval.

3.2 ORC Monitoring

To evaluate the consumption of ORC and its effectiveness, monitoring will be conducted in the five ORC wells: initially (baseline); monthly during the first six months; and at the end of the first year for the following manufacturer-recommended parameters:

- Conductivity, oxidation-reduction potential (ORP), pH, dissolved oxygen (DO), turbidity, dissolved manganese, dissolved (ferrous) iron, 5-day biochemical oxygen demand (BOD_5), chemical oxygen demand (COD), and ORC sock weight.

Based on the results of this initial 6-month monitoring, adjustments to the planned 6-month sock replacement schedule, if necessary, will be made accordingly.

3.3 Annual Certification/Inspection

A system certification inspection and report documenting that the system is performing properly and remains effective will be required by the NYSDEC and is to be submitted annually by a professional engineer or environmental professional. The certification report will contain the ORC sock replacement logs, as well as an annual

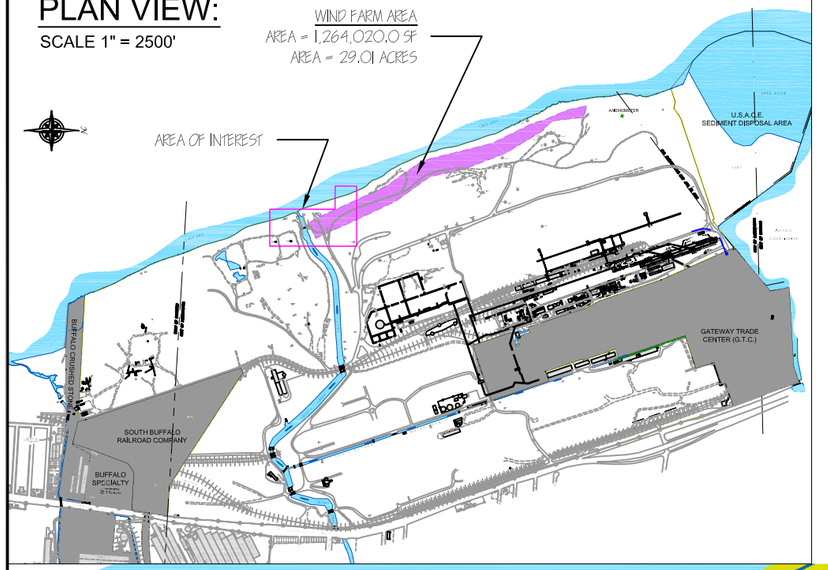
inspection checklist (refer to Appendix A5-2). This documented information shall be attached as an appendix to the Environmental Inspection Form as required by the Site Operation, Monitoring, & Maintenance Plan – Part I of the Site Management Plan. In addition, this information may be submitted separately by attachment to the Annual Long-Term Groundwater Monitoring Report, under separate cover, or otherwise requested by the NYSDEC.

FIGURES

F:\CAD\TurnKey\BQ Energy & Process Energy\Steel Winds (BQ)\Site Management Plan\Part I - OM&M Plan\Attachment A5 - ORC\Figure 1; ORC Well Location Map.dwg

PLAN VIEW:

SCALE 1" = 2500'



LEGEND:

- TECUMSEH PROPERTY BOUNDARY
- EXISTING BUILDING / STRUCTURE
- RAILROAD TRACK
- WT#1 — WIND TURBINE (WT) LOCATION (8)
- ANEMOMETER LOCATION
- SWMU P-07 — APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES FURTHER ASSESSMENT
- APPROXIMATE BOUNDARY OF SWMU
- STEEL WINDS FACILITY BCP SITE
- MWN-22B — EXISTING MONITORING WELL LOCATION
- MWN-01 — STEEL WINDS MONITORING WELL LOCATION
- WT1-01 — STEEL WINDS ORC WELL LOCATION

N

100' 0' 100' 200'

SCALE: 1 INCH = 100 FEET
SCALE IN FEET
(approximate)

WT#2

WT#1

WT1-07
WT1-06
WT1-05
WT1-04
WT1-03
WT1-02
WT1-01
MWN-01
MWN-01B
BCP-ORC-2
BCP-ORC-1
MWN-22B
P-25M
P-25D
P-25S
MWS-27A
MWS-01
MWS-01B
MW-5D4
MW-204
SWMU S-03
SWMU S-04

DATE: NOVEMBER 2007
DRAFTED BY: BCH

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 824
BUFFALO, NEW YORK 14210
(716) 856-0599

JOB NO.: 0141-001-101

ORC WELL LOCATION MAP

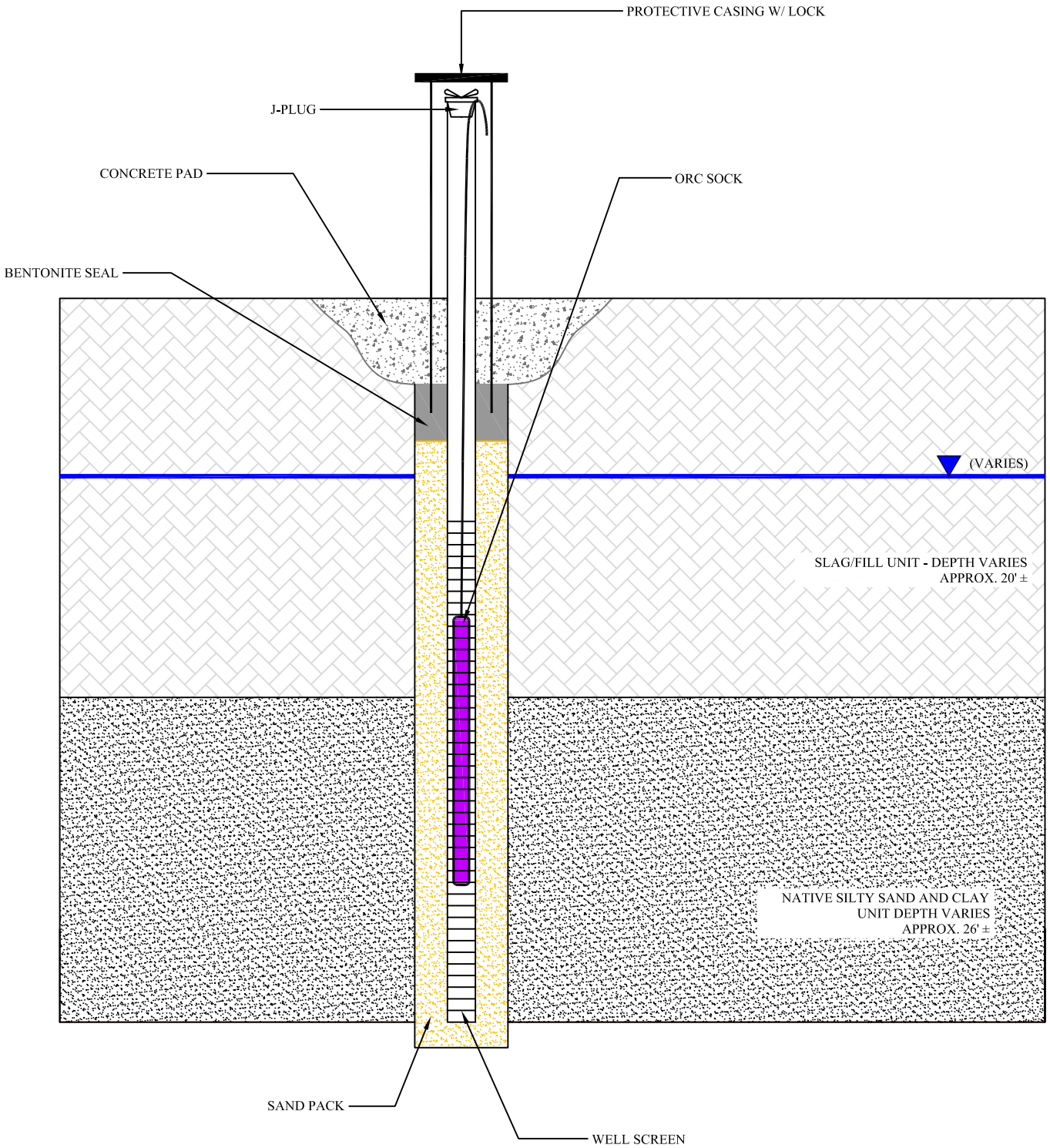
SITE MANAGEMENT PLAN - PART I: OM&M PLAN (ATTACHMENT 5)

STEEL WINDS I FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR
STEEL WINDS FACILITY, LLC

FIGURE 1

FIGURE 2



BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0141-001-101

DATE: NOVEMBER 2007

DRAFTED BY: BCH/WJM

ORC SOCK WELL DETAIL

SITE MANAGEMENT PLAN - PART I: OM&M PLAN (ATTACHMENT 5)

STEEL WINDS I FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR
STEEL WINDS FACILITY, LLC

APPENDIX A5-1

ORC WELL INSTALLATION DOCUMENTATION

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	Steel winds Offsite investigation	**LOCATION I.D.:**	**WT1 - 01**
Project Number:	0083 - 006 - 100	**Well Type:**	☑ Stick-up ☐ Flush-mount
Client:	BQ Energy	**Start Date:**	05/21/07
Drilling Company:	Earth Dimensions	**End Date:**	06/08/07
Driller:	Andy	**Logged By:**	TAB
Helper:	Steve	**Drilling Method:**	Continuous split spoon
Rig Type:	Dietrich 120	**Weather:**	Low to mid 70's wind Sw 0 - 5mph

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 10-15% Little, 15-30% Few, 35-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
600.2	0	S1	3 5 8 22	13	1.2	**0.0 - 0.1** Dark Brown, moist, **soil/fill**, silt with some sand and some coarse sand and fine gravel, with slag and cinders, loose. **0.1 - 1.1** Black, moist, **soil/fill**, silt fines with some sand, with cinders, loose. **1.1 - 1.2** Brown, grey, moist, **slag** with cinders	0.0	NA	no	Cement seal
598.2	2	S2	10 20 13 23	33	1.0	**0.0 - 1.0** Black, moist, **soil/fill**, silt fines with some sand, with cinders and refractory brick, dense, loose when disturbed.	0.0	0.1	yes	
596.2	4	S3	4 7 13 43	20	1.2	**0.0 - 1.2** As above.	0.2	0.3	yes	
594.2	6	S4	11 26 5 8	31	1.3	**0.0 -0.5** Dark brown, black, moist, **soil/fill**, silt fines with some sand and some coarse sand, with some fine gravel, with pieces of slag, cinders and brick, dense loose when disturbed. **0.5 - 0.8** Orange brick. **0.8 - 1.3** White, moist, powdery, **slag**.	0.0	0.6	yes	
592.2	8	S5	11 12 13 4	25	1.3	**0.0 - 1.3** Dark brown, black, moist, **soil/fill**, silt fines with some sand and some coarse sand, with some fine gravel, with pieces of slag, cinders and brick, dense loose when disturbed.	0.1	1.7	yes	Grout
590.2	10	S6	3 10 17 10	27	0.6	**0.0 - 0.6** As above with yellow brick.	0.0	1.8	yes	
588.2	12	S7	5 18 20 18	38	1.3	**0.0 - 1.3** Dark brown, black, moist, **soil/fill**, silt fines with some sand and some coarse sand, with some fine gravel, with pieces of slag, cinders and brick, dense loose when disturbed.	0.1	2.0	yes	4 inch Schedule forty PVC Riser
586.2	14	S8	6 7 16 12	23	0.7	**0.0 - 0.7** Dark brown, black, moist, **soil/fill**, silt fines with some sand and some coarse sand, with some fine gravel, with pieces of slag, cinders and brick, dense loose when disturbed.	0.0	1.1	yes	
584.2	16	S9	7 6 6 2	12	0.4	**0.0 - 0.7** As above with no slag.	0.1	0.5	yes	
582.2	18	S10	2 4 5 3	9	0.4	**0.0 - 0.4** Black, moist **soil/fill**, silt fines with some sand, dense, loose when disturbed, with cinders and orange brick and rail road tie.	0.0	1.0	yes	
580.2	20									

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: Steel winds Offsite investigation **LOCATION I.D.:** **WT1 - 01**

Project Number: 0083 - 006 - 100 **Well Type:** ☑ Stick-up ☐ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 10-15% Little, 15-30% Few, 35-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
580.2	20	S11	13 7 14 12	21	0.5	**0.0 - 0.3** Dark brown, black, moist, **soil/fill**, silt fines with some sand and some coarse sand, with some fine gravel, with pieces of slag, cinders and brick, dense loose when disturbed. **0.3 - 0.5** White, moist, powdery, slag.	0.0	1.1	yes	Medium Bentonite chips; 4 inch Schedule forty PVC Riser
578.2	22	S12	16 50/4		0.5	**0.0 - 0.5** Dark brown, black, moist, soil/fill, silt fines with some sand and some coarse sand, with some fine gravel, with pieces of slag, cinders and brick, dense loose when disturbed.	0.0	1.1	yes	
576.2	24	S13	50/4		0.3	**0.0 - 0.3** Dark brown, black, moist, **soil/fill**, silt fines with some sand and some coarse sand, with some fine gravel,with pieces of slag, cinders and brick, dense loose when disturbed.	0.0	3.0	yes	
574.2	26	S14				Due to severe rig chatter augured from 24.0 fbgs to 28.0 fbgs.				#OON Sand; 4 inch schedule forty PVC 0.010 slot
572.2	28	S15	50/4		0.2	**0.0 - 0.2** Grey, wet, **soil/fill**, fine gravel, with some coarse sand and slag, loose.	0.0	na	no	
570.2	30	S16	26 50/4		1.0	**0.0 - 1.0** Grey, wet, **soil/fill**, crushed slag, with some coarse sand	0.0	na	no	
568.2	32	S17	50/4		1.1	**0.0 - 0.3** Grey, wet, **soil/fill**, slag with some fine and coarse sand. **0.3 - 1.1** Dark grey, wet, **silty fine sand,** with some coarse sand.	0.0	na	no	
566.2	34	S18			0.0	No recovery.	na	na	na	
564.2	36	S19			0.0	No recovery.	na	na	na	
562.2	38	S20				EOB @ 38.0 fbgs				
560.2	40									

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	Steel winds Offsite investigation	**LOCATION I.D.:**	**WT1 - 02**
Project Number:	0083 - 006 - 100	**Well Type:**	☑ Stick-up ☐ Flush-mount
Client:	BQ Energy	**Start Date:**	05/23/07
Drilling Company:	Earth Dimensions	**End Date:**	06/11/07
Driller:	Andy	**Logged By:**	TAB
Helper:	Steve	**Drilling Method:**	Continuous split spoon
Rig Type:	Dietrich 120	**Weather:**	Low to mid 70's wind Sw 0 - 5mph

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 10-15% Little, 15-30% Few, 35-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
598.5	0					Augured through to 0.0 - 2.0.	na	na	na	Cement seal
596.5	2	S1	11 17 13 14	30	1.3	**0.0 - 1.3** Dark brown, moist, **soil/fill**, silt fines with some fine and coarse sands with some fine gravel, and little coarse gravel, dense, loose when disturbed, with yellow and orange brick fragments and cinders.	0.0	0.8	yes	Grout
594.5	4	S2	12 13 12 8	25	0.7	**0.0 - 0.7** Dark brown, moist, **soil/fill**, silt fines with some fine and coarse sands with some fine gravel, and little coarse gravel, dense, loose when disturbed, with yellow and orange brick fragments and cinders.	0.0	1.0	yes	
592.5	6	S3	9 5 6 4	11	0.3	No Recovery.	NA	NA	NA	
590.5	8	S4	1 3 8 7	11	0.4	**0.0 - 0.4** Dark brown, moist, **soil/fill**, silt fines with some fine and coarse sands with some fine gravel, and little coarse gravel, loose when disturbed, with yellow and orange brick fragments and cinders.	0.0	0.8	yes	
588.5	10	S5	10 3 4 5	7	1.2	**0.0 - 0.7** Dark brown, moist, **soil/fill**, silt fines with some fine and coarse sands with some fine gravel, and little coarse gravel, loose when disturbed, with yellow and orange brick fragments and cinders. **0.7 - 1.2** Grey, wet, **reworked silty clay** with few sand, with trace coarse sand, medium soft, with pieces of slag and cinders.	0.2 0.3	1.1	yes	
586.5	12	S6	15 28 50/2		0.6	**0.0 - 0.3** grey **slag** with yellow brick. **0.3 - 0.6** Dark Brown with orange, moist, **soil/fill**, silt fines with some sand.	0.0	2.0	yes	4 inch Schedule forty PVC Riser
584.5	14	S7	16 2 4 25	6	1.0	**0.0 - 1.0** Dark Brown with orange, moist, **soil/fill,** silt fines with some sand.	0.1	7.5	yes	
582.5	16	S8	37 5 6 3	11	0.8	**0.0 - 0.8** Black, moist, **coal/coke fines**, with some sand, loose.	0.0	1.3	yes	
580.5	18	S9	6 50/3		0.6	**0.0 - 0.6** Black, moist, **coal/coke fines**, with some sand, loose, with yellow brick and purple slag.	0.0	1.9	yes	
578.5	20									

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: Steel winds Offsite investigation **LOCATION I.D.:** **WT1 - 02**

Project Number: 0083 - 006 - 100 **Well Type:** ☑ Stick-up ☐ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 10-15% Little, 15-30% Few, 35-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
578.5	20	S10	13 39 37 50	76	1.3	**0.0 - 0.6** Black, moist, **coal/coke fines**, with some sand, dense, loose when disturbed.	0.0	0.7	yes	Medium Bentonite chips
576.5	22	S11	50/4		0.4	**0.0 - 0.6** Black, moist, **coal/coke fines**, with some sand, dense, loose when disturbed.	0.0	2.0	yes	4 inch schedule forty PVC riser
574.5	24	S12	50/4		0.0	No Recovery.	na	na	na	
572.5	26	S13	22 50/3		0.6	**0.0 - 0.6** Black and reddish brown, wet, **soil/fill**, silt fines with some sand and slag pieces.	0.2	no	no	
570.5	28	S14	50/4		0.4	**0.0 - 0.4** Black and reddish brown, wet, **soil/fill**, silt fines with some sand and slag pieces.		no	no	
568.5	30	S15								#OON Sand
567.5	31	S16				Due to heavy rig chatter augured through to 33.0 fbgs.				4 inch schedule forty PVC 0.010 slot screen
565.5	33	S17	50/4			No Recovery, sluff in spoon is very sandy also sand running into augers.	na	na	na	
563.5	35	S18				Augured through to 36.0 fbgs and set well.				#OON Sand
562.5	36	S19				EOB @ 36.0 fbgs.				
560.5	38									

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	Steelwinds Offsite investigation	**LOCATION I.D.:**	**WT1 - 03**
Project Number:	0083 - 006 - 100	**Well Type:**	☑ Stick-up ☐ Flush-mount
Client:	BQ Energy	**Start Date:**	05/23/07
Drilling Company:	Earth Dimensions	**End Date:**	06/11/07
Driller:	Andy	**Logged By:**	TAB
Helper:	Steve	**Drilling Method:**	Continous split spoon
Rig Type:	Dietrich 120	**Weather:**	Low to mid 70's wind Sw 0 - 5mph

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 10-15% Little, 15-30% Few, 35-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
596.9	0					Augered through to 0.0 - 2.0.	na	na	na	Cement seal
594.9	2	S1	5 9 11 14	20	1.1	**0.0 - 1.1** Dark brown, moist, **soil/fill**, silt fines with some coarse and fine sands and fine gravel, dense, loose when distrubed, with yellow and orange brick fragments, with slag pieces and cinders.	0.0	0.6	yes	Grout
592.9	4	S2	9 5 3 3	8	0.2	**0.0 - 0.2** Dark brown, moist, **soil/fill**, silt fines with some coarse and fine sands and fine gravel, loose when distrubed, with yellow and orange brick fragments, with slag pieces and cinders.	0.0	0.3	yes	
590.9	6	S3	4 7 10 14	17	1.1	**0.0 - 1.1** Dark brown, moist, **soil/fill**, silt fines with some coarse and fine sands and fine gravel, loose when distrubed, with yellow and orange brick fragments, with slag pieces and cinders.	0.0	0.9	yes	
588.9	8	S4	6 6 14 23	20	1.1	**0.0 - 1.1** Dark brown, moist, **soil/fill**, silt fines with some coarse and fine sands and fine gravel, loose when distrubed, with yellow and orange brick fragments, with slag pieces and cinders.	0.0	0.5	yes	
586.9	10	S5	19 19 8 8	27	0.9	**0.0 - 0.9** Dark brown, moist, **soil/fill**, silt fines with some coarse and fine sands and fine gravel, loose when distrubed, with yellow and orange brick fragments, with white and yellow slag pieces and cinders.	0.2	0.4	yes	
584.9	12	S6	4 6 15 2	21	1.0	**0.0 - 1.0** Dark brown, moist, **soil/fill**, silt fines with some coarse and fine sands and fine gravel, loose when distrubed, with no large pieces of brick or slag.	0.0	1.7	yes	
582.9	14	S7	14 25 14 13	39	1.4	**0.0 - 0.9** Dark brown, moist, **soil/fill**, silt fines with some coarse and fine sands and fine gravel, loose when distrubed, with yellow and orange brick fragments, with blue slag pieces and cinders.	0.1	1.6	yes	
580.9	16	S8	22 50/3		0.7	**0.0 - 0.7** Dark brown, moist, **soil/fill**, silt fines with some coarse and fine sands and fine gravel, loose when distrubed, with yellow and orange brick fragments, with blue slag pieces and cinders.	0.0	1.5	yes	4 inch Schdeule forty PVC Riser
578.9	18	S9	40 50/3		1.0	**0.0 - 1.0** Black and dark brown, moist, **soil/fill**,silt fines with some coarse and fine sands, with some fine gravel, dense, loose when disturbed, with orange brick, cinders and pieces of slag.	0.0	0.6	yes	
576.9	20									

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: Steelwinds Offsite investigation **LOCATION I.D.:** **WT1 - 03**

Project Number: 0083 - 006 - 100 **Well Type:** ☑ Stick-up ☐ Flush-mount

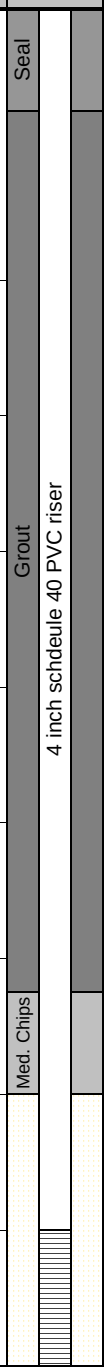
Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 10-15% Little, 15-30% Few, 35-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
576.9	20	S10	50/4		0.0	No recovery.	na	na	na	Medium Bentonite chips
574.9	22	S11	50/4		0.0	No recovery.	na	na	na	
572.9	24	S12	50/4		0.3	**0.0 - 0.3** Black, wet, **soil/fill**, silt fines with some fine and coarse sand and little fine gravel.	0.2	no	no	
570.9	26	S13	18 50/3		0.4	**0.0 - 0.3** Black, wet, **silty sand**, with some medium and coarse sand and little fine gravel.	0.1	no	no	#OON Sand
568.9	28	S14	50/4		1.1	**0.0 - 1.1** Black, wet, **silty sand**, with some medium and coarse sands, with little fine gravel (rounded), with some organic material.	0.6	no	no	
566.9	30	S15				Due to running sands in augers had drillers advance to 34.0 fbgs.				4 inch schdeule forty PVC 0.010 slot screen
564.9	32	S16				EOB @ 34.0 fbgs				
562.9	34	S17								
560.9	36	S18								
558.9	38	S19								
556.9	40									

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	Groundwater/ORC Monitoring	**LOCATION I.D.:**	**BCP - ORC - 1**
Project Number:	0141 - 001 -102	**Well Type:**	☑ Stick-up ☐ Flush-mount
Client:	BQ Energy	**Start Date:**	10/02/07
Drilling Company:	Earth Dimensions	**End Date:**	10/03/07
Driller:	Andy Morris	**Logged By:**	TAB
Helper:	Steve	**Drilling Method:**	HSA - Standard Sampling
Rig Type:	Dietrich 120	**Weather:**	Light rain, low 70's, wind 5-10 mph SW

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION (ASTM D2488)	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)
0	0								
-2	2					*Augered to 5.0 fbgs.*			
-5	5	S1	12 18 33 50	51	1.4	Dark brown, moist, SILT with some SAND with FILL, dense, loose when disturbed, with brick and slag pieces.	NA	0.2	No
-7	7					*Augred to 10 fbgs.*			
-10	10	S2	4 12 7 22	19	0.6	As S1 above.	NA	0.4	No
-12	12					*Augred to 15 fbgs.*			
-15	15	S3	19 49 36 50/1	85	1.1	As S1 above, with more black.	NA	0.6	No
-17	17					*Augred to 20 fbgs.*			
-20	20	S4	50/4		0.3	As S1 above, wet.	NA	1.1	No
-22	22					*Augred to 25 fbgs.*			
-25	25								



USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: Groundwater/ORC Monitoring **LOCATION I.D.:** **BCP - ORC - 1**

Project Number: 0141 - 001 -102 **Well Type:** ☑ Stick-up ☐ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION (ASTM D2488) USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
-25	25	S5	50/4		0.4	Black and grey, wet, FINE SAND with some MEDIUM & COARSE SAND, loose.	NA	1.0	No	#oon sand 4" 0.010 slot schedule 40 screen
-27	27									
-29	29					Augred to 32 fbgs. EOB at 32.0 fbgs.				
-32	32									
-34	34									
-36	36									
-38	38									
-40	40									
-42	42									
-44	44									
-46	46									

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	Groundwater/ORC Monitoring	**LOCATION I.D.:**	**BCP - ORC - 2**
Project Number:	0141 - 001 -102	**Well Type:**	☑ Stick-up ☐ Flush-mount
Client:	BQ Energy	**Start Date:**	10/03/07
Drilling Company:	Earth Dimensions	**End Date:**	10/04/07
Driller:	Andy Morris	**Logged By:**	TAB
Helper:	Steve	**Drilling Method:**	HSA - Standard Sampling
Rig Type:	Dietrich 120	**Weather:**	overcast, low 70's, wind 15-20 mph SW

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION (ASTM D2488) USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
0	0									Seal
-2	2					*Augered to 5.0 fbgs.*				Grout
-5	5	S1	8 6 6 12	12	1.0	Dark brown FILL and SILTY CLAY with little SAND, rootlets, firm 0.3 - 0.5 yellow brick 0.7 - 0.8 yellow brick	0.1	1.2	no	
-7	7					*Augered to 10.0 fbgs.*				
-10	10	S2	6 19 26 25	45	1.0	Same as S1 above with yellow brick.	0.0	0.9	No	
-12	12					*Augured to 15 fbgs.*				
-15	15	S3	16 19 14 12	33	0.6	Same as S1 above with yellow brick in shoe.	0.0	0.7	No	
-17	17					*Augured to 20 fbgs.*				
-20	20	S4	16 24 15 23	39	0.2	FILL as above, w/ black, some FINE SAND, loose when disturbed, with orange brick.	0.0	0.9	No	
-22	22					*Augured to 25 fbgs.*				Med. Chips
-25	25									4 inch schedule 40 PVC riser

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: Groundwater/ORC Monitoring **LOCATION I.D.:** **BCP - ORC - 2**

Project Number: 0141 - 001 -102 **Well Type:** ☑ Stick-up ☐ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	SAMPLE DESCRIPTION (ASTM D2488) USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
-25	25	S5	34 50/3		0.4	Dark brown to black, wet, FILL and SILT with some FINE SAND, loose when disturbed, with orange brick and grey slag.	0.0	0.7	No	#OON Sand 4' 0.010 slot screen schedule 40 PVC screen
-27	27					Augured to 30 fbgs.				
-30	30	S6	50/4		0.5	Same as S4 above, wet, with grey slag				
-32	32									
-34	34					Augered to 37.0 fbgs. EOB at 37.0 fbgs.				
-37	37									
-39	39									
-41	41									
-43	43									
-45	45									
-47	47									

APPENDIX A5-2

ORC WELL ANNUAL INSPECTION

ANNUAL INSPECTION FORM
ORC Monitoring Wells

Project Name: Project No.:

Project Location: Client:

Preparer's Name: Date/Time:

	BCP-ORC-1	BCP-ORC-2	BCP-ORC-3	WT1-01	WT1-02	WT1-03
Sampling dates:						

Field groundwater quality measurements

Water Level						
Bottom Depth						
pH						
Temperature						
DO						
ORP						
Alkalinity						

Refer to Figure 1 for well locations

Well integrity

Cement seal ☐ good ☐ poor If poor, note Well No. _____

Pro - casing condition ☐ good ☐ poor If poor, note damage _____

Lock condition ☐ good ☐ poor If poor, note Well No. _____

Working J - plug ☐ yes ☐ no If no, note Well No. _____

ORC Socks

Have any Socks been replaced? ☐ yes ☐ no

If yes, indicate replacement date and reason: _____

Are socks fully submerged in well screens? ☐ yes ☐ no

If no, explain why not: _____

Are all ORC wells being sampled and maintained according to the Site Management Plan?

☐ yes ☐ no

If no, explain why not: _____

Initial: _____ Date: _____

PART II

SOIL / FILL MANAGEMENT PLAN

SITE MANAGEMENT PLAN
PART II

SOIL/FILL MANAGEMENT PLAN

STEEL WINDS LACKAWANNA SITE
LACKAWANNA, NEW YORK

November 2007 0141-001-101

Prepared for:

BQ Energy, LLC
&
Steel Winds Project, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

SOIL/FILL MANAGEMENT PLAN

TABLE OF CONTENTS

SOIL/FILL MANAGEMENT PLAN

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

1.0 INTRODUCTION

1.1 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 Figure 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.

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 Bethlehem Steel Corporation (BSC). The approximately 29-acre Steel Winds Brownfield Cleanup Program (BCP) parcel that is the subject of this report is located within the Slag Fill Area along the Lake Erie shore north of Smokes Creek (see Figure 2). The Slag Fill Area was created from the deposition of dredge spoils by the US Army Corps of Engineers and later from the deposition of slag by Bethlehem Steel (starting in 1937).

In September 2006, BQ Energy, LLC and the New York State Department of Environmental Conservation (NYSDEC) entered into a Brownfields Cleanup Agreement for the wind energy facilities and the associated property, hereafter referred to as the "Steel Winds Site," "subject property," or the "BCP Site." BQ Energy has entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines and supporting power generation equipment and infrastructure on the Steel Winds Site.

1.2 Environmental Investigations and Remedial Activities

TurnKey Environmental Restoration, LLC completed a Site Investigation in December 2006 and Interim Remedial Measures (IRM) activities associated with the wind turbine excavations in October 2006 (Ref. 1). In May/June 2007, TurnKey conducted a

supplemental off-site soil/fill and groundwater sampling program in the vicinity of wind turbines WT-1 and WT-8 (Ref. 2) to further assess and characterize on-site and off-site soil/fill and groundwater impacts in these areas. Surface and subsurface slag/fill results were compared to the NYSDEC Part 375 restricted-industrial soil cleanup objectives (SCOs). Slightly elevated concentrations of polynuclear aromatic hydrocarbons (PAHs), primarily benzo(a)pyrene and naphthalene, and arsenic were observed in surface and subsurface slag/fill across the Site as compared to the SCOs. PAHs are ubiquitous to industrial sites and metals are naturally occurring in the slag as a result of steel manufacturing.

In August 2007, a 12-inch thick soil cover system was placed over the entire Site, followed by seeding to promote vegetative growth, as the final remedy for the Site. The cover system is described in the Final Engineering Report (Ref. 3).

1.3 Purpose and Scope

This Soil/Fill Management Plan (SFMP) was developed and incorporated into the final remedy for the Site with the express purpose of addressing subsurface contamination, if and when encountered, to protect both the environment and human health during maintenance activities at and/or future development of the Site. In particular, soil/fill contamination may be encountered during post-development activities, such as utility and power generation maintenance, or during future development activities, including, but not limited to:

- Clearing and site grading.
- Infrastructure construction (e.g., roads, waterline, sewers, electric cable).
- Foundation excavation.

This SFMP provides protocols for the proper handling of Site soil/fill during maintenance activities and/or future development of the Site, including:

- Excavation, grading, sampling, handling, and disposing Site soil/fill.
- Sampling, analyzing, and determining acceptability of soil/fill from off-site sources for backfill or subgrade fill.

- Acceptability and placement of final soil and vegetative cover.
- Erosion and dust control measures.
- Access controls.
- Health and safety procedures for subsurface construction work and the protection of the surrounding community.
- Environmental easements.
- Program responsibilities.
- Notification and reporting requirements.

1.4 Soil/Fill Management Program Responsibility

The current Site Developer (BQ Energy), as well as subsequent Site Managers/Developers, will be responsible for all monitoring, implementation, and reporting requirements of the SFMP. The developer and owner will not perform, nor contract, nor permit their employees, agents, or assigns to perform any excavations or disturbance of site soils, except as delineated in this SFMP. Any excavation, regrading or disturbance of on-site soils inconsistent with the provisions of the Plan may be grounds for NYSDEC to void its release from claims, actions, suits, proceeding by the NYSDEC against the site owner(s), successor(s) or assigns for environmental conditions on the Site. Such nonconformance with this SFMP may also void or limit environmental insurance protection of the owner(s) and their successors and assigns in accordance with policy terms and conditions. The property owner(s) or their agents will be responsible for proper notification and reporting to regulatory agencies (i.e., NYSDEC Region 9, Division of Environmental Remediation and NYS Department of Health) prior to and following site development as described in Section 2.9.

The NYSDEC may provide periodic construction oversight and monitoring during site redevelopment activities to verify that the requirements of this SFMP are adhered to.

2.0 SOIL/FILL MANAGEMENT

2.1 Excavation and Handling of On-Site Soil/Fill

A Professional Engineer with experience in environmental site investigations and the New York State Brownfield Cleanup Program will inspect soil/fill excavations or disturbances (e.g., when using heavy equipment to disturb more than 10 cubic yards) on behalf of the Site Manager/Developer. The soil/fill will be inspected for staining or discoloration, and will be field screened for the presence of volatile organic compounds (VOCs) with a photoionization detector (PID). The PID detector will be calibrated as per the manufacturer's requirements.

Excavated soil/fill that exhibits "source area" characteristics or is "grossly contaminated" would be disposed off-site following waste characterization sampling required by the permitted treatment, storage, and disposal facility (TSDF). Source area characteristics are defined as heavy staining, strong chemical odors, free product, or elevated PID readings (i.e., sustained readings of 5 parts per million above background or greater). As defined in 6NYCRR Part 375-1.2(u), grossly contaminated media means soil, sediment, surface water, or groundwater that contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid (NAPL), as defined in subdivision 375-1.2 (ac), that is identifiable either visually, through strong odor, by elevated contaminant vapor levels, or is otherwise readily detectable without laboratory analysis.

The excavation will continue vertically and laterally until the Site Manager/Developer and NYSDEC agree that source area characteristics are no longer evident. Verification sampling will be required unless NYSDEC is on-site to determine if excavation no longer exhibits "source area/grossly contaminated media" characteristics.

The length of time that potentially impacted soil can be temporarily stockpiled and covered while awaiting analytical results shall be limited to 90 days or as otherwise agreed to by the mutual consent of the Site Manager/Developer and NYSDEC. Sampling and analysis will be in accordance with the protocols delineated in Section 2.3.

2.2 Subgrade Material

Subgrade material used to backfill excavations or to increase Site grades or elevations shall meet the applicable requirements of 6NYCRR Part 375.6.7(d) for imported backfill to an industrial use site or the on-site soil screening requirements as described in the following criteria:

- Excavated on-site soil/fill not exhibiting "source area/grossly contaminated media" characteristics, as defined in Section 2.1.
- No off-site materials meeting the definition of a solid waste as defined in 6 NYCRR, Part 360 shall be used as backfill.
- Off-site soil/fill originating from known sources having no evidence of disposal or releases of hazardous substances, hazardous, toxic or radioactive wastes, or petroleum and tested to meet the lower of the protection of groundwater or the protection of public health soil cleanup soil cleanup objectives for commercial use as set forth in Table 1 [Table 375-6.8(b)].
- All off-site sources of soil to be used as backfill must be tested in accordance with the Sampling and Analytical Protocol (Section 2.3).

2.2.1 Borrow Source Sampling Requirements

If an off-site soil/fill borrow source is of unknown origin or originates from a commercial, industrial, or urban site, then it must meet the SCOs for the analytes listed on Table 1. A minimum of one composite sample will be collected for each 250 cubic yards (CY) up to 1,000 CY of a borrow source. If the first 1,000 CY meet the re-use criteria, the sample collection frequency may be reduced to one composite sample for each additional 1,000 CY of borrow source up to 5,000 CY, and one composite sample per 5,000 CY thereafter. A minimum of four grab samples will be collected for each composite sample. The composite sample will be analyzed in accordance with USEPA SW-846 Methodology by a NYSDOH ELAP-certified laboratory. If an off-site soil/fill borrow source is of known origin, NYSDEC would be involved in the decision as to whether the source is in fact known and acceptable for use.

2.3 Soil/Fill Sampling and Analysis Protocol

2.3.1 Excavated On-Site Soil/Fill

Excavated soil/fill that exhibits "source area" characteristics, as defined in Section 2.1, would be disposed off-site at a permitted TSDF. Excavated soil/fill shall be stockpiled in 500 CY or smaller piles. A single grab sample will be collected from each stockpile, with the grab biased toward the zone displaying the most elevated field PID reading or, in the absence of an elevated reading, visual and/or olfactory characteristics.

If the stockpiles are from a single source area, sampling may be reduced to one sample per 1,000 CY following receipt of data from the first two 500 CY stockpiles. For excavations that generate greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards. A minimum of four grab samples will be collected for each composite sample. Approximately equal aliquots of the grab samples will be composited in the field using a stainless steel trowel and bowl. The trowel and bowl shall be decontaminated with detergent and tap water between sampling locations.

The stockpiled material will be characterized for waste constituents per the requirements of the permitted off-site TSDF and an appropriate disposal plan will be developed.

2.4 Final Surface Coverage

A 12-inch soil cover currently exists over the entire Site not covered by access roads and wind turbine foundations. Therefore, vegetative or other (e.g., asphalt, buildings, concrete) surface coverage will be required following any intrusive maintenance activities or future development at the Site, as a pre-condition of occupancy. A minimum of 12 inches of soil cover will be placed or replaced in all areas where concrete, asphalt, or buildings are not present or proposed. Annual inspection and certification of the soil cover integrity will be performed in accordance with Section 2.3 of the Operation, Monitoring and Maintenance Plan.

If required, topsoil used for the final soil cover shall meet the following general specifications:

1. Fertile, friable, natural loam surface soil, capable of sustaining plant growth, free of, clods of hard earth, plants or roots, sticks or other extraneous material harmful to plant growth. Supply a well-graded topsoil with the following approximate analysis:

   (a)

Sieve Size	Percent Passing by Weight
3-inch	100
No. 4	>75
No. 200	>30
0.002 mm	<20

   (b) pH 5.5 to pH 7.6.

   (c) Minimum organic content of 2.5 percent as determined by ignition loss.

   (d) Soluble salt content not greater than 500 ppm.

2. Before delivery, collect soil samples for every 5,000 cubic yards of topsoil provided by Developer.

Grass seed used for the final soil cover shall meet the following general specifications:

1. Grass seed mixture: Provide fresh, clean, new-crop seed complying with the tolerance for purity and germination established by the Official Seed Analysts of North America. Provide seed of the grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified.

2. The entire ground surface disturbed by construction operations shall be seeded with 100 lbs/acre of seed conforming to the following:

Name of Grass	Application Rate (lbs/acre)	Purity (%)	Germination (%)
Perennial Ryegrass	10	95	85
Kentucky Bluegrass	20	85	75
Strong Creeping Red Fescue	20	95	80
Chewings Fescue	20	95	80

Hard Fescue	20	95	80
White Clover	10	98	75

(a) Germination and purity percentages should equal or exceed the minimum seed standards listed. If it is necessary to use seed with a germination percentage less than the minimum recommended above, increase the seeding rate accordingly to compensate for the lower germinations.

(b) Weed seed content not over 0.25 percent and free of noxious weeds.

(c) All seed shall be rejected if the label lists any of the following grasses:
1) Sheep Fescue
2) Meadow Fescue
3) Canada Blue
4) Alta Fescue
5) Kentucky 31 Fescue
6) Bent Grass

3. In addition to the seed mixtures listed above, one bushel per acre of oats or rye seed shall be sowed over the entire area, including drainage ditches, to provide a quick shade cover and to prevent erosion during turf establishment.

As described in Section 2.9, annual certifications indicating that the protective cover has been maintained are required.

2.5 Erosion Controls

An important element of soil/fill management on this Site is the mitigation and control of surface erosion from stormwater runoff. For this reason, a Master Erosion Control Plan (MECP) will be used by all Site Managers/Developers (see Attachment A2).

2.6 Dust Controls

Particulate monitoring will be performed along the downwind perimeter of the Site during subgrade excavation, grading, and handling activities in accordance with the NYSDOH Generic Community Air Monitoring Plan (CAMP) contained in Attachment A1 and the NYSDEC Technical Assistance and Guidance Memorandum (TAGM) 4031:

Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites. Dust suppression techniques will be employed as necessary to mitigate fugitive dust from non-vegetated or disturbed soil/fill during post-remediation maintenance activities and/or future development. All reasonable attempts will be made to keep visible and/or fugitive dust to a minimum. Techniques to be used may include one or more of the following:

- Applying water on haul roads.
- Wetting equipment and excavation faces.
- Spraying water on buckets during excavation and dumping.
- Hauling materials in properly tarped containers or vehicles.
- Restricting vehicle speeds on-site.
- Covering excavated areas and materials after excavation activity ceases.
- Reducing the excavation size and/or number of excavations.

2.7 Fencing and Access Control

There are no specific access controls to the Steel Winds Site; however, a 24-hour security guard monitors the Site. During intrusive activities, construction fencing shall be temporarily erected and maintained as necessary to control access around utility trenches and other construction excavations.

2.8 Property Use Limitations

A 1-foot thick vegetated soil cover system was placed over the entire Site in August 2007. An Environmental Easement will be part of the final remedial measure for the Site and will be filed with the County of Erie. The environmental easement will precluding use of groundwater from anywhere on the Site and only allowing commercial or industrial use of the property. Commercial/industrial uses may include manufacturing, assembling, warehousing, and related railroad, port, and shipping activities together with office space and other facilities including laboratories incidental to such uses. Final surface coverage requirements are outlined in Section 2.4. New Site Managers/Developers will be responsible for adapting and implementing this SFMP or revising this SFMP, and obtaining approval of

the SFMP from the NYSDEC.

2.9 Notification and Reporting Requirements

The following minimum notification and reporting requirements shall be followed by the Site Manager/Developer prior to and following Site maintenance activities or additional development, as appropriate:

- The NYSDEC and NYSDOH will be notified that subgrade activities are being initiated a minimum of 5 working days in advance of construction.
- A construction certification report, stamped by a NYS-licensed Professional Engineer, will be prepared and submitted to the NYSDEC and NYSDOH within 90 days after development. At a minimum, the report will include:
    - An area map showing the area requiring maintenance or planned for development.
    - A map of the developed property showing actual building locations and dimensions, roads, parking areas, utility locations, berms, fences, property lines, sidewalks, green areas, contours and other pertinent improvements and features.
    - Plans showing areas and depth of fill removal.
    - Copies of daily inspection reports.
    - A text narrative describing the excavation activities performed, health and safety monitoring performed (both site specific and Community Air Monitoring), quantities and locations of soil/fill excavated, disposal locations for the soil/fill, soil sampling locations and results, a description of any problems encountered, location and acceptability test results for backfill sources, and other pertinent information necessary to document that the site activities were carried out properly.
    - Plans documenting the thickness of the clean soil cover system.
    - A certification that all work was performed in conformance with the SFMP.
    - The owners of developed parcels shall complete and submit to the NYSDEC, an Annual Report by January 15 of the following year (or in accordance with the

specific requirements of the BCA). This report shall contain certification that the institutional controls put in place, pursuant to the SFMP, are still in place, have not been altered, and are still effective.

3.0 HEALTH AND SAFETY PROCEDURES

During maintenance or future development activities, the Site Manager/Developer shall be responsible for implementing suitable procedures to prevent both Site construction workers and the community from adverse exposure to residual parameters of concern and other potential hazards posed by the work. This will be accomplished through adherence to a written, site-specific Health and Safety Plan (HASP), prepared in accordance with the regulations contained in OSHA 29CFR 1910.120 and a Community Air Monitoring Plan (CAMP) prepared in conformance with NYSDOH requirements (Attachment A-1).

Although Brownfield cleanup remedial measures (i.e., soil cover system and groundwater remediation) are anticipated to reduce the potential for exposure to impacted soil/fill and groundwater, the activities governed by this SFMP are a required element of the BCA for the Site. Thus, 29CFR 1910.120(a)(1)(iii) indicates that these activities are subject to OSHA's hazardous waste operations and emergency response (Hazwoper) standard. This includes the requirement for preparation and implementation of a Site-Specific HASP addressing the following items:

- A safety and health or hazard analysis for each site task and operation.
- Employee training requirements.
- Personal protective equipment (PPE) to be used by employees for the site tasks.
- Medical surveillance requirements.
- Site control measures.
- Decontamination procedures.
- An emergency response plan.
- Confined space entry procedures.
- A spill containment program.
- Frequency and type of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of equipment.

As an integral component of the HASP, the Site Manager/Developer will be responsible for implementing a CAMP designed to prevent the surrounding community from adverse exposures due to potential release/migration of airborne particulates or vapors.

The community, as referenced herein, includes potential receptors located off-site (e.g., neighboring residents or businesses) as well as on-site receptors not directly involved in maintenance or development activities (e.g., businesses or contractors occupying the Site). The CAMP, presented as Attachment A1, will be implemented during activities involving disturbance or handling of Site soil/fill. The CAMP includes appropriate monitoring, mitigation, and response measures consistent with NYSDOH and NYSDEC guidelines. The results of the CAMP must be documented to the NYSDEC as described in Section 2.9.

4.0 REFERENCES

1. TurnKey Environmental Restoration, LLC. 2007. *Site Investigation/Remedial Alternatives Report/Interim Remedial Measures Report,* prepared for BQ Energy, LLC. July.

2. TurnKey Environmental Restoration, LLC. 2007. Memorandum to NYSDEC describing *Proposed Steel Winds BCP Off-Site Soil/Fill & Groundwater Investigation – WT-1 and WT-8 Vicinity*. May 9.

3. TurnKey Environmental Restoration, LLC. 2007. *Final Engineering (IRM) Report,* prepared for BQ Energy, LLC. September.

TABLES

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

Parameter	Restricted Use SCOs [1]
Volatile Organic Compounds (mg/kg)	
1,1,1-Trichloroethane	0.68
1,1-Dichloroethane	0.27
1,1-Dichloroethene	0.33
1,2-Dichlorobenzene	1.1
1,2-Dichloroethane	0.02
1,2-Dichloroethene(cis)	0.25
1,2-Dichloroethene(trans)	0.19
1,3-Dichlorobenzene	2.4
1,4-Dichlorobenzene	1.8
1,4-Dioxane	0.1
Acetone	0.05
Benzene	0.06
Butylbenzene	12
Carbon tetrachloride	0.76
Chlorobenzene	1.1
Chloroform	0.37
Ethylbenzene	1
Hexachlorobenzene	3.2
Methyl ethyl ketone	0.12
Methyl tert-butyl ether	0.93
Methylene chloride	0.05
Propylbenzene-n	3.9
Sec-Butylbenzene	11
Tert-Butylbenzene	5.9
Tetrachloroethene	1.3
Toluene	0.7
Trichloroethene	0.47
Trimethylbenzene-1,2,4	3.6
Trimethylbenzene-1,3,5	8.4
Vinyl chloride	0.02
Xylene (mixed)	1.6

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

Parameter	Restricted Use SCOs [1]
Semi-Volatile Organic Compounds (mg/kg)	
Acenaphthene	98
Acenaphthylene	107
Anthracene	500
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1.7
Benzo(g,h,i)perylene	500
Benzo(k)fluoranthene	1.7
Chrysene	1
Dibenz(a,h)anthracene	0.56
Fluoranthene	500
Fluorene	386
Indeno(1,2,3-cd)pyrene	5.6
m-Cresol(s)	0.33
Naphthalene	12
o-Cresol(s)	0.33
p-Cresol(s)	0.33
Pentachlorophenol	0.8
Phenanthrene	500
Phenol	0.33
Pyrene	500
Metals (mg/kg)	
Arsenic	16
Barium	400
Beryllium	47
Cadmium	7.5
Chromium, Hexavalent [2]	19
Chromium, Trivalent [2]	1500
Copper	270
Cyanide	27
Lead	450

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

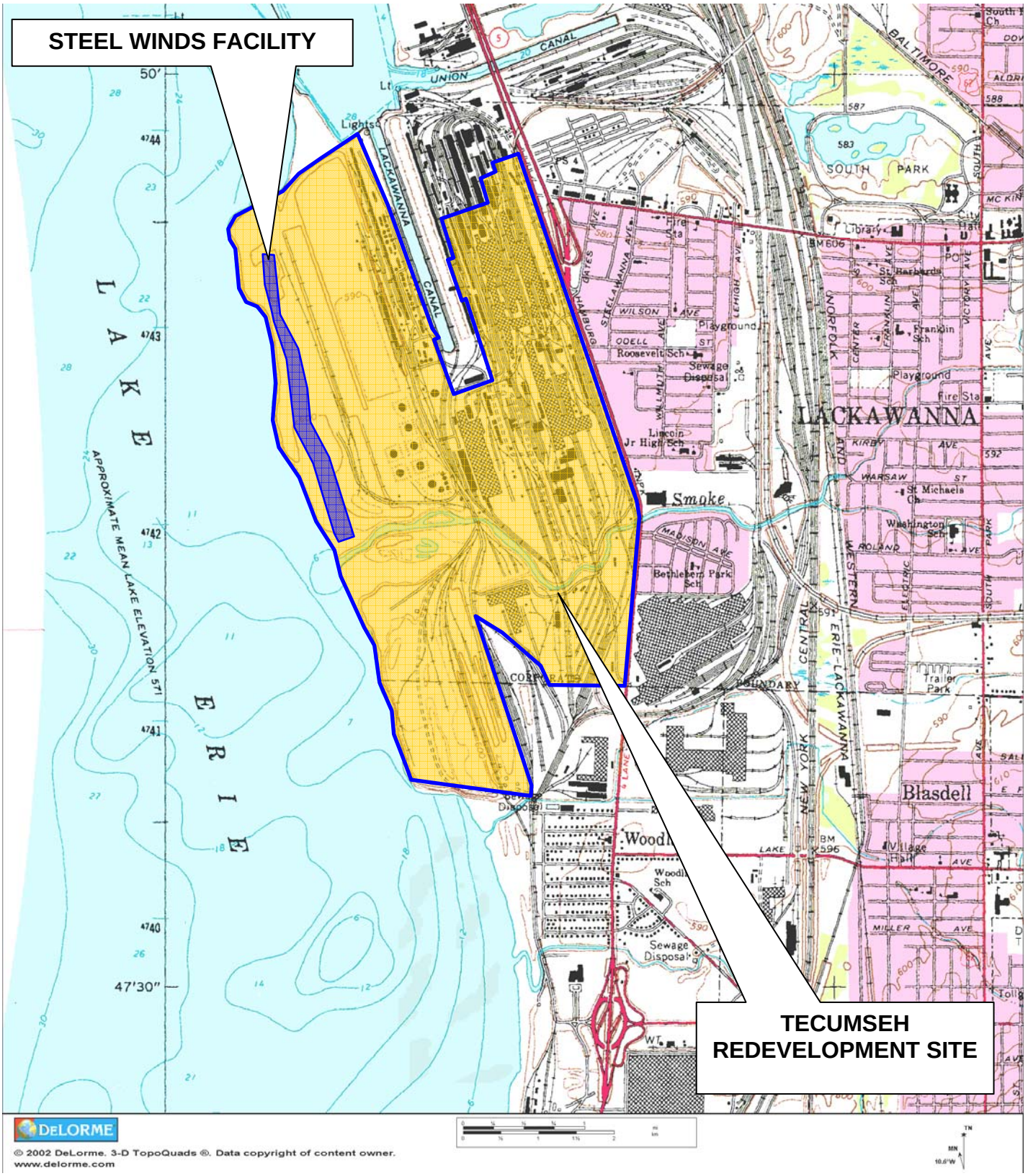
Parameter	Restricted Use SCOs [1]
Metals (mg/kg)	
Manganese	2000
Mercury (total)	0.73
Nickel	130
Selenium	4
Silver	8.3
Zinc	2480
PCBs/Pesticides (mg/kg)	
2,4,5-TP Acid (Silvex)	3.8
4,4'-DDE	17
4,4'-DDT	47
4,4'-DDD	14
Aldrin	0.19
Alpha-BHC	0.02
Beta-BHC	0.09
Chlordane (alpha)	2.9
Delta-BHC	0.25
Dibenzofuran	210
Dieldrin	0.1
Endosulfan I	102
PCBs/Pesticides (mg/kg)	
Endosulfan II	102
Endosulfan sulfate	200
Endrin	0.06
Heptachlor	0.38
Lindane	0.1
Polychlorinated biphenyls	1

Notes:

1. Per 6NYCRR Part 375-6.7(d)(1)(ii)(c).
2. The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.

FIGURES

FIGURE 1



BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0141-001-101

DATE: NOVEMBER 2007

DRAFTED BY: BCH

SITE LOCATION AND VICINITY MAP

SITE MANAGEMENT PLAN - PART II: SOIL/FILL MANAGEMENT PLAN

STEEL WINDS FACILITY
LACKAWANNA, NEW YORK

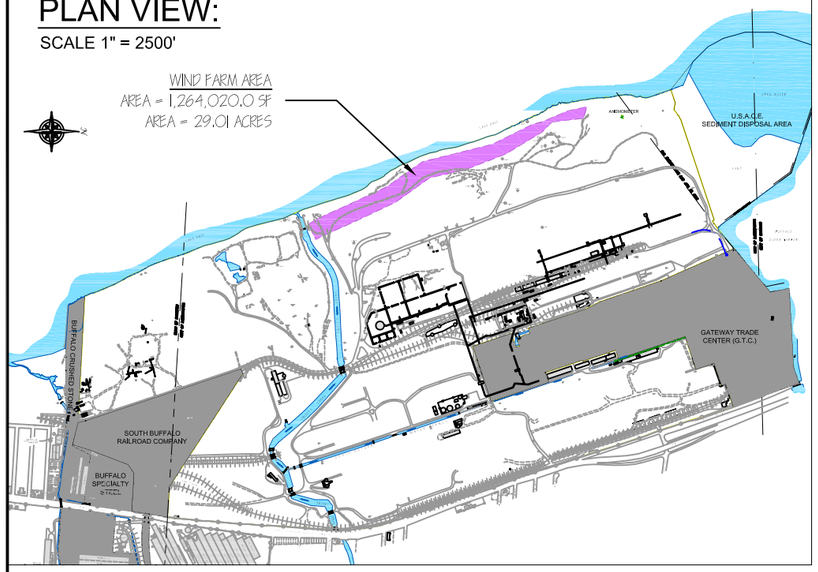
PREPARED FOR
STEEL WINDS PROJECT, LLC

FILEPATH=F:\CAD\TurnKey\BQ Energy & Process Energy\Steel Winds (BQ)\Site Management Plan\Part II - SFMP\Figure 1; Site Vicinity and Location Map.dwg

F:\CAD\TurnKey\BQ Energy & Process Energy\Steel Winds (BQ)\Site Management Plan\Part II - SFMP\Figure 2; Steel Winds Site Plan.dwg

PLAN VIEW:

SCALE 1" = 2500'



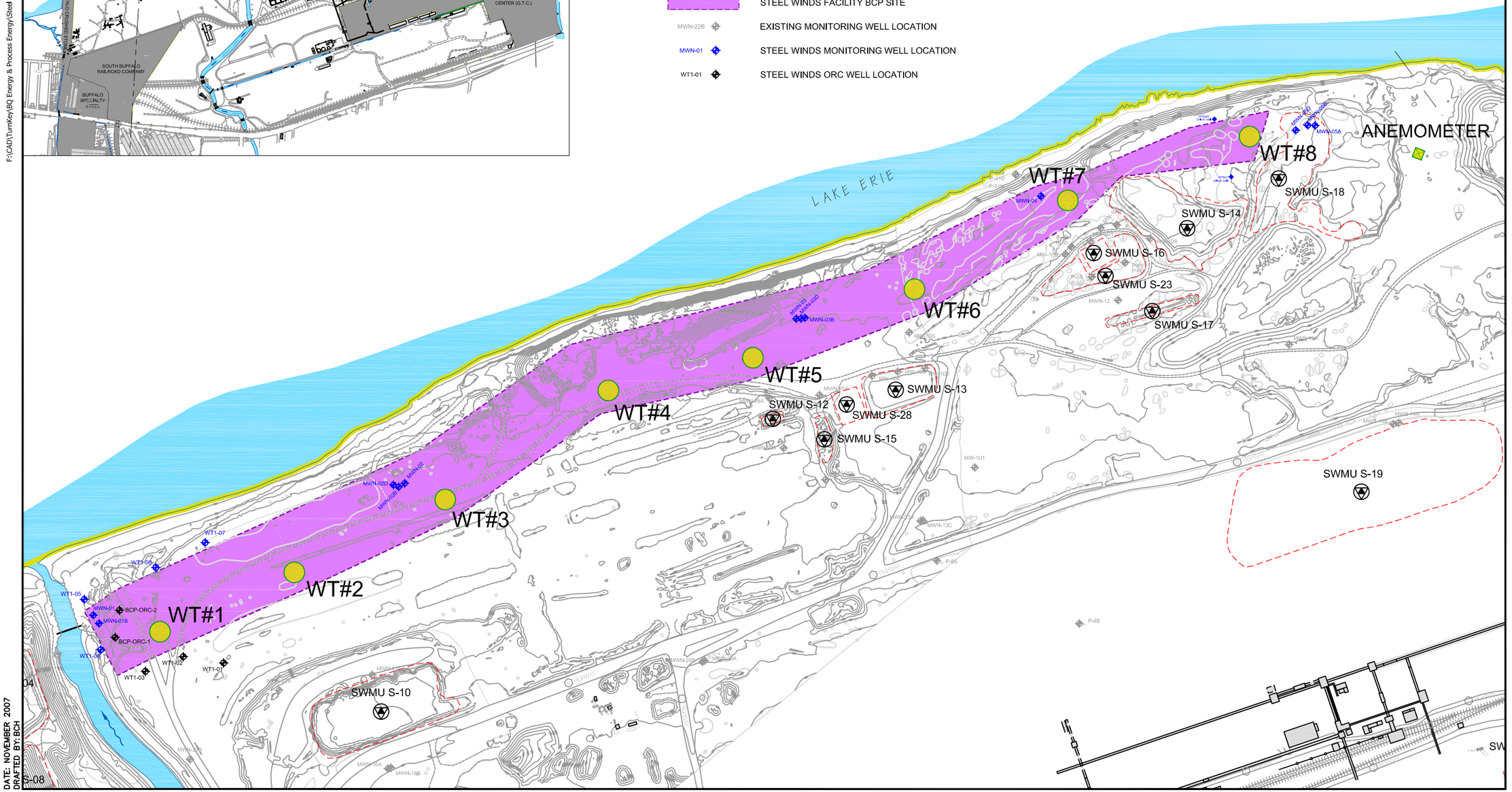
LEGEND:

- TECUMSEH PROPERTY BOUNDARY
- EXISTING BUILDING / STRUCTURE
- RAILROAD TRACK
- WT#1 — WIND TURBINE (WT) LOCATION (8)
- ANEMOMETER LOCATION
- SWMU P-07 — APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES FURTHER ASSESSMENT
- APPROXIMATE BOUNDARY OF SWMU
- STEEL WINDS FACILITY BCP SITE
- MWN-22B — EXISTING MONITORING WELL LOCATION
- MWN-01 — STEEL WINDS MONITORING WELL LOCATION
- WT1-01 — STEEL WINDS ORC WELL LOCATION

N

400' 0' 400' 800'

SCALE: 1 INCH = 400 FEET
SCALE IN FEET
(approximate)



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 824
BUFFALO, NEW YORK 14210
(716) 856-0599

JOB NO.: 0141-001-101

SITE PLAN

SITE MANAGEMENT PLAN - PART II: SOIL/FILL MANAGEMENT PLA

STEEL WINDS I FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR
STEEL WINDS FACILITY, LLC

FIGURE 2

DATE: NOVEMBER 2007
DRAFTED BY: BCH

ATTACHMENT A1

COMMUNITY AIR MONITORING PLAN

SOIL/FILL MANAGEMENT PLAN
ATTACHMENT A1

COMMUNITY AIR MONITORING PLAN

STEEL WINDS LACKAWANNA SITE
LACKAWANNA, NEW YORK

September 2007 0141-001-101

Prepared for:

BQ Energy, LLC
&
Steel Winds Project, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

COMMUNITY AIR MONITORING PLAN

TABLE OF CONTENTS

LIST OF ATTACHMENTS

1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) presents requirements for real-time community air monitoring and responses following completion of Brownfield cleanup activities at the Steel Winds Site (hereafter referred to as the Site) located in Lackawanna, New York. This plan is generally consistent with the requirements for community air monitoring at remediation sites as established by the New York State Department of Health (NYSDOH) and the New York State Department of Environmental Conservation (NYSDEC). It follows procedures and practices outlined under the NYSDOH's generic Community Air Monitoring Plan dated June 20, 2000 and NYSDEC Technical Assistance and Guidance Memorandum (TAGM) 4031: Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites.

This CAMP requires real-time monitoring for particulates (i.e., dust) only at the downwind perimeter of each designated work area when certain activities are in progress at the Site. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community from potential airborne contaminant releases as a direct result of post-development monitoring and maintenance activities. The community, as referenced in this document, includes off-site residences, public buildings and grounds, and commercial or industrial establishments on or adjacent to the Site. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, this CAMP helps to confirm that work activities do not spread contamination into the surrounding community.

2.0 MONITORING AND MITIGATION REQUIREMENTS

Real-time air monitoring for particulate levels and organic vapors at the perimeter of the work area will be necessary. Periodic monitoring will be required for all ground intrusive activities. Ground intrusive activities include, but are not limited to, subgrade soil/fill excavation, grading and handling, subgrade trench excavation and backfill.

"Periodic" monitoring will reasonably consist of taking at least one reading immediately following the installation of the above-referenced activities and taking at least one reading during intrusive activities. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include any subgrade excavation and backfilling within 100 feet of occupied structures or publicly accessible locations.

2.1 Organic Vapors

VOCs must be monitored at the downwind perimeter of the Site on a continuous basis or as otherwise specified throughout the Site. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate.

The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the various action levels referenced in this section.

2.1.1 Vapor Emission Response Plan

If the ambient air concentration of total organic vapors at the downwind perimeter of the site exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background,

work activities can resume with continued monitoring.

If total organic vapor levels at the downwind perimeter of the site persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the site or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less (but in no case less than 20 feet), is below 5 ppm over background for the 15-minute average.

If the organic vapor level is above 25 ppm at the perimeter of the site, the Site Safety and Health Officer (SSHO) must be notified and work activities shut down. The SSHO will determine when re-entry of the work zone is possible and will implement downwind air monitoring to ensure vapor emissions do not impact the nearest off-site residential or commercial structure at levels exceeding those specified under the Major Vapor Emission Monitoring program described below. All 15-minute readings must be recorded and be available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Routine trips will be made into the surrounding community during construction activities to check for the presence of nuisance odors. If nuisance odors are determined to be pervasive in the surrounding community, construction activities will be halted or modified until odor mitigation measures are applied before resuming work.

2.1.2 Major Vapor Emission Monitoring

If the organic vapor level is greater than 5 ppm over background 200 feet downwind from the Site or half the distance to the nearest off-site receptor (residential or commercial structure), whichever is less, all work activities must be halted. If, following the cessation of the work activities or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest off-site residential or commercial structure from the site perimeter, then the air quality must be monitored within 20 feet of the perimeter of the nearest off-site receptor (20-foot zone).

If efforts to abate the emission source are unsuccessful and if organic vapor levels approach or exceed 5 ppm above background within the 20-foot zone for more than 30 minutes, or are sustained at levels greater than 10 ppm above background for longer than one minute, then the Major Vapor Emission Response Plan will automatically be placed into effect.

2.1.3 Major Vapor Emission Response Plan

Upon activation of Major Vapor Emission Response Plan, the following activities will be undertaken:

1. All Emergency Response Contacts as listed below and in the Site-Specific Health and Safety Plan will be contacted.

2. The local police authorities will immediately be contacted by the SSHO and advised of the situation.

3. Frequent air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the SSHO.

4. The SSHO will determine if site workers can safely undertake source abatement measures. Abatement measures may include covering the source area with clean fill or plastic sheeting, or consolidating contaminated materials to minimize surface area. The SSHO will adjust worker personal protective equipment as necessary to protect workers from over-exposure to organic vapors.

The following personnel are to be notified by the SSHO in the listed sequence if the Major Vapor Emission Response Plan is activated:

Contact	**Phone**
Police/Fire Department	911
NYSDOH	(716) 847-4502
NYSDEC	(716) 851-7220
State Emergency Response Hotline	(800) 457-7362

In addition, the SSHO will provide these authorities with a description of the apparent source of the contamination and abatement measures being taken by the contractor, if any.

2.2 Airborne Particulates

Fugitive dust suppression and airborne particulate monitoring shall be performed during any redevelopment or post-remediation activities involving disturbance or handling of Site soil/fill. Fugitive dust suppression techniques will include the following minimum measures:

- Excavated stockpiles from post remediation site redevelopment activities that generate unacceptable dust levels, will be seeded, covered with synthetic materials (e.g., tarps, membranes, etc.), or watered, to reduce dust generation to acceptable levels.

- Stockpiles of soil/fill from post-remediation and redevelopment activities that are contaminated (i.e. are visually stained, discolored or produce elevated PID readings) and awaiting analytical results should be covered with tarps or poly membranes at the end of each day's work activities.

- All fill materials leaving the Site will be hauled in properly covered containers or haul trailers.

Additional dust suppression efforts may be required as discussed in Section 2.2.3.

2.2.1 Particulate Monitoring

Particulate concentrations should be monitored at least periodically (i.e., not less than two times per day) at the upwind and downwind perimeters of the work zone at temporary particulate monitoring stations during work activities. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment

must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (ug/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 ug/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 ug/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures, such as those described in Section 2.2.3 are employed and are successful in reducing the downwind PM-10 particulate concentration to within 150 ug/m^3 of the upwind level and in ;preventing visible dust migration.

2.2.2 Visual Assessment

In conjunction with the real-time monitoring program, the property owner(s) or their agents will be responsible for visually assessing fugitive dust migration from the site. If airborne dust is observed leaving undeveloped portions of the Site (i.e., migrating onto off-site parcels or redeveloped areas of the Site), the work will be stopped and supplemental dust suppression techniques will be employed.

2.2.3 Supplemental Dust Suppression

Supplemental dust suppression techniques may include, but are not necessarily limited to, the following measures:

- Reducing the excavation size, number of excavations or volume of material handled.

- Restricting vehicle speeds.

- Applying water on buckets during excavation and dumping.

- Wetting equipment, excavation faces, and haul roads.

- Restricting work during extreme wind conditions.
- Using street sweepers on paved haul roads, where feasible.

Work can resume while using supplemental dust suppression techniques provided the measures are successful in reducing the downwind particulate concentration to below 150 ug/m^3 or 100 ug/m^3 above background and preventing visible dust migration off-site.

3.0 MONITORING EQUIPMENT

3.1 Particulate Monitoring Equipment

Particulate monitoring will be performed using real-time particulate monitors and shall monitor particulate matter less than 10 microns (PM10) with the following minimum performance standards:

Size Range:	<0.1 to 10 microns
Sensitivity:	1 ug/m^3
Range:	0.001 to 10 mg/m^3
Overall Accuracy:	+/- 10% as compared to gravimetric analysis of stearic acid or reference dust
Battery Rating:	8-hour continuous operation
Operating Conditions:	
Temperature:	0-40°C
Humidity:	0-99% relative humidity

The device will be fitted with a microprocessor capable of calculating 15-minute moving average concentrations. An adjustable audible alarm will be provided to indicate exceedance of the action levels prescribed in Section 2.2.

3.2 Weather Station Equipment

A portable meteorological station will be used to record wind speed, direction, temperature, relative humidity and barometric pressure. Weather station parameters will be verified on a routine basis throughout the workday.

4.0 QA/QC REQUIREMENTS

Quality assurance/quality control (QA/QC) requirements for the particulate meter and organic vapor monitoring equipment include instrument calibration, training, and documentation/record keeping.

4.1 Instrument Calibration

Instrument calibration shall be performed in accordance with the manufacturer's instructions at the beginning of each workday. Following calibration and initial (upwind) measurement of background conditions, audio alarms shall be set so as to activate at the appropriate action levels based on a 15-minute moving average (i.e., short term exposure limit) concentration.

4.2 Training

All persons responsible for calibrating, handling and/or interpreting the meters or meter output data should be experienced with such work. As a minimum, the following training and experience will be required:

- 40-hour OSHA Hazwoper Training per 29 CFR 1910.120(e)(3) and 1910.120(e)(8).
- 8 hour supervisory training, in compliance with 29 CFR 1910.120(e)(4).
- Site-specific training, as required by the Site Health and Safety Plan.
- A minimum 40-hours field experience in the operation of same or similar equipment.

The Site Safety and Health Officer will designate the person(s) responsible for performing air-monitoring work. Construction activities involving disruption or handling of site fill soils will not be performed unless a qualified individual is available on site to perform the community air monitoring specified in this document.

4.3 Documentation and Reporting

Documentation of community air monitoring information will be required to provide written record of the air monitoring results and response actions taken, and to allow for verification that the program was followed in accordance with this Community Air Monitoring Plan. Monitoring information will be recorded on forms presented in Attachment A1-1 or on similar loose-leaf forms to facilitate photocopying. The following documentation schedule will be followed during typical site conditions (i.e., organic vapor and particulate concentrations below action levels).

Item	Documentation Schedule
Instrument Calibration Results	Whenever calibration is performed (minimum once daily).
Background Monitoring Results	At beginning of work day and once every 4 hours thereafter.
Downwind Monitoring Results (15-minute moving average)	Hourly

All documentation records will be maintained in the project file for inspection by the NYSDEC and/or the NYSDOH upon request. NYSDEC will be provided copies of the monitoring results recorded during voluntary cleanup activities as part of close-out reporting for the site. Monitoring results recorded during redevelopment activities will be maintained and furnished to NYSDEC upon substantial completion of the redevelopment project.

During the redevelopment period, NYSDEC and NYSDOH will be contacted if will be contacted in writing within 5 days of exceeding the 150 ug/m3 respirable dust action level. These notifications will include a description of the control measures implemented to prevent further exceedances.

ATTACHMENT A1-1

COMMUNITY AIR MONITORING DOCUMENTATION FORMS

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

COMMUNITY AIR MONITORING DAILY LOG

Date:

Project:

Job No.:

Client:

LOCATION of ACTIVITIES/MONITORING STATIONS (Provide Sketch on Attached Map):

WEATHER CONDITIONS:

Time of Day:	A.M.	P.M.
Ambient Air Temp.:		
Wind Direction:		
Wind Speed:		
Precipitation:		

DESCRIPTION OF SITE ACTIVITIES:

PARTICULATE MONITORING	Location	Time	Value	Duration	Corrective Measures Taken (Eng Controls/Work Stoppage, etc.)
Exceedence of 100 ug/m3 [1]					
Exceedence of 150 ug/m3 [1]					
Visual Observation of Fugitive Dust			NA		
			NA		
			NA		

VOC MONITORING	Location	Time	Value	Duration	Corrective Measures Taken (Eng Controls/Work Stoppage, etc.)
Exceedence of 5 ppm [1]					Temporarily halt Work and continue monitoring
Reading of 5 to 25 ppm [1]					Temporarily halt Work, abate emissions with corrective actions and continue monitoring [3]
Exceedence of 25 ppm [2]					Shut Down Work Immediately and notify Site Safety & Health Officer

1. Above background for 15 minute moving average.
2. Above background at Site perimeter (indicate location on attached sketch)
3. Work may resume when total VOC conc. 200 ft downwind or half the distance to nearest receptor (whicever is less) is below 5 ppm for 15 min.

NOTE: All exceedences are to be reported to Benchmark within 15 minutes.

Prepared By: Date:

Checked By: Date:

ATTACHMENT A2

MASTER EROSION CONTROL PLAN

SOIL/FILL MANAGEMENT PLAN
ATTACHMENT A2

MASTER EROSION CONTROL PLAN

STEEL WINDS LACKAWANNA SITE
LACKAWANNA, NEW YORK

September 2007 0141-001-101

Prepared for:

BQ Energy, LLC
&
Steel Winds Project, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

TABLE OF CONTENTS

LIST OF ATTACHMENTS

1.0 INTRODUCTION

1.1 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. 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. BQ Energy, LLC has entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines and supporting power generation equipment and infrastructure on the approximately 29-acre Steel Winds Site located within the Slag Fill Area along the Lake Erie shore north of Smokes Creek. In September 2006, BQ Energy and the NYSDEC entered into a Brownfields Cleanup Agreement for the wind energy facilities and the associated property.

1.2 Purpose and Scope

A Soil/Fill Management Plan (SFMP) was as part of the final remedial measures for the Site. The SFMP describes protocols to protect both the environment and human health by screening and identifying areas of soil/fill contamination during maintenance and/or additional development of the Site. The Site Manager/Developer at the time of maintenance/development will be responsible for all monitoring, implementation, and reporting requirements of the SFMP.

This Master Erosion Control Plan (MECP) was prepared to provide guidance to developers since erosion control will be a critical component of preventing the potential migration of contaminants onto developed property or off-site during maintenance activities and/or development of the Site. This MECP is a critical component of the SFMP. This

document is generic in nature and provides minimum erosion control practices to be used by Site Managers/Developers.

2.0 GENERAL PERMIT REQUIREMENTS

If construction activities disturb more than 1 acre of land, the Federal Water Pollution Control Act (as amended, 33 U.S.C. 1251 et. seq.) and the New York State Environmental Conservation Law (Article 17, Titles 7 and 8, and Article 70) would apply.

With some exceptions, operators of construction activities that will result in the disturbance of 1 or more acres of land must obtain coverage under SPDES General Permit (GP-02-01) prior to the commencement of soil disturbance. Also requiring a permit are construction activities disturbing less than 1 acre if they are part of a larger common plan of development or sale with a planned disturbance of equal to or greater than 1 acre, or activities that are designated by the NYSDEC. The NYSDEC can require a permit for construction activities disturbing less than 1 acre based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States.

To obtain coverage under the general permit, the operator of a construction activity must file a completed Notice of Intent (NOI) with the NYSDEC. Submitting a NOI is an affirmation that a Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the site and will be implemented prior to the commencement of construction activities. Coverage under the general permit will begin either 5 or 60 business days after receipt of a completed NOI by the NYSDEC. Figure 1 is a flowchart to be used in determining whether a SWPPP will be required during site redevelopment construction activities. The Notice of Intent application form and the text of the Construction Storm Water General Permit are provided in Attachment A2-1.

3.0 POTENTIAL EROSION AND SEDIMENT CONTROL CONCERNS

Potential areas and items of concern during Site maintenance and/or development activities include the following:

- All portions of the Site not covered by buildings, sidewalks, roadways, parking areas, or other structures will be required to be covered with 12 inches of "clean" soils to limit exposure to remaining subsurface soil/fill materials. The transportation and placement activities associated with this work will require erosion and sediment controls to prevent the surface soil from being washed off the area being developed.

- Remediated areas or off-site properties adjacent to unremediated parcels need protection so they do not become impacted by site operations.

- Storm water inlets will require protective measures to limit sediment transfer to storm sewers.

- Runoff from soil stockpiles will require erosion controls.

- Surface slopes need to be minimized as much as practical to control sediment transfer.

- Soil/fill excavated during maintenance and/or development will require proper handling and disposal.

4.0 EROSION AND SEDIMENT CONTROL MEASURES

4.1 Background

Standard soil conservation practices need to be incorporated into the maintenance and development plans to mitigate soil erosion damage, off-site sediment migration, and water pollution from erosion. These practices combine vegetative and structural measures, many of which will be permanent in nature and become part of the completed project (i.e., drainage channels and grading). Other measures will be temporary and serve only during the construction stage. Selected erosion and sediment control measures will meet the following criteria:

- Minimize erosion through project design (maximum slopes, phased construction, etc.).
- Incorporate temporary and permanent erosion control measures.
- Remove sediment from sediment-laden storm water before it leaves the Site.

4.2 Temporary Measures

Temporary erosion and sedimentation control measures and facilities will be used during construction. They will be installed by the Site Manager/Developer and will be maintained until they are either no longer needed or until such time as permanent measures are installed and become effective. Erosion and sediment controls shall be installed in accordance with the standards and specifications presented in Attachment A2-2. At a minimum, the following temporary measures will be used:

- Silt fencing
- Straw/hay bales
- Temporary vegetation/mulching
- Temporary sedimentation basins
- Cautious placement, compaction and grading of stockpiles

4.2.1 Silt Fencing

Construction and regrading activities will result in surface water flow to drainage ditches and swales, storm sewers, Smokes Creek, and adjacent properties. Silt fencing will be the primary sediment control measure used in these areas. Prior to extensive soil excavation or grading activities, silt fences will be installed along the perimeter of all construction areas. The orientation of the fencing will be adjusted as necessary as the work proceeds to accommodate changing site conditions.

Intermediate fencing will be used upgradient of the perimeter fencing to help lower surface water runoff velocities and reduce the volume of sediment to perimeter fencing. Stockpiles will also be surrounded with silt fencing.

As sediment collects, the silt fences will be cleaned as necessary to maintain their integrity. Removed sediment will be used elsewhere on-site as general fill. All perimeter silt fences will remain in place until construction activities in an area are completed and vegetative cover has been established.

4.2.2 Straw and/or Hay Bales

Straw and/or hay bales will be used to intercept sediment laden storm water runoff in drainage channels during construction. The use of either hay or straw will be based on the availability of materials at the time of construction.

Bales will be placed in swales and ditches where the anticipated flow velocity is not expected to be greater than 5 feet/second (fps). Intermediate bales will be placed upgradient of the final barrier to reduce flow velocities and sediment loadings where higher velocities are anticipated.

As with silt fencing, sediment will be removed as necessary from behind the bales and disposed of on-site. Bales that have become laden with sediment or that have lost their structural integrity or effectiveness due to the weather will be replaced.

4.2.3 Temporary Vegetation and Mulching

Intermediate areas where development activities will not occur or resume for an extended period of time (greater than 90 days) will be seeded with a quick germinating variety of grass or covered with a layer of mulch to control fugitive dust and erosion. Soil/fill stockpiles that will not be used for an extended period of time will also vegetated or covered.

4.2.4 Temporary Sedimentation Basins

Temporary sedimentation basins will be constructed as necessary upgradient of storm water inlets to reduce the volume of sediment laden runoff from the site. The basins can be as simple as a small excavated area along the alignment of a storm water ditch or as elaborate as a full-scale sedimentation basin with outlet structures designed for certain storm events from a given area of the site. The basins will be cleaned as necessary and the removed sediment utilized elsewhere on-site as subgrade fill material.

4.2.5 Cautious Placement of Stockpiles

Excavation activities will produce stockpiles of soil and subgrade soil/fill materials. Careful placement and construction of stockpiles will be required to control erosion. Stockpiles will be placed no closer than 50 feet from Smokes Creek, storm water inlets, and parcel boundaries. Additionally, stockpiles will be graded and compacted as necessary for positive surface water runoff and dust control. Impacted stockpiles will be underlain and covered with secured polyethylene tarpaulin until proper disposal has been secured.

4.3 Permanent Control Measures during Site Redevelopment

Permanent erosion and sedimentation control measures and structures will be installed as soon as practical during construction for long-term erosion protection. Examples of permanent erosion control measures could include:

- Using maximum slopes in erosion prone areas (i.e., along Smokes Creek) to limit erosion.

- Minimizing the potential contact with, and migration of, subsurface soil/fill through the placement of a "clean" soil cover system in all areas not covered with structures, roads, parking areas, sidewalks, etc.

- Constructing permanent storm water detention ponds where appropriate.

- Planting and maintaining vegetation.

- Limiting runoff flow velocities to the extent practical.

- Lining collection channels with riprap, erosion control fabric, vegetation, or similar materials.

5.0 CONSTRUCTION MANAGEMENT PRACTICES

5.1 General

The following general construction practices should be evaluated for erosion and sedimentation control purposes during Site maintenance/development activities:

- Clearing and grading only as much area as is necessary to accommodate the construction needs to minimize disturbance of areas subject to erosion (i.e., phasing the work).
- Covering exposed or disturbed areas of the site as quickly as practical.
- Installing erosion and sediment control measures before disturbing the Site subgrade.
- Minimizing both on-site and off-site tracking of soil by vehicles by using routine entry/exit routes.

5.2 Monitoring, Inspection and Maintenance

All erosion and sedimentation controls described in this Plan will be inspected by a qualified representative of the Site Manager/Developer within 24 hours of a heavy rainfall event (defined as more than 0.5 inches of precipitation in a 24-hour period) and repaired or modified as necessary to effectively control erosion of turbidity problems. Inspections should include areas under construction, stockpile areas, erosion control devices (i.e., silt fences, hay bales, etc.) and locations where vehicles enter and leave the site. Routine inspections of the entire Site should also be made on a monthly basis during development.

If inspections indicate problems, corrective measures should be implemented within 24 hours. A report summarizing the scope of the inspection, name of the inspector, date, observations made, and a description of the corrective actions taken should be completed. Attachment A2-3 includes the Inspection and Maintenance Report Form.

5.2.1 Implementation

Erosion controls and features shall, at all times, be properly constructed, operated, and maintained in accordance with regulatory requirements and good engineering and construction practices. Erosion control measures and activities will be conducted in accordance with currently accepted Best Management Practices (BMPs).

Erosion control monitoring, inspection, and maintenance are an integral part of Site storm water and erosion control. The key elements of the monitoring effort include the following:

- Site inspections and maintenance
- BMPs monitoring
- Recordkeeping
- Review and modifications
- Certification of compliance

5.2.2 Site Inspections and Maintenance Practices

The temporary erosion control features will be maintained until no longer needed or permanent erosion control methods are installed. Site inspections are required every seven days or within 24 hours of a rainfall of 0.5 inches or greater. All disturbed areas, areas for material storage, locations where vehicles enter or exit the site, and all of the erosion and sediment controls identified as part of the MECP must be inspected. Controls must be in good operating condition until the affected area they protect has been completely stabilized and the construction activity is complete. If a repair is necessary, it must be completed within seven days of receipt of a report or notice, if practical. Inspection for specific erosion and sediment controls will include the following:

- Silt fence will be inspected to determine the following:
  1) Depth
  2) Condition of fabric
  3) That the fabric is attached to the posts
  4) That the fence posts are firmly in the ground

- The silt fences will be inspected weekly and within 24 hours of a 0.5 inch or greater storm event.
- Diversion berms, if used, will be inspected and any breaches promptly repaired.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and other potential erosion control problems.
- The Contractor shall designate individual(s) that will be responsible for erosion control, maintenance, and repair activities. The designated individual will also be responsible for inspecting the site and filling out the inspection and maintenance report.
- Personnel selected for inspection and maintenance responsibilities will receive training as directed by the Engineer. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

The individual inspecting the Site must record any damages or deficiencies on the Inspection and Maintenance Report Form in Attachment A2-3. This form can be used to request maintenance and repair and to document inspection and maintenance activities. Damages or deficiencies must be corrected as soon as possible after the inspection. Any changes that may be required to correct deficiencies in the MECP should also be made as soon as possible, but in no case later than seven days after the inspection.

5.2.3 Recordkeeping

A copy of the MECP and inspection and maintenance records must be kept at the Site from the time construction activities begins until the Site is stabilized. These documents will be made available upon request to regulatory agency representatives or members of the public.

5.2.4 Modifications to the Storm Water Management and Erosion Control Plan

During the course of construction, unanticipated changes may occur that affect this MECP such as schedule changes, phasing changes, staging area modifications, off-site

drainage impacts, and repeated failures of designed controls. Any changes to the activities and controls identified in this Plan must be documented and the Plan revised accordingly. Certification of revisions to this plan shall be included at the end of the document.

ATTACHMENT A2-1

NYSDEC SPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

- Notice of Intent
- Notice of Termination
- NYSDEC SPDES General Permit For Storm Water Discharges from Construction

4286041005

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____ (for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-02-01

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required. To properly complete this form, please refer to the Instruction Manual which can be accessed at http://www.dec.ny.gov/docs/water_pdf/instr_man.pdf

-IMPORTANT-

THIS FORM FOR HANDPRINT ONLY

RETURN THIS FORM TO THE ADDRESS ABOVE

PRINT CAPITAL LETTERS IN BLACK INK AND AVOID CONTACT WITH THE EDGE OF BOXES
FILL IN CIRCLES COMPLETELY AND DO NOT USE CHECKMARKS
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State Zip -

Phone (Owner/Operator) - -

Fax (Owner/Operator) - -

Email (Owner/Operator)

Location Information

Project Site Information

Project/Site Name

Street Address (NOT P.O. BOX)

City/Town/Village (THAT ISSUES BUILDING PERMIT)

State N Y Zip -

County DEC Region (if known)

Name of Nearest Cross Street

Distance to Nearest Cross Street (Feet)

Direction to Nearest Cross Street

○ **North** ○ **South** ○ **East** ○ **West**

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.state.ny.us/website/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site go to the dropdown menu on the left and choose "Get Coordinates". Click on the center of your site and a small window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

Y Coordinates (Northing) 4

2. What is the nature of this construction project?

○ **New Construction**

○ **Redevelopment with increase in imperviousness**

○ **Redevelopment with no increase in imperviousness**

Project Site Information

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use	Post-Development Future Land Use
○ FOREST	○ SINGLE FAMILY HOME — Number of Lots
○ PASTURE/OPEN LAND	○ SINGLE FAMILY SUBDIVISION
○ CULTIVATED LAND	○ TOWN HOME RESIDENTIAL
○ SINGLE FAMILY HOME	○ MULTIFAMILY RESIDENTIAL
○ SINGLE FAMILY SUBDIVISION	○ INSTITUTIONAL/SCHOOL
○ TOWN HOME RESIDENTIAL	○ INDUSTRIAL
○ MULTIFAMILY RESIDENTIAL	○ COMMERCIAL
○ INSTITUTIONAL/SCHOOL	○ ROAD/HIGHWAY
○ INDUSTRIAL	○ RECREATIONAL/SPORTS FIELD
○ COMMERCIAL	○ BIKE PATH/TRAIL
○ ROAD/HIGHWAY	○ LINEAR UTILITY (water, sewer, gas, etc.)
○ RECREATIONAL/SPORTS FIELD	○ PARKING LOT
○ BIKE PATH/TRAIL	○ OTHER
○ SUBSURFACE UTILITY	OTHER
○ PARKING LOT	
○ OTHER	
OTHER	

4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ? ○ Yes ○ No

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)? ○ Yes ○ No

6. Is this property owned by a state authority, state agency or local government? ○ Yes ○ No

7. In accordance with the larger common plan of development or sale; enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	Acreage To Be Disturbed	Existing Impervious Area Within Disturbed	Future Impervious Area Within Disturbed
.	.	.	.

8. Will there be more than 5 acres disturbed at any given time? ○ Yes ○ No

9. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
%	%	%	%

10. Is this a phased project? **(if yes, The SWPPP must address all planned phases)** * ○ Yes ○ No

11. Enter the planned start and end dates of the disturbance activities

Start Date ___/___/_____ - **End Date** ___/___/_____

Receiving System(s)

12. Provide the name of the nearest, natural, classified surface waterbody(ies) into which construction site runoff has the potential to discharge.

For Questions 13 and 14 refer to the Instruction Manual for a subset of 303(d) segments and TMDL watersheds subject to Condition A of the permit. These waterbodies and watersheds have been identified for regulation within the stormwater program due to some level of impairment by nutrients, silt or sediment. The Instruction Manual can be accessed at www.dec.state.ny.us/website/dow/toolbox/instr_man.pdf

13. Has the surface waterbody(ies) in question 12 been identified as a 303(d) segment? * ○ Yes ○ No

14. Is this project located in a TMDL Watershed? * ○ Yes ○ No

***NOTE:** **If you answered Yes to either question 13 or 14, Pursuant to Part I.D.3.(b) of the permit, you must have your SWPPP prepared and certified by a licensed/certified professional and the SWPPP is subject to a 60-business day review.**

15. Does the site runoff enter a separate storm sewer system- including roadside drains, swales, ditches, culverts, etc? **(if no, skip question 16)** ○ Yes ○ No ○ Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ○ No ○ Unknown

Stormwater Pollution Prevention Plan (SWPPP)

18. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book) ?

○ Yes ○ No *

19. Does this construction activity require the development of a SWPPP that includes Water Quality and Quantity Control components (Post-Construction Stormwater Management Practices) **If no, Skip question 20**

○ Yes ○ No

20. Have the Water Quality and Quantity Control components of the SWPPP been developed in comformance with the current NYS Stormwater Management Design Manual ?

○ Yes ○ No *

NOTE: If you answered no to question 18 or 20, Pursuant to Part I.D.3.(b) of the permit, you must have your SWPPP prepared and certified by a licensed/certified professional and the SWPPP is subject to a 60-business day review. Please provide further details in the details/comment section on the last page of this form.

21. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ○ **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer Information
(if different from Owner/Operator info)

SWPPP Preparer

Contact Name (Last, Space, First)

Mailing Address

City

State Zip -

Phone - -

Fax - -

Email

Stormwater Pollution Prevention Plan (SWPPP)

Erosion and Sediment Control Practices

22. Has a construction sequence schedule for the planned management practices been prepared? ○ Yes ○ No

23. Select **all** of the erosion and sediment control practices that will be employed on the project site.

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ○ Silt Fence
- ○ Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Other

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ○ Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Stormwater Pollution Prevention Plan (SWPPP)

Water Quality and Quantity Control

Important:Completion of Questions 24-30 is not required if the project:

Disturbs less than 5 acres and is planned for single-family residential homes(including subdivisions) or construction on agricultural property and does not have a discharge to a 303(d) water or is not located within a TMDL watershed.

Additionally, sites where there will be no future impervious area within the disturbed area and that do not have a change(pre to post development)in hydrology do not need to complete questions 24-30.

24. Indicate **all** the permanent Stormwater Management Practice(s) that will be installed on this site

Post Construction Stormwater Management Practices

Ponds

- ○ **Micropool Extended Detention (P-1)**
- ○ **Wet Pond (P-2)**
- ○ **Wet Extended Detention (P-3)**
- ○ **Multiple Pond System (P-4)**
- ○ **Pocket Pond (P-5)**

Filtering

- ○ **Surface Sand Filter (F-1)**
- ○ **Underground Sand Filter (F-2)**
- ○ **Perimeter Sand Filter (F-3)**
- ○ **Organic Filter (F-4)**
- ○ **Bioretention (F-5)**

Wetlands

- ○ **Shallow Wetland (W-1)**
- ○ **Extended Detention Wetland (W-2)**
- ○ **Pond/Wetland System (W-3)**
- ○ **Pocket Wetland (W-4)**

Infiltration

- ○ **Infiltration Trench (I-1)**
- ○ **Infiltration Basin (I-2)**
- ○ **Dry Well (I-3)**

Open Channels

- ○ **Dry Swale (O-1)**
- ○ **Wet Swale (O-2)**

○ **Other**

Describe other stormwater management practices not listed above or explain any deviations from the technicial standards. If the SWPPP does not conform to the technicial standards, the SWPPP must be prepared and certified by a licensed/certified professional and is subject to a 60-business day review.

Has a long term Operation and Maintenance plan for the post construction management practices been developed? ○ **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

Stormwater Pollution Prevention Plan (SWPPP)
Water Quality and Quantity Control

25. Provide the total water quality volume required and the total provided for the site.

Total Water Quality Volume (WQv)

WQv Required ___.___ **acre-feet**

WQv Provided ___.___ **acre-feet**

26. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of *post-developed 1 year, 24 hour storm event*

CPv Required ___.___ **acre-feet**

CPv Provided ___.___ **acre-feet**

The need to provide for channel protection has been waived because

○ **Site discharges directly to fourth order stream or larger**

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development ___.___ **CFS**

Post-development ___.___ **CFS**

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development ___.___ **CFS**

Post-development ___.___ **CFS**

The need to provide for flood control has been waived because

○ **Site discharges directly to fourth order stream or larger**

○ **Downstream analysis reveals that flood control is not required**

IMPORTANT: For questions 27 and 28 impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s) (Total Drainage Area = Project Site + Offsite areas)

27. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins. ___ %

28. Post-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction. ___ %

29. Indicate the total number of permanent stormwater management practices to be installed ___

30. Provide the total number of stormwater discharge points from the site (include discharges to either surface waters or to seperate storm sewer systems) ___

Other Permits

31. Select any other DEC permits that are required for this project or ○ None

DEC Permits

○ Air Pollution Control	○ Stream Protection/Article 15
○ Coastal Erosion	○ Water Quality Certificate
○ Hazardous Waste	○ Dam Safety
○ Long Island Wells	○ Water Supply
○ Mined Land Reclamation	○ Freshwater Wetlands
○ Other SPDES	○ Tidal Wetlands
○ Solid Waste	○ Wild, Scenic and Recreational Rivers

Other

32. If this NOI is being submitted for the purpose of continuing coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

N Y R

Details/Comments

Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that this document and the corresponding documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction. and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name **MI**

Print Last Name

Owner/Operator Signature

Date / /

9100215042

New York State Department of Environmental Conservation
Division of Water
Bureau of Water Permits, 4th Floor
625 Broadway, Albany, New York 12233-3505
Phone: (518) 402-8111 . **Fax:** (518) 402-9029
Website: www.dec.state.ny.us

NYR (for DEC use only)

Notice of Intent or Termination

For Stormwater Discharges Associated with Industrial Activity under the State Pollutant Discharge Elimination System (SPDES) Multi-Sector General Permit GP-0-06-002

All Sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this Notice of Intent or Termination (NOIT) Form. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

"IMPORTANT - PRINT CAPITAL LETTERS USING BLACK INK. AVOID CONTACT WITH THE EDGE OF THE BOXES. FILL IN CIRCLES COMPLETELY AND DO NOT USE CHECK MARKS. OWNER/OPERATOR MUST SIGN FORM."

Owner/Operator Information

O/O Name

O/O Street Address

O/O City

O/O State N Y

O/O Zip -

Contact Information

Contact First Name

Contact Last Name

Contact Phone - -

Contact Fax - -

Contact eMail

0250215049

Facility Information

Facility Name

Facility Street Address

Facility City

Facility State N Y

Facility Zip -

Facility County

Name of Nearest Cross Street

Distance to Nearest Cross Street (feet)

Direction to Nearest Cross Street

○ **North** ○ **South** ○ **East** ○ **West**

---

1. Permit I.D Number (for renewals, modifications or terminations) **NYR**

2. Reason for Submittal:

   ○ Coverage for a new facility (not previously permitted)

   ○ Permit Renewal

   ○ Modification (There has been a change in information since the earlier submission)

   ○ Want to terminate general stormwater permit coverage

3. Provide the Geographic Coordinates for the facility in NYTM units.

   X Coordinates (Easting)

   4 Y Coordinates (Northing)

These coordinates can be obtained through the NYSDEC Stormwater Interactive Map on the DEC Website at: http://www.dec.state.ny.us/website/imsmaps/stormwater/viewer.htm
Directions: Go to the above website. Zoom into your project location such that you can accurately click on the center of your facility. Once you have located your facility, go to the drop-down menu on the left and choose "Get Coordinates". Click on the center of your facility and a small window containing the X, Y coordinates in NYTM units will pop up. Transcribe these coordinates into the spaces above. For problems with the interactive map, please try the help function.

4. Identify all applicable Industrial Activities from the Industrial Sectors shown below that are located within areas subject to the stormwater discharges covered under this permit. Check all that apply to your facility.

Sampling Notes	Mark all that apply	SIC Code or Activity Code	Activity Represented
		Sector A: Timber Products	
B,C	○	2411	Log Storage and Handling (Wet deck storage areas are only authorized if no chemical additives are used in the spray water or applied to the logs).
B	○	2421	General Sawmills and Planning Mills
B	○	2426	Hardwood Dimension and Flooring Mills
B	○	2429	Special Product Sawmills, Not Elsewhere
B	○	2431-2439 (except 2434 - see sector W)	Millwork, Veneer, Plywood, and Structural Wood.
B	○	2441, 2448, 2449	Wood Containers
B	○	2451, 2452	Wood Buildings and Mobile Homes
B	○	2491	Wood Preserving
B	○	2493	Reconstituted Wood Products
B	○	2499	Wood Products, Not Elsewhere Classified
		Sector B: Paper and Allied Products	
	○	2611	Pulp Mills
	○	2621	Paper Mills
B	○	2631	Paperboard Mills
	○	2652-2657	Paperboard Containers and Boxes
	○	2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes
		Sector C: Chemical and Allied Products	
B	○	2812-2819	Industrial Inorganic Chemicals.
B	○	2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass.
	○	2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; In Vitro and In Vivo Diagnostic Substances; Biological Products, Except Diagnostic Substances.
B	○	2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations.
	○	2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products.
	○	2861-2869	Industrial Organic Chemicals.
B,C	○	2873-2879	Agricultural Chemicals.
	○	2891-2899	Miscellaneous Chemical Products.
	○	3952 (limited to list)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors.
		Sector D: Asphalt Paving and Roofing Materials and Lubricants	
B,C	○	2951, 2952	Asphalt Paving and Roofing Materials
	○	2992, 2999	Miscellaneous Products of Petroleum and Coal
		Sector E: Glass Clay, Cement, Concrete, and Gypsum Products	
	○	3211	Flat Glass
	○	3221, 3229	Glass and Glassware, Pressed or Blown
	○	3231	Glass Products Made of Purchased Glass
C	○	3241	Hydraulic Cement
B	○	3251-3259	Structural Clay Products
B	○	3261-3269	Pottery and Related Products
B,C	○	3271-3275	Concrete, Gypsum and Plaster
	○	3281	Cut Stone and Stone Products
	○	3291-3299	Abrasive, Asbestos, and Miscellaneous Non-metallic Mineral Products

Sampling Notes	Mark all that apply	SIC Code or Activity Code	Activity Represented
		Sector F: Primary Metals	
B	O	3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
B	O	3321-3325	Iron and Steel Foundries
	O	3331-3339	Primary Smelting and Refining of Nonferrous Metals
	O	3341	Secondary Smelting and Refining of Nonferrous Metals
B	O	3351-3357	Rolling, Drawing, and Extruding of Nonferrous
B	O	3363-3369	Nonferrous Foundries (Castings)
	O	3398, 3399	Miscellaneous Primary Metal Products
		Sector G: Metal Mining (Ore Mining and Dressing)	
B	O	1011	Iron Ores
B	O	1021	Copper Ores
B	O	1031	Lead and Zinc Ores
B	O	1041, 1044	Gold and Silver Ores
B	O	1061	Ferroalloy Ores, Except Vanadium
B	O	1081	Metal Mining Services
B	O	1094, 1099	Miscellaneous Metal Ores
		Sector H: Coal Mines and Coal Mining Related Facilities	
		Sector I: Oil and Gas Extraction and Refining	
B	O	1311	Crude Petroleum and Natural Gas
B	O	1321	Natural Gas Liquids
B	O	1381-1389	Oil and Gas Field Services
B	O	2911	Petroleum Refineries
		Sector J: Mineral Mining and Dressing	
B	O	1411	Dimension Stone
B,C	O	1422-1429	Crushed and Broken Stone, Including Rip Rap
B,C	O	1442, 1446	Sand and Gravel
	O	1455, 1459	Clay, Ceramic, and Refractory Materials
	O	1474-1479	Chemical and Fertilizer Mineral Mining
B	O	1481	Nonmetallic Minerals Services, Except Fuels
B	O	1499	Miscellaneous Nonmetallic Minerals, Except Fuels
		Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities	
B,C	O	HZ	Hazardous Waste Treatment, Storage or Disposal
		Sector L: Land Fills and Land Application Sites	
B,C	O	LF	Landfills, Land Application Sites, and Open Dumps
		Sector M: Automobile Salvage Yards	
B	O	5015	Automobile Salvage Yards
		Sector N: Scrap Recycling Facilities	
B	O	5093	Scrap Recycling Facilities
B	O	4499 (limited to list)	Dismantling Ships, Marine Salvaging, and Marine Wrecking - Ships for Scrap
		Sector O: Steam Electric Generating Facilities	
B,C	O	SE	Steam Electric Generating Facilities

Sampling Notes	Mark all that apply	SIC Code or Activity Code	Activity Represented
		Sector P: Land Transportation and Warehousing	
B	O	4011, 4013	Railroad Transportation
B	O	4111-4173	Local and Highway Passenger Transportation
B	O	4212-4231	Motor Freight Transportation and Warehousing
B	O	4311	United States Postal Service
B	O	5171	Petroleum Bulk Stations and Terminals
		Sector Q: Water Transportation	
B	O	4412-4499 (except 4499 as specified in Sector N)	Water Transportation
		Sector R: Ship and Boat Building or Repairing Yards	
	O	3731, 3732	Ship and Boat Building or Repair Yards
		Sector S: Air Transportation	
B	O	4512-4581	Air Transportation Facilities
		Sector T: Treatment Works	
B	O	TW	Treatment Works
		Sector U: Food and Kindred Products	
	O	2011-2015	Meat Products
	O	2021-2026	Dairy Products
	O	2032-2038	Canned, Frozen and Preserved Fruits, Vegetables and Food Specialties
B	O	2041-2048	Grain Mill Products
	O	2051-2053	Bakery Products
	O	2061-2068	Sugar and Confectionery Products
B	O	2074-2079	Fats and Oils
	O	2082-2087	Beverages
	O	2091-2099	Miscellaneous Food Preparations and Kindred Products
	O	2111-2141	Tobacco Products
		Sector V: Textile Mills, Apparel, and Other Fabric Product Manufacturing, Leather and Leather Pruducts	
	O	2211-2299	Textile Mill Products
	O	2311-2399	Apparel and Other Finished Products Made From Fabrics and Similiar Materials
	O	3131-3199 (except 3111- see sector Z)	Leather and Leather Products, except Leather Tanning and Finishing
		Sector W: Furniture and Fixtures	
	O	2434	Wood Kitchen Cabinets
	O	2511-2599	Furniture and Fixtures
		Sector X: Printing and Publishing	
	O	2711-2796	Printing, Publishing, and Allied Industries
		Sector Y: Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries	
B	O	3011	Tires and Inner Tubes
B	O	3021	Rubber and Plastics Footwear
B	O	3052, 3053	Gaskets, Packing, and Sealing Devices and rubber and Plastics Hose and Belting
B	O	3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified
B	O	3081-3089	Miscellaneous Plastics Products
	O	3931	Musical Instruments
	O	3942-3949	Dolls, Toys, Games and Sporting and Athletic Goods
	O	3951-3955	Pens, Pencils, and Other Artists' Materials
	O	3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
	O	3991-3999	Miscellaneous Manufacturing Industries

Sampling Notes	Mark all that apply	SIC Code or Activity Code	Activity Represented
		Sector Z: Leather Tanning and Finishing	
B	○	3111	Leather Tanning, Currying and Finishing
		Sector AA: Fabricated Metal Products	
B	○	3411-3499	Fabricated Metal Products, Except Machinery and Transportation Equipment
B	○	3911-3915	Jewelry, Silverware, and Plated Ware
		Sector AB: Transportation Equipment, Industrial or Commercial Machinery	
	○	3511-3599 (except 3571-3579 see Sector AC)	Industrial and Commercial Machinery (Except Computer and Office Equipment)
	○	3711-3799 (except 3731 & 3732 see Sector R)	Transportation Equipment (Except Ship and Boat Building and Repairing)
		Sector AC: Electronic, Electrical, Photographic, and Optical Goods	
B	○	3571-3579	Computer and Office Equipment
B	○	3612-3699	Electronic, Electrical Equipment and Components, Except Computer Equipment
B	○	3812-3873	Measuring, Analyzing and Controlling Instrument; Photographic and Optical Goods
		Sector AD & AE: Non-Classified Facilities/Storm Water Discharges Designated By the Board As Requiring Permits	
B	○	Sector AD	Other Storm Water Discharges Designated By the Department As Needing a Permit or Any Facility Discharging Storm Water Associated With Industrial Activity Not Described By Any of Sectors A-AC. Note: Facilities may not elect to be covered under Sector AD. Only the Department may assign a facility to Sector AD.
B	○	Sector AE	

Notes: B - Benchmark Monitoring Required
C - Compliance Monitoring for Point Source Category Effluent Limitations

5. Has a Stormwater Pollution Prevention Plan (SWPPP) been prepared for this facility in accordance with the requirements of the SPDES Multi-Sector General Permit? Please be advised that you cannot obtain coverage under this permit without having first prepared a SWPPP. ..... ○ Yes ○ No

6. For each stormwater discharge associated with industrial activity at your facility identify the outfall number (e.g., 001, 002, etc.); the four digit Standard Industrial Classification (SIC) codes or 2-letter Industrial Activity Codes that best represent the principal products or services rendered by the facility for that drainage area; and the acreage of industrial activity exposed to stormwater for each outfall (round to nearest tenth of an acre):

Outfall No.	Industrial Activities (SIC or 2-letter Codes) A	B	C	Acreage
1				.
2				.
3				.
4				.
5				.
6				.
7				.
8				.
9				.
			Total Acreage	.

(Note: SIC information can be obtained at the following web sites: http://www.osha.gov/pls/imis/sicsearch.html and http://www.softshare.com/tables/sic/. The 2-letter Industrial Activity Codes are: **HZ** - hazardous waste treatment, storage or disposal facilities; **LF** - landfills/disposal facilities that receive or have received any industrial waste; **SE** - steam electric power generating facilities; or **TW** - treatment works for treating domestic sewage.)

7. Does this facility have coal piles that are exposed to precipitation? ..... ○ Yes ○ No

8. Does this facility discharge have salt piles that are exposed to precipitation? ..... ○ Yes ○ No

9. Does this facility discharge stormwater from secondary containment areas for liquid bulk storage or transfer areas? ..... ○ Yes ○ No

10. Is the facility subject to any of the following EPA Point Source Category Effluent Limitations?

- Runoff from material storage piles at cement manufacturing facilities (40 CFR Part 411 Subpart C)? ..... ○ Yes ○ No

If yes, list Outfall Nos. | | | | | | | | | | | | | | | |

- Contaminated runoff from phosphate fertilizer manufacturing facilities (40 CFR Part 418 Subpart A)? ..... ○ Yes ○ No

If yes, list Outfall Nos. | | | | | | | | | | | | | | | |

- Coal Pile runoff at steam electric power generating facilities (40 CFR Part 423)? ..... ○ Yes ○ No

If yes, list Outfall Nos. | | | | | | | | | | | | | | | |

- Discharges resulting from spraydown or intentional wetting of logs at wet deck storage areas (40 CFR Part 429 Subpart I)? ..... ○ Yes ○ No

If yes, list Outfall Nos. | | | | | | | | | | | | | | | |

- Mine dewatering discharges at crushed stone, construction sand and gravel, and industrial sand mines (40 CFR Part 436)? ..... ○ Yes ○ No

If yes, list Outfall Nos. | | | | | | | | | | | | | | | |

- Runoff from asphalt emulsion facilities (40 CFR Part 443 Subpart A)? ..... ○ Yes ○ No

If yes, list Outfall Nos. | | | | | | | | | | | | | | | |

- Runoff from landfills (40 CFR 445 Subpart A and B)? ..... ○ Yes ○ No

If yes, list Outfall Nos. | | | | | | | | | | | | | | | |

11. Provide the name(s) of the surface waterbody(ies) into which site runoff will discharge:

12(a). Does site runoff enter a Municipal Separate Storm Sewer System including roadside drains, swales, ditches, culverts, etc.? ..... ○ Yes ○ No

12(b). If yes, what is the name of the municipality/entity that owns the Municipal Separate Storm Sewer System?

13. Identify any other DEC Permits that are required for this facility:

○ Air Pollution Control	○ Stream Protection/Article 15
○ Coastal Erosion	○ Water Quality Certificate
○ Hazardous Waste	○ Dam Safety
○ Long Island Wells	○ Water supply
○ Mined Land Reclamation	○ Freshwater Wetlands
○ Other SPDES	○ Tidal Wetlands
○ Solid Waste	○ Wild, Scenic and Recreational Rivers

Other

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner/Operator First Name (please print or type) MI

Date / /

Owner/Operator Last Name (please print or type)

Signature

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

from

CONSTRUCTION ACTIVITY

Permit No. GP-02-01

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 8, 2003

Expiration: January 8, 2008

William R. Adriance
Chief Permit Administrator

Address: NYS DEC
Div. Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

Authorized Signature

William R. Adriance

Date: January 8, 2003

This page intentionally left blank

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY

Preface

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater discharges from certain construction activities to waters of the United States[1] are unlawful unless they are authorized by a NPDES (National Pollutant Discharge Elimination System) permit or by a state permit program. New York's SPDES (State Pollutant Discharge Elimination System) is a NPDES-approved program with permits issued in accordance with the Environmental Conservation Law ("ECL"). Discharges of pollutants to all other "Waters of New York State" such as groundwaters are also unlawful unless they are authorized by a SPDES permit.

A discharger, owner, or operator may[2] obtain coverage under this general permit by submitting a Notice of Intent ("NOI") to the Department. Copies of this General Permit and the NOI for New York are available by calling (518) 402-8109 or at any Department of Environmental Conservation (the Department) regional office (see Appendix A on Page 23). They are also available on the Department's website at:

www.dec.state.ny.us

---

[1] "Waters of the United States" means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; and
(b) All interstate waters, including interstate "wetlands"; and
(c) All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    (3) Which are used or could be used for industrial purposes by industries in interstate commerce; and
(d) All impoundments of waters otherwise defined as waters of the United States under this definition; and
(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; and
(f) The territorial sea; and
(g) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal areas in wetlands) nor resulted from the impoundment of waters of the United States.

[2] "may" refers to circumstances under which the discharger is ineligible for coverage under this general permit because of other provisions of this permit. Dischargers which are excluded from coverage under this general permit as provided for in Part I, Section C, for example, are not authorized to discharge under this permit. This also applies to possible situations in which an NOI has been submitted and/or a regulatory fee paid pursuant to Article 72 of the ECL. The submittal of an NOI and/or regulatory fee has no bearing or relevance whatsoever on the eligibility of the construction activity discharging stormwater runoff under the authority of this permit.

Local Programs of a Regulated MS4

Under the federal Phase II stormwater program, many cities, villages, towns, and other public entities in New York State which are located within "Urbanized Areas" as defined by the U.S. Census and who operate a Municipal Separate Storm Sewer System ("MS4") will be required to obtain SPDES permit coverage for stormwater discharges under their jurisdiction and control (see 40CFR Part 122 §122.26.32). Additionally, MS4s may be designated by the Department as regulated MS4s. Among other requirements, the Phase 2 NPDES stormwater regulations require regulated MS4s to address stormwater runoff from construction activities. Construction activities covered under this general permit, which are subject to stormwater runoff controls of a regulated MS4, will also need to comply with the MS4's controls.

Five (5) Day Coverage

Prior to the submission of an NOI, the owner or operator must have completed a Storm Water Pollution Prevention Plan (SWPPP) that complies with all requirements of this general permit. Submitting an NOI is an affirmation that a SWPPP has been prepared and will be implemented. If an applicant certifies that the SWPPP has been developed in conformance with the Department's technical standards, the applied-for activity may obtain coverage under this general permit in five (5) business days after the Department's receipt of the NOI provided, that the activity is eligible for coverage under this general permit and that the Department has not informed the applicant otherwise.

Sixty (60) Day Coverage

While the Department's technical standards are appropriate statewide, it is recognized that there may be situations where stormwater management goals can best be met by alternative means that are more suitable given local conditions.

For construction projects in these situations, applicants must identify in their NOI each of the deviations from the Department's technical standards that they are seeking. Applicants must also explain why the deviations are needed or desired and what impacts to water quality, if any, can be expected if the deviation were allowed. Applicants must also explain the actions, if any, that local board(s) have taken with respect to the deviation(s). For applicants which cannot certify conformance with the Department's technical standards, the SWPPP must also be certified by a licensed/certified professional that the SWPPP has been developed in a manner which will insure compliance with water quality standards and with the substantive intent of this permit.

In cases of deviations from the Department's technical standards, applicants must allow sixty (60) business days after the receipt by the Department of a completed NOI and certification before gaining coverage under this general permit and before initiating any construction activity. During this 60 day period, the Department may conduct further review of the NOI and SWPPP. If additional information is needed to complete the review, the NOI will be considered

incomplete and the applicant will be so advised. The intent of this provision is to require conformance the Department's technical standards wherever possible and appropriate. At the same time, alternative means to address stormwater control may be allowed under this general permit where they are more suitable for the site in question and where they will not diminish water quality protection.

There are other scenarios under which coverage under this general permit will not occur until 60 business days from the receipt of a completed NOI. For example, if the construction activity or post construction runoff causes the discharge of a pollutant of concern to a water identified on the 303(d) list or a watershed with an approved TMDL for that pollutant of concern, coverage under the general permit will not occur until sixty (60) business days from the receipt by the Department of a completed NOI. For these projects the operator may be required to submit the SWPPP and/or appropriate certification(s) to the Department for review. The flowchart shown in Figure 1 on page vi will help to describe the process under which certain conditions exist that require possible further analysis and water quality/quantity considerations.

Computer Tool Available For Completion of SWPPPs and NOIs Under Development

The Department is currently developing an interactive computer software tool entitled "How to Prepare SWPPPs and Notices of Intent" to assist applicants in both developing SWPPPs and completing NOIs. This will be available in the near future for use on the Department website as well as being packaged independently on compact discs. This tool will contain guidance as well as many useful links to reference materials and documents concerning erosion and sedimentation control, as well as to the design of stormwater management practices . The Department's website will contain the latest information and guidance on the various tools available.

The Department's Technical Standards

The Department's technical standards for erosion and sediment control are contained in the document, *"New York Standards and Specifications for Erosion and Sediment Control"*[3] published by the Empire State Chapter of the Soil and Water Conservation Society. For the design of water quantity and water quality controls (post-construction stormwater control practices), the Department's technical standards are detailed in the *"New York State Stormwater Management Design Manual."* Both of these documents are available on the Department's website. If an applicant certifies that stormwater management practices will conform to the Department's technical standards, then coverage under the permit may occur sooner than otherwise would be the case if non-conformance with the manuals existed. See Figure 1 on page vi for more information.

---

3 Previously, the *"New York Guidelines for Urban Erosion and Sediment Control"*, also commonly referred to as the "Blue Book".

Permit Valid for Any Size Disturbance

This permit may be used for construction activities involving any amount of disturbed acreage, provided that all other eligibility conditions in subsection B of Part I are satisfactorily met (see page 2 of this permit). Thus, this permit may apply to activities identified under 40 CFR Part 122, subsection 122.26(b)(14)(x) which are also referred to as "NPDES Phase 1 construction activities" involving soil disturbances of five (5) acres or more. This permit may also apply to activities identified under 40 CFR Part 122, subsection 122.26(b)(15) which are also referred to as "NPDES Phase 2 small construction activities" involving soil disturbances of between one (1) and five (5) acres. And, this permit may also apply to construction activities involving soil disturbances of less than one (1) acre if the Department determines that a SPDES permit is required pursuant to the ECL. In any and all cases, all of the eligibility provisions of this general permit must be met in order to gain coverage.

Notice of Termination

After construction is completed as defined in the general permit (see Part II beginning on Page 7), cancellation of coverage is accomplished by the submittal of a Notice of Termination ("NOT"). Failure to submit a NOT may result in the continued obligation to pay a yearly Regulatory Fee established pursuant to Article 72 of the ECL and/or may be cause for suspension of permit coverage.

Previous versions of NOIs, NOTs and Notices of Intent, Transfer and Termination ("NOITT"s) cannot be used in conjunction with this general permit. There is a new NOI required for obtaining coverage under this general permit. Failure to include information identified as "mandatory" entries on the new NOI form may prevent and/or delay discharge authorization being sought under this permit.

The new NOT will also include an identification of any permanent structures that are being left on the site after stabilization occurs and after termination of permit coverage under this general permit. The NOT will also include a certification that the structures were constructed as described in the SWPPP and that an Operation and Maintenance ("O&M") manual has been prepared and has been made available to the owner of such permanent structures who is expected to conduct the necessary O&M over the life of the structure(s).

Ineligible Activities

The submittal of a completed NOI and/or the payment of an annual regulatory fee by an applicant does not necessarily mean that an applicant is covered under this permit if the applicant is ineligible for coverage under this permit under the terms cited in Part I of this permit. In other words, submitting a completed NOI and paying an annual regulatory fee does not automatically gain an applicant permit coverage if the applicant is ineligible for coverage under this permit even if the Department fails to immediately inform the applicant of such ineligibility.

Permit Expiration Date

Coverage under this general permit is available January 8, 2003 and will expire five (5) years after issuance on January 8, 2008.

Activities Previously Covered Under GP-93-06

In a separate proposal, the Department is also concurrently seeking to re-issue GP-93-06 with an expiration of August 1, 2003. The purpose of this action is to provide a transition period for permittees which have had SPDES permit coverage under GP-93-06 immediately prior to January 8, 2003, the effective date of GP-02-01. **Prior to August 1, 2003**, these activities will need to:
(1) stabilize their sites in accordance with GP-93-06 and submit an NOT; or, if necessary,
(2) gain coverage under GP-02-01 by submitting a new NOI.

For **new** construction activities, coverage under GP-93-06 will not be available after the effective date of GP-02-01, January 8, 2003. Such discharges may be eligible for coverage under GP-02-01 (see Part I.B. on page 2 of this permit).

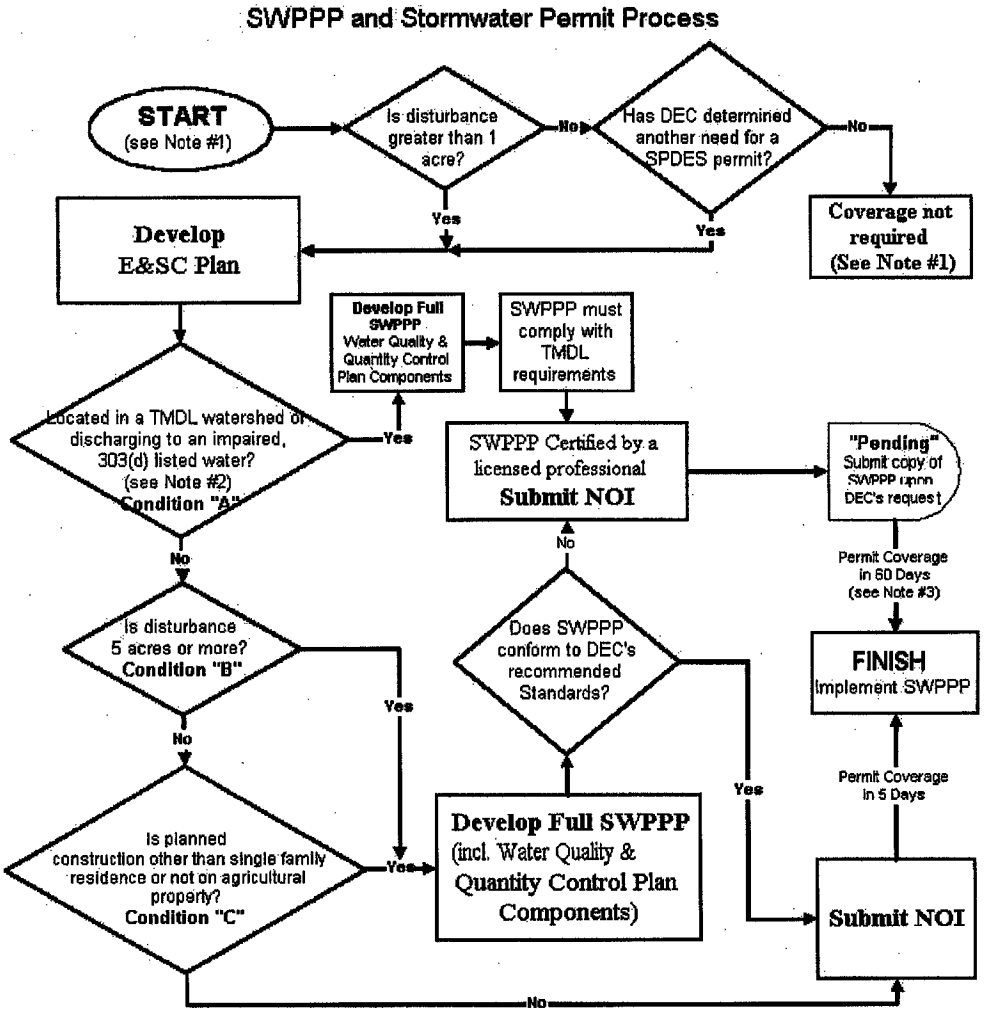
Water Quality Violations Not Permitted

This permit does not authorize any person to cause or contribute to a condition in contravention of any water quality standards that are contained in the Rules and Regulations of the State of New York (see Part I of this permit on page 2) even if the permittee is in compliance with all other provisions of this permit. Any violations of water quality standards may be considered by the Department to be violations of this permit and/or the ECL, including its accompanying regulations.

Other Department Permits

Construction activities may also require other Department permits in addition to the coverage provided by this general permit including, but not limited to, dam safety, wetlands and stream protection. Such other Department permits must be obtained separately from coverage under this general permit. Further information concerning these permits should be sought from the Regional Permit Administrator at the appropriate Department regional office (See Appendix A on page 23).

FIGURE 1



NOTES:

1. Under any of the above conditions other environmental permits may be required. DEC may require permit for construction disturbance < 1 acre on a case by case basis.
2. **and** the following exists: construction and/or stormwater discharges from the construction or post-construction site contain the pollutant of concern identified in the TMDL or 303(d) listing.
3. After receipt by DEC of completed application.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES

FROM CONSTRUCTION ACTIVITIES

TABLE OF CONTENTS

Part I. COVERAGE UNDER THIS PERMIT

A. **Maintaining Water Quality** - It shall be a violation of this general permit and the Environmental Conservation Law ("ECL") for any discharge authorized by this general permit to either cause or contribute to a violation of water quality standards as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York including, but not limited to:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal and settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

B. **Eligibility Under This General Permit**

1. This permit may authorize all discharges of stormwater from construction activity[4] to surface waters and groundwaters except for ineligible discharges identified under subparagraph C of this Part (see below). Discharge authorization under this permit requires the submittal of a completed NOI.

2. Except for non-stormwater discharges explicitly listed in the next paragraph, this permit only authorizes stormwater discharges from construction activities.

3. Notwithstanding paragraphs B.1 and B.2 above, the following non-stormwater discharges may be authorized by this permit: discharges from fire

---

[4] This includes discharges of stormwater associated with industrial activity identified under 40 CFR Part 122, subsection 122.26(b)(14)(x), small construction activities identified under 40 CFR Part 122, subsection 122.26(b)(15) or any other stormwater from construction activities that are not otherwise ineligible for coverage under this permit (See Part I, subsection B beginning on page 2).

fighting activities; fire hydrant flushings; waters to which cleansers or other components have **not** been added that are used to wash vehicles or control dust in accordance with the SWPPP, routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this general permit, and who discharge as noted in this paragraph, and with the exception of flows from fire fighting activities, these discharges must be identified in the SWPPP(see Part III beginning on Page 7). Under all circumstances, the permittee must still comply with water quality standards (see Part I, subsection A on Page 2).

C. **Activities Which Are Ineligible for Coverage Under This General Permit** - All of the following stormwater discharges from construction activities are **not** authorized by this permit:

1. Discharges after construction activities have been completed and the site has undergone final stabilization[5];

2. Discharges that are mixed with sources of non-stormwater other than those expressly authorized under subsection B.3. of this Part (see page 3) and identified in the SWPPP required by this permit;

3. Discharges that are subject to an existing SPDES individual or general permit or which are required to obtain an individual or alternative general permit pursuant to Part V, subparagraph K (see page 21) of this permit;

4. Discharges that are likely to adversely affect a listed, or proposed to be listed, endangered or threatened species, or its critical habitat;

5. Discharges which are subject to an existing effluent (limitation) guideline addressing stormwater and/or process wastewater unless said guidelines are contained herein; or

6. Discharges which either cause or contribute to a violation of water quality standards adopted pursuant to the ECL and its accompanying regulations (See subsection A of Part I on page 2).

---

[5] "Final Stabilization" means that all soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 80% has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

D. **Authorization Under This General Permit**

1. An operator[6] must submit a completed NOI form in order to be authorized to discharge under this general permit. The NOI form shall be one which is associated with this general permit, signed in accordance with Part V. H.(see Page 19) of this permit and submitted to the address indicated on the NOI form. NOIs and NOITTs used in association with either previous or other general permits are not valid for obtaining coverage under this general permit. The submittal of an NOI is an affirmation to the operators' understanding and belief that the activity is eligible for coverage under this permit and that a SWPPP has been prepared and will be implemented in accordance with Part III of this permit.

2. All contractors and subcontractors of the operator identified under Part III.E.1 (see page 17) must provide the certification cited under Part III.E.2 (see page 17). Such certifications shall become part of the SWPPP for the construction activity covered under this general permit.

3. Unless notified by the Department to the contrary, operators who are eligible for coverage under this permit **and** who submit an NOI in accordance with the requirements of this permit, may be authorized to discharge stormwater from construction activities under the terms and conditions of this permit, and in accordance with the following timetable:

a. For construction activities which:

(1) develop a SWPPP in conformance with the Department's technical standards (See subsection D of Part III on page 10), and do not or will not discharge a pollutant of concern to an impaired water or a TMDL watershed;

or

(2) as of the effective date of this general permit, GP-02-01, have obtained coverage under, and are operating in compliance with, GP-93-06; and do not or will not discharge a pollutant of concern to an impaired water or a TMDL watershed;

authorization to discharge under this permit may occur five (5) business days after the date on which the NOI is received by the Department.

---

6 For the purposes of this permit, the term "operator" means the person, persons, or legal entity which owns or leases the property on which the construction activity is occurring. Also, see Part V., subsection H. on page 19 of this permit.

b. For activities which do not comply with the preceding subsection (i.e. Part I.D.3.a.), authorization to discharge under this permit will begin no sooner than sixty (60) business days from the receipt of the completed NOI unless notified differently by the Department pursuant to Part V, subsection K of this permit (see page 21). For activities not satisfying Part I.D.3.a.(1) above, or for construction site runoff subject to a TMDL (see Figure 1 on page vi), the SWPPP must be prepared by a licensed/certified professional[7] and include a certification stating that the SWPPP has been developed in a manner which will assure compliance with water quality standards (see Part I.A.) and with the substantive intent of this permit.

c. For construction activities which are subject to a sixty-day period provision identified in the preceding subparagraph b., the SWPPP shall include each of the components identified in Part III.A.1.b. (see page 8).

4. At its sole discretion, the Department may deny or terminate coverage under this permit and require coverage under another SPDES permit at any time based on a review of the NOI, the SWPPP or other relevant information (see Part V, subsection K of this permit on page 21).

5. A copy of the NOI and a brief description of the project shall be posted at the construction site in a prominent place for public viewing.

6. A signed copy of the NOI, the SWPPP, and any reports required by this permit shall also be submitted concurrently to the local governing body and any other authorized agency[8] having jurisdiction or regulatory control over the construction project.

7. New stormwater discharges from construction activities that require any other Uniform Procedures Act permit (Environmental Conservation Law, 6 NYCRR Part 621) cannot be covered under this general permit until the other required permits are obtained. Upon satisfaction of the State Environmental Quality Review Act ("SEQRA") for the proposed action and issuance of necessary permits, the applicant may submit an NOI to obtain coverage under this general

---

7 A "licensed/certified professional" means a person currently licensed to practice engineering in New York State or is a Certified Professional in Erosion and Sediment Control (CPESC).

8 For the purposes of this general permit, "any other authorized agency" shall include any local, regional, or state entity or agency except the Department which has authority to review stormwater discharge from the project, including authority under any approved watershed protection plan or regulations.

permit.[9] In order to facilitate the Department's review of a multi-permitted project, an applicant should submit, at a minimum, a copy of the SWPPP which contains the information specified in Appendix B (see page 24). This information will assist the Department in determining whether or not coverage under this general permit or another SPDES permit is the more appropriate option. The Department may also require the submission of additional information in order to determine the SWPPP's conformance with the Department's technical standards.

8. Upon renewal of this general permit or issuance of a new general permit, the permittee is required to notify the Department of its intent to be covered by the new general permit. Coverage will continue under this permit for its term unless action is taken to terminate permit coverage as provided elsewhere in this permit. See also Part V. subsection B. on page 18 of this permit.

9. In the event of a transfer of ownership or responsibility for stormwater runoff, there can be no "automatic" transfer of permit coverage from one permittee to the next without appropriate notification from the dischargers. The former permittee must submit an NOT and notify the new discharger of the possible need for the new discharger to submit a new NOI (see Section E, subparagraph 2 below).

E. **Deadlines for Notification**

1. Operators who intend to obtain coverage under this general permit for stormwater runoff from construction activities must submit an NOI in accordance with the requirements of this Part at least five (5), or sixty (60) business days, as appropriately determined from Part I, Section D.3 (see page 4) prior to the commencement of construction[10] activities.

2. For stormwater runoff from construction activities where the operator changes, a new NOI must be submitted by the new operator in accordance with the requirements of this permit. The former operator must submit a NOT in accordance with Part II (see page 7) of this permit and notify the new operator of the requirement to submit a new NOI to obtain coverage under this permit. The new operator must also review and sign the SWPPP in accordance with Part III.B.(see page 9) and continue implementation of the SWPPP as required by this

---

9 The purposes of this subsection is to assure that the requirements of SEQRA are fulfilled, if necessary, before any discharge authorization under this general permit is granted.

10 "Commencement of Construction" means the initial disturbance of soils associated with clearing, grading, or excavating activities, or other construction activities.

permit.

Part II. TERMINATION OF COVERAGE[11]

Where a site has been finally stabilized, the operator must submit a NOT form prescribed by the Department for use with this general permit. The NOT shall be signed in accordance with Part V. H.(see page 19) of this permit and submitted to the address indicated on the approved NOT form.

The permittee must identify all permanent stormwater management structures that have been constructed and provide the owner(s) of such structures with a manual describing the operation and maintenance practices that will be necessary in order for the structure to function as designed after the site has been stabilized. The permittee must also certify that the permanent structure(s) have been constructed as described in the SWPPP.

Part III. STORMWATER POLLUTION PREVENTION PLANS ("SWPPP"s)

A. General

1. SWPPP Preparation

a. A SWPPP shall be developed by the operator for construction activities at each site to be covered by this permit, prior to the initiation of activities requiring coverage under this permit. SWPPPs shall be prepared in accordance with sound engineering practices. The SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges. In addition, the SWPPP shall describe and ensure the implementation of practices which will be used to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of this permit. Operators are encouraged to have their SWPPP reviewed for adequacy and completeness by the local soil and water conservation district ("SWCD") and/or other professionals qualified in erosion and sediment control practices[12] and stormwater management. Moreover, if the construction activity is identified under Part I, subsection D.3.b. (See page 5), or for construction site runoff subject to a TMDL (see Figure 1 on page vi), the SWPPP must include a certification by a licensed/certified professional.

---

11 Submittal of an NOT will terminate coverage under this general permit and will also remove the permittee from subsequent billings of the annual regulatory fee levied under Article 72 of the ECL.

12 For example, CPESC, Inc. administers a certified program of individuals under its CPESC (Certified Professional in Erosion and Sediment Control) program which is sponsored by the International Erosion Control Association (IECA) and the Soil and Water Conservation Society (SWCS) and is endorsed by USDA - Natural Resources Conservation Service. CPESC, Inc. also administers the CPSWQ (Certified Professional in Stormwater Quality) program.

b. All SWPPPs shall include erosion and sediment controls. For construction activities meeting either Condition "A", "B" or "C" described below, the SWPPP shall also include water quantity and water quality controls (post-construction stormwater control practices).(see Part III. D.).

(1) Condition A - Construction site or post construction runoff discharging a pollutant of concern to either an impaired water identified on DEC's 303(d) list or a TMDL watershed for which pollutants in stormwater have been identified as a source of the impairment.

(2) Condition B - Construction site runoff from Phase 1 construction activities (construction activities disturbing five (5) or more acres) identified under 40 CFR Part 122, §122.26(b)(14)(x).

(3) Condition C - Construction site runoff from construction activity disturbing between one (1) and five (5) acres of land during the course of the project, exclusive of the construction of single family residences and construction activities at agricultural properties.

2. **SWPPP Implementation** - Operators are responsible for implementing the provisions of the SWPPP and ensuring that all contractors and subcontractors who perform professional services at the site provide certification of the SWPPP in accordance with Part I.D.2. (see page 4) and Part III.E.2. (see page 17) of this permit. All contractors and subcontractors identified in the SWPPP in accordance with Part III.E.1. (see page 17) of this permit must agree to implement applicable provisions of the SWPPP and satisfy the certification requirement of Part III.E.2. (see page17). However, contractors and subcontractors who are not operators, as defined in this permit (see page 4), are not required to submit a NOI in addition to the NOI submitted by the operator.

3. **Deadlines for SWPPP Preparation and Compliance** - The SWPPP must be developed prior to the submittal of an NOI and provide for compliance with the terms and schedule of the SWPPP beginning with the initiation of construction activities. The operator shall also certify in the SWPPP that all appropriate stormwater control measures will be in place before commencement of construction of any segment of the project that requires such measures.

4. **Local Requirements** - Developing a SWPPP that complies with the requirements listed herein does not relieve an operator from the obligation of complying with stormwater management requirements of the local government having jurisdiction over the project.

5. **Activities Previously Covered Under GP-93-06** - For construction activities which are covered by GP-93-06 as of the effective date of this permit (GP-02-01), the continued implementation of their SWPPP that was developed and implemented in accordance with GP-93-06 is acceptable until such time as:

(a) an NOT is submitted;

(b) the Department notifies them otherwise in accordance with this permit, including Part V, subsection K (see page 21); or

(c) this permit expires.

B. **Signature and SWPPP Review**

1. The SWPPP shall be signed in accordance with Part V. H.(see page 19), and be retained at the site where the construction activity occurs in accordance with Part IV (see retention of records on page 17) of this permit.

2. The permittee shall submit a copy of the SWPPP and any amendments thereto to the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity. The operator shall make SWPPPs available upon request to the Department and any local agency having jurisdiction; or in the case of a stormwater discharge associated with industrial activity which discharges through a municipal separate storm sewer system, to the municipal operator of the system.

3. The Department, or its authorized representative, may notify the permittee at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. Such notification shall identify those provisions of the permit which are not being met by the SWPPP and identify which provisions of the SWPPP require modifications in order to meet the minimum requirements of this permit. Within seven (7) days of such notification, (or as otherwise provided by the Department) the permittee shall make the required changes to the SWPPP and shall submit to the Department a written certification that the requested changes have been made. Notwithstanding the foregoing, the Department reserves all rights to enforce the terms of the ECL.

C. **Keeping SWPPPs Current** - The permittee shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or

2. The SWPPP proves to be ineffective in:

   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP required by this permit, or

   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity.

3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP (see Part III.E, page 17 below). Amendments to the SWPPP may be reviewed by the Department in the same manner as provided by Part III.B (see page 9 above).

D. **General Contents of SWPPPs** -

1. Standards for construction activities covered under this permit - The Department's technical standards for erosion and sediment controls are detailed in the "*New York Standards and Specifications for Erosion and Sediment Control*"[13] published by the Empire State Chapter of the Soil and Water Conservation Society. For the design of water quality and water quantity controls (post-construction stormwater control practices), the Department's technical standards are detailed in the "*New York State Stormwater Management Design Manual.*"

If an operator certifies that the SWPPP has been developed in conformance with the Department's technical standards referenced above, they may obtain coverage under this general permit in five (5) business days from the Department's receipt of the NOI, provided the construction activity does not meet Condition A in Part III.A.1.b. For SWPPPs which will not conform with the Department's technical standards, the SWPPP must be prepared by a licensed/certified professional and include a certification stating that the SWPPP has been developed in a manner which will assure compliance with the State's water quality standards and with the substantive intent of this permit. In addition, coverage under this general permit will not begin until sixty (60) business days from the receipt of a completed NOI.

---

13 Previously, the "*New York Guidelines for Urban Erosion and Sediment Control*," also commonly referred to as the "Blue Book."

2. **Minimum SWPPP Components** SWPPPs prepared pursuant to this general permit shall present fully designed and engineered stormwater management practices with all necessary maps, plans and construction drawings. The SWPPP must, at a minimum, include the following:

a. For all construction activities subject to this general permit -

(1). provide background information about the scope of the project, including the location, type and size of project.

(2) provide a site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharge(s);

(3) provide a description of the soil(s) present at the site;

(4) provide a construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Guidelines for Urban Erosion and Sediment Control, there shall not be more than five (5) acres of disturbed soil at any one time without prior written approval from the Department;

(5) provide a description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in the storm water discharges;

(6) provide a description of construction and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to storm water, and spill prevention and response;

(7) describe the temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land

clearing and grubbing to project close-out;

(8) identify and show on a site map/construction drawing(s) the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

(9) provide the dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;

(10) identify temporary practices that will be converted to permanent control measures;

(11) provide an implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and the duration that each practice should remain in place;

(12) provide a maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practices;

(13) provide the names(s) of the receiving water(s);

(14) provide a delineation of SWPPP implementation responsibilities for each part of the site;

(15) provide a description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and

(16) provide any existing data that describes the stormwater runoff characteristics at the site.

b. For construction activities meeting Condition A, B or C in Part III.A.1.b.

(1) provide all the information required in Parts III.D.2.a.1 - 16 above;

(2) provide a description of each post-construction stormwater control practice;

(3) identify and show on a site map/construction drawing(s) the specific location(s) and size(s) of each post-construction stormwater control practice;

(4) provide a hydrologic and hydraulic analysis for all structural components of the stormwater control system for the applicable design storms;

(5) provide a comparison of post-development stormwater runoff conditions with pre-development conditions;

(6) provide the dimensions, material specifications and installation details for each post-construction stormwater control practice;

(7) provide a maintenance schedule to ensure continuous and effective operation of each post-construction stormwater control practice.

The following three subsections, Part III.D. 3. through Part III.D. 5., apply only to construction activities covered under this general permit which meet Conditions "A" , "B"[14] or "C" in Part III. A.1.b. Beginning with Part III.E. below (see page 17) the requirements set forth therein apply to all permittees covered under this permit.

3. **Site Assessment and Inspections** -

a. The operator shall have a qualified professional[15] conduct an assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP and required by Part III.D. (see page 10) of this permit have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction. Following the commencement of construction, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. During each inspection, the qualified professional shall record the following information:

(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

(4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and

---

14 Condition "B" includes construction activities covered under GP-93-06 and, therefore, are subject to Part III.D.3 through Part III.D. 5.

15 "Qualified professional" means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist.

containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water;
and

(6) All deficiencies that are identified with the implementation of the SWPPP.

b. The operator shall maintain a record of all inspection reports in a site log book. The site log book shall be maintained on site and be made available to the permitting authority upon request. Prior to the commencement of construction,[16] the operator shall certify in the site log book that the SWPPP, prepared in accordance with Part III.D. (see page 10) of this permit, meets all Federal, State and local erosion and sediment control requirements.

The operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis.

c. Prior to filing of the Notice of Termination or the end of permit term, the operator shall have the qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization[17] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

d. The operator shall certify that the requirements of Parts III.D.3., III.D.4. and III.D.5 of this permit have been satisfied within 48 hours of actually meeting such requirements.

---

16 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

17 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

4. **Stabilization**[18] - The operator shall initiate stabilization measures as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply in the following instances:

a. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable;

b. Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures need not be initiated on that portion of the site.

5. **Maintenance** - Sediment shall be removed from sediment traps or sediment ponds whenever their capacity has been reduced by fifty (50) percent from the design capacity.

---

18 "Stabilization" means covering or maintaining an existing cover over soil. Cover can be vegetative (e.g. grass, trees, seed and mulch, shrubs, or turf) or non-vegetative (e.g. geotextiles, riprap, or gabions).

E. **Contractors**

1. The SWPPP must clearly identify for each measure identified in the SWPPP, the contractor(s) and subcontractor(s) that will implement the measure. All contractors and subcontractors identified in the SWPPP must sign a copy of the certification statement in Part III.E.2 (see below) of this permit in accordance with Part V.H.(see page 19) of this permit. All certifications must be included in the SWPPP. Additionally, new contractors and subcontractors (see subsection C.3. above) need to similarly certify.

2. **Certification Statement** - All contractors and subcontractors identified in a SWPPP in accordance with Part III.E.1 (see above) of this permit shall sign a copy of the following certification statement before undertaking any construction activity at the site identified in the SWPPP:

> "I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge stormwater. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

The certification must include the name and title of the person providing the signature in accordance with Part V.H.(see page 19) of this permit; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

Part IV. MONITORING, REPORTING AND RETENTION OF RECORDS

A. The Department may, at its sole discretion, require monitoring of discharge(s) from the permitted construction activity after notifying the permittee in writing of the basis for such monitoring, the parameters and frequency at which monitoring shall occur and the associated reporting requirements, if any.

B. The operator shall retain copies of SWPPPs and any reports submitted in conjunction with this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that the site is finally stabilized. This period may be extended by the Department, in its sole discretion, at any time upon written notification.

C. The operator shall retain a copy of the SWPPP required by this permit at the construction site from the date of initiation of construction activities to the date of final

stabilization.

D. The operator shall also prepare a written summary of its status with respect to compliance with this general permit at a minimum frequency of every three months during which coverage under this permit exists. The summary should address the status of achieving each component of the SWPPP . This summary shall be handled in the same manner as prescribed for SWPPPs under Part III, subsection B (see Page 9).

E. **Addresses** - Except for the submittal of NOIs and NOTs, all written correspondence under this permit directed to the Department, including the submittal of individual permit applications, shall be sent to the address of the appropriate Department Office as listed in Appendix A (see page 23).

Part V. STANDARD PERMIT CONDITIONS

A. **Duty to Comply** - The operator must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the ECL and is grounds for an enforcement action against either the operator or the contractor/subcontractor; permit revocation or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all construction activity at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the operator or the operator's on-site representative.

B. **Continuation of the Expired General Permit** - This permit expires five (5) years after issuance on January 8, 2008. However, coverage may be obtained under the expired general permit which will continue in force and effect until a new general permit is issued. After issuance of a new general permit, those with coverage under GP-02-01 will have six (6) months from the effective date of the new general permit to complete their project or obtain coverage under the new permit. Unless otherwise notified by the Department in writing, operators seeking authorization under a new general permit must submit a new NOI in accordance with the terms of such new general permit. See also Part I, subsection D.8. on page 6.

C. **Penalties for Violations of Permit Conditions** - There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $25,000 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. **Need to halt or reduce activity not a defense** - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the construction activity in order to maintain compliance with the conditions of this permit.

E. **Duty to Mitigate** - The permittee and its contractors and subcontractors shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. **Duty to Provide Information** - The permittee shall furnish any information requested by any agency with regulatory or review authority over this project for the purpose of determining compliance with this permit or compliance with any other regulatory requirements placed on the project in conjunction with this permit. Failure to provide requested information shall be a violation of this permit. Such regulating agencies include but are not limited to the Department, SWCDs,[19] local planning, zoning, health, and building departments that review and approve erosion and sediment control plans, grading plans, and Stormwater Management Plans, as well as MS4s into whose system runoff from the permitted project or activity discharges. The SWPPP and inspection reports required by this general permit are public documents that the operator must make available for inspection, review and copying by any person within five (5) business days of the operator receiving a written request by any such person to review the SWPPP and/or the inspection reports. Copying of documents will be done at the requester's expense.

G. **Other Information** - When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Department, he or she shall promptly submit such facts or information.

H. **Signatory Requirements** - All NOIs, NOTs, SWPPPs, reports, certifications or information required by this permit or submitted pursuant to this permit, shall be signed as follows:

1. All NOIs and NOTs shall be signed as follows:

   a. For a corporation: by (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person authorized to and who performs similar policy or decision-making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

---

19 "SWCD" means Soil and Water Conservation District

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and all reports required by the permit and other information requested by the Department or local agency shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above and submitted to the Department.

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

c. **Certification** - Except for NOIs and NOTs, any person signing documents in accordance with this Part shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

I. **Property Rights** - The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

J. **Severability** - The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. **Denial of Coverage Under This Permit**

1. At its sole discretion, the Department may require any person authorized by this permit to apply for and/or obtain either an individual SPDES permit or an alternative SPDES general permit. Where the Department requires a discharger authorized to discharge under this permit to apply for an individual SPDES permit, the Department shall notify the discharger in writing that a permit application is required. This notification shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the discharger to file the application, and a statement that on the effective date of issuance or denial of the individual SPDES permit or the alternative general permit as it applies to the individual permittee, coverage under this general permit shall automatically terminate. Applications shall be submitted to the appropriate Department Office indicated in Appendix A of this permit. The Department may grant additional time to submit the application upon request of the applicant. If a discharger fails to submit in a timely manner an individual SPDES permit application as required by the Department under this paragraph, then the applicability of this permit to the individual SPDES permittee is automatically terminated at the end of the day specified by the Department for application submittal.

2. Any discharger authorized by this permit may request to be excluded from the coverage under this permit by applying for an individual permit. In such cases, the permittee shall submit an individual application in accordance with the requirements of 40 CFR 122.26(c)(1)(ii) and 6 NYCRR Part 621, with reasons supporting the request, to the Department at the address for the appropriate Department Office (see addresses in Appendix A on page 23 of this permit). The request may be granted by issuance of an individual permit or an alternative general permit at the discretion of the Department.

3. When an individual SPDES permit is issued to a discharger covered by this permit, or the discharger is authorized to discharge under an alternative SPDES general permit, the applicability of this permit to the individual SPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual SPDES permit is denied to an operator otherwise subject to this permit, or the operator is denied for coverage under an alternative SPDES general permit, the applicability of this permit to the individual SPDES permittee is automatically terminated on the date of such denial, unless otherwise specified by the Department.

L. **Proper Operation and Maintenance** - The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of SWPPPs. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

M. **Inspection and Entry** - The permittee shall allow the Department or an authorized representative of EPA, the State, or, in the case of a construction site which discharges through an MS4, an authorized representative of the MS4 receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

N. **Permit Actions** - At the Department's sole discretion, this permit may, at any time, be modified, revoked, or renewed. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not stay compliance with any terms of this permit.

APPENDIX A

List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	Bldg 40 - SUNY @ Stony Brook Stony Brook, NY 11790-2356 Tel. (631) 444-0365	Bldg 40 - SUNY @ Stony Brook Stony Brook, NY 11790-2356 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	200 White Plains Road, 5th Floor Tarrytown, NY 10591-5805 Tel. (845) 332-1835
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	Route 86, PO Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Hudson Street Warrensburg, NY 12885-0220 Tel. (518) 623-1200
6	Herkimer, Jefferson, Lewis, Oneida and St. Lawrence	State Office Building 317 Washington Street Watertown, NY 13601-3787 Tel. (315) 785-2245	State Office Building 207 Genesee Street Utica, NY 13501-2885 Tel. (315) 793-2554
7	Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga and Tompkins	615 Erie Blvd. West Syracuse, NY 13204-2400 Tel. (315) 426-7438	615 Erie Blvd. West Syracuse, NY 13204-2400 Tel. (315) 426-7500
8	Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne and Yates	6274 East Avon-Lima Road Avon, NY 14414-9519 Tel. (585) 226-2466	6274 East Avon-Lima Rd. Avon, NY 14414-9519 Tel. (585) 226-2466
9	Allegany, Cattaraugus, Chautauqua, Erie, Niagara and Wyoming	270 Michigan Avenue Buffalo, NY 14203-2999 Tel. (716) 851-7165	270 Michigan Ave. Buffalo, NY 14203-2999 Tel. (716) 851-7070

APPENDIX B

Information Required of Construction Activities Which Are Identified Under Part I, subsection D.7. (see page 5)

A. The location (including a map) and the nature of the construction activity;

B. The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

C. Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

D. Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

E. An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of the fill material and existing data describing the soil or the quality of the discharge; and

F. The name of the receiving water(s).

ATTACHMENT A2-2

EROSION CONTROL DETAILS

- Temporary Critical Area Plantings
- Mulching
- Temporary Swale
- Perimeter Dike/Swale
- Straw Bale Dike
- Silt Fence
- Sediment Trap

New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

New York State Standards and Specifications for Erosion and Sediment Control

August 2005

New York State
Department of Environmental Conservation

George E. Pataki, Governor

STANDARD AND SPECIFICATIONS FOR TEMPORARY CRITICAL AREA PLANTINGS

Definition

Providing erosion control protection to a critical area for an interim period. A critical area is any disturbed, denuded slope subject to erosion.

Purpose

To provide temporary erosion and sediment control. Temporary control is achieved by covering all bare ground areas that exist as a result of construction or a natural event.

Conditions Where Practice Applies

Temporary seedings may be necessary on construction sites to protect an area, or section, where final grading is complete, when preparing for winter work shutdown, or to provide cover when permanent seedings are likely to fail due to mid-summer heat and drought. The intent is to provide temporary protective cover during temporary shutdown of construction and/or while waiting for optimal planting time.

Criteria

Water management practices must be installed as appropriate for site conditions. The area must be rough graded and slopes physically stable. Large debris and rocks are usually removed. Seedbed must be seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding.

Fertilizer or lime are not typically used for temporary seedings.

IF: Spring or summer or early fall, then seed the area with ryegrass (annual or perennial) at 30 lbs. per acre (Approximately 0.7 lb./1000 sq. ft. or use 1 lb./1000 sq. ft.).
IF: Late fall or early winter, then seed Certified 'Aroostook' winter rye (cereal rye) at 100 lbs. per acre (2.5 lbs./1000 sq. ft.).

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact.

Mulch the area with hay or straw at 2 tons/acre (approx. 90 lbs./1000 sq. ft. or 2 bales). Quality of hay or straw mulch allowable will be determined based on long term use and visual concerns. Mulch anchoring will be required where wind or areas of concentrated water are of concern. Wood fiber hydromulch or other sprayable products approved for erosion control (nylon web or mesh) may be used if applied according to manufacturers' specification. Caution is advised when using nylon or other synthetic products. They may be difficult to remove prior to final seeding.

STANDARD AND SPECIFICATIONS FOR MULCHING

Definition

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface.

Purpose

The primary purpose is to provide initial erosion control while a seeding or shrub planting is establishing. Mulch will conserve moisture and modify the surface soil temperature and reduce fluctuation of both. Mulch will prevent soil surface crusting and aid in weed control. Mulch is also used alone for temporary stabilization in non-growing months.

Conditions Where Practice Applies

On soils subject to erosion and on new seedings and shrub plantings. Mulch is useful on soils with low infiltration rates by retarding runoff.

Criteria

Site preparation prior to mulching requires the installation of necessary erosion control or water management practices and drainage systems.

Slope, grade and smooth the site to fit needs of selected mulch products.

Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

Select appropriate mulch material and application rate or material needs. Determine local availability.

Select appropriate mulch anchoring material.

NOTE: The best combination for grass/legume establishment is straw (cereal grain) mulch applied at 2 ton/ acre (90 lbs./1000sq.ft.) and anchored with wood fiber mulch (hydromulch) at 500 – 750 lbs./acre (11 – 17 lbs./1000 sq. ft.). The wood fiber mulch must be applied through a hydroseeder immediately after mulching.

Table 3.7
Guide to Mulch Materials, Rates, and Uses

Mulch Material	Quality Standards	per 1000 Sq. Ft.	per Acre	Depth of Application	Remarks
Wood chips or shavings	Air-dried. Free of objectionable coarse material	500-900 lbs.	10-20 tons	2-7”	Used primarily around shrub and tree plantings and recreation trails to inhibit weed competition. Resistant to wind blowing. Decomposes slowly.
Wood fiber cellulose (partly digested wood fibers)	Made from natural wood usually with green dye and dispersing agent	50 lbs.	2,000 lbs.	—	Apply with hydromulcher. No tie down required. Less erosion control provided than 2 tons of hay or straw.
Gravel, Crushed Stone or Slag	Washed; Size 2B or 3A—1 1/2”	9 cu. yds.	405 cu. yds.	3”	Excellent mulch for short slopes and around plants and ornamentals. Use 2B where subject to traffic. (Approximately 2,000 lbs./cu. yd.). Frequently used over filter fabric for better weed control.
Hay or Straw	Air-dried; free of undesirable seeds & coarse materials	90-100 lbs. 2-3 bales	2 tons (100-120 bales)	cover about 90% surface	Use small grain straw where mulch is maintained for more than three months. Subject to wind blowing unless anchored. Most commonly used mulching material. Provides the best micro-environment for germinating seeds.
Jute twisted yarn	Undyed, unbleached plain weave. Warp 78 ends/yd., Weft 41 ends/ yd. 60-90 lbs./roll	48” x 50 yds. or 48” x 75 yds.	—	—	Use without additional mulch. Tie down as per manufacturers specifications. Good for center line of concentrated water flow.
Excelsior wood fiber mats	Interlocking web of excelsior fibers with photodegradable plastic netting	8” x 100” 2-sided plastic, 48” x 180” 1-sided plastic	—	—	Use without additional mulch. Excellent for seeding establishment. Tie down as per manufacturers specifications. Approximately 72 lbs./roll for excelsior with plastic on both sides. Use two sided plastic for centerline of waterways.
Compost	Up to 3” pieces, moderately to highly stable	3-9 cu. yds.	134-402 cu. yds.	1-3”	Coarser textured mulches may be more effective in reducing weed growth and wind erosion.
Straw or coconut fiber, or combination	Photodegradable plastic net on one or two sides	Most are 6.5 ft. x 3.5 ft.	81 rolls	—	Designed to tolerate higher velocity water flow, centerlines of waterways, 60 sq. yds. per roll.

Table 3.8
Mulch Anchoring Guide

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
1. Peg and Twine	Hay or straw	After mulching, divide areas into blocks approximately 1 sq. yd. in size. Drive 4-6 pegs per block to within 2" to 3" of soil surface. Secure mulch to surface by stretching twine between pegs in criss-cross pattern on each block. Secure twine around each peg with 2 or more tight turns. Drive pegs flush with soil. Driving stakes into ground tightens the twine.
2. Mulch netting	Hay or straw	Staple the light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manufacturer's recommendations. Should be biodegradable. Most products are not suitable for foot traffic.
3. Wood cellulose fiber	Hay or straw	Apply with hydroseeder immediately after mulching. Use 500 lbs. wood fiber per acre. Some products contain an adhesive material ("tackifier"), possibly advantageous.
4. Mulch anchoring tool	Hay or straw	Apply mulch and pull a mulch anchoring tool (blunt, straight discs) over mulch as near to the contour as possible. Mulch material should be "tucked" into soil surface about 3".
5. Tackifier	Hay or straw	Mix and apply polymeric and gum tackifiers according to manufacturer's instructions. Avoid application during rain. A 24-hour curing period and a soil temperature higher than 45^0 Fahrenheit are required.

STANDARD AND SPECIFICATIONS FOR TEMPORARY SWALE

Definition

A temporary excavated drainage way.

Purpose

The purpose of a temporary swale is to prevent runoff from entering disturbed areas by intercepting and diverting it to a stabilized outlet or to intercept sediment laden water and divert it to a sediment trapping device.

Conditions Where Practice Applies

Temporary swales are constructed:

1. to divert flows from entering a disturbed area.

2. intermittently across disturbed areas to shorten overland flow distances.

3. to direct sediment laden water along the base of slopes to a trapping device.

4. to transport offsite flows across disturbed areas such as rights-of-way.

Swales collecting runoff from disturbed areas shall remain in place until the disturbed areas are permanently stabilized.

Design Criteria

See Figure 5A.2 on page 5A.5 for details.

	Swale A	Swale B
Drainage Area	<5 Ac	5-10 Ac
Bottom Width of Flow Channel	4 ft	6 ft
Depth of Flow Channel	1 ft	1 ft
Side Slopes	2:1 or flatter	2:1 or flatter
Grade	0.5% Min. 20% Max.	0.5% Min. 20% Max.

For drainage areas larger than 10 acres, refer to the Standard and Specification for Waterways on page 5B.11.

Stabilization

Stabilization of the swale shall be completed within 7 days of installation in accordance with the appropriate standard and specifications for vegetative stabilization or stabilization with mulch as determined by the time of year. The flow channel shall be stabilized as per the following criteria:

Type of Treatment	Channel Grade[1]	Flow Channel A (<5 Ac.)	Flow Channel B (5-10 Ac)
1	0.5-3.0%	Seed & Straw Mulch	Seed & Straw Mulch
2	3.1-5.0%	Seed & Straw Mulch	Seed and cover with RECP, Sod, or lined with plastic or 2 in. stone
3	5.1-8.0%	Seed and cover with RECP, Sod, or line with plastic or 2 in. stone	Line with 4-8 in. or stone or Recycled Concrete Equivalent[2] or geotextile
4	8.1-20%	Line with 4-8 in. stone or Recycled Concrete Equivalent[2] or geotextile	Site Specific Engineering Design

[1] In highly erodible soils, as defined by the local approving agency, refer to the next higher slope grade for type of stabilization.
[2] Recycled Concrete Equivalent shall be concrete broken into the required size, and shall contain no steel reinforcement.

Outlet

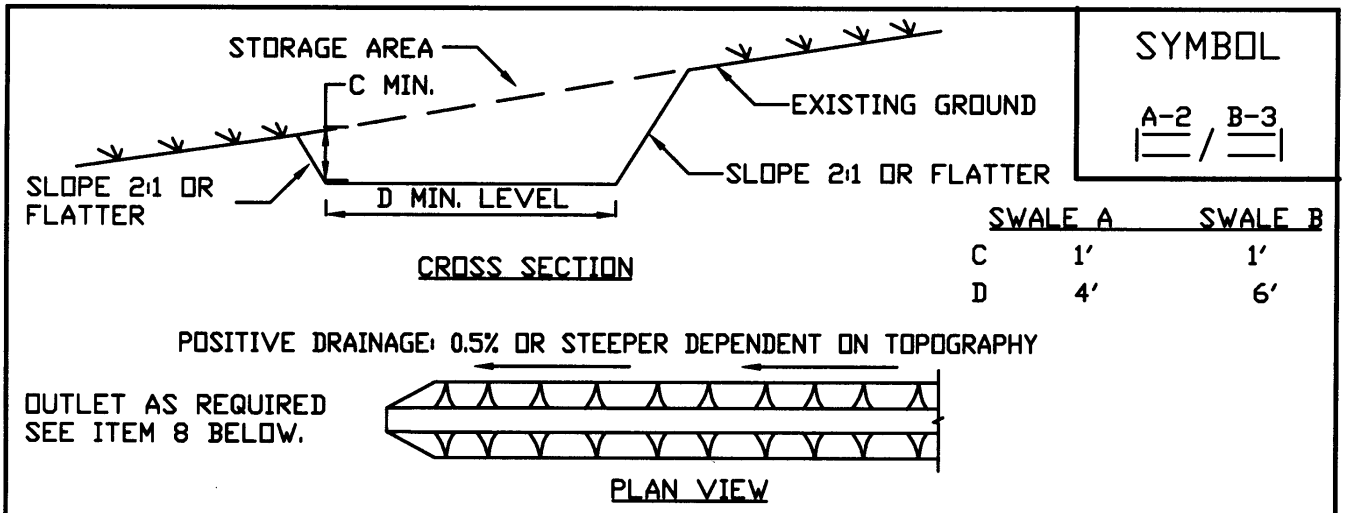
Swale shall have an outlet that functions with a minimum of erosion, and dissipates runoff velocity prior to discharge off the site.

Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin until the drainage area above the swale is adequately stabilized.

The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet condition.

If a swale is used to divert clean water flows from entering a disturbed area, a sediment trapping device may not be needed.

Figure 5A.2
Temporary Swale



CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW:

TYPE OF TREATMENT	CHANNEL GRADE	A(5 AC. OR LESS)	B(5 AC -10AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED AND COVER USING RECP
3	5.1-8.0%	SEED AND COVER WITH RECP	LINED WITH 4-8" RIP-RAP OR GEOTEXTILE
4	8.1-20.%	LINED WITH 4-8" RIP-RAP OR GEOTEXTILE	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

TEMPORARY SWALE

STANDARD AND SPECIFICATIONS FOR PERIMETER DIKE/SWALE

Definition

A temporary ridge of soil excavated from an adjoining swale located along the perimeter of the site or disturbed area.

Purpose

The purpose of a perimeter dike/swale is to prevent off site storm runoff from entering a disturbed area and to prevent sediment laden storm runoff from leaving the construction site or disturbed area.

Conditions Where Practice Applies

Perimeter dike/swale is constructed to divert flows from entering a disturbed area, or along tops of slopes to prevent flows from eroding the slope, or along base of slopes to direct sediment laden flows to a trapping device.

The perimeter dike/swale shall remain in place until the disturbed areas are permanently stabilized.

Design Criteria

See Figure 5A.3 on page 5A.8 for details.

The perimeter dike/swale shall not be constructed outside the property lines without obtaining legal easements from affected adjacent property owners. A design is not required for perimeter dike/swale. The following criteria shall be used:

Drainage area – Less than 2 acres (for drainage areas larger than 2 acres but less than 10 acres, see earth dike or temporary swale; for drainage areas larger than 10 acres, see standard and specifications for diversion).

Height – 18 inches minimum from bottom of swale to top of dike evenly divided between dike height and swale depth.

Bottom width of dike – 2 feet minimum.

Width of swale – 2 feet minimum.

Grade – Dependent upon topography, but shall have positive drainage (sufficient grade to drain) to an adequate outlet. Maximum allowable grade not to exceed 8 percent.

Stabilization – The disturbed area of the dike and swale shall be stabilized within 7 days of installation, in accordance with the standard and specifications for temporary swales.

Outlet

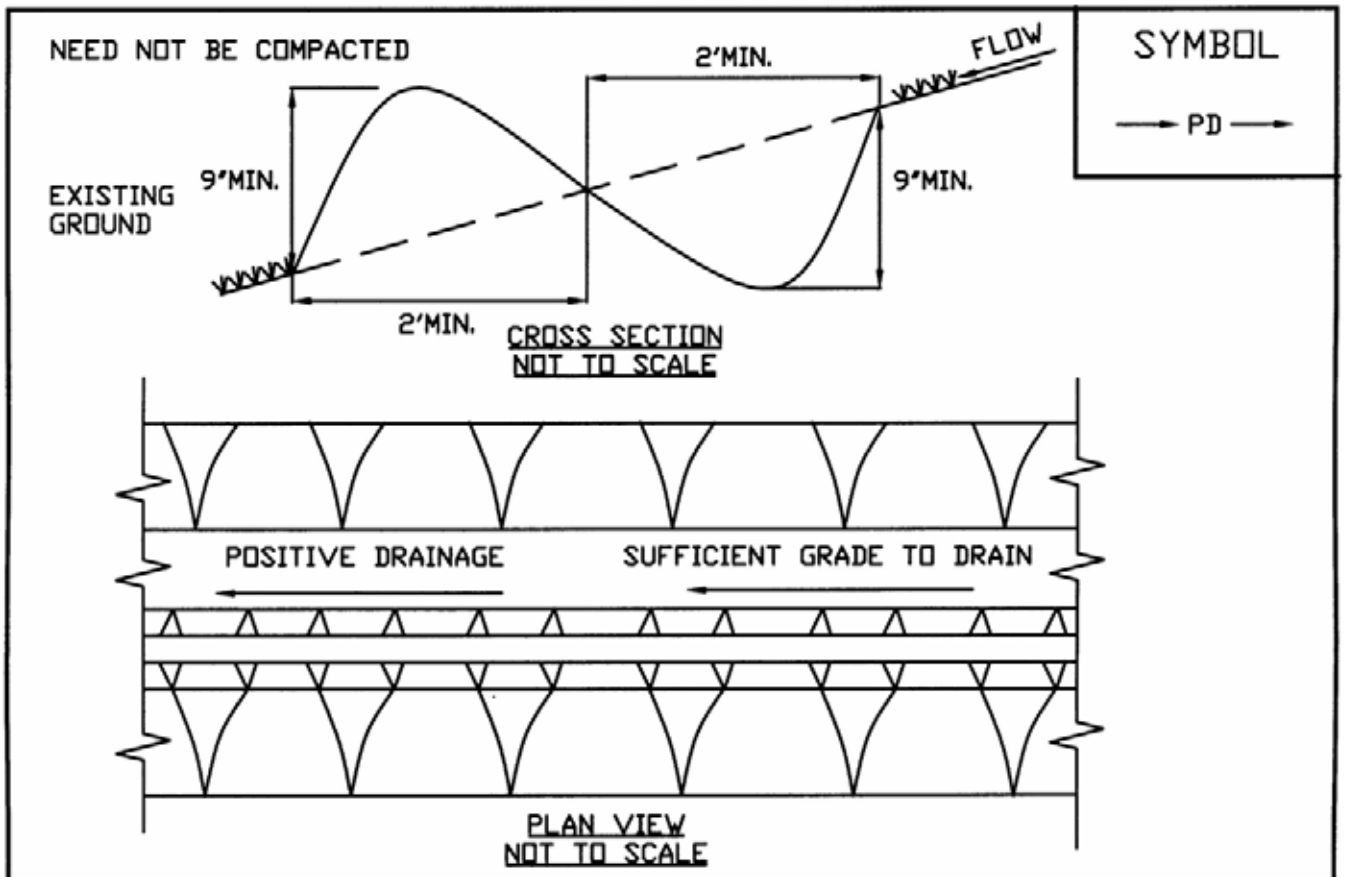
1. Perimeter dike/swale shall have a stabilized outlet.

2. Diverted runoff from a protected or stabilized upland area shall outlet directly onto an undisturbed stabilized area.

3. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as a sediment trap, sediment basin, or to an area protected by any of these practices.

4. The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet.

Figure 5A.3
Perimeter Dike/Swale



CONSTRUCTION SPECIFICATIONS

1. ALL PERIMETER DIKE/SWALE SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSION VELOCITY.
4. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED IN THE STANDARD.
5. STABILIZATION OF THE AREA DISTURBED BY THE DIKE AND SWALE SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SPECIFICATIONS FOR TEMPORARY SEEDING AND MULCHING, AND SHALL BE DONE WITHIN 10 DAYS.
6. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

MAX. DRAINAGE AREA LIMIT: 2 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA – NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

PERIMETER DIKE OR SWALE

STANDARD AND SPECIFICATIONS FOR STRAW BALE DIKE

Definition

A temporary barrier of straw, or similar material, used to intercept sediment laden runoff from small drainage areas of disturbed soil.

Purpose

The purpose of a bale dike is to reduce runoff velocity and effect deposition of the transported sediment load. Straw bale dikes have an estimated design life of three (3) months.

Conditions Where Practice Applies

The straw bale dike is used where:

1. No other practice is feasible.
2. There is no concentration of water in a channel or other drainage way above the barrier.
3. Erosion would occur in the form of sheet erosion.
4. Length of slope above the straw bale dike does not exceed these limits.

Constructed Slope	Percent Slope	Slope Length (ft.)
2:1	50	25
3:1	33	50
4:1	25	75

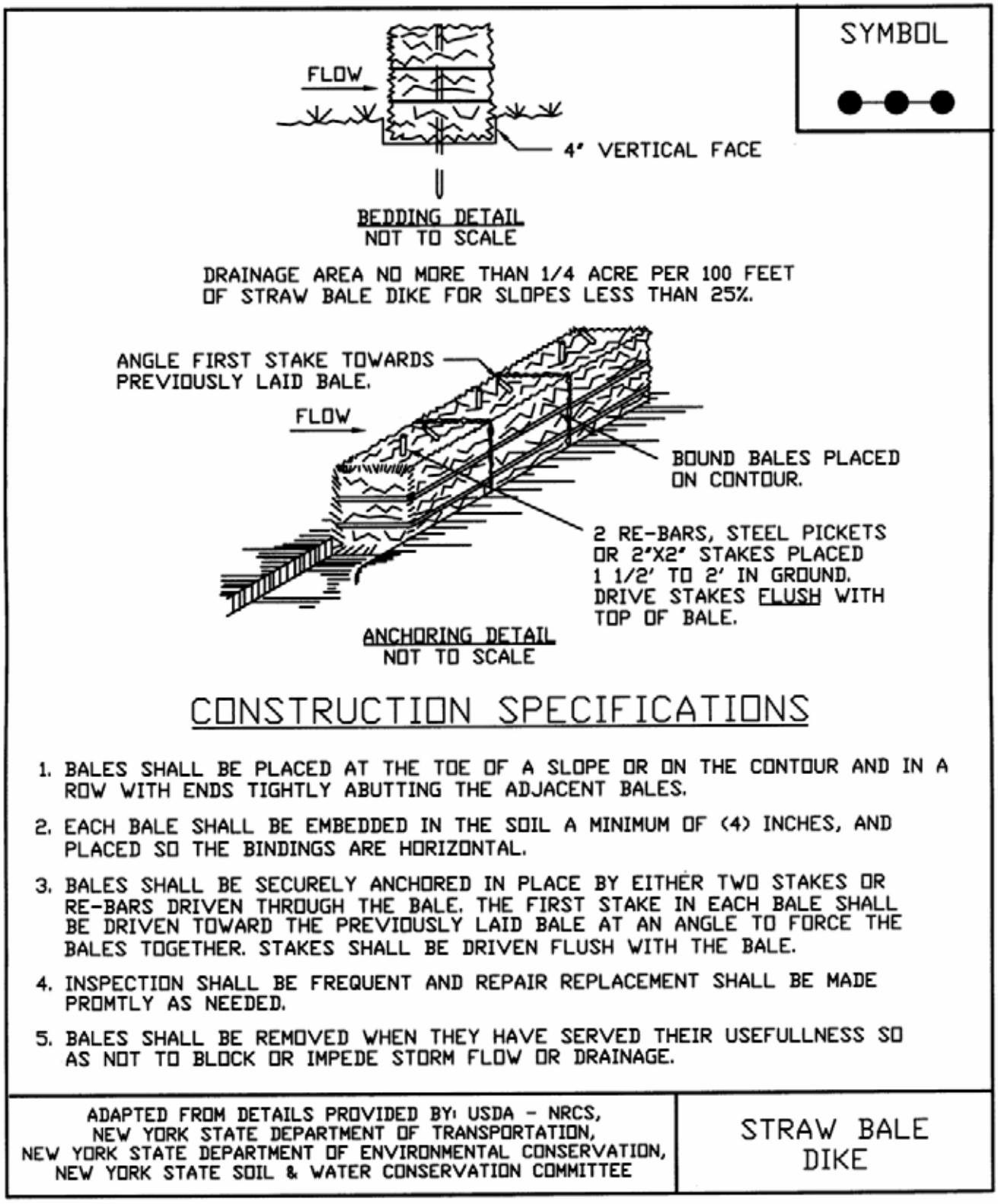
Where slope gradient changes through the drainage area, steepness refers to the steepest slope section contributing to the straw bale dike.

The practice may also be used for a single family lot if the slope is less than 15 percent. The contributing drainage areas in this instance shall be less than one quarter of an acre per 100 feet of fence and the length of slope above the dike shall be less than 200 feet.

Design Criteria

The above table is adequate, in general, for a one-inch rainfall event. Larger storms could cause failure of this practice. Use of this practice in sensitive areas for longer than one month should be specifically designed to store expected runoff. All bales shall be placed on the contour with cut edge of bale adhering to the ground. See Figure 5A.7 on page 5A.18 or details.

Figure 5A.7
Straw Bale Dike



STANDARD AND SPECIFICATIONS FOR SILT FENCE

Definition

A temporary barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil.

Purpose

The purpose of a silt fence is to reduce runoff velocity and effect deposition of transported sediment load. Limits imposed by ultraviolet stability of the fabric will dictate the maximum period the silt fence may be used (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope lengths contributing runoff to a silt fence placed on a slope are:

Slope Steepness	Maximum Length (ft.)
2:1	25
3:1	50
4:1	75
5:1 or flatter	100

2. Maximum drainage area for overland flow to a silt fence shall not exceed ¼ acre per 100 feet of fence, with maximum ponding depth of 1.5 feet behind the fence; and

3. Erosion would occur in the form of sheet erosion; and

4. There is no concentration of water flowing to the barrier.

Design Criteria

Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff. All silt fences shall be placed as close to the areas as possible, but at least 10 feet from the toe of a slope to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.

Sensitive areas to be protected by silt fence may need to be reinforced by using heavy wire fencing for added support to prevent collapse.

Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. A detail of the silt fence shall be shown on the plan. See Figure 5A.8 on page 5A.21 for details.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682

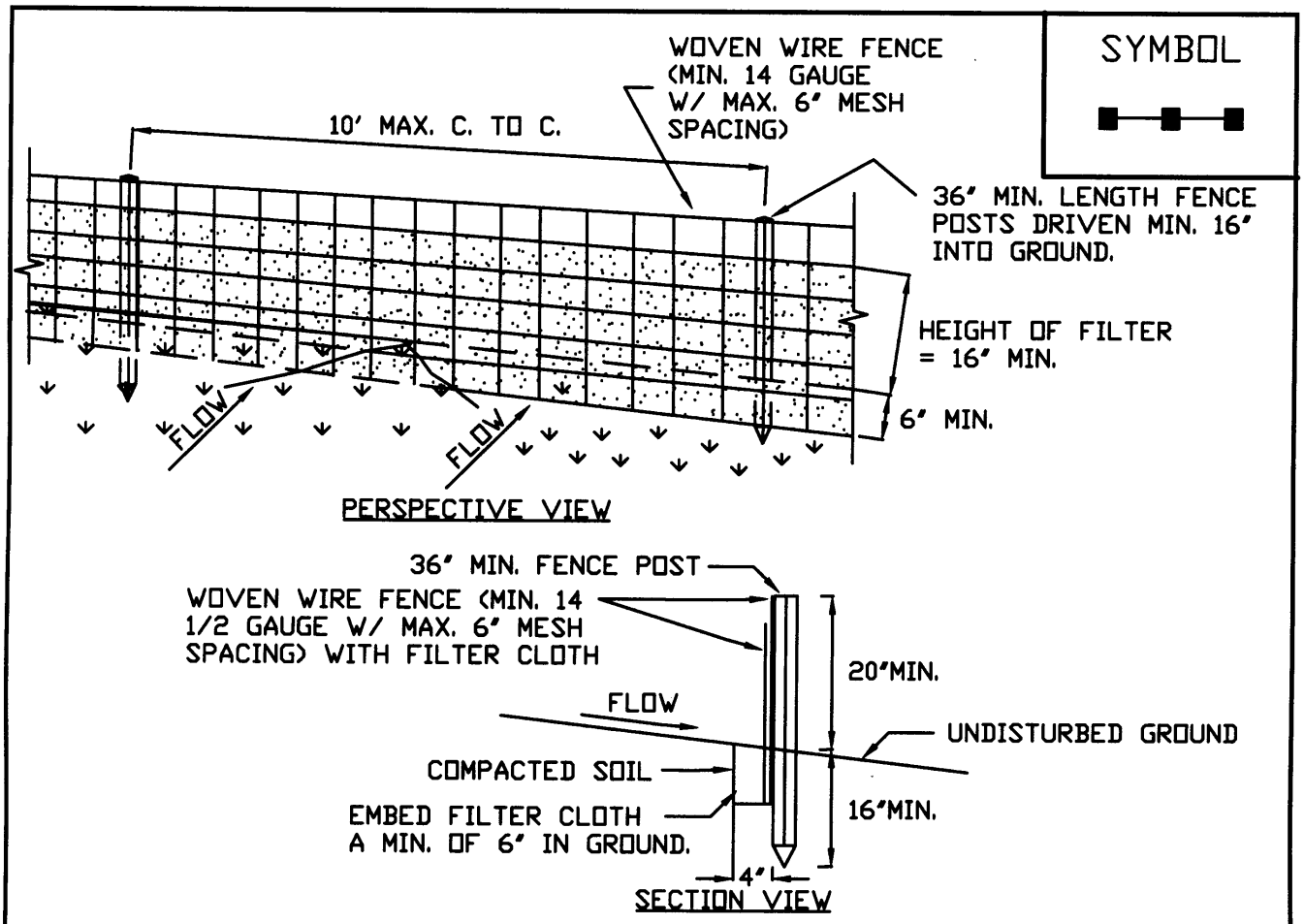
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D751 (modified)
Slurry Flow Rate (gal/min/sf)	0.3	
Equivalent Opening Size	40-80	US Std Sieve CW-02215
Ultraviolet Radiation Stability (%)	90	ASTM G-26

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.0 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot.

3. Wire Fence (for fabricated units): Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated Units: Envirofence, Geofab, or approved equal, may be used in lieu of the above method providing the unit is installed per details shown in Figure 5A.8.

Figure 5A.8
Silt Fence



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	SILT FENCE

STANDARD AND SPECIFICATIONS FOR SEDIMENT TRAP

Definition

A temporary sediment control device formed by excavation and/or embankment to intercept sediment laden runoff and retain the sediment.

Purpose

The purpose of the structure is to intercept sediment-laden runoff and trap the sediment in order to protect drainage ways, properties, and rights-of-way below the sediment trap from sedimentation.

Conditions Where Practice Applies

A sediment trap is usually installed in a drainage way, at a storm drain inlet, or other points of collection from a disturbed area.

Sediment traps should be used to artificially break up the natural drainage area into smaller sections where a larger device (sediment basin) would be less effective.

Design Criteria

If any of the design criteria presented here cannot be met, see Standard and Specification for Sediment Basin on page 5A.49.

Drainage Area

The drainage area for sediment traps shall be in accordance with the specific type of sediment trap used (Type I through V).

Location

Sediment traps shall be located so that they can be installed prior to grading or filling in the drainage area they are to protect. Traps must not be located any closer than 20 feet from a proposed building foundation if the trap is to function during building construction. Locate traps to obtain maximum storage benefit from the terrain and for ease of cleanout and disposal of the trapped sediment.

Trap Size

The volume of a sediment trap as measured at the elevation of the crest of the outlet shall be at least 3,600 cubic feet per acre of drainage area. The volume of a constructed trap shall be calculated using standard mathematical procedures. The volume of a natural sediment trap may be approximated by the equation: Volume (cu.ft.) = 0.4 x surface area (sq.ft.) x maximum depth (ft.).

Trap Cleanout

Sediment shall be removed and the trap restored to the original dimensions when the sediment has accumulated to ½ of the design depth of the trap. Sediment removed from the trap shall be deposited in a protected area and in such a manner that it will not erode.

Embankment

All embankments for sediment traps shall not exceed five (5) feet in height as measured at the low point of the original ground along the centerline of the embankment. Embankments shall have a minimum four (4) foot wide top and side slopes of 2:1 or flatter. The embankment shall be compacted by traversing with equipment while it is being constructed. The embankment shall be stabilized with seed and mulch as soon as it is completed

The elevation of the top of any dike directing water to any sediment trap will equal or exceed the maximum height of the outlet structure along the entire length of the trap.

Excavation

All excavation operations shall be carried out in such a manner that erosion and water pollution shall be minimal. Excavated portions of sediment traps shall have 1:1 or flatter slopes.

Outlet

The outlet shall be designed, constructed, and maintained in such a manner that sediment does not leave the trap and that erosion at or below the outlet does not occur.

Sediment traps must outlet onto stabilized (preferable undisturbed) ground, into a watercourse, stabilized channel, or into a storm drain system. Distance between inlet and outlet should be maximized to the longest length practicable.

Trap Details Needed on Erosion and Sediment Control Plans

Each trap shall be delineated on the plans in such a manner that it will not be confused with any other features. Each trap on a plan shall indicate all the information necessary to properly construct and maintain the structure. If the drawings are such that this information cannot be delineated on the drawings, then a table shall be developed. If a table is developed, then each trap on a plan shall have a number and the numbers shall be consecutive.

The following information shall be shown for each trap in a summary table format on the plans.

1. Trap number
2. Type of trap
3. Drainage area
4. Storage required
5. Storage provided (if applicable)
6. Outlet length or pipe sizes
7. Storage depth below outlet or cleanout elevation
8. Embankment height and elevation (if applicable)

Type of Sediment Traps

There are five (5) specific types of sediment traps which vary according to their function, location, or drainage area.

I. Pipe Outlet Sediment Trap
II. Grass Outlet Sediment Trap
III. Catch Basin Sediment Trap
IV. Stone Outlet Sediment Trap
V. Riprap Outlet Sediment Trap

I. Pipe Outlet Sediment Trap

A Pipe Outlet Sediment Trap consists of a trap formed by embankment or excavation. The outlet for the trap is through a perforated riser and a pipe through the embankment. The outlet pipe and riser shall be made of steel, corrugated metal or other suitable material. The top of the embankment shall be at least 1 ½ feet above the crest of the riser. The top 2/3 of the riser shall be perforated with one (1) inch nominal diameter holes or slits spaced six (6) inches vertically and horizontally placed in the concave portion of the corrugated pipe.

No holes or slits will be allowed within six (6) inches of the top of the horizontal barrel. All pipe connections shall be watertight. The riser shall be wrapped with ½ to ¼ inch hardware cloth wire then wrapped with filter cloth with a sieve size between #40-80 and secured with strapping or connecting band at the top and bottom of the cloth. The cloth shall cover an area at least six (6) inches above the highest hole and six (6) inches below the lowest hole. The top of the riser pipe shall not be covered with filter cloth. The riser shall have a base with sufficient weight to prevent flotation of the riser. Two approved bases are:

1. A concrete base 12 in. thick with the riser embedded 9 in. into the concrete base, or

2. One quarter inch, minimum, thick steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2.5 feet of stone, gravel, or earth placed on it to prevent flotation. In either case, each side of the square base measurement shall be the riser diameter plus 24 inches.

Pipe outlet sediment traps shall be limited to a five (5) acre maximum drainage area. Pipe outlet sediment traps may be interchangeable in the field with stone outlet or riprap sediment traps provided that these sediment traps are constructed in accordance with the detail and specifications for that trap.

Select pipe diameter from the following table:

Minimum Sizes

Barrel Diameter[1] (in.)	Riser Diameter[1] (in.)	Maximum Drainage Area (ac.)
12	15	1
15	18	2
18	21	3
21	24	4
21	27	5

[1] Barrel diameter may be same size as riser diameter.

See details for Pipe Outlet Sediment Trap ST-I in Figure 5A.16 (1) and 5A.16 (2) on pages 5A.38 and 5A.39.

II. Grass Outlet Sediment Trap

A Grass Outlet Sediment Trap consists of a trap formed by excavating the earth to create a holding area. The trap has a discharge point over natural existing grass. The outlet crest width (feet) shall be equal to four (4) times the drainage area (acres) with a minimum width of four (4) feet. The outlet shall be free of any restrictions to flow. The outlet lip must remain undisturbed and level. The volume of this trap shall be computed at the elevation of the crest of the outlet. Grass outlet sediment traps shall be limited to a five (5) acre maximum drainage area.

See details for Grass Outlet Sediment Trap ST-II in Figure 5A.17 on page 5A.40.

III. Catch Basin Sediment Trap

A Catch Basin Sediment Trap consists of a basin formed by excavation on natural ground that discharges through an opening in a storm drain inlet structure. This opening can either be the inlet opening or a temporary opening made by omitting bricks or blocks in the inlet.

A yard drain inlet or an inlet in the median strip of a dual highway could use the inlet opening for the type outlet. The trap should be out of the roadway so as not to interfere with future compaction or construction. Placing the trap on the opposite side of the opening and diverting water from the roadway to the trap is one means of doing this. Catch basin sediment traps shall be limited to a three (3) acre maximum drainage area. The volume of this trap is measured at the elevation of the crest of the outlet (invert of the inlet opening).

See details for Catch Basin Sediment Trap ST-III in Figure 5A.18 on page 5A.41.

IV. Stone Outlet Sediment Trap

A Stone Outlet Sediment Trap consists of a trap formed by an embankment or excavation. The outlet of this trap is over a stone section placed on level ground. The minimum length (feet) of the outlet shall be equal to four (4) times the drainage area (acres).

Required storage shall be 3,600 cubic feet per acre of drainage area.

The outlet crest (top of stone in weir section) shall be level, at least one (1) foot below top of embankment and no more than one (1) foot above ground beneath the outlet. Stone used in the outlet shall be small riprap (4 in. x 8 in.). To provide more efficient trapping effect, a layer of filter cloth should be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.

Stone Outlet Sediment Traps may be interchangeable in the field with pipe or riprap outlet sediment traps provided they are constructed in accordance with the detail and specifications for those traps. Stone outlet sediment traps shall be limited to a five (5) acre maximum drainage area.

See details for Stone Outlet Sediment Trap ST-IV in Figure 5A.19 on page 5A.42.

V. Riprap Outlet Sediment Trap

A Riprap Outlet Sediment Trap consists of a trap formed by an excavation and embankment. The outlet for this trap shall be through a partially excavated channel lined with riprap. This outlet channel shall discharge onto a stabilized area or to a stable watercourse. The riprap outlet sediment trap may be used for drainage areas of up to a maximum of 15 acres.

Design Criteria for Riprap Outlet Sediment Trap

1. The total contributing drainage area (disturbed or undisturbed either on or off the developing property) shall not exceed 15 acres.
2. The storage needs for this trap shall be computed using 3600 cubic feet of required storage for each acre of drainage area. The storage volume provided can be figured by computing the volume of storage area available behind the outlet structure up to an elevation of one (1) foot below the level weir crest.
3. The maximum height of embankment shall not exceed five (5) feet.
4. The elevation of the top of any dike directing water to a riprap outlet sediment trap will equal or exceed the minimum elevation of the embankment along the entire length of this trap.

Riprap Outlet Sediment Trap ST-V
(for Stone Lined Channel)

Contributing Drainage Area (ac.)	Depth of Channel (a) (ft.)	Length of Weir (b) (ft.)
1	1.5	4.0
2	1.5	5.0
3	1.5	6.0
4	1.5	10.0
5	1.5	12.0
6	1.5	14.0
7	1.5	16.0
8	2.0	10.0
9	2.0	10.0
10	2.0	12.0
11	2.0	14.0
12	2.0	14.0
13	2.0	16.0
14	2.0	16.0
15	2.0	18.0

See details for Riprap Outlet Sediment Trap ST-V on Figures 5A.20(1) and 5A.20(2) on pages 5A.43 and 5A.44.

Optional Dewatering Methods

Optional dewatering devices may be designed for use with sediment traps. Included are two methods, which may be used. See Figure 5A.21 on page 5A.45 for details.

Figure 5A.16(1)
Pipe Outlet Sediment Trap: ST-I

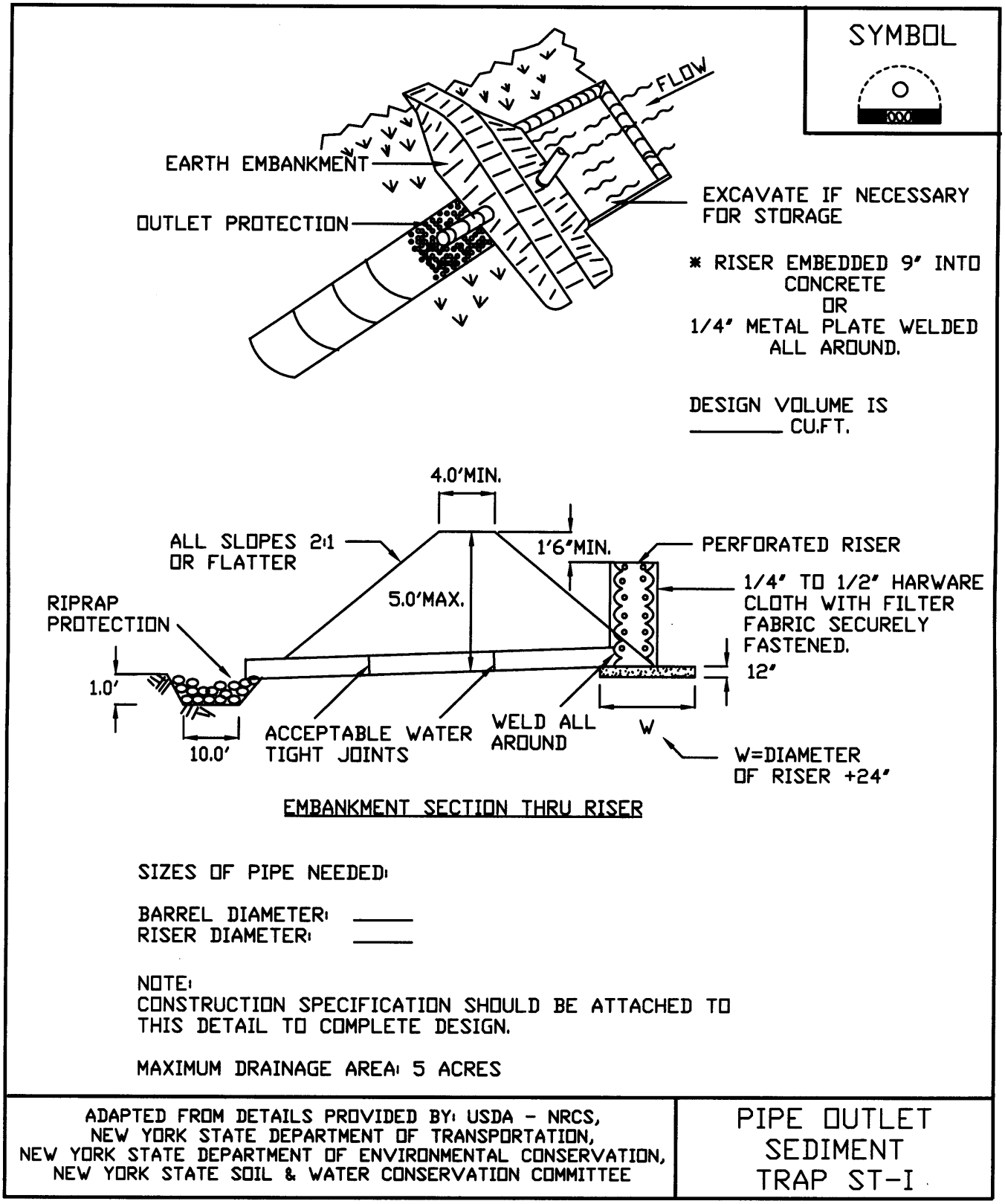


Figure 5A.16(2)
Pipe Outlet Sediment Trap: ST-I—Construction Specifications

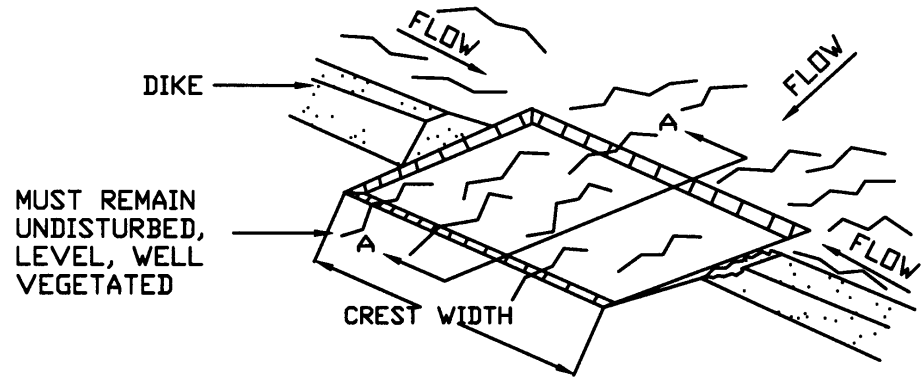
SYMBOL

CONSTRUCTION SPECIFICATIONS

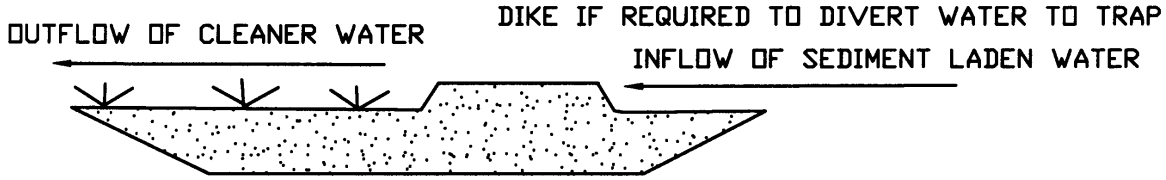
1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
4. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.
5. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
7. THE STRUCTURE SHALL BE REMOVED AND AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
8. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER; CUT SLOPES 1:1 OR FLATTER.
9. ALL PIPE CONNECTIONS SHALL BE WATERTIGHT.
10. THE TOP 2/3 OF THE RISER SHALL BE PERFORATED WITH ONE (1) INCH DIAMETER HOLES OR SLITS SPACED SIX (6) INCHES VERTICALLY AND HORIZONTALLY AND PLACED IN THE CONCAVE PORTION OF PIPE. NO HOLES WILL BE ALLOWED WITHIN SIX (6) INCHES OF THE HORIZONTAL BARREL.
11. THE RISER SHALL BE WRAPPED WITH 1/4 TO 1/2 INCH HARDWARE CLOTH WIRE THEN WRAPPED WITH FILTER CLOTH (HAVING AN EQUIVALENT SIEVE SIZE OF 40-80). THE FILTER CLOTH SHALL EXTEND SIX (6) INCHES ABOVE THE HIGHEST HOLE AND SIX (6) INCHES BELOW THE LOWEST HOLE. WHERE ENDS OF THE FILTER CLOTH COME TOGETHER, THEY SHALL BE OVER-LAPPED, FOLDED AND STAPLED TO PREVENT BYPASS.
12. STRAPS OR CONNECTING BANDS SHALL BE USED TO HOLD THE FILTER CLOTH AND WIRE FABRIC IN PLACE. THEY SHALL BE PLACED AT THE TOP AND BOTTOM OF THE CLOTH.
13. FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE HAND COMPACTED IN FOUR (4) INCH LAYERS. A MINIMUM OF TWO (2) FEET OF HAND COMPACTED BACKFILL SHALL BE PLACED OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
14. THE RISER SHALL BE ANCHORED WITH EITHER A CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. FOR CONCRETE BASED THE DEPTH SHALL BE TWELVE (12) INCHES WITH THE RISER EMBEDDED NINE (9) INCHES. A 1/4 INCH MINIMUM THICKNESS STEEL PLATE SHALL BE ATTACHED TO THE RISER BY A CONTINUOUS WELD AROUND THE BOTTOM TO FORM A WATERTIGHT CONNECTION AND THEN PLACE TWO (2) FEET OF STONE, GRAVEL, OR TAMPED EARTH ON THE PLATE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	PIPE OUTLET SEDIMENT TRAP ST-I

Figure 5A.17
Grass Outlet Sediment Trap: ST-II



SYMBOL



CREST WIDTH (FT)=4xDRAINAGE AREA (ACRES)

SECTION A - A
EXCAVATED GRASS OUTLET SEDIMENT TRAP

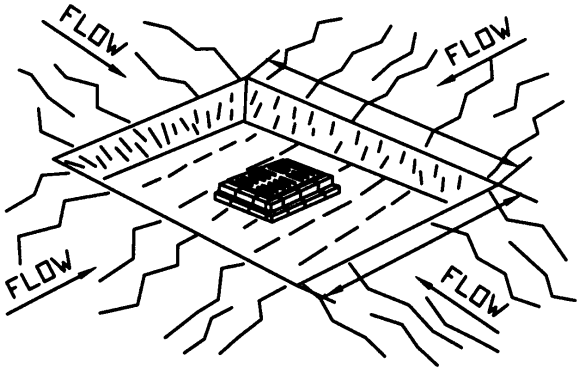
CONSTRUCTION SPECIFICATIONS

1. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE AREA.
2. MINIMUM CREST WIDTH SHALL BE 4 x DRAINAGE AREA
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
6. THE SEDIMENT TRAP SHALL BE REMOVED AND AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
7. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

MAXIMUM DRAINAGE AREA: 5 ACRES

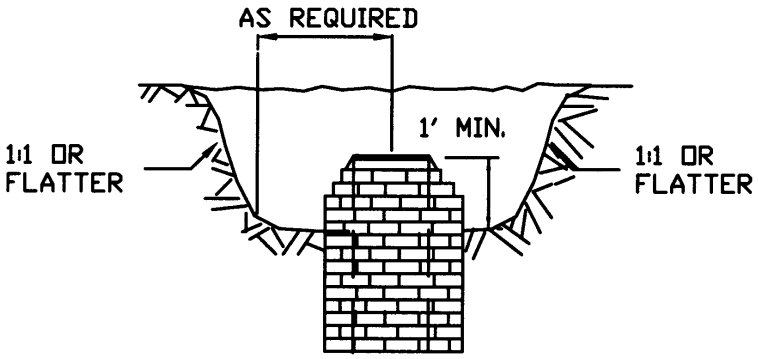
ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	GRASS OUTLET SEDIMENT TRAP ST-II

Figure 5A.18
Catch Basin Sediment Trap: ST-III



SYMBOL

YARD DRAIN



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

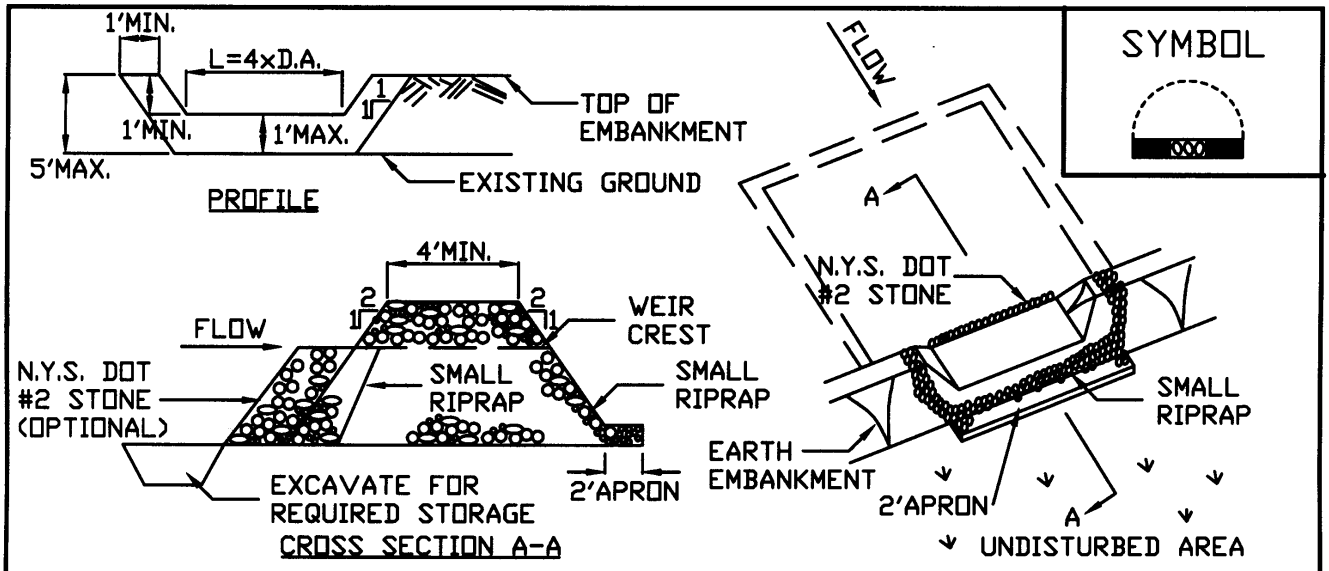
1. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.
2. THE VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTED DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
6. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

MAXIMUM DRAINAGE AREA: 3 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

CATCH BASIN
SEDIMENT TRAP
ST-III

Figure 5A.19
Stone Outlet Sediment Trap: ST-IV



OPTION: A ONE FOOT LAYER OF N.Y.S. DOT #2 STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIPRAP INPLACE OF THE EMBEDDED FILTER CLOTH.

CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1' THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. IT SHALL BE PLACED ON SITE AND STABILIZED.
6. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
8. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

MAXIMUM DRAINAGE AREA 5 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STONE OUTLET SEDIMENT TRAP ST-IV

Figure 5A.20(1)
Riprap Outlet Sediment Trap: ST-V

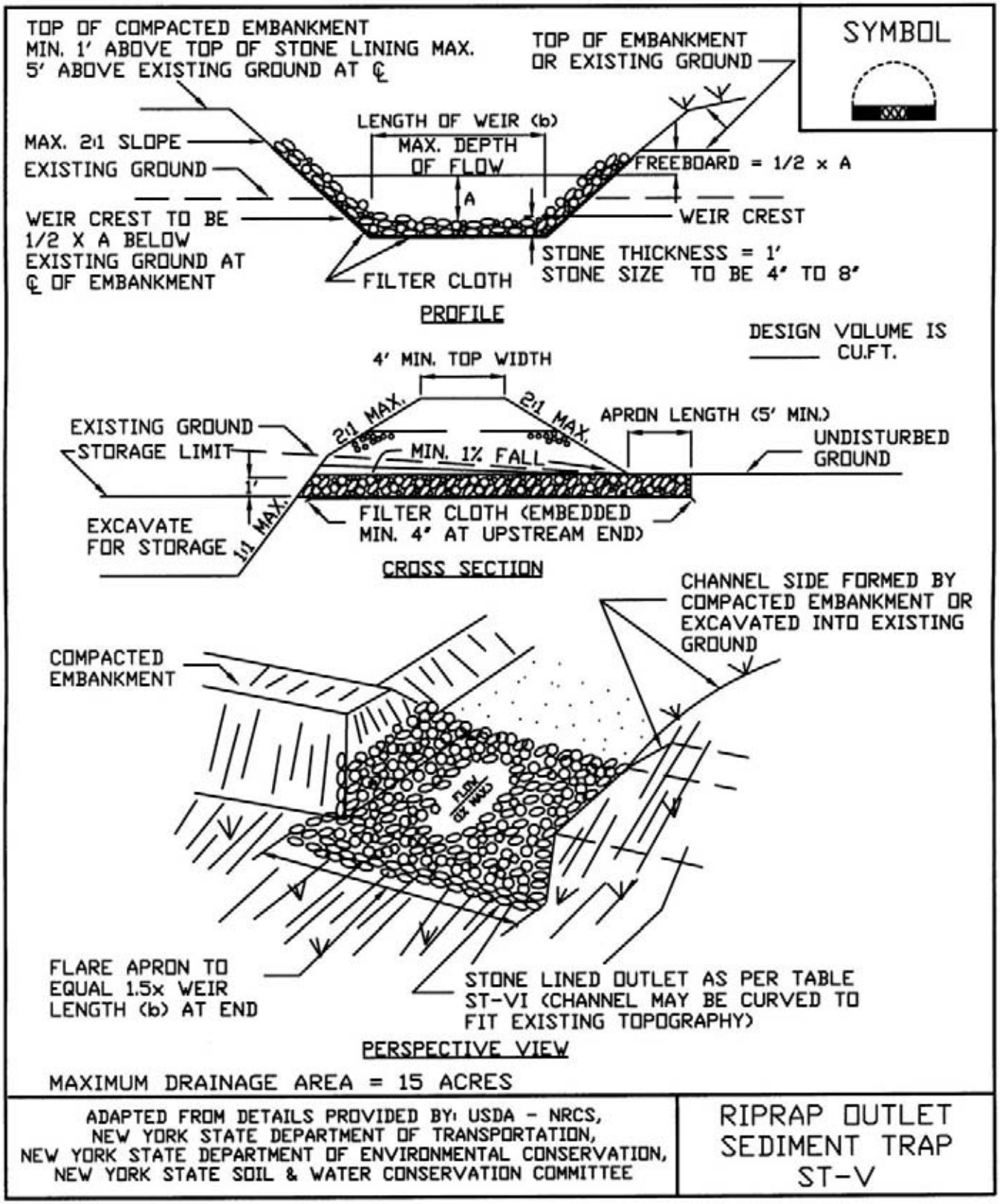


Figure 5A.202)
Riprap Outlet Sediment Trap: ST-V—Construction Specifications

SYMBOL

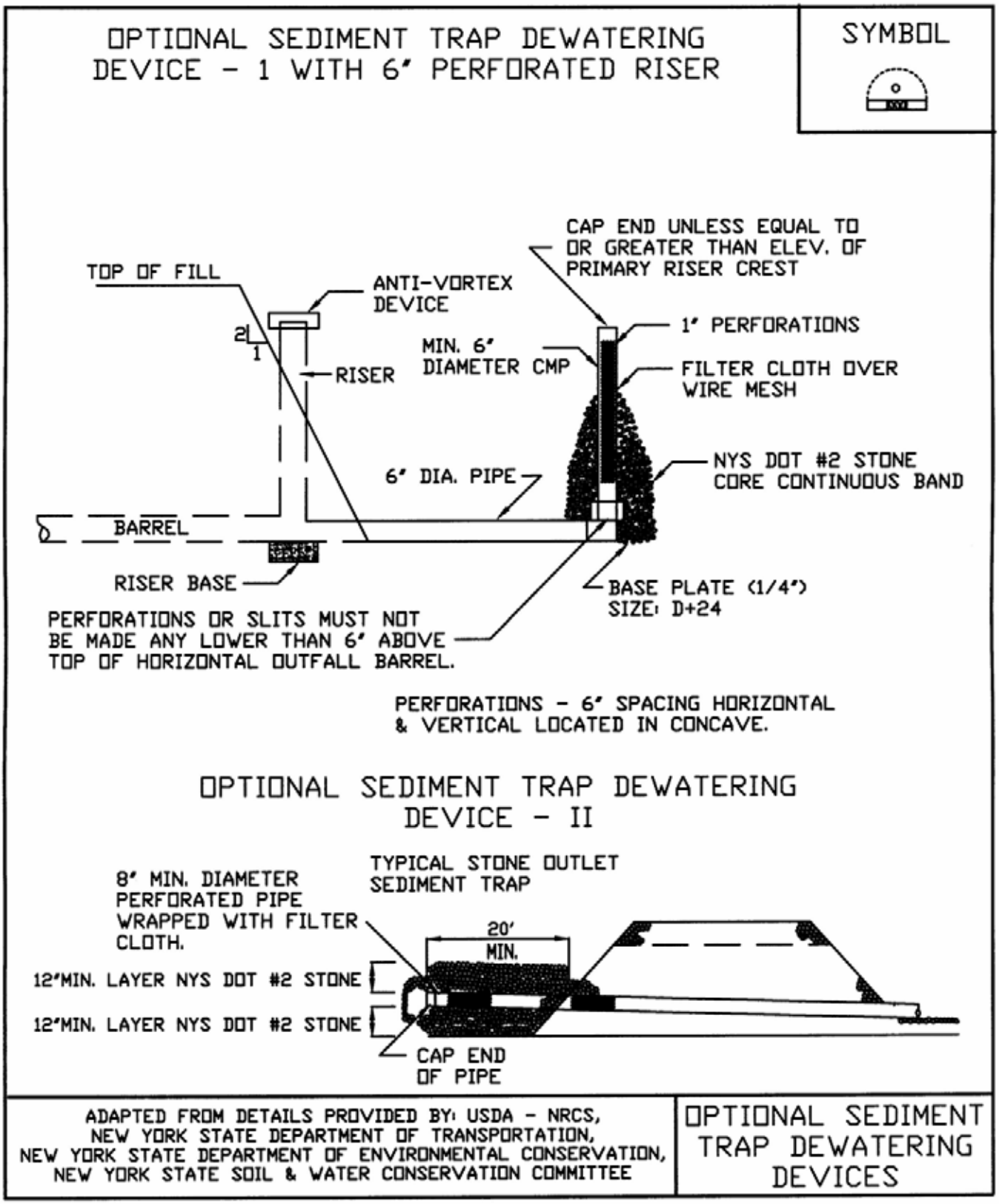
CONSTRUCTION SPECIFICATIONS

1. THE AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAXIMUM HEIGHT OF OF EMBANKMENT SHALL BE FIVE (5) FEET, MEASURED AT CENTERLINE OF EMBANKMENT.
3. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER, CUT SLOPES 1:1 OR FLATTER.
4. ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO TRAP MUST EQUAL OR EXCEED THE HEIGHT OF EMBANKMENT.
5. STORAGE AREA PROVIDED SHALL BE FIGURED BY COMPUTING THE VOLUME AVAILABLE BEHIND THE OUTLET CHANNEL UP TO AN ELEVATION OF ONE (1) FOOT BELOW THE LEVEL WEIR CREST.
6. FILTER CLOTH SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO PLACEMENT OF STONE. SECTIONS OF FABRIC MUST OVERLAP AT LEAST ONE (1) FOOT WITH SECTION NEAREST THE ENTRANCE PLACED ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST SIX (6) INCHES INTO EXISTING GROUND AT ENTRANCE OUTLET CHANNEL.
7. STONE USED IN THE OUTLET CHANNEL SHALL BE FOUR (4) TO EIGHT (8) INCH RIPRAP. TO PROVIDE A FILTERING EFFECT, A LAYER OF FILTER CLOTH SHALL BE EMBEDDED ONE (1) FOOT WITH SECTION NEAREST ENTRANCE PLACED ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST SIX (6) INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
8. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
9. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRED AS NEEDED.
10. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.
11. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
12. DRAINAGE AREA FOR THIS PRACTICE IS LIMITED TO 15 ACRES OR LESS.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

RIPRAP OUTLET
SEDIMENT TRAP
ST-V

Figure 5A.21
Optional Sediment Trap Dewatering Devices



ATTACHMENT A2-3

INSPECTION AND MAINTENANCE REPORT FORM

Inspection and Maintenance Report Form

To be completed every 7 days and within 24 hours of a rainfall event of 0.5 inches or more

Regular Inspector:_____Rainfall Event Inspector:_____Rainfall (inches):_____

Contractor Activities	OK	NO	N/A	Notes
Are construction onsite traffic routes, parking, and storage of equipment and supplies restricted to areas specifically designated for those uses?				
Are locations of temporary soil stock piles of construction materials in approved areas?				
Is there any evidence of spills and resulting cleanup procedures?				
General Erosion & Sediment Controls				
Are sediment and erosion BMPs installed in the proper location and according to the specifications set out in the SWM & ECP?				
Are all operational storm drain inlets protected from sediment inflow?				
Do any seeded or landscaped areas require maintenance, irrigation, fertilization, seeding or mulching?				
Is there any evidence that sediment is leaving the site?				
Is there any evidence of erosion or cut fill slopes?				
Perimeter Road Use				
Does much sediment get tracked on to the perimeter road? Is the gravel clean or is it filled with sediment? Does all traffic use the perimeter road to leave the site? Is maintenance or repair required for the perimeter road?				

_____ _____

Inspected by (Signature) Date

Inspection and Maintenance Report Form

To be completed every 7 days and within 24 hours of a rainfall event of 0.5 inches or more

Inspector:_____

STABILIZATION MEASURES					
Area	Date Since Last Disturbed	Date of Next Disturbance	Stabilized? Yes/No	Stabilized with	Condition

Stabilization Required: _____

_____

_____

_____

_____

_____

To be performed by: _____ On or before: _____

PART III

ENVIRONMENTAL EASEMENTS

SITE MANAGEMENT PLAN
PART III

ENVIRONMENTAL EASEMENTS

STEEL WINDS LACKAWANNA SITE
LACKAWANNA, NEW YORK

September 2007 0141-001-101

Prepared for:

BQ Energy, LLC
&
Steel Winds Project, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

Honorable Kathleen C. Hochul
County Clerk
Erie County
92 Franklin Street
Buffalo, NY 14202
(716) 858-8865

DATE:12/03/2007
TIME:02:51:23 PM
RECEIPT:449952

PHILLIPS LYTLE/NYS DEC

ITEM -01 785N 02:51:23 PM
  CTRL #:2007257181 BK/PG:D11137/9906
  DEED SEQ:TT2007009459
ARCELORMITTAL TECUMSEH REDEVELOPMENT I
PEOPLE OF THE STATE OF NEW YORK (THE)
  MARKOFF FEE 0.00
  Sub. Total 0.00

AMOUNT DUE: $.00
TOTAL PAID: $.00

REC BY:JOY
County Clerk
Have a nice day!

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 16th day of November, 2007, between Owner ArcelorMittal Tecumseh Redevelopment Inc., a Delaware corporation, having an office at 3250 Interstate Drive, Richfield, Ohio 44286 (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of environmental easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and of ensuring the potential restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that environmental easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and;

WHEREAS, Grantor, is the owner of real property located at the address of Hamburg Turnpike in the City of Lackawanna, Erie County, New York known and designated on the tax map of the County of Erie as tax map parcel, section 141.11, block 1, lot 1.111, being the same as that property conveyed to Grantor by deed on May 6, 2003, and recorded in the Land Records of the Erie County Clerk at page 8953, Liber 11040 of Deeds, comprised of approximately 1075.63 acres, and hereinafter more fully described in Schedule A attached hereto and made a part hereof (the " Real Property Property"); and;

WHEREAS, Grantor seeks to encumber approximately 29.05 acres of Real Property as shown and fully described in Schedule B , and on the survey map as shown on Schedule C, both of which are attached hereto and made a part hereof (the "Controlled Property"); and

WHEREAS, the Commissioner does hereby acknowledge that the Department accepts this Environmental Easement in order to ensure the protection of human health and the environment and to achieve the requirements for remediation established at this Controlled Property until such

time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36;and

NOW THEREFORE, in consideration of the covenants and mutual promises contained herein and the terms and conditions of Brownfield Cleanup Agreement Number B9-0723-06-07, Grantor grants, conveys and releases to Grantee a permanent Environmental Easement pursuant to Article 71, Title 36 of the ECL in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the potential restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The following controls apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees, and any person using the Controlled Property:

A. The Controlled Property may be used for restricted commercial industrial use as long as the following long-term engineering controls are employed:

i) Compliance with the Site Management Plan ("SMP") for the implemented remedy;

(ii) Maintenance of the 12 inch soil cover system and vegetation over the Site;

(iii) The groundwater beneath the Site cannot be used as a potable water source or for any other use without the prior written permission of the Department;

(iv) Groundwater monitoring as specified in the SMP;

(v) In the event that buildings are constructed, a Department approved evaluation of potential sub-slab vapor impacts will be required.

The Grantor hereby acknowledges receipt of a copy of the NYSDEC-approved Site Management Plan, dated November 2007 ("SMP"). The SMP describes obligations that Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system on the Controlled Property, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The Department may change the SMP for the Controlled Property from time to time on the basis of requests or information submitted by Grantor, and modifications in applicable statutes regulations, guidance or site conditions. The

Department reserves a unilateral right to modify the SMP. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Regional Remediation Engineer:
Region 9
NYS Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

or:

Site Control Section
Division of Environmental Remediation
NYS Department of Environmental Conservation
625 Broadway
Albany, New York 12233

B. The Controlled Property may not be used for a higher level of use such as unrestricted or restricted residential use and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an environmental easement held by the New York State Department of Environmental Conservation pursuant of Title 36 to Article 71 of the Environmental Conservation Law.

D. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

E. Grantor covenants and agrees that it shall annually, or such time as NYSDEC may allow, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury that the controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls employed at the Controlled Property were approved by the NYSDEC, and that nothing has occurred that would impair the ability of such control to protect the public health and environment or constitute a violation or failure to comply with any Site Management Plan for such controls and giving access to such Controlled Property to evaluate continued maintenance of such controls.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Controlled Property, including:

1. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

2. The right to give, sell, assign, or otherwise transfer the underlying fee interest to the Controlled Property by operation of law, by deed, or by indenture, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This environmental easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this environmental easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person intentionally violates this environmental easement, the Grantee may revoke the Certificate of Completion provided under ECL Article 27, Title 14, or Article 56, Title 5 with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach. Grantor shall then have a reasonable amount of time from receipt of such notice to cure. At the expiration of said second period, Grantee may commence any proceedings and take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement in accordance with applicable law to require compliance with the terms of this Environmental Easement.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar its enforcement rights in the event of a subsequent breach of or noncompliance with any of the terms of this Environmental easement.

6. Notice. Whenever notice to the State (other than the annual certification) or approval from the State is required, the Party providing such notice or seeking such approval shall identify

the Controlled Property by referencing the following information:
County, NYSDEC Site Number, NYSDEC Contract or Order Number, and the
County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to: Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

Such correspondence shall be delivered by hand, or by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. This environmental easement may be amended only by an amendment executed by the Commissioner of the New York State Department of Environmental Conservation and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This environmental easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Grantor's Name: ArcelorMittal Tecumseh Redevelopment Inc.

By: _____
Title: Director Environmental Affairs & Real Estate
Date: November 16, 2007

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation

by: _____
Alexander B. Grannis, Commissioner

Grantor's Acknowledgment

STATE OF OH)
) ss:
COUNTY OF Summit

On the 16th day of November, in the year 2007, before me, the undersigned, personally appeared Keith Nigel, personally known to me who, being duly sworn, did depose and say that he/she resides at 4020 Kinross Lakes Parkway and that he/she is the Director (President or other officer or director or attorney in fact duly appointed) of the ArcelorMittal Tecumseh Redevelopment Inc. corporation described in and which executed the above instrument; and that he/she signed his/her name thereto by the authority of the board of directors of said corporation and that such individual made such appearance before the undersigned in the State of OHIO (insert the State and County and city or other political subdivision in which the acknowledgment is taken) .

Diane J Bittner
Notary Public

DIANE J. BITTNER, NOTARY PUBLIC
STATE OF OHIO
RESIDENT SUMMIT COUNTY
MY COMMISSION EXPIRES JAN. 6, 2009

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF)

On the 29th day of November, in the year 2007 before me, the undersigned, personally appeared Alexander B. Grannis, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Philip J Lodico
Notary Public - State of New York

PHILIP J. LODICO
Notary Public, State of New York
No. 02L06038057
Qualified in Albany County
My Commission Expires January 17, 2011

Schedule A

ALL THAT TRACT OR PARCEL OF LAND, situate in the Town of Hamburg and the City of Lackawanna, County of Erie, State of New York, being part of Lots 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, & 25 of the Ogden Gore Tract and part of Lots 23, 24, & 36 of the Buffalo Creek Reservation, Township 10, Range 8 of the Holland Land Company's Survey and more particularly bounded and described as follows:

BEGINNING at a point on the westerly highway boundary of Hamburg Turnpike (66.0 feet wide), said point being 547.89 feet South 19°36'46" East from the intersection of the westerly highway boundary of Hamburg Turnpike (66.0 feet wide) and the northerly line of the City of Lackawanna (also being the southerly line of the City of Buffalo); thence South 19°36'46" East along the westerly highway boundary of Hamburg Turnpike (66.0 feet wide) a distance of 628.41 feet; thence along the westerly highway boundary of Hamburg Turnpike as appropriated by the New York State Department of Public Works as shown on Map No. 40-R2, Parcel No. 44 the following twenty (20) courses and distances:

1.) South 10°00'07" East a distance of 164.30 feet;
2.) South 18°40'45" East a distance of 355.00 feet;
3.) South 71°23'35" West a distance of 2.00 feet;
4.) South 18°40'45" East a distance of 223.00feet;
5.) South 22°29'36" East a distance of 150.35 feet;
6.) South 18°40'45" East a distance of 512.00 feet;
7.) South 16°49'53" East a distance of 260.12 feet;
8.) South 18°34'20" East a distance of 793.00 feet;
9.) South 71°23'35" West a distance of 4.00 feet;
10.) South 18°13'24" East a distance of 132.00 feet;
11.) North 71°23'35" East a distance of 4.67 feet;
12.) South 18°30'00" East a distance of 38.00 feet;
13.) South 71°23'35" West a distance of 4.86 feet;
14.) South 18°13'24" East a distance of 160.00 feet;
15.) South 71°23'35" East a distance of 9.80 feet;
16.) South 18°36'25" East a distance of 159.00 feet;
17.) South 71°23'35" West a distance of 3.89 feet;
18.) South 18°34'20" East a distance of 180.00 feet;
19.) South 20°56'05" East a distance of 138.11 feet;
20.) South 22°53'55" East a distance of 272.45 feet to a point on the westerly highway boundary of Hamburg Turnpike;

thence southerly along the westerly highway boundary of Hamburg Turnpike, South 18°36'25" East, a distance of 2228.31 feet; thence along the westerly highway boundary of Hamburg Turnpike as appropriated by the New York State

Department of Public Works as shown on Map No. 27 Parcel No. 31 the following two (2) courses and distances:

1.)South 16°17'25" East a distance of 74.93 feet;

2.)along a curve to the right having a radius of 1004.74 feet; a chord distance of 228.48 feet along a chord bearing of South 08°12'16" East, a distance of 228.97 feet to a point on the westerly highway boundary of Hamburg Turnpike; thence southerly along the westerly highway boundary of Hamburg Turnpike, South 4°35'35" West a distance of 940.87 feet; thence along the westerly highway boundary of Hamburg Turnpike as appropriated by the New York State Department of Public Works as shown on Map No. 1 Parcel No. 1 and Map No. 5 Parcel No. 7 the following eighteen (18) courses and distances:

1.) North 85°24'25" West a distance of 1.00 feet;
2.) South 7°01'17" West a distance of 170.15 feet;
3.) South 5°02'54" West a distance of 180.00 feet;
4.) North 85°24'25" West a distance of 3.00 feet;
5.) South 5°02'54" West a distance of 260.00 feet;
6.) South 5°09'11" West a distance of 110.00 feet;
7.) South 0°34'35" West a distance of 110.27 feet;
8.) South 4°50'37" West a distance of 220.00 feet;
9.) South 4°50'37" West a distance of 365.00 feet;
10.) South 85°24'25" East a distance of 5.00 feet;
11.) South 4°06'20" West a distance of 67.00 feet;
12.) South 6°04'35" West a distance of 248.08 feet;
13.) South 3°18'27" West a distance of 52.01 feet;
14.) South 4°55'58" West a distance of 133.00 feet;
15.) North 85°24'25" West a distance of 1.00 feet;
16.) South 4°55'58" West a distance of 45.00 feet;
17.) North 85°24'25" West a distance of 7.00 feet;
18.) South 4°56'12" West a distance of 90.00 feet;

to the northerly line of the lands of South Buffalo Railway Company; thence along the lands of South Buffalo Railway Company the following six (6) courses and distances:

North 86°44'25" West a distance of 507.02 feet;
North 57°07'11" West a distance of 2221.31 feet;
North 65°32'09" West a distance of 84.80 feet;
South 25°31'26" East a distance of 20.98 feet;
South 18°36'49" East a distance of 2677.31 feet;
South 13°46'25" East a distance of 130.09 feet

feet to the northerly line of the lands of Buffalo Crushed Stone, Inc.;
thence North 87°13'38" West a distance of 2090.0 feet to the shore line of Lake Erie; thence northerly along the shore of Lake Erie and the Patent Line the following forty-three (43) courses and distances:

1.) North 16°29'53" West a distance of 267.84 feet;
2.) North 24°25'00" West a distance of 195.01 feet;

3.) North 26°45'00" West a distance of 250.00 feet;
4.) North 31°15'00" West a distance of 205.00 feet;
5.) North 21°35'00" West a distance of 110.00 feet;
6.) North 44°00'53" West a distance of 26.38 feet;
7.) North 33°49'18" West a distance of 74.86 feet;
8.) North 34°26'26" West a distance of 12.00 feet;
9.) North 18°36'25" West a distance of 2596.47 feet;
10.) South 71°23'35" West a distance of 58.16 feet;
11.) North 16°01'08" West a distance of 70.04 feet;
12.) North 49°07'00" West a distance of 79.00 feet;
13.) North 19°16'00" West a distance of 425.00 feet;
14.) North 16°37'00" West a distance of 285.00 feet;
15.) North 25°20'00" West a distance of 360.00 feet;
16.) North 33°00'00" West a distance of 230.00 feet;
17.) North 32°40'00" West a distance of 310.00 feet;
18.) North 27°10'00" West a distance of 130.00 feet;
19.) North 23°20'00" West a distance of 315.00 feet;
20.) North 18°20'04" West a distance of 302.92 feet;
21.) North 20°15'48" West a distance of 387.18 feet;
22.) North 14°20'00" West a distance of 530.00 feet;
23.) North 16°40'00" West a distance of 260.00 feet;
24.) North 28°35'00" West a distance of 195.00 feet;
25.) North 18°30'00" West a distance of 170.00 feet;
26.) North 26°57'26" West a distance of 239.41 feet;
27.) North 23°14'06" West a distance of 65.83 feet;
28.) North 31°56'05" West a distance of 85.52 feet;
29.) North 33°37'07" West a distance of 84.53 feet;
30.) North 30°04'26" West a distance of 97.31 feet;
31.) North 18°36'25" West a distance of 191.08 feet;
32.) North 00°19'50" East a distance of 24.35 feet;
33.) North 06°26'35" West a distance of 81.45 feet;
34.) North 11°44'28" West a distance of 463.58 feet;
35.) North 2°55'00" West a distance of 170.00 feet;
36.) North 6°45'00" West a distance of 240.00 feet;
37.) North 0°10'00" East a distance of 465.00 feet;
38.) North 2°00'38" West a distance of 378.58 feet to the northerly line of Letters Patent dated February 21, 1968 and recorded in the Erie County Clerk's Office under Liber 7453 of Deeds at Page 45; thence North 71°23'35" East along the north line of the aforementioned Letters Patent a distance of 154.95 feet to the shore line; thence along the shore line the following six (6) courses and distances:

1.) South 80°14'01" East a distance of 119.30 feet;
2.) North 46°15'13" East a distance of 47.83 feet;
3.) North 59°53'02" East a distance of 53.32 feet;
4.) North 38°20'43" East a distance of 27.31 feet;

5.) North 68°12'46" East a distance of 48.67 feet;

6.)North 26°11'47"East a distance of 11.48 feet to the northerly line of the aforementioned Letters Patent; thence along the northerly line of said Letters Patent, North 71°23'35" East a distance of 1755.19 feet; thence South 35°57'25" East a distance of 35.83 feet to a point on the U.S. Harbor Line; thence, North 54°02'35" East along the U.S. Harbor Line a distance of 200.00 feet; thence continuing along the U.S. Harbor Line, North 50°01'45" East a distance of 379.54 feet to the westerly line of the lands of Gateway Trade Center, Inc.; thence along the lands of Gateway Trade Center, Inc. the following twenty-seven (27) courses and distances:

1.) South 18°44'53" East a distance of 623.56 feet;
2.) South 34°33'00" East a distance of 200.00 feet;
3.) South 26°18'55" East a distance of 500.00 feet;
4.) South 19°06'40" East a distance of 1074.29 feet;
5.) South 28°03'18" East a distance of 242.44 feet;
6.) South 18°38'50" East a distance of 1010.95 feet;
7.) North 71°20'51" East a distance of 90.42 feet;
8.) South 18°49'20" East a distance of 158.61 feet;
9.) South 80°55'10" East a distance of 45.14 feet;
10.) South 18°04'45" East a distance of 52.13 feet;
11.) North 71°07'23" East a distance of 102.59 feet;
12.) South 18°41'40" East a distance of 63.00 feet;
13.) South 71°07'23" West a distance of 240.62 feet;
14.) South 18°38'50" East a distance of 668.13 feet;
15.) North 71°28'46" East a distance of 958.68 feet;
16.) North 18°42'31" West a distance of 1001.28 feet;
17.) South 71°17'29" West a distance of 168.48 feet;
18.) North 18°42'31" West a distance of 642.00 feet;
19.) North 71°17'37" East a distance of 17.30 feet;
20.) North 18°42'31" West a distance of 574.67 feet;
21.) North 71°17'29" East a distance of 151.18 feet;
22.) North 18°42'30" West a distance of 1156.43 feet;
23.) North 71°29'21" East a distance of 569.24 feet;
24.) North 18°30'39" West a distance of 314.71 feet;
25.) North 70°59'36" East a distance of 386.47 feet;
26.) North 18°30'39" West a distance of 70.00 feet;
27.) North 70°59'36" East a distance of 400.00 feet to the PLACE OR POINT OF BEGINNING.

Containing 1075.628±Acres.

SCHEDULE B

PROPOSED LEGAL DESCRIPTION – STEEL WINDS I

ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE CITY OF LACKAWANNA, COUNTY OF ERIE, STATE OF NEW YORK, AND BEING PART OF LANDS CONVEYED FROM STATE OF NEW YORK TO BETHLEHEM STEEL CORPORATION BY PATENT FILED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 6321, PAGE 421 AND LIBER, 7453 PAGE 45, AND MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF LANDS CONVEYED TO GATEWAY TRADE CENTER, INC. BY DEED FILED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 10898, PAGE 1084, THENCE S 34°–11'–02" W A DISTANCE OF 3132.39 FEET TO THE POINT OF BEGINNING;

THENCE; S 63°–51'–41" W A DISTANCE OF 280.98 FEET TO A POINT;

THENCE NORTHERLY THE FOLLOWING 8 COURSES AND DISTANCES;

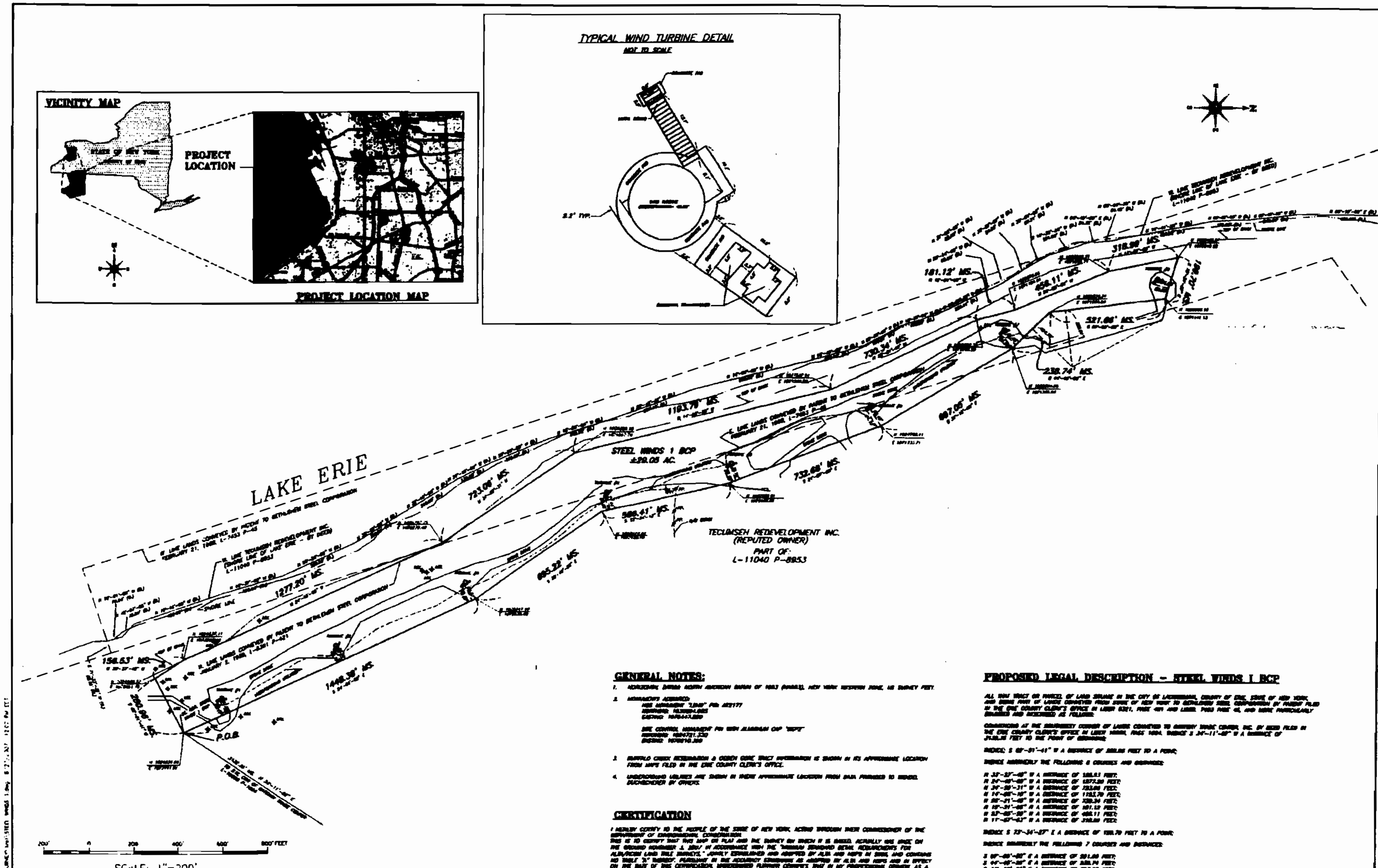
N 33°–27'–42" W A DISTANCE OF 156.53 FEET;
N 24°–40'–09" W A DISTANCE OF 1277.20 FEET;
N 34°–59'–31" W A DISTANCE OF 723.06 FEET;
N 14°–08'–10" W A DISTANCE OF 1193.79 FEET;
N 26°–21'–40" W A DISTANCE OF 730.34 FEET;
N 15°–21'–05" W A DISTANCE OF 181.12 FEET;
N 23°–05'–50" W A DISTANCE OF 456.11 FEET;
N 11°–57'–53" W A DISTANCE OF 318.99 FEET;

THENCE S 73°–34'–27" E A DISTANCE OF 199.70 FEET TO A POINT;

THENCE SOUTHERLY THE FOLLOWING 7 COURSES AND DISTANCES:

S 07°–00'–50" E A DISTANCE OF 521.86 FEET;
S 44°–46'–09" E A DISTANCE OF 238.74 FEET;
S 31°–10'–02" E A DISTANCE OF 697.05 FEET;
S 21°–07'–50" E A DISTANCE OF 732.86 FEET;
S 12°–34'–12" E A DISTANCE OF 588.41 FEET,
S 35°–40'–26" E A DISTANCE OF 695.22 FEET;
S 24°–56'–56" E A DISTANCE OF 1448.38 FEET TO THE POINT OF BEGINNING.
CONTAINING 29.08 ACRES MORE OR LESS.

SCHEDULE C



GENERAL NOTES:

CERTIFICATION

SIGNED: MARSHALL D. WILSON P.L.S.

DATE: 11/23/07

PROPOSED LEGAL DESCRIPTION – STEEL WINDS I BCP

LEGEND:

PREPARED FOR:

BQ ENERGY, LLC
P.O. BOX 338
20 JON BARRETT RD.
PATTERSON, NY 12563

CITY OF LACKAWANNA
COUNTY OF ERIE
STATE OF NEW YORK

PART OF LANDS CONVEYED FROM STATE OF NEW YORK TO BETHLEHEM STEEL CORPORATION BY PATENT FILED IN THE ERIE COUNTY CLERK'S OFFICE IN LIBER 6321 PAGE 421 AND LIBER 7463 PAGE 45

WENDEL DUCHSCHERER

STEEL WINDS I BCP

ALTA/ACSM LAND TITLE SURVEY

DATE 11/03/2007
SCALE 1"=200'

1 of 1