

Consulting
Engineers and
Scientists

December 19, 2021
Project 2103691

Mr. Bob Meidl
WEC Energy Group – Business Services, LLC
333 W. Everett Street, A231
Milwaukee, Wisconsin 53203

**Re: Caledonia Ash Landfill Inspection Report
We Energies
Town of Caledonia, Racine County Wisconsin**

Dear Mr. Meidl:

GEI Consultants, Inc. (GEI) is pleased to provide this landfill inspection report for the We Energies Caledonia Ash Landfill. The inspection was completed to comply with *40 CFR 257 Subpart D – Standards for the Disposal of Coal Combustion Residuals (CCR) in Landfills and Surface Impoundments* and specifically with *§ 257.84(b) Annual inspections by a qualified professional engineer*.

§ 257.84 Inspection Requirements for CCR Landfills

(b) Annual inspections by a qualified professional engineer.

(1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

- (i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person and results of previous annual inspections); and
- (ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

(2) *Inspection report.* The qualified professional engineer must prepare a report following each inspection that addresses the following:

- (i) Any changes in geometry of the structure since the previous annual inspection;
- (ii) The approximate volume of CCR contained in the unit at the time of the inspection;
- (iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and
- (iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

Background

The We Energies Caledonia Ash Landfill is located in the North 1/2 of Section 1, Township 4 North, Range 22 East, Village of Caledonia, Racine County, Wisconsin. The landfill is permitted by the Wisconsin Department of Natural Resources (WDNR) under License Number 03232. Figure 1 - Site Location Figure, shows the location of the landfill relative to the Oak Creek Power Plant and Elm Road Generating Station. The landfill was permitted by the WDNR on August 27, 1987, with the issuance of a Conditional Plan of Operation Approval. The facility is licensed and approved as a 45-acre, 4,050,000 cubic yard (cy) landfill. The landfill was divided into 18 sequential cells, 10 cells at base grade and 8 cells overlying the base grade cells. However, based upon the May 19, 2010, Plan of Operation Modification Approval, the landfill development plan has been revised to eliminate the overlying cells. Base grade cells 1, 2, 3, 4, 6, 8, and 10 have been constructed. Cells 12, 14, and 16 are permitted but have not been constructed. Cell 1 has been closed and the perimeter slopes of Cell 2 have been closed.

GEI was retained to perform an annual inspection of the landfill in compliance with § 257.84(b) *Annual inspections by a qualified professional engineer*. The inspection was performed on October 12, 2021. Copies of the site location figure and landfill inspection photo log are appended to this letter-report and constitute the entirety of the report.

Site Inspection

The landfill site inspection was performed by Mr. William Reybrock, P.E. on October 12, 2021. The annual site inspection included an inspection of the perimeter berms, waste surfaces and slopes, final covers, interior and exterior storm water controls, the leachate collection lift station, the leachate storage and load-out controls, the leachate load-out pad, the site access road, and the cell entrance.

There were no signs or evidence of any distress or malfunction of the CCR unit, or any conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit. The perimeter berms and waste slopes did not show any evidence of structural weakness or instability. The leachate lift station and load-out facilities were operational. The interior and exterior storm water controls were free of obstruction and provided plenty of capacity for storm water storage and conveyance. The access road, load-out pad, and cell entrance were clean and free of obstructions. The fugitive dust control plan is effective as there was no evidence of fugitive dust around the perimeter of the landfill and no observed dust from the screening and stockpiling operation.

At the time of the inspection there is approximately 1,660,000 cubic yards of CCR disposed of in the Caledonia Ash Landfill.

Conclusion

On October 12, 2021, a GEI licensed professional engineer completed an annual inspection of the Caledonia Ash Landfill in compliance with § 257.84(b) *Annual inspections by a qualified professional engineer*. The landfill appeared to be in excellent condition. On the exterior slopes the vegetation is well established with no significant erosion, no woody vegetation, no animal burrows, and no areas of instability or structural weakness. On the interior of the landfill the ash is graded and compacted with no significant erosion rills observed. Contact stormwater is routed, as designed the infiltration area, and there was no water observed or ponded within the disposal area. The beneficial use stockpiles and processing area is neat an orderly, graded to drain, and no

visible dust was observed during the inspection of the landfill or evidence of fugitive dust outside the limits of the landfill.

The inspection was completed by William S. Reybrock, P.E. I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of Chapter A-E 4, Wisconsin Administrative Code; that this document has been prepared in accordance with the Rules of Professional Conduct in Chapter A-E 8, Wisconsin Administrative Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in Chapters NR 500 to 538, Wisconsin Administrative Code and 40 CFR 257.

If you have any questions regarding this report, please contact me at 920-471-0884.

Sincerely,

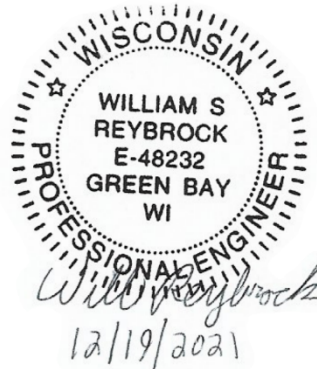
GEI CONSULTANTS, INC.



William S. Reybrock, P.E.
Project Professional

Attachments:

- Figure 1 - Site Location Figure
- Caledonia Inspection Form
- Landfill Inspection Photo Log



WSR:cah



OAK CREEK,
WISCONSIN

PRIVATE HAUL ROAD

OAK CREEK
POWER PLANT

ASH LANDFILL

NOT TO SCALE

Landfill Inspection Report
Oak Creek Power Plant
Oak Creek, Wisconsin

WEC Business Services, LLC
Milwaukee, Wisconsin



OAK CREEK POWER PLANT ASH
LANDFILL SITE LOCATION
FIGURE

Project 2103691

November 2021

Fig. 1

CALEDONIA LANDFILL - ANNUAL INSPECTION & CONDITION SUMMARY

INSPECTOR: William Reybrock, P.E.

INSPECTION DATE/TIME: 10/12/21 1:00 PM

WEATHER:

Temperature: 63° F
 Conditions: Overcast
 Wind: Moderate
 Wind Direction: W
 Precipitation: None

LEACHATE COLLECTION SYSTEM:

| <u>Load-out Facility:</u> | <u>South Tank</u> | <u>North Tank</u> | <u>Lift Station:</u> |
|---------------------------|---|---|--|
| High level alarms: | No | No | Pump #1: Green |
| Low level alarms: | Yes | No | Pump #2: Green |
| Leak alarms: | No | No | Control Panel: Green |
| Levels: | Empty | 1/4 | Inlet Pipes: Exposed |
| Pump: | Green | Green | |
| Pad Condition: | Good | | |

Visual inspection of all leachate manhole inverts performed on Tuesday, October 12, 2021

Note: Pumps alternating between South Tank and North Tank.

WETLAND CONTROL

| | | | |
|-------------------------------------|-----|---|-----|
| Pump station operational : | Yes | Pump Discharge: | Yes |
| Wetland level below culvert inlet : | Yes | Note: If wetland level is above culvert inlet, make sure pump is discharging into ditch on east side of access road | |
| Culvert inlet clear : | Yes | | |
| Comments : Normal Operation | | | |

Note: Free of debris/floatables.

STORMWATER / EROSION CONTROLS / SLOPE STABILITY

| | | |
|---|-------------------------------------|--|
| Landfill Perimeter Ditches: | <input checked="" type="checkbox"/> | <u>Stability/Erosion of Covers & Waste Slopes:</u> Appear stable & no significant erosion: Yes |
| Ditch Check Dams : | <input checked="" type="checkbox"/> | |
| Silt Fence @ Soil Stockpiles : | <input type="checkbox"/> | |
| Diversion Berms, Ditches & Check Dams @ Clay Stockpile : | <input checked="" type="checkbox"/> | |
| Culverts (Inlets & Outlets) : | <input checked="" type="checkbox"/> | |
| Comments : Silt fence around northern stockpile area is in poor condition. | | |
| <i>Is this a special inspection after a rainfall event of greater than 0.5"? No on:</i> | | |

Note: Check mark indicates that the stormwater controls are adequate.

LANDFILL OPERATIONS:

| <u>Fugitive Dust Control:</u> | <u>In-Cell Stormwater Management</u> | |
|---------------------------------|--------------------------------------|---|
| Tracking Pads : | <input checked="" type="checkbox"/> | Upper Ditch : <input checked="" type="checkbox"/> |
| Cattle Guards : | <input checked="" type="checkbox"/> | Lower Ditch : <input checked="" type="checkbox"/> |
| Wheel Wash : | <input checked="" type="checkbox"/> | Down Flume : <input checked="" type="checkbox"/> |
| Access Road Clean: | <input checked="" type="checkbox"/> | Culverts : <input checked="" type="checkbox"/> |
| Landfill Surfaces Groomed: | <input checked="" type="checkbox"/> | Reservoirs : <input checked="" type="checkbox"/> |
| Airbourne Dust Visible: | No | Sediment : Good |
| Sign of Recent Dust Deposition: | No | Standing Water : No |
| Comments: None | | |

Note: Check mark indicates that the features are acceptable.

WEC Caledonia Landfill CCR Inspection

Date: 10/12/2021

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Photo No. 1: North perimeter limit of Cell 10 looking southwest on 10/12/2021



Photo No. 2: North perimeter limit of Cell 10 looking southeast on 10/12/2021

WEC Caledonia Landfill CCR Inspection

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Photo No. 3: East perimeter berm looking north 10/12/2021



Photo No. 4: East perimeter berm looking south 10/12/2021

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Photo No. 5: West interior slope of Cell 10 looking north on 10/12/2021



Photo No. 6: West interior slope looking south 10/12/2021

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Photo No. 7: West perimeter slope and stormwater ditch looking north 10/12/2021



Photo No. 8: West perimeter slope looking north 10/12/2021

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Photo No. 9: South slope of the Caledonia Landfill looking east 10/12/2021



Photo No. 10: East slope of the Caledonia Landfill looking north-northeast 10/12/2021

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Photo No. 11: Leachate loadout facility looking south 10/12/2021



Photo No. 12: Holding tank control panel for leachate loadout facility 10/12/2021