

**Beazer East, Inc.**

**Operation and Maintenance Plan  
On-Property Corrective Measures  
Implementation**

Koppers Inc. Facility  
Superior, Wisconsin

December 2009  
Revised September 2011



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On-Property Corrective Measures  
Implementation**

Koppers Inc. Facility  
Superior, Wisconsin

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## 1. Introduction

This Operation and Maintenance Plan (O&M Plan) was prepared to detail the long-term monitoring and maintenance of the Resource Conservation and Recovery Act (RCRA) corrective actions that were completed to address impacted soils and ditch sediments within the Koppers Inc. (KI) Facility property in Superior, Wisconsin (the on-property portion of the Site<sup>1</sup>). It has been prepared by ARCADIS on behalf of Beazer East, Inc. (Beazer), former facility owner and operator, and is a companion document to the *On-Property Corrective Measures Implementation Construction Documentation Report* (CMI Documentation Report). The O&M Plan was prepared in accordance with Wisconsin Administrative Code Chapter NR 724 – *Remedial and Interim Action Design, Implementation, Operation, Maintenance and Monitoring Requirements* (Chapter NR 724). This version supersedes a prior version dated December 2009, and reflects the as-built site conditions.

The purpose of this O&M Plan is to provide guidance on the monitoring and maintenance activities necessary to ensure the continued function and effectiveness of corrective actions.

A detailed Site description and history are provided in the *On-Property Corrective Measures Implementation Design Report* (CMI Design Report; ARCADIS, 2009). A KI Facility (Facility) location map is provided as Figure 1 of the CMI Documentation Report.

### 1.1 Summary of Corrective Actions

The completed corrective actions, as depicted on the Record Drawings (Appendix F of the CMI Documentation Report), included:

- Surface covers over impacted soils at eight non-contiguous areas that exceed human health risk-based cleanup remedial objectives. Three types of surface covers were installed:

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<sup>1</sup> The Site includes the KI Facility and affected downgradient areas. This O&M Plan specifically addresses the on-property portion of the Site (i.e., the portion of the Site located within the KI property boundaries). Beazer, in coordination with the WDNR, is evaluating and addressing the off-property portion of the Site separate from the on-property areas.

- Vegetated Surface Cover - A non-woven geotextile overlain by a 12-inch layer of general fill to support vegetative growth.
- Clay Vegetated Surface Cover - A non-woven geotextile overlain by a 12-inch layer of clay general fill and 3-inches of topsoil to support vegetative growth.
- Road Base Surface Cover - A non-woven geotextile overlain by a 12-inch layer of compacted well-graded road base material that consists of appropriate grain size materials to resist live loads from equipment operations, while including sufficient fines to achieve compaction requirements.
- Installation of a liner system over approximately 540 linear feet of the existing Outfall 001 drainage ditch on the KI Facility property. The liner system generally consists of Reactive Core Mat™ (RCM), 6 inches of general fill, and 12 inches of rip-rap,

## 1.2 Sources for Additional Information

Additional Site-specific information may be found at the following locations:

- Project file in the Wisconsin Department of Natural Resources (WDNR) regional office:

Wisconsin Department of Natural Resources  
1401 Tower Avenue  
Superior, WI 54880

- Document repository at the Superior Public Library:

Superior Public Library  
1530 Tower Avenue  
Superior, WI 54880

The WDNR point of contact for questions on specific action is:

Mr. Christopher Saari  
2501 Golf Course Road  
Ashland, WI 54806  
Phone: 715.685.2920

## **2. Monitoring and Maintenance**

Although Chapter NR 724.13 indicates quarterly monitoring and progress reporting is required, quarterly monitoring and progress reporting will be conducted for a period of 1 year following construction completion, and then annual monitoring and progress reporting thereafter. Less frequent inspections are appropriate for the implemented remedies for the following reasons:

- The surface covers are not active remedial systems
- After vegetation is established over the Vegetated and Clay Vegetated Surface Covers, which is anticipated to occur over the first year of quarterly monitoring, the areas will be sufficiently stabilized
- The Road Base Surface Covers have been sufficiently stabilized during the construction process through the application of Portland cement in the subgrade and subgrade and final grade compaction requirements

A Site Inspection Form is included as Attachment A. This form is to be completed during each post-construction monitoring event.

A summary of the monitoring and maintenance activities will be detailed in an annual progress report, prepared in accordance with Chapter NR 724.13 (3) and submitted to the WDNR. Photographs of any damage and repairs will be included in the report, where possible.

The remainder of this section outlines the monitoring and maintenance activities.

### **2.1 Surface Cover Monitoring and Maintenance Activities**

For each monitoring event, the surface covers will be inspected to evaluate whether the surface covers have been compromised from natural erosive forces or from human activities. The surface cover areas will be investigated for cracks, sign of subsidence or failure, unwanted ponding of water, or visible sections of geotextile. The need for additional gravel at Road Base Surface Covers and for additional seeding or planting of Vegetated Surface Covers and Clay Vegetated Surface Covers will also be assessed.

## **2.2 Outfall 001 Drainage Ditch Monitoring Activities**

Monitoring of the restored Outfall 001 drainage ditch will consist of visual reconnaissance to evaluate the integrity of the restored ditch and inspection for signs of erosion.

In addition to monitoring the condition of the restored Outfall 001 drainage ditch, monitoring for dense, non-aqueous phase liquid (DNAPL) accumulations within the constructed sumps will be also be conducted. DNAPL monitoring will be conducted monthly for the first three months following completion of the work. If significant DNAPL accumulations occur during that time, more frequent monitoring may be conducted. If significant DNAPL accumulations do not occur during that time, the frequency will be reduced to quarterly for the remainder of the first year. If significant NAPL accumulations do not occur during that time, the frequency will be reduced to semiannual for the second year, after which time the need for, frequency of, and seasonality of continued monitoring will be assessed. During each DNAPL monitoring event, the standpipes located within each sump will be checked for DNAPL accumulations using an oil/water interface probe or other applicable method (e.g., a weighted string). If present, DNAPL will be removed using a pump or bailer and containerized for off-Site disposal or reuse consistent with applicable state and federal regulations.

### **3. Contingency Plan**

If the inspection reveals that the surface covers or restored Outfall 001 drainage ditch are damaged or not operating as intended, repairs will begin as soon as practical based on the nature of maintenance/repair needed. Vegetation will be established as the season allows.

Damage to surface covers will be defined as areas of erosion or scour greater than 4-inches deep in the cover material. If such damage is noted, it will be repaired by backfilling with a soil or stone with properties similar to those of the surface cover being repaired and will be compacted and graded to match the surrounding grade. For Vegetated Surface Covers and Clay Vegetated Surface Covers, once the cover soil has been repaired, the affected area will be re-seeded or replanted and inspected monthly or as necessary, until a healthy vegetative cover is re-established. If washed out areas of rip-rap are observed in the restored Outfall 001 drainage ditch, additional rip-rap will be placed as necessary to prevent continued or ongoing erosion. In addition, excess sediment buildup that occurs during the period that vegetation is being established in the work areas will be removed.



#### **4. Requirements for Future Work**

To achieve the corrective action objectives set forth in the Focused CMS, the following activities, which may compromise the effectiveness of the surface covers and restored Outfall 001 drainage ditch, are prohibited unless performed in accordance with the provisions described in Sections 4.1 and 4.2 below, where applicable, or specifically approved by the WDNR:

- Removal of the surface cover or components of the restored Outfall 001 ditch.
- Replacement of the surface cover, or components of the restored Outfall 001 drainage ditch, with another cover or structure that does not match the intent of the surface covers and Outfall 001 drainage ditch restoration as defined in Section 1 of the CMI Documentation Report.
- Excavating or grading of the land surface within the boundaries of the surface cover or restored Outfall 001 ditch. Placement of additional fill atop the surface cover is permitted without restriction in upland areas.
- Construction or placement of a building or other structure within the boundaries of the surface cover or restored Outfall 001 drainage ditch.
- Any other activity that may disturb, displace, or otherwise compromise the integrity of one or more of the surface covers or restored Outfall 001 drainage ditch.
- Plowing for agricultural cultivation within the boundaries of the surface cover or restored Outfall 001 drainage ditch.

##### **4.1 Regulatory Requirements and Guidance**

Intrusive and waste management activities conducted within the corrective action areas shall be conducted in accordance with applicable state and federal rules, regulations, and guidance. The regulatory requirements may include but are not limited to:

- USEPA regulations, including Title 40 of the Code of Federal Regulations (CFR);
- Occupational Safety and Health Administration (OSHA) regulations, including Title 29 CFR Parts 1910 and 1926, OSHA and United States Department of Labor;
- State of Wisconsin Rules and Regulations regarding disposal/treatment, transportation, and management of hazardous waste;

- Recommendations of the National Institute of Occupational Safety and Health (NIOSH);
- Applicable guidelines of the Douglas County Department of Health and Human Services;
- Transportation regulations, including U.S. Department of Transportation (USDOT) regulations (including Title 29 CFR Parts 171 and 172) and Wisconsin Department of Transportation (WisDOT) rules and regulations;
- Wisconsin Administrative Code Chapters NR 151 – *Runoff Management* (Chapter NR 151); and
- Other applicable federal, state, and local government regulations.

#### **4.2 Site-Specific Requirements**

Prior to conducting activities that would impact the corrective action components described above, except for the monitoring and maintenance activities described in Sections 2 and 3, a work plan must be developed that describes the proposed activities and, at a minimum, addresses the items below. Any work plan will require approval by the WDNR and Beazer. Minimum items to be included in the work plan are:

- A description and schedule of the proposed activities.
- A description of the proposed material handling procedures and estimate of the impacted material quantities to be generated. This shall include details associated with temporary materials staging areas and decontamination activities.
- Proposed methods of managing groundwater that may be encountered during the proposed activities.
- The proposed method of restoring the affected surface cover or Outfall 001 drainage ditch to match or improve the conditions indicated on the Record Drawings (Appendix F to the CMI Documentation Report).
- Proposed erosion control methods including stormwater management.
- Proposed monitoring activities.
- A Health and Safety Plan.

- Quality Assurance and Quality Control Procedures for material handling and restoration of disturbed corrective action components.

#### 4.3 Notification

Any intrusive work performed within the work areas as specified on the Record Drawings (Appendix F of the CMI Documentation Report) shall be performed only upon prior notification to the WDNR and Beazer. Such work shall only be performed in accordance with an approved work plan. Notification shall be made at least 30 days prior to the commencement of any intrusive work unless in an emergency situation. In an emergency situation, the WDNR and Beazer shall be notified by telephone as soon as possible, but no later than one business day following the initial emergency response action.

Written notifications shall be submitted to:

Beazer East, Inc.  
One Oxford Centre, Suite 3000  
Pittsburgh, Pennsylvania 15219  
Contact: Jane Patarcity

Wisconsin Department of Natural Resources  
Mr. Christopher Saari  
2501 Golf Course Road  
Ashland, WI 54806  
Phone: 715.685.2920

The WDNR and Beazer may have a representative observe any intrusive work.



**Attachment A**

Site Inspection Form

**Post Construction Site Inspection Form**  
**Beazer East, Inc.**  
**Koppers Inc. Facility, Superior, Wisconsin**

Inspection Date: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_

Inspector Name and Organization: \_\_\_\_\_

Inspector Signature: \_\_\_\_\_

**Area A**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

**Area B**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

**Area F-1**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_

**Area F-2**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_

## Area G

<i>(check one)</i>	No	Yes	If yes, provide description and take photos
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

## Area H

<i>(check one)</i>	No	Yes	If yes, provide description and take photos
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

Photo: \_\_\_\_\_; \_\_\_\_\_

**Areas S-1 and S-2**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

**Outfall 001 Drainage Ditch**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_