

Operations & Maintenance Plan

Lab USA's Ash Processing Facility - Red Wing

Red Wing, Minnesota



SEH No. LABUS 136249 4.00

June 15, 2016



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SEH No. LABUS 136249

June 15, 2016

Short Elliott Hendrickson Inc.
1200 South 25th Avenue – PO Box 1717
Saint Cloud, MN 56302-1717
320.229.4300



Table of Contents

Title Page
Table of Contents

	Page
1.0 Introduction	1
2.0 Facility Operations	2
2.1 Facility Design	2
2.2 Site Management and Administration	2
2.2.1 Hours of Operation	2
2.2.2 Site Access and Traffic Control	3
2.2.2.1 Directions to the Facility	3
2.2.2.2 Security.....	3
2.2.2.3 Traffic.....	3
2.2.2.3.1 Red Wing Land Disposal Facility (SW-174).....	3
2.2.2.3.2 Xcel Energy's Red Wing Generating Plant.....	4
2.2.2.3.3 Xcel Energy's Red Wing Ash Disposal Facility (SW-307)	4
2.2.2.4 On-Site Road Design and Maintenance.....	4
2.2.3 Personnel and Worker Training.....	5
2.2.4 Equipment and Vehicles.....	6
2.2.5 Safety and Emergency Procedures.....	6
2.2.5.1 Emergency Procedures.....	6
2.2.5.2 Equipment Failure and Power Outages	6
2.2.6 Site Inspection	7
2.2.6.1 Storage Areas.....	7
2.2.7 Facility Maintenance.....	8
2.2.8 Operating Record	8
2.2.9 Annual Report.....	9
2.3 Waste Management Operations.....	9
2.3.1 Offloading Operations	9
2.3.2 Processing Operations	9
2.3.3 Frequency and Method of Waste Removal.....	10
2.3.4 Expected Storage and Storage Capacity	10
2.3.5 Ultimate Deposition of Waste	10
2.4 Response to Site Conditions	11
2.4.1 Wet Weather Conditions	11
2.4.2 Windy Conditions.....	11
2.4.3 Litter Control	11
2.4.4 Cold Weather Operations.....	11
2.4.5 Dust Control.....	11
2.4.6 Noise Control.....	11
3.0 Waste Management Area Operations	12
3.1 Tipping Area	12
3.1.1 Load Inspection	12

Table of Contents (Continued)

3.2	Ash Processing Area	12
3.2.1	Offloading Operations	12
3.2.2	Crushing/Screening Process (Oversized Material Removal)	12
3.2.3	Magnetic Separator Processing (Mid-Fraction Removal)	13
3.2.4	Eddy Current Processing (Mid and Fine-Fraction Non-Ferrous Removal)	13
3.2.5	Loading Operations	13
4.0	Contingency Action Plan	13
4.1	Contingencies That May Need Corrective Action	14
4.2	Contingency Action Reporting	14
4.2.1	Verbal Notification	15
4.2.2	Written Assessment Report.....	15
4.2.3	Event-Triggered Contingencies	15
4.2.4	Severe Rainfall/Erosion	15
4.2.5	Contaminated Stormwater Spill.....	15
4.2.6	Building and Vehicle Fires	16
4.3	Inspection-Triggered Contingencies.....	16
4.3.1	Vandalism.....	16
4.3.2	Impervious Surface Damage.....	16
4.4	Follow-Up To Emergency Action.....	16
4.5	Equipment Availability	16
4.6	Amendment Of Contingency Plan	17
5.0	Site Closure Plan	17
5.1	Potential Applicable Reasons For Closure.....	17
5.2	General Closure Procedures.....	17
5.2.1	Notification of Closure	17
5.2.2	Removal of Waste	17
5.2.3	Cleaning of Storage Areas	17

List of Tables

- Table 1 – Emergency Contacts
- Table 2 – Event-Triggered Contingencies
- Table 3 – Inspection-Triggered Contingencies
- Table 4 – Cost Estimate: Event-Triggered Contingencies
- Table 5 – Cost Estimate: Inspection-Triggered Contingencies

List of Appendices

- Appendix A
- Inspection Checklist

Table of Contents (Continued)

Permit Drawings

Permit Drawing No. G000	Title Sheet
Permit Drawing No. C100	Existing Conditions
Permit Drawing No. C200	Site and Utility Layout
Permit Drawing No. C300	Grading Plan
Permit Drawing No. C400	Details
Permit Drawing No. C401	Details
Permit Drawing No. C402	Details
Permit Drawing No. C403	Details
Permit Drawing No. A100	Floor Plan and Perspective
Permit Drawing No. A200	Exterior Elevations

Operations & Maintenance Plan

Lab USA's Ash Processing Facility - Red Wing

Prepared for Lab USA Corporation

1.0 Introduction

This report is intended to fulfill the MPCA requirements regarding design as stated in Minnesota Rules 7001.3300 (all solid waste facilities), 7035.2855 (solid waste storage standards), and 7035.2870 (solid waste transfer facilities). The following submittals comprise the full application for the proposed issuance of the solid waste permit number:

1. Permit Application and Checklists, Lab USA's Ash Processing Facility – Red Wing (SEH, May 2016).
2. Design Report, Lab USA's Ash Processing Facility – Red Wing (SEH, May 2016).
3. Operation and Maintenance Plan, Lab USA's Ash Processing Facility – Red Wing (SEH, May 2016).
4. Permit Drawings, C100, C200, C300, A100, Lab USA's Ash Processing Facility – Red Wing (SEH, May 2016).

The checklists referenced above were prepared by the MPCA to assist in the preparation and review of solid waste permit applications and include:

- Solid Waste Facility Application Checklist (Minnesota Rules 7001.0050, 7001.0060, 7001.0070, 7001.3150, 7001.3300 and 7035.2870)
- Solid Waste Transfer Station Application Checklist (Minnesota Rules 7001.2870 and 7001.3400)

The objective of the O&M Plan is to establish guidelines for use by personnel in the daily operations. The document is organized as follows:

- Section 2.0 provides information regarding general facility operations. This includes procedures for handling waste, operating and maintaining various features, and monitoring and inspection.
- Section 3.0 presents information on the Waste Management Area Operations.
- Section 4.0 presents the Contingency Action Plan.
- Section 5.0 presents the Closure Plan.

2.0 Facility Operations

Procedures for handling waste materials, operating and maintaining the facility, and monitoring and inspection are included in this operating manual that should be kept at the facility office available for reference. Operations will comply with Minnesota Rules 7035 and the facility permit.

The proposed resource recovery facility in Red Wing will include development of a 27,500 square foot building to house all processing operations indoors. Lab's processing is a purely mechanical process that does not change the classification of combustor ash because of its additive-free process. The operations will include:

- Offloading
- Crushing/Screening Processing (oversized material removal)
- Magnetic Separator Processing (mid-fraction ferrous and non-ferrous removal)
- Eddy Current Processing (mid and fine-fraction non-ferrous removal)
- Loading Operations

Based on equipment capacity, it is anticipated that the proposed facility can process up to 150,000 tons of combustor ash each year. The proposed resource recovery facility will process combustor ash currently being generated at Xcel Energy's Red Wing Generating Plant as well as combustor ash previously placed in the City's Red Wing Land Disposal Facility (co-owned and operated with Goodhue County under solid waste permit number SW-174) and Xcel Energy's Red Wing Ash Disposal Facility (operated under solid waste permit number SW-307). Operations of each landfill are regulated under the current facility solid waste permits and Minnesota Rules 7035.2885 for combustor ash land disposal facilities.

All ownership, operations, and liabilities of the City's landfill and Xcel Energy's landfill will remain with the respective permittees. Any modified operations for excavation of combustor ash and replacement of processed ash will be the responsibility of the landfill owners and will be included in their separate operations plans by each permittee.

2.1 Facility Design

The Facility comprises four separate waste management areas on the Facility:

1. Interior Tipping Floor Area
2. Interior Ash Processing Area
3. Interior Loadout Area
4. Exterior Roll-Off Storage Area

Operations for each of the areas vary depending on day to day operations. The location of each of the waste management areas is illustrated on **Permit Drawing No.s C200 and A100**.

2.2 Site Management and Administration

2.2.1 Hours of Operation

Normal hours of operation for truck transport to and from the landfill would be from 7:00 am to 5:00 pm Monday through Friday. Facility operations may continue past 5 pm to complete processing of any stockpiled ash in the offloading area. If needed, the hours of operation

may also include work from 7:00 am to 5:00 pm on Saturdays only during the first year of operations.

Because the facility is not open to the public, a sign at the facility will be posted stating such and will not include some signage requirements stated in Minnesota Rules 7035.2870, Subpart 5, Item I (e.g., list of waste accepted or not accepted, hours of operation, etc.).

2.2.2 Site Access and Traffic Control

2.2.2.1 Directions to the Facility

From US Highway 61, vehicles must turn south on Bench Street (also known as County 1 Boulevard) and proceed for approximately 1 mile. Turn west onto the gravel access road leading to City, County, and Xcel Energy solid waste disposal facilities. Turn at the first left, and then right to toward the Facility.

2.2.2.2 Security

Security of the site includes a 5-foot chain gate across the private access road. The Facility entrance on the north side of the site is illustrated on **Permit Drawing No. C300**. The site is also accessed from the west. Travel through Xcel's secured property is required in order to use the west entrance road. The perimeter of the Facility property does not utilize fencing to prevent the unauthorized entry of persons onto the Facility property due to its remote location. Signs will be placed at all outside entrances limiting access to unauthorized personnel.

All personnel should prevent unauthorized entry onto the facility by correct use of the front entrance gate. The gate will remain closed and locked during hours outside of operation.

2.2.2.3 Traffic

The proposed resource recovery facility will process combustor ash currently being generated at Xcel Energy's Red Wing Generating Plant as well as combustor ash previously placed in nearby landfills owned by the City of Red Wing and Xcel Energy. As a result traffic patterns will vary at different points in time based on the needs of each facility. Roads and anticipated traffic patterns are shown on **Permit Drawing No. C200**. In addition to combustor ash transport to and from Xcel's Generating Plant as well as the two landfills, up to the volume equivalent of 15 roll-offs will be removed from the site per week for the recovered metals obtained during processing.

2.2.2.3.1 Red Wing Land Disposal Facility (SW-174)

The City of Red Wing is in the process of implementing the final closure of the City's Landfill. The City's goal is to complete their landfill final closure by the end of 2018 for placement into the state-managed Closed Landfill Program. To maximize the recovery of material, the City's Landfill will develop a phasing plan to excavate and re-place waste over an approximate one year period only, the first year of operation of the Lab USA's Ash Processing Facility – Red Wing.

Trucks will be loaded within the lined area of the landfill to transport waste material from the City's Landfill to the processing facility. Ash transport will include up to an average of 25 to 30 truckloads per day consisting of highway quad axle dump trucks with about 18 cubic yards of capacity. Trucks will cross tracking pads to minimize any transport of waste material onto access roads. Trucks will enter the processing facility from the eastern access road. Then they will back up into the processing building to offload the excavated waste material under cover onto a tipping floor. Once empty, the truck will move westward to the loading area to be re-filled under cover with processed combustor ash. The truck will return to the City's Landfill

via the eastern access road for disposal in preparation of final closure activities in accordance with the solid waste permit issued by the MPCA. All processed waste material from the City's Landfill will only be returned to the City's Landfill.

2.2.2.3.2 *Xcel Energy's Red Wing Generating Plant*

Under Xcel Energy's current permit, up to twelve (12) truckloads of combustor ash are hauled each day, Monday through Sunday, from the Xcel Energy Red Wing Generating Facility to the Xcel Energy Ash Disposal Facility via Bench Street. The current trucks consist of highway quad-axle dump trucks with about 18 cubic yards of capacity and are covered for transport. No change is anticipated in the number of loads entering the site from Bench Street. However, before the combustor ash is permanently disposed into Xcel's Landfill, it can be diverted into Lab USA's Ash Processing Facility to recover ferrous and nonferrous metals. At this time, diversion of the combustor ash from Xcel's Generating Plant is anticipated to begin during the second year of operations. For contingency purposes, the processing facility can be bypassed with the combustor ash being placed directly in the landfill in accordance with the current landfiling practices.

When processing combustor ash from Xcel's Generating Plant, trucks will enter the processing facility from the eastern access road and will back up into the processing building to offload the fresh combustor ash under cover onto a north-facing, tipping floor located on the eastern end of the processing building. Once empty, the truck will return to the Generating Plant via the eastern access road. The tipping floor and loading area will have sufficient storage capacity of pre-processed and processed material to manage weekend and holiday schedules. All processed combustor ash from the Xcel's Generating Plant will only be returned to the Xcel's Landfill.

2.2.2.3.3 *Xcel Energy's Red Wing Ash Disposal Facility (SW-307)*

Following closure of the City's Landfill, diversion of combustor ash from Xcel's Generating Plant will begin during the second year of operations. Based on the capacity of the processing equipment, additional processing capacity will be available. Xcel Energy has been disposing combustor ash at their landfill for nearly 30 years; therefore, in order to recover the resources within the existing landfill, Xcel will develop a phasing plan for their landfill to excavate and re-place waste over a number of years. Combustor ash obtained from Xcel's Landfill will not be processed until all of the City's accessible landfill ash has been processed

Similar to operations from the City's Landfill, trucks will be loaded within the lined area of the landfill to transport combustor ash from the Xcel's Landfill to the processing facility. Trucks will consist of off highway dump trucks with up to 25 cubic yards of capacity, up to approximately twenty (20) truckloads per day. Trucks will enter the processing facility from the western access road. Then they will back up into the processing building to offload the excavated waste material under cover onto a tipping floor at the eastern edge of the building. Once empty, the truck will move westward to the loading area to be re-filled under cover with processed combustor ash. Then the truck will return to the Xcel's Landfill for disposal in accordance with the solid waste permit issued by the MPCA. All processed waste material from the Xcel's Landfill will only be returned to the Xcel's Landfill.

Processing of material from the City's Landfill and Xcel's Landfill will not occur during the same time periods, so truck traffic would be limited per that required for each entity.

2.2.2.4 **On-Site Road Design and Maintenance**

Under Xcel Energy's current solid waste permit, approximately 18 truckloads of combustor ash are hauled each day, Monday through Sunday, from the Xcel Energy Red Wing

Generating Facility to the Xcel Energy Ash Disposal Facility via Bench Street. No change is anticipated regarding traffic associated with Bench Street except for the removal of up to the equivalent volume of 15 roll-offs each week for recovered materials from the processing.

Traffic entering the property occurs on a gravel road currently maintained by Xcel Energy and the City of Red Wing for access to their respective landfills. Roads that cross the site will be Class 5 base course aggregate as specified in MnDOT Section 3138 "Aggregates for Surface and Base Course" or comparable underlay with separation geotextile.

2.2.3 Personnel and Worker Training

Lab USA will provide and maintain a personnel training program consisting of classroom instruction and on-the-job training. The program must address the requirements identified in Minnesota Rules 7035.2855 (solid waste storage standards), and 7035.2870 (solid waste transfer facilities). As a separate certification for a transfer station operator has not been established by the MPCA, Lab USA will work with MPCA to establish any certification needs that may include landfill operator certification. As applicable, at least one certified operator will be present at all times while the facility is in operation. Personnel must complete all training within six months after the date of employment.

The number of operating personnel at the site is dependent upon the level of activity occurring at the site. Typical personnel on-site include:

- Loader, forklift, and/or skid steer operator(s)
- Operations manager
- Operators and attendants
- Truck drivers (transient, from Xcel Energy, City of Red Wing, and/or contacted by Lab USA for ash receipt, removal, and roll-off pick-up)

Operations must be completed under the direct supervision of a State of Minnesota Certified Waste Operator as specified in Minnesota Rules 7048.0100 to 7048.1300. Personnel's training is conducted in accordance with Minnesota Rules 7035.2545. The program will train facility personnel to deal effectively with potential issues including:

- Accepting and managing waste approved for storage at the facility
- Waste acceptance procedures and means for identifying approved waste loads.
- Using and maintaining all facility emergency equipment.
- Responding to fires

In addition, training may include personnel safety requirements such as:

- Back Safety
- Fall Protection
- Lift Certification
- Fire Safety
- Lock Out/Tag Out
- Respiratory Protection
- OSHA Training (all employees) – Personal Protective Equipment

The training program will be evaluated annually and revised to correct deficiencies if any are found and to address any modifications to the facility or its monitoring program. Lab USA will

record all personnel training on the facility operating record and submit the dates of training in the annual report.

2.2.4 Equipment and Vehicles

Final equipment purchase has not been completed at the time of permitting, Vehicles and equipment anticipated to be used at the Facility include the following:

- Highway quad-axle dump trucks (18 cubic yards) - from the Generating Plant and from the City's Landfill
- Off highway articulated dump trucks (up to 25 cubic yards)
- Roll-off trucks
- Front-end loader, skid steer and/or forklifts
- Hoppers and/or bins
- Roll-offs (15 cubic yards)
- Conveyor belt systems
- Crusher/Screening Equipment
- Magnetic Separators Equipment
- Eddy Current Processing Equipment

Support functions are performed at the site utilizing the equipment listed above or additional equipment such as graders, water trucks, etc. Support functions include general grading, maintaining access roads, snow removal, and dust control. Additional equipment will be brought to the site as needed.

Transfer vehicles removing materials from the site will meet the requirements of Minnesota Rules 7035.0800, subparts 2 and 3. The vehicles will be maintained in good repair and regularly cleaned to prevent nuisances, pollution, and insect breeding. Daily activities include checking vital engine fluids; cleaning tracks, blades and wheels; and overall visual observation of major equipment components (i.e., tires, blades, tracks, hydraulic systems, etc. Any major maintenance of equipment will be conducted off-site.

2.2.5 Safety and Emergency Procedures

Lab USA's operations will include a safety program that ensures all staff operating equipment have been properly trained and certified in equipment use and operation. Additionally, Lab USA will ensure that all staff are provided with and understand there is an expectation that they use appropriate personal protection equipment at all times.

2.2.5.1 Emergency Procedures

Emergency procedures will be posted throughout the Facility. Specific emergency contacts have not been established at this time but will be completed prior to facility start-up. Staff and their contact numbers designated as safety coordinators or as the designated backup will include:

- Site Supervisor Phone to be determined
- Kane Flett 920.544.9710 (office) or 920.544.2855 (cell)

2.2.5.2 Equipment Failure and Power Outages

To mitigate the potential effects of power outages, Facility personnel exercise caution when working or operating equipment near any location where power enters or crosses Facility property. In the event of a power outage operations will be temporarily suspended.

To mitigate effects of equipment failure, the Facility will perform preventive maintenance on equipment at service intervals recommended by the manufacturer.

2.2.6 Site Inspection

Facility operators will conduct site inspections in accordance with Minnesota Rules 7035.2855 Subparts 4 and 5, and 7035.2870 Subpart 5. The Facility grounds will be inspected at least once per week in accordance with the inspection log included in **Appendix A**. Inspections will include the following areas:

- Site area (parking, traffic, access roads, and outdoor storage areas)
- Safety and emergency equipment
- Security devices and/or fencing
- Concrete floor integrity
- Surface water drainage

Processing equipment Minimum inspection requirements include:

- A facility inspection, at least once every 30 days, for malfunctions, deterioration, or discharges that may result in either the release of pollutants to the environment or a threat to human health.
- Scheduled inspections of monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment used to prevent, detect, or respond to environmental or human health hazards.
- Monthly inspection of surface drainage areas for soil erosion, clogging or silting of drainage ditches, growth of nuisance vegetation, discharge areas from culverts, observation of distressed vegetation, and nuisance litter.
- Inspection of storage areas including interior storage and exterior storage. Exterior storage areas for roll-offs will be kept waste free and roll-offs covered at all times taking care to minimize exposure during placement of recovered materials during precipitation events.
- Inspection of processing equipment to verify functionality of safety features and for signs of wear and maintenance needs.

Inspection logs will be prepared for the major activities listed above and maintained on-site. The inspection log includes the date of inspection, the inspector's name, observations, listed deficiencies if any, and actions taken. Any discovery of damages and their subsequent repairs will be made within 2 weeks of discovery and all repairs will be documented on the inspection and/or maintenance logs.

2.2.6.1 Storage Areas

Requirements for the inspection of the concrete storage areas are as follows:

1. While the storage area is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:
 - a. Deterioration, malfunctions, or improper operation of run-on and run-off control systems;
 - b. The presence of leachate in and proper functioning of leachate collection and removal systems; and
 - c. Improper functioning of wind dispersal control systems.

2. The waste in the storage area must be removed at least annually. When the waste is removed, the liner must be inspected for deterioration, cracks, or other conditions that may result in leaks.
3. If deterioration, cracks, or other conditions are identified as causing or capable of causing a leak, the owner or operator must notify the MPCA in accordance with the Contingency Action Plan of the condition in writing within seven days after detecting the condition and:
 - a. Repair or replace the liner and obtain a certification from an engineer registered in Minnesota that the liner has been repaired and leakage will not occur; or
 - b. Comply with the requirements of the Contingency Action Plan or Minnesota Rules 7035.2615 within the time period specified in the permit.

2.2.7 Facility Maintenance

Facility maintenance will be conducted in accordance with Minnesota Rules 7035.2855 Subpart 3 and 7035.2870 Subpart 5. The offloading and loading areas will typically be cleaned on a regular basis with all residue delivered to the appropriate disposal facility. Cleaning may consist of a combination of dry or wet methods (e.g., sweeping, spraying, etc.) appropriate to the work area and weather conditions. The maintenance performed at the recycling facility and time frames to complete will be used to monitor conditions:

- Keep roads, gates, doors, and tipping floor areas clear of obstructions at all times.
- Daily sweeping of doorways and concrete aprons.
- Drainage systems in ash storage and processing areas will be cleaned and sediment removed from trench drain on a weekly or monthly basis, as needed.
- Repair or replace any leaking or damaged storage containers.
- Although ash processing isn't expected to produce litter, the Facility grounds will be cleared of errant litter at least once every seven days.
- Dust, windblown material, vermin populations, and other nuisance conditions will be monitored and controlled as necessary.
- Remove, dispose of, and replace any Class 5 crushed gravel from the facility grounds that may have become contaminated.
- Record all maintenance activities on inspection and/or maintenance forms in **Appendix A**.

2.2.8 Operating Record

Lab USA must maintain a written operating record. The record must contain the following information:

1. The amount, type, and date of waste received.
2. The management techniques used.
3. Summary reports and details of events requiring contingency action.
4. Records and results of inspections.
5. The volume and frequency of stormwater removal, if necessary.

The operating record will be maintained for a minimum of 5 years following closure.

2.2.9 Annual Report

In accordance with Minnesota Rules 7035.2855 and 7035.2870, Lab USA will submit an annual report to the commissioner by February 1 on activities for the previous calendar year. The report will include:

1. The permit number, name, and address of the facility and year covered by the report.
2. The signature of the owner or operator, certifying the accuracy of the report.
3. The quantity and type of waste handled at the facility.
4. The waste storage approval date, name, and address of the facility.
5. A summary of the operator's inspections of the waste storage facilities.
6. An assessment of the adequacy of the closure and contingency action plans.
7. Personnel training information.

For the compost facility, the annual report should include: the type and quantity, by weight or volume, of yard waste received at the compost facility; the quantity, by weight or volume, of compost produced; an average of the inert test results; the quantity, by weight or volume, of compost removed from the facility; and a market description.

2.3 Waste Management Operations

As part of the facility plan, a summary of the waste management operations is provided in order to assess design features described in Section 3.2 in reference to specific site activities. The following section summarizes operations in reference to offloading, frequency and method of waste removal, storage capacity and expected storage, and ultimate waste deposition.

2.3.1 Offloading Operations

Planned traffic patterns are illustrated on **Permit Drawing No. C200** and summarized as follows:

- During the first year of operations, all trucks coming from the City's Landfill will be highway quad-axle trucks and will access the processing facility from the eastern access road.
- During the second year of operations and thereafter, all trucks coming from Xcel Energy's Red Wing Generator plant will be highway quad-axle trucks and will approach the processing facility from the eastern access road.
- During the second year of operations and thereafter, off highway dump trucks will be used to haul combustor ash from Xcel's Landfill only and will approach the processing facility from the western access road.

All trucks will back up into the processing building to offload the fresh combustor ash under cover onto a north-facing, tipping floor located on the eastern end of the processing building. Offloaded combustor ash may be stored for several days to optimize moisture content for processing and accommodate weekend and holiday hauling schedules. To obtain optimum moisture content, ash with moisture contents below initial levels may be wetted, as necessary, prior to processing, while ash with higher moisture contents may need to dry slightly in order to meet a processing moisture content range of 15 – 22 percent.

2.3.2 Processing Operations

The general layout of the processing equipment is shown in **Permit Drawing No. A100**. Modifications to the layout may be necessary during the final design of the processing facility.

and the refinement of site operations. Detailed operation procedures of the processing equipment will be established during final design, installation, and initial operations of the Facility.

General processing operations are summarized as follows:

- Combustor ash will be removed from the tipping floor and storage area using a loader and placed into the hopper of a grinder and screening system to separate particles for the conveyor system.
- Conveyors will carry the ash through a series of magnetic separators and eddy current machines to segregate the waste material by size, density, and magnetic properties.
- Within the process, ferrous metals, nonferrous metals, bulky waste materials, and residual combustor ash will be separated and managed as described in the following section.

2.3.3 Frequency and Method of Waste Removal

During processing, waste streams will be generated and managed as follows:

→ Ferrous Scrap Metal → Covered Roll-off – Ferrous Material

→ Nonferrous Scrap Metal → Covered Roll-off – Nonferrous Material

→ Bulky Waste Material (Oversized/Unburnt Material) → Loading Area (Hauled to Landfill)

→ Residual Combustor Ash Material → Loading Area (Hauled to Landfill)

Hoppers and/or bins will be used to collect separated materials within the building. As hoppers or bins fill, the recovered material will be moved to its final destination listed above by front-end loader, skid steer and/or forklift operators. Covered roll-offs will be stored in the designated storage area outside the building.

Processed or residual combustor ash will be placed in the loading area for removal. As with the offloading area, residual combustor ash may be stored in the loading area for several days to accommodate weekend and holiday hauling schedules. Material will be loaded by front-end loader into dump trucks for transport into the designated combustor ash landfill.

Once full, covered roll-offs will be removed from the site as needed to suitable metals processing facilities for beneficial use. Up to seven roll-offs will be available at any one time to accommodate storage of recovered metals with up to 15 roll-offs removed from the site per week.

2.3.4 Expected Storage and Storage Capacity

In order to accommodate weekend and holiday schedules, it is assumed that, at a minimum, three to four days of storage will be needed for combustor ash coming directly from Xcel Energy's Red Wing Generating Plant. Additional storage on the tipping floor is also provided to allow evaluation and management of moisture content of ash coming from the landfills; however, hauling schedules from the landfill can be adjusted as needed based on processing operations and storage capacity. Less storage is provided on the loading end because ash is only placed there as a result of processing.

2.3.5 Ultimate Deposition of Waste

The proposed resource recovery facility will process combustor ash currently being generated at Xcel Energy's Red Wing Generating Plant as well as combustor ash previously placed in the City's Red Wing Land Disposal Facility (SW-174) and Xcel Energy's Red Wing

Ash Disposal Facility (SW-307). As a result, combustor ash obtained from the City's Landfill will be processed with all residual material returned to the City's Landfill. Likewise, all combustor ash received from the Generating Plant and obtained from Xcel's Landfill will be processed with all residual material returned to Xcel's Landfill. Operations of the landfills are regulated under their respective facility solid waste permits and Minnesota Rules 7035.2885 for combustor ash land disposal facilities.

Ferrous and nonferrous material recovered from the processing will be transported off-site as a recycled commodity ready for further metals processing at another facility. No recovered material will be transported from the processing unless the Lab USA has reasonable belief that the person or facility receiving the waste may lawfully do so under applicable federal, state, or local rules. Lab USA will verify that the person or facility receiving the waste holds a valid license, permit, or other approval, or that no such approval is required.

2.4 Response to Site Conditions

A number of conditions may occur that could require modifications to daily operations. The following sections identify a number of conditions and planned responses.

2.4.1 Wet Weather Conditions

The concrete floor of the building includes insurmountable curbs and grading is sloped away from the building to control run on during very wet conditions. The operator has the option to stop operations if weather conditions make normal operation difficult due to potential contamination and worker safety.

2.4.2 Windy Conditions

Processing of combustor ash will be completed in the enclosed areas to minimize problems associated with windy conditions. At the operator's discretion, combustor ash may be wetted to minimize the potential for dust.

2.4.3 Litter Control

Although ash processing isn't expected to produce litter, the Facility grounds will be cleared of errant litter at least once every seven days.

2.4.4 Cold Weather Operations

No special waste handling measures are anticipated due to cold temperatures. During extremely cold temperatures, the processing operations may be suspended due to worker safety or to avoid equipment operating issues.

2.4.5 Dust Control

The facility area, including the onsite access road, will be constructed of road base material (Class V). Class V areas will be wetted during dry periods if dust generation becomes a nuisance. Ash processing will all be conducted indoors and, due to the moisture content necessary for the processing, dust is generally not considered a problem. If dust is observed, water will be utilized to wet down the ash.

2.4.6 Noise Control

Noise control is handled on-site by limiting hours of operation and by enclosing the process. Outdoor noise from delivery and shipment traffic and heavy machinery (during construction, cleaning or snow removal) is expected to be minimal.

3.0 Waste Management Area Operations

The Facility comprises four separate waste management areas on the Facility:

1. Interior Tipping Floor Area
2. Interior Ash Processing Area
3. Interior Loadout Area
4. Exterior Roll-Off Storage Area

Operations for each of the areas vary depending on day to day operations. The location of each of the waste management areas is illustrated on **Permit Drawing Nos. C200 and A100**. General waste handling operations are described in **Section 2.0** including acceptable and unacceptable wastes. Detailed operation procedures for the individual waste management areas are described further below.

3.1 Tipping Area

The tipping area will be located in the eastern portion of the site's main building as shown on **Permit Drawing No. A100**. Materials will be unloaded and stored until processing can occur.

3.1.1 Load Inspection

Each load brought the facility is anticipated to be uniform. No specific inspections are necessary. However, due to the need to manage the moisture content for processing, loads will be inspected by facility operators for moisture content as described in the following sections.

3.2 Ash Processing Area

3.2.1 Offloading Operations

Combustor ash will be unloaded by dump truck onto the designated tipping floor area at the west end of the Facility. Offloaded combustor ash may be stored for up to three or four days to optimize moisture content and accommodate weekend and holiday hauling schedules. To obtain optimum moisture content, ash with low moisture content may be wetted, as necessary, while ash with low moisture content may need to dry slightly in order to meet a processing moisture content range of 15 - 22 percent.

Once combustor ash is ready for processing, a front end loader will be used to place material into feeding hopper(s), then onto conveyors for processing.

3.2.2 Crushing/Screening Process (Oversized Material Removal)

The conveyer system directs the combustor ash from the tipping floor to an impact crusher to loosen and reduce the size of the material via crushing, and mixing in order to size the material into fractions that can readily be separated.

From the impact crusher, conveyers will direct the material through a hopper with a grizzly screen to separate out larger pieces of material. The fractions recovered from the processing and their ultimate destination are as follows:

- Ferrous Scrap Metal → Covered Roll-off – Ferrous Material
- Nonferrous Scrap Metal → Covered Roll-off – Nonferrous Material
- Bulky Waste Material (Oversized/Unburnt Material) → Loading Area (Hauled to Landfill)
- Residual Combustor Ash Material → Loading Area (Hauled to Landfill)

As hoppers and/or bins fill, the recovered material will be moved to its final destination listed above by front-end loader, skid steer and/or forklift operators.

3.2.3 Magnetic Separator Processing (Mid-Fraction Removal)

The remaining mid- and fine-fraction material will be moved by conveyor to a screen to sort the material further to various sizes to be run through eddy current machines. The material is moved through magnetic separation to remove mid-fraction ferrous metal. The fractions recovered from the processing and its ultimate destination is as follows:

→ Mid-Fraction Ferrous Scrap Metal → Covered Roll-off – Ferrous Material

→ Mid-Fraction Material → Further Sorting and Processing

As hoppers and/or bins fill, the recovered material will be moved to its final destination listed above by front end loader, skid steer, and/or forklift operators.

3.2.4 Eddy Current Processing (Mid and Fine-Fraction Non-Ferrous Removal)

The remaining finer-fraction material will be moved by conveyor to an eddy current separator. An eddy current separator uses a series of magnets to sort the finer material into inert/ferrous and non-ferrous. As warranted by the material being processed, the separated material can be loaded onto multiple conveyors that lead to a secondary and/or tertiary series of eddy current separators and screens to further refine the material into coarse, mid, and fine nonferrous fractions to improve recovery. The fractions recovered from the processing and its ultimate destination is as follows:

→ Fine-Fraction Nonferrous Material → Covered Roll off - Nonferrous Material

→ Residual Material → Loading Area (Hauled to Landfill)

As hoppers and/or bins fill, the recovered material will be moved to its final destination listed above by front end loader, skid steer, and/or forklift operators.

3.2.5 Loading Operations

The residual combustor ash will be placed on the loading floor by conveyor(s). Material to be loaded may be stored for up to three or four days to accommodate weekend and holiday hauling schedules. Material will be loaded by front-end loader into dump trucks for placement into the designated combustor ash landfill.

Once full, covered roll offs will be removed from the site as needed to suitable metals processing facilities for beneficial use. Up to seven roll offs will be available at any one time to accommodate storage of recovered metals.

4.0 Contingency Action Plan

This Contingency Action Plan has been prepared in accordance with MR 7035.2615. This Contingency Action Plan is meant for guidance for the Lab USA Ash Processing Facility – Red Wing only; Xcel Energy’s Landfill and the City’s Landfill operate under separate Contingency Action Plans. Similarly, Xcel Energy’s Generating Plant must maintain a direct disposal option with their own landfill as a contingency in the event Lab USA cannot accept their combustor ash for waste processing for any of a number of scenarios such as those presented in this plan.

The primary purpose of this plan is to:

- Identify occurrences at the Facility such as natural disasters, vandalism, accidents, or failure of constructed design features that could lead to release of waste or leachate and endanger human health and the environment.
- Establish the sequence and timing of response actions that would minimize hazards to human health and the environment.
- Identify equipment needed to remediate each occurrence.
- Identify any possible prior arrangements to be made with contractors in order to assure timely and effective response action.

A copy of this plan will be kept on-site for reference by operations personnel and regulatory inspection personnel. Each contingency set forth in this plan has a number of possible solutions and no contingency action plan can directly address all circumstances encountered. Therefore, the MPCA will be promptly notified of all incidents and regular discussions held on proposed actions and response status. A copy of emergency contacts will be posted at the facility as provided in **Table 1**.

4.1 Contingencies That May Need Corrective Action

Certain events that may occur at the Facility could lead to release of waste or contaminated stormwater into the environment. These events could be the result of natural disasters, accidents, vandalism, or failure of design features. Each of the tables referenced below lists contingencies that may be triggered by events, inspections or monitoring, the possible result, effect, or cause of the contingency, and actions to be taken to evaluate and respond to the contingency. The contingencies identified in this plan have been divided into three categories as follows:

- **Event-triggered Contingencies:** **Table 2** lists potential event-triggered contingencies. Event-triggered contingencies may include severe rainfall, local flooding, leachate or waste spill, fire, vandalism, or other sudden, unanticipated events.
- **Inspection-triggered Contingencies:** **Table 3** lists potential inspection-triggered contingencies. Inspection-triggered contingencies may include uncovered wastes, windblown litter, un-permitted runoff, and unacceptable wastes.

4.2 Contingency Action Reporting

In the event of emergencies at the site, Site Supervisor, designated backup, or the nearest fire department must be contacted.

Site Supervisor	Phone to be determined
Kane Flett	920.544.9710 (office) or 920.544.2855 (cell)
Fire Department	Dial 911

Within 2 weeks after an emergency, a written report describing the emergency and the procedures followed to minimize potential hazards will be submitted to the MPCA. As soon as possible following the occurrence and emergency response to an event requiring emergency actions, a detailed inspection of the affected areas will be performed. A team consisting of members from the site design team and site operator will conduct the inspection. The purpose of the inspection will be to assess the degree and extent of damage, if any, to the facility. The extent of any damage will be described in detailed inspection notes and photographed. The verbal and written reports, discussed below, will be made.

4.2.1 Verbal Notification

Verbal notification will be made within 48 hours as appropriate to the following entities:

Fires	911
MPCA Spill Hotline (Duty Officer)	(651) 649.5451 (800) 422-0798
MPCA – General Information (St. Paul)	(800) 657.3864
MPCA Solid Waste Engineer (Rochester)	(507) 506.2600
MPCA Solid Waste Enforcement (Rochester)	(507) 206.2601

Additional emergency contact numbers will be developed upon facility construction and start-up.

4.2.2 Written Assessment Report

A Written Assessment Report will be completed and sent to the MPCA for the emergency or contingency events as specified in **Tables 2** and **3**. The Written Assessment Report will describe the effects of damage, if any, on the intended purposes of the engineering features of the facility. The report will also identify repair procedures and schedule for repair that generally will restore the features to their pre-damage condition.

Upon approval by the MPCA of the Written Assessment Report, the City of Red Wing will prepare and submit to the MPCA a Work Plan, if required, defining remedial efforts to be undertaken.

4.2.3 Event-Triggered Contingencies

Many of the event-triggered contingencies such as natural disasters, vandalism, fire, or leachate spill require an emergency response. Such responses typically need to be implemented immediately and may involve equipment and personnel beyond those routinely involved with facility operation. These additional resources could include city fire and police departments and additional corporation or contractor equipment and personnel. The following paragraphs describe the general emergency actions which may be required in response to each contingency event. Actions for event-triggered contingencies are summarized in **Table 2**. Cost estimates for addressing event-triggered contingencies are included in **Table 4**.

4.2.4 Severe Rainfall/Erosion

After a storm event/prolonged wet period and as soon as weather permits, the site will be inspected to determine any damage to the drop-off facility infrastructure and stormwater controls. Temporary berming or piping will be placed to make surface water controls temporarily functional. Erosion, sediment, or other obstructions to surface water outlets will be removed.

4.2.5 Contaminated Stormwater Spill

On-site spills will be responded to immediately by either Facility personnel. In order to ensure that spills will be contained on-site or prevented from spreading off-site, corrective action for the spill will be completed as quickly as possible. If necessary, after defining the extent of the problem, corrective actions will be determined after discussions between Lab USA and MPCA staff.

The design of the Facility ensures minimal risk to the off-site migration of any potential spill.

4.2.6 Building and Vehicle Fires

Fires that occur in site structures and on-site vehicles will be extinguished with on-site fire extinguishers, if it is deemed safe to do so. If fire extinguishers are not adequate or if the fire has potential to spread, local fire departments from the City of Red Wing will be contacted for assistance. In no case will vehicles with the potential for explosion be approached. In such cases, the area will be cleared and the fire department called as soon as possible.

4.3 Inspection-Triggered Contingencies

Inspection triggered contingencies such as small cracks in embankments or paved areas, minor erosion, surface drainage problems, and potential water quality violations generally will not require an emergency response. These contingencies may require interim response actions, continued or enhanced monitoring, assessment of the extent of the problem, and evaluation of the design prior to implementation of final repairs or remedial actions. Actions for inspection triggered contingencies are summarized in **Table 3**. Cost estimates for addressing inspection-triggered contingencies are included in **Table 5**. Some contingencies are discussed in more detail below.

4.3.1 Vandalism

For acts of vandalism that create hazards to human health and the environment, appropriate temporary repairs will be performed as soon as possible to make the damaged system temporarily functional.

4.3.2 Impervious Surface Damage

The Ash Processing Area is underlain by an impervious surface. Failure of the impervious surface may occur if it becomes damaged or deteriorates. If this occurs, steps may be necessary to contain potentially contaminated stormwater.

If an inspection notices damage or deterioration has occurred to the impervious surface, the damage should be assessed and, as appropriate, temporary surface water controls should be put in place to divert and collect all contaminated water for appropriate disposal or treatment. Permanent repairs should be put in place including rehabilitation of the flooring using sealants or bituminous patches.

4.4 Follow-Up To Emergency Action

As soon as possible following the occurrence and emergency response to an event requiring emergency actions, a detailed inspection of the affected areas will be performed. The purpose of the inspection will be to assess the degree and extent of damage, if any, to the containment system, surface water controls, leachate conveyance piping, access roads, fencing, etc. The extent of any damage will be described in detailed inspection notes and photographed.

Following the inspection, a brief report will be prepared describing the effects of damage, if any, on the intended purposes of the engineering features of the facility. The report will also identify repair procedures that generally will restore the features to their pre damage condition. The inspection report and repair schedule will be submitted to the MPCA.

4.5 Equipment Availability

Lab USA will maintain several pieces of equipment at the site for operations. These could be utilized for emergency actions at the facility. Additional equipment is available through local contractors and vendors at a few hours' notice. Examples of additional equipment include front end loaders, water trucks, dump trucks, pumps, etc.

4.6 Amendment Of Contingency Plan

As part of the annual report the adequacy of the contingency plan will be evaluated and, if applicable, an updated contingency plan will be submitted to the MPCA for approval. The update will address any construction, design, operation or maintenance changes of the facility. It will also address unacceptable releases or failures, which occur at the facility in relation to revised procedures and costs. The Financial Assurance will be revised with the Contingency Plan to address any changes therein and to account for inflation.

5.0 Site Closure Plan

The closure rules addressed in Minnesota Rules 7035.2625 and 7035.2635, as drafted, generally apply to the closure of a land disposal facility. Because the Facility is not a land disposal facility, many of the rules are inapplicable to the Facility and the operations therein, and accordingly, provide little guidance or context for drafting a Closure Plan.

5.1 Potential Applicable Reasons For Closure

Applicable events that could require closure of the facility include the following:

- The owner or operator declares the solid waste management facility closed;
- An agency permit held by the facility expires, and renewal of the permit is not applied for, or is applied for and denied;
- An agency permit for the facility is revoked;
- An agency order to cease operations is issued; and
- The facility is a transfer facility operating under an extended permit term and was required by the agency to apply for a permit and failed to do so or applied for the permit as required by the agency and was denied.

5.2 General Closure Procedures

5.2.1 Notification of Closure

In accordance with Minnesota Rules 7035.2845, at least 30 days prior to the effective date of closure, the owner or operator of a facility must post a notice of closure at the entrance by signs indicating the date of closure, and publish a notice of closure in a local newspaper.

5.2.2 Removal of Waste

Pursuant to Minnesota Rules 7035.2855, Subpart 6, at closure, all solid waste and contaminated portions of the storage area will be removed and properly disposed of or recycled. Therefore, as part of closure, all waste contained within the Tipping Floor Area, Ash Processing Area, and the Loadout Area, must be removed from site by loading this material into receptacles for disposal at an approved off-site disposal or processing facility commensurate with the waste volumes and types.

5.2.3 Cleaning of Storage Areas

The ash must be removed and disposed of at a permitted solid waste facility within 24 hours after the facility closes (i.e., if the permit expires, the facility closes, or the MPCA revokes the permit). The waste that is in tarped roll-offs will be removed from the facility typically within 12-48 hours of arrival. The Facility will clean all visible staining within the storage areas. All litter and other materials will be removed from the Facility grounds. All equipment and space associated with the various types of processing or transfer will be cleaned once all waste has been removed from the Facility site to ensure hazardous conditions are eliminated from processing and transfer areas and equipment.

List of Tables

Table 1 – Emergency Contacts

Table 2 – Event-Triggered Contingencies

Table 3 – Inspection-Triggered Contingencies

Table 4 – Cost Estimate: Event-Triggered Contingencies

Table 5 – Cost Estimate: Inspection-Triggered Contingencies



Table 1
EMERGENCY CONTACTS

Lab USA's Ash Processing Facility - Red Wing
Goodhue County, Minnesota

FIRE, SECURITY, MEDICAL CONTACTS (THREAT TO LIFE OR PROPERTY)

Red Wing Fire Department	911 or (651) 388.7141
Red Wing Police Department	911 or (651) 267.2600
Goodhue County Sheriff's Department	911 or (651) 385.3155
Goodhue County Emergency Services	911
Fairview Red Wing Medical Center	(651) 267.5000

REGULATORY CONTACTS (REGULATORY NOTIFICATION)

MPCA Spill Hotline (Duty Officer)	(651) 649.5451 (800) 422-0798
MPCA General Information (St. Paul)	(800) 657.3864
MPCA Solid Waste Engineer (Rochester)	(507) 506.2600
MPCA Solid Waste Hydrologist (Rochester)	(507) 206.2648
MPCA Solid Waste Enforcement (Rochester)	(507) 206.2601



Table 2
EVENT-TRIGGERED CONTINGENCIES
 Lab USA's Ash Processing Facility - Red Wing
 Goodhue County, Minnesota

Event-Triggered Contingency	Result	Action
Severe Rainfall	Threatened Embankment Stability of Pond	Immediately assess damage visually; place sand bags, soil fill, or riprap to temporarily stabilize embankment; check for cracking and differential movement; evaluate condition and design, and prepare permanent repair procedures report; implement recommendations.
	Erosion	Place temporary erosion controls such as hay bales, erosion control mats, silt fences, or mulch; assess damage; make permanent repairs.
	Damaged Surface Water Control Structures	Place sandbags, soil fill and mulch, and temporary piping to make surface water controls temporarily functional; remove erosion sediments from outlets; evaluate and make permanent repairs.
Contaminated Stormwater	Damaged Containment and Erosion Controls	Assess damage; place temporary erosion controls; evaluate cause; regrade or repair.
	Surface Water Contamination	Report; contain and collect retrievable contaminated stormwater; divert all stormwater to sewer; absorb remaining contaminated stormwater; monitor; evaluate impact; determine and implement appropriate follow-up actions.
Fire	Damaged Equipment, Structures or Vegetation	Place soil over fire or use other compatible fire retardant to extinguish fire; contact local fire department (911) to report and extinguish fire; clear access roads for equipment access.
Release of leachate or sewage	Damaged sewer system	Isolate and repair affected sewer collection system



Table 3
INSPECTION-TRIGGERED CONTINGENCIES
Lab USA's Ash Processing Facility - Red Wing
Goodhue County, Minnesota

Event-Triggered Contingency	Result	Action
Stormwater Detention Pond Failure	Potential Release of Contaminated Stormwater	Assess damage; install temporary surface water controls if necessary; divert stormwater to allow repairs; install permanent repairs.
Clogged Surface Water Controls	Erosion	Place temporary erosion controls; remove cause of clog; assess damage; repair erosion; evaluate design and make any needed changes; clean pipes and sedimentation ditch.
Sewer Plugging	Potential Release of Contaminated Water	Assess damage; install temporary surface water controls if necessary; bypass all water to open sewer; restore sewer service.
Impervious Surface Damage	Potential Release of Contaminated Stormwater	Assess damage; install temporary surface water controls if necessary; divert all stormwater to sewer; rehabilitate impervious surface.



Table 4
COST ESTIMATE: EVENT-TRIGGERED CONTINGENCIES
 Lab USA's Ash Processing Facility - Red Wing
 Goodhue County, Minnesota

ITEM	DESCRIPTION	QUANT.	UNIT	UNIT COST	EXTENSION	SUBTOTAL ⁽¹⁾	COMMENTS
1	Stormwater Detention Pond Failure						
	a. Place temporary erosion controls	50	hb	\$10.00	500		hb = Haybale (1)
	b. Clean surface water controls	8	hr	100.00	800		
	c. Reconstruct berm with fill	500	cy	4.00	2,000.00		
	d. Revegetation	1	ac	1,200.00	1,200.00		
	e. Administrative (10%)				450		
	Subtotal					\$5,000	
2	Surface Water Controls						
	a. Erosion Control Repair	100	cy	\$4.00	400		
	b. Structure Containment Repair	25	lf	150.00	3,750.00		
	c. Administrative (10%)				415		
	Subtotal					\$4,600	
3	Building or Vehicle Fire						
	a. Fire Fighting 4 hr 800.00 3,200.00	4	hr	\$800.00	3,200.00		
	b. Facility or Equipment Repair	1	ls	50,000.00	50,000.00		
	c. Administrative (10%)				5,320.00		
	Subtotal					\$58,500	
4	Sewer System Repair						
	a. Excavation and Invest.	1	ls	\$5,000.00	5,000.00		
	b. Repair and recommission	1	ls	20,000.00	20,000.00		
	c. Administrative (10%)				2,500.00		
	Subtotal					\$27,500	

Comments:

⁽¹⁾ Subtotals are rounded to the nearest \$100.



Table 5
COST ESTIMATE: INSPECTION-TRIGGERED INSPECTIONS
 Lab USA's Ash Processing Facility - Red Wing
 Goodhue County, Minnesota

ITEM	DESCRIPTION	QUANT.	UNIT	UNIT COST	EXTENSION	SUBTOTAL ⁽¹⁾	COMMENTS
1	Stormwater Detention Pond Failure						
	a. Place temporary erosion controls	25	hb	\$10.00	250		hb = Haybale (1)
	b. Clean surface water controls	8	hr	100.00	800		
	c. Reconstruct berm with fill	500	cy	4.00	2,000.00		
	d. Revegetation	1	ac	1,200.00	1,200.00		
	e. Administrative (10%)				425		
Subtotal					\$4,700		
2	Clogged Surface Water Controls						
	a. Ditch cleaning and repair	100	cy	4.00	400		
	b. Detention pond cleaning	100	cy	4.00	400		
	c. Administrative (10%)				80		
Subtotal					\$900		
3	Clogged Sewer						
	a. Place temporary bypass controls	1	ls	\$250.00	250		
	b. Unplug sewer	1	ls	1,500.00	1,500.00		
	c. Administrative (10%)				175		
Subtotal					\$1,900		
4	Impervious Surface Damage						
	a. Place impervious material	100	cy	4.00	400		
	b. Rehabilitate impervious surface	625	sf	50.00	31,250.00		
	c. Administrative (10%)				3,165.00		
Subtotal					\$34,800		

Comments:

(1) Subtotals are rounded to the nearest \$100.

Appendix A

Inspection Checklist



Inspection Date _____

Lab USA’s Ash Processing Facility – Red Wing

	<u>Conditions Acceptable</u>		<u>Comments/Actions Taken</u>
	<u>Yes</u>	<u>No</u>	
<u>Ash Off-Loading Area</u>			
1. Access Roads Clear of Debris	_____	_____	_____
2. Sweep/Inspect Concrete Apron	_____	_____	_____
3. Sweep/Inspect Doorway	_____	_____	_____
4. Clean Waste from Grates/Traps	_____	_____	_____
5. Wastes Contained in Storage Areas	_____	_____	_____
6. Storage Area Free From Spills	_____	_____	_____
7. Storage Containers Needing Removal	_____	_____	_____
<u>Ash Processing Area</u>			
1. Sweep/Inspect Doorways	_____	_____	_____
2. Sweep/Inspect Concrete Floor	_____	_____	_____
3. Clean Waste from Grates/Traps	_____	_____	_____
4. Wastes Contained in Storage Areas	_____	_____	_____
5. Containers in Good Condition	_____	_____	_____
6. Storage Area Free From Spills	_____	_____	_____
7. Storage Containers Needing Removal	_____	_____	_____
8. Processing Equipment Good Condition	_____	_____	_____
<u>Ash Loading Area</u>			
1. Access Roads Clear of Debris	_____	_____	_____
2. Sweep/Inspect Concrete Apron	_____	_____	_____
3. Sweep/Inspect Doorway	_____	_____	_____
4. Clean Waste from Grates/Traps	_____	_____	_____
5. Wastes Contained in Storage Areas	_____	_____	_____
6. Storage Area Free From Spills	_____	_____	_____
7. Storage Containers Needing Removal	_____	_____	_____





Inspection Date _____

Lab USA’s Ash Processing Facility – Red Wing

<u>Outdoor Storage/Fueling Area</u>	<u>Conditions Acceptable</u>		<u>Comments/Actions Taken</u>
	<u>Yes</u>	<u>No</u>	
1. Access Roads Clear of Debris	_____	_____	_____
2. Roll-Offs in Designated Area	_____	_____	_____
3. Roll-Offs Covered/Plugged	_____	_____	_____
4. Area Free of Waste Spills	_____	_____	_____
5. Fueling Area Covered	_____	_____	_____
6. Clean/Inspect Concrete Containment	_____	_____	_____
7. Fueling Area Free of Spills	_____	_____	_____

General Site

1. Site Fencing/Gate in Place	_____	_____	_____
2. Surface Water Run-on/Run-off	_____	_____	_____
3. Access Road Clear of Debris	_____	_____	_____
4. Clean/Inspect Catch Basins	_____	_____	_____
5. Sediment Accumulation in Pond	_____	_____	_____
6. Pond Outfall conditions	_____	_____	_____
7. Odor/Dust/Noise	_____	_____	_____
8. Fire Suppression Equipment	_____	_____	_____
9. First Aid Kit	_____	_____	_____
10. Spill Control Equipment (absorbents, drums, liners, shovels, etc)	_____	_____	_____

Dates of Actions Completed

Signature: _____ Date: _____

