

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

October 29, 2025

IEPA - Bureau of Land
2520 W. Iles Avenue
P.O. Box 19276
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

KPRG Project No. 19620.0

Re: Amended Application for Initial Construction Permit
Surface Impoundment No. W1970450047-2 (Pond 2)
Midwest Generation Joliet #29 Station
#1970455041
1800 Channahon Road/Joliet, IL/Cook County

To whom it may concern:

Enclosed please find the amended permit text including revised closure drawings 3 and 4, revised specifications and revised final closure plan for the previously submitted January 28, 2022 Pond 2 Application for Initial Construction Permit.

Should you have any questions regarding this issue, please contact us.

Respectfully submitted,

KPRG and Associates, Inc.



Timothy J. Stohner, P.E.
Director of Engineering

Enclosures

cc: Mr. James Thorne, Mr. Phil Raush, (Plant copy)
Ms. Sharene Shealey, Ms. Jill Buckley, NRG (electronic)



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

AMENDED APPLICATION FOR INITIAL CONSTRUCTION PERMIT

**JOLIET #29 GENERATING STATION
MIDWEST GENERATION, LLC
JOLIET, ILLINOIS**

**Illinois EPA Site No. W1970450047-02
BOL #1970455041**

**Originally Submitted: January 28, 2022
Amended: October 2025**

Submitted To:

**Illinois Environmental Protection Agency
2520 W Iles Avenue
P.O. Box 19276
Springfield, IL 62794-9276**

Prepared For:

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Introduction

Midwest Generation, LLC (Midwest Generation) ceased operating the natural gas-fired (formerly coal-fired) generating station, referred to as Joliet #29 Generating Station, located in Joliet, Illinois (“site” or “generating station”) on September 1, 2023. As part of the previous coal-fired operations, the station operated two ash ponds (Ponds 1 and 2) and a service water basin (Pond 3). MWG removed all of the coal combustion residuals (“CCR”) from Pond 1 and decontaminated the liner before October 2015 and repurposed the pond as a low volume wastewater pond.¹ Pond 3 is a *de minimis* pond. Both Ponds 1 and 3 are not CCR surface impoundments, Illinois Pollution Control Board Order, PCB 21-1, May 18, 2023. Pond 2 was used for CCR management/storage until 2019. In 2019, the CCR was removed, and all other portions of the exposed liner have been decontaminated. Because Pond 2 was used as a CCR surface impoundment after October 2015, Pond 2 is regulated under the newly promulgated Ill. Adm. Code Title 35, Part 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments (State CCR Rule). Ponds 1 and 2 are no longer in service with no liquids, process system streams, or wastewater directed into the ponds, except for precipitation.

The objective of this submittal is to amend the initial construction permit application for Pond 2 at the Joliet #29 Generating Station. Midwest Generation seeks to amend the previously submitted construction permit application dated January 28, 2022 by removing references to reusing the existing Pond 2 liner and instead close Pond 2 by removal in compliance with the State CCR Rule, including liner removal. This submittal details the sections of the previous construction permit application that will be amended with the necessary information to execute closure by removal in accordance with 35 Ill. Adm. Code 845.740. The amended information is provided in the following sections and has been completed in accordance with 35 Ill. Adm. Code 845.220 of the State CCR Rule. Any sections not being changed in accordance with 35 Ill. Adm. Code 845.220 will be identified as not changing.

The Permit is organized with supporting revised Tables and Figures, as necessary, being provided at the end of the full Permit text, that are referenced in the discussions with the table numbers and figures tied to the Section number within which they are referenced with sequential numbering (e.g., Tables referenced in Section 9 are numbered 9-1, 9-2, etc. Figures referenced in Section 9 are numbered Figure 9-1, 9-2, etc.). Specific revised Attachments referenced within each Section are provided in a similar fashion (e.g., Attachment 1 information is tied to Section 1 of the Permit text, Attachment 2 information is tied to Section 2 of the Permit text, etc.). It should be noted that if a Section does not reference an Attachment then that Attachment number is not included as part of the permit application. For example, Section 6 does not reference an Attachment; therefore, there is no Attachment 6 in this permit application.

¹ As a low volume wastewater pond, Pond 1 receives wastewater from other non-CCR sources at the Station.

1.0 History of Construction, 845.220(a)(1)

The history of construction of the CCR surface impoundment as specified in Section 845.220(a)(1) are addressed in this portion of the permit application.

1.1 CCR Surface Impoundment Identifying Information

The identifying information associated with the CCR surface impoundments at the generating station are listed in the table below.

Name	Owner/Operator	Impoundment ID Number
Ash Pond 2	Midwest Generation, LLC c/o Joliet Station 1800 Channahon Road Joliet, IL 60436	W1970450047-02

1.2 Purpose of CCR Surface Impoundment

This section has not changed since the initial construction permit application. When the station generated electricity using coal, the purpose of Pond 2 was to serve as a settling pond for sluiced CCR and other process water associated with the electrical power generating process. Pond 2 was taken out of service in 2019 and will not be used in the future for CCR storage or process wastewater.

1.3 CCR Surface Impoundment Length of Operation

This section has not changed since the initial construction permit application. The Notice of Intent to Initiate Closure was submitted on April 11, 2021.

1.4 Type of CCR in Surface Impoundment

This section has not changed since the initial construction permit application.

1.5 Name and Size of the Watershed

Pond 2 is located within the Des Plaines River watershed, which is approximately 28,808 acres in size.

1.6 Description of CCR Surface Impoundment Foundation

This section has not changed since the initial construction permit application.

1.6.1 Physical Properties of Foundation Materials

This section has not changed since the initial construction permit application.

1.6.2 Engineering Properties of Foundation Materials

This section has not changed since the initial construction permit application.

1.7 Description of the Construction Materials, Methods, and Dates

This section has not changed since the initial construction permit application.

1.7.1 Physical and Engineering Properties of Construction Materials

This section has not changed since the initial construction permit application.

1.7.2 Construction Methods

This section has not changed since the initial construction permit application. The previously submitted information is being included as a reference for discussions that may occur in Section 5 of this amended construction permit application.

Based on construction drawings by NUS, 1978, Pond 2 was constructed by excavating down from the original ground surface to achieve the side slopes and elevations. Reviewing the drawings shows the original ground surface ranged from 526 ft above mean sea level (amsl) to 535 ft amsl. Section 'S' on drawing 5079 C 5019 Sheet 2 shows the original ground surface was approximately 531 ft amsl in the north-south direction. Section V on drawing 5079 C 5019 Sheet 3 shows the original ground surface was approximately 526 ft amsl on the east side of Pond 2, and Section W shown on drawing 5079 C 5019 Sheet 3 shows the original ground surface was approximately 535 ft amsl on the west side of Pond 2. The embankment crest of Pond 2 was constructed at approximately 535 ft amsl and the bottom was constructed at approximately 516 ft amsl. The construction drawings for Pond 2 indicate that the pond was not constructed with multiple zones of different soil types, therefore discussing the size and range of each construction zone is not applicable.

The interior side slopes of Pond 2 were designed with 3H:1V (horizontal:vertical) slopes, except for the concrete inlet apron which was designed with slopes of 2H:1V. The exterior side slopes of Pond 2 along the south side were designed at 3H:1V based on the construction drawings. The interior side slopes and bottom of Pond 2 were originally designed with a 1-foot thick Poz-O-Pac liner system based on the 1978 NUS construction drawings; Pond 2's concrete inlet apron does not have the Poz-O-Pac. The side slopes also had a bituminous curing coat applied to the Poz-O-Pac.

The west embankment for Pond 2 is topped by the access road that divides Pond 1 from Pond 2 and the west side of the embankment is the outlet side/outlet structure of Pond 1. The original ground surface of the west embankment was approximately 535 ft amsl and the as-built embankment elevation was documented to be approximately 535 ft amsl. The east embankment of Pond 2 is the outlet side/outlet structure of the pond and abuts an access road from Channahon Road that enters the station. The original ground elevation of the east embankment ranged from approximately 530 ft amsl to 536 ft amsl. The as-built elevation of the access road was documented to range from approximately 539 ft amsl to 535 ft amsl, which is equal to or greater than the east embankment crest elevation of 535 ft amsl.

1.7.3 Construction Dates

This section has not changed since the initial construction permit application.

1.8 Detailed Dimensional Drawings

The detailed dimensional drawings associated with the construction work that has occurred on Pond 2 were submitted as part of the initial construction permit application and are not included with this amended application.

1.9 Instrumentation

There are no amendments to this section; please reference the initial construction permit application.

1.10 Area-Capacity Curve

There are no amendments to this section; please reference the initial construction permit application.

1.11 Spillway and Diversion Capacities and Calculations

There are no amendments to this section; please reference the initial construction permit application.

1.12 Surveillance, Maintenance, and Repair Construction Specifications

There are no amendments to this section; please reference the initial construction permit application.

1.13 Record of Structural Instability

There are no amendments to this section; please reference the initial construction permit application. There is no record or knowledge of structural instability associated with Pond 2.

2.0 Narrative Description of the Facility, 845.220(a)(2)

2.1 CCR Chemical Analysis

There are no amendments to this section; please reference the initial construction permit application. The CCR in Pond 2 was removed in 2019 with the warning layer and the high-density polyethylene (HDPE) liner remaining.

2.2 Maximum Capacity

There are no amendments to this section; please reference the initial construction permit application.

2.3 Waste Streams

There are no amendments to this section; please reference the initial construction permit application. Pond 2 is not in service and does not receive CCR or non-CCR waste streams.

2.4 On-Site Transportation Plan

The Joliet #29 generating station property is a secure facility. The property boundary is fenced with one main gate that is guarded 24 hours a day, 7 days a week, and 365 days a year. Access to the plant is controlled through the one main gate with visitors required to sign in and out with the guard personnel. Other gates are present at the facility, but they remain locked at all times with access only provided by Midwest Generation personnel.

Upon approval of this permit, the closure by removal of Pond 2 will begin. Pond 2 is removed from service and not in use. During the closure activities the main gate access road, mentioned above, and the road adjacent to Pond 2 will be used for access by construction personnel to haul materials to and from the site along with mobilizing equipment that will be used, as shown on Figure 2. If larger truck vehicles are used, there are other access gates and roads at the site that can be used to access Pond 2, which are also shown on Figure 2. The alternate access gate may be used when the warning layer, liner, inlet/outlet structures, and other related materials are excavated and hauled from the site. This determination will be made after the construction contractor has been selected. As needed, truck traffic will take a one way in and one way out traffic flow, which is also shown on Figure 2. The normal day to day operations of Pond 2 does not require access. Midwest Generation personnel use the adjacent road to perform inspections as needed to ensure that no issues arise. On a quarterly basis, groundwater sampling will be performed at the monitoring wells that surround Pond 2 and the adjacent roads will be used to access the wells. Each sampling event requires 2 to 3 days to perform.

As needed, intersections at the property are traffic controlled with stop signs and the speed limit on the property is 5 miles per hour. At intersections near the buildings with limited visibility, vehicle traffic is encouraged to honk their horn to alert pedestrians that may exit the buildings.

3.0 Site Location Map, 845.220(a)(3)

This section has not changed since the initial construction permit application. All natural areas designated as a Dedicated Illinois Nature Preserve under the Natural Areas Preservation Act, all historic and archaeological sites designated by the National Historic Preservation Act and the Illinois Historic Sites Advisory Council Act, and all areas identified as critical habitat under the Endangered Species Protection Act of 1973 and the Illinois Endangered Species Protection Act are not present at the site or within 1,000 meters of the site.

4.0 Site Plan Map, 845.220(a)(1)(4)

There are no amendments to this section; please reference the initial construction permit application.

5.0 Construction Description, 845.220(a)(1)(5)

Midwest Generation has retired the Joliet 29 Generating Station as of September 1, 2023. As a result, Pond 2 will be closed by removal in accordance with 35 Ill. Adm. Code 845.740(a). Specifications and drawings for the closure of Pond 2 are included in Attachment 5. Pond 2 will be closed by removal of the existing liner system and decontaminating affected areas in accordance with 35 Ill. Adm. Code 845.740(a). As noted in the previous construction permit application, the CCR was removed from Pond 2 in 2019 and hauled offsite for disposal with the warning layer left in place. The anticipated steps to execute the closure by removal are listed below.

1. Obtain a construction permit from the Illinois EPA for closing Pond 2.
2. Dewater any accumulated precipitation through Pond 2's existing discharge structure.
3. Remove existing warning layer, cushion layer, geomembrane liner, and Poz-O-Pac and haul offsite for disposal.
4. Inspect the area beneath the removed components for CCR material.
5. Decontaminate and remove the basin's appurtenant structures (e.g., inlet structure, concrete apron, outlet structure, and piping).
6. Remove the existing sluice pipes, concrete pipe trench, and concrete retaining wall.
7. Grade the ponds' embankments, floor, and southwest slope to establish the desired elevations and slopes for the drainage of water from the pond to the Roof & Yard Runoff Basin. As necessary, additional fill material will be used to establish the desired elevations and slopes.

Dewatering

Accumulated stormwater will be removed with temporary pumps, processed through the wastewater treatment system and discharged in accordance with the station's existing NPDES permit.

Existing Liner System Removal and Decontamination.

Pond 2's existing liner system consists of the following components (from bottom to top): a geotextile cushion, a 60-mil HDPE geomembrane liner, a geotextile cushion, a 12-inch thick sand cushion layer, and a 6-inch thick limestone warning layer. After dewatering, the next steps would be to remove the cushion layer and warning layer from the base of Pond 2 using an excavator or front-end loader and haul off-site for disposal. The cushion layer and warning layer are present across the bottom and extends approximately 4 feet up the side slopes of the pond. The cushion

layer consists of 12 inches of sand on top of the geomembrane with 6 inches of limestone screenings on top of the sand, for a total of 18 inches thick. Once the warning layer material is removed from the base, the geomembrane will be removed. It is likely that portions of the geomembrane will be removed along with the warning layer, especially on the base of the pond. As the warning layer is removed, portions or all of the geomembrane on the sides may be removed. Any geomembrane that is not removed with the warning layer will be removed after the warning layer is removed along with the Poz-O-Pac that lies beneath.

It is estimated approximately 12,000 cubic yards (CY) will be hauled offsite to dispose of the geomembrane, cushion layer, warning layer, and Poz-O-Pac. The removed geomembrane, cushion layer, warning layer, and Poz-O-Pac will be handled and hauled offsite for disposal in accordance with 35 Ill. Adm. Code 845.740(c), which includes specifications for proper manifests for each transported truckload, a transportation plan, on-site fugitive dust controls, signage and public notices, and managing stormwater to prevent contamination of surface water and groundwater.

Following the removal of the geomembrane and Poz-O-Pac, the slopes and base will be visually inspected and any identified CCR material would be excavated and hauled offsite for disposal. Based on boring logs previously done at the site, CCR material was not identified in the subsurface soils beneath the existing liner system.

Decontamination and removal of the Appurtenant Structures

Along with removing the warning layer, cushion layer, geomembrane liner, and the Poz-O-Pac, the basin's existing inlet structure, inlet apron, outlet structure, and piping surrounding the pond, etc. will be decontaminated. At a minimum, decontamination procedures will include pressure washing of the pond appurtenances in a systematic manner to remove all CCR remnants. Following decontamination, the pond appurtenances will be demolished with the demolished material being hauled offsite. Since the pond appurtenances are constructed of concrete and will be decontaminated, it is likely the material will be hauled for disposal at a clean construction and demolition debris landfill.

The piping near the inlet structure and a portion of the piping along the south side of Pond 2 will be removed and decontaminated to remove any CCR remnants. Once decontaminated, the piping may remain at the station or will be hauled offsite for disposal. Pond 2's existing outlet piping is underground, where it will remain, but the pipe will be plugged to prevent water from entering it.

Site Grading

After Pond 2's liner system and Poz-O-Pac has been removed, the site grading will occur so that precipitation does not accumulate within the former Pond 2. The west portion of Pond 2's south berm will be cut down and that material along with existing site soils and clean material, as needed, will be placed, graded, and compacted to achieve the desired grades and slopes necessary so stormwater will drain from Pond 2. The stormwater draining from Pond 2 will be directed towards the existing Roof & Yard Runoff Basin (R&YRB). Note that this grading effort will include a catch basin and culvert beneath a site access road to convey waters from the former Pond 2 location to the R&YRB. It is estimated up to 13,000 CY of mostly on-site soil will be used for the site grading. If necessary, off-site soil will be brought on-site to replace unsuitable on-site soils. Whether on-site soils are considered unsuitable will be determined at the time of construction.

Riprap will be placed on the edge of the R&YRB where stormwater runoff will enter to prevent erosion. The site grading will allow for stormwater to gravity drain from Pond 2 to the R&YRB.

As the site grading is occurring, field CQA inspections will be performed to ensure construction complies with the approved construction permit.

6.0 Facility Component Plans and Specifications, 845.220(a)(6)

There are no amendments to this section. As noted in the initial construction permit application, the facility infrastructure remains intact but the station's two generating units are now retired and no longer generate electricity. In addition, Pond 2 is no longer in service and the CCR from Pond 2 has been removed. The Pond 2 infrastructure and the infrastructure that was used to sluice CCR to Pond 2 remains in place, but they are no longer in service.

7.0 Closure Construction, 845.220(d)

7.1 Closure Prioritization Category

This section has not changed since the initial construction permit application and the category designation for Pond 2 remains Category 3. A Notice of Intent to Initiate Closure for Pond 2 was submitted on April 11, 2021 by Midwest Generation.

7.2 Final Closure Plan

A revised Written Final Closure Plan is included as part of this application in Attachment 7-1. As indicated previously, the CCR was removed from Pond 2 in 2019 and the warning layer, cushion layer, and geomembrane liner will be removed as part of this revised permit application. The revised Written Final Closure Plan addresses the removal of the warning layer, cushion layer, geomembrane liner, pond structures, decontamination (as needed), and site grading.

7.3 Closure Alternatives Analysis

There are no amendments to this section; please reference the initial construction permit application. The intent and execution of the previously submitted closure alternatives analysis (CAA) for Pond 2 is not changed by the revisions noted in this amended construction permit application.

7.4 Proposed Closure Schedule

The revised proposed schedule to execute the closure of Pond 2 is included in the revised Written Final Closure Plan in Attachment 7-1. The initial closure activity is applying for and obtaining an IEPA construction permit and the final closure step is submitting a closure report and closure certification with the closure construction activities occurring in between. The total time to execute

the closure activities is estimated to be 31 months, which includes time to obtain the construction permit and closure report approval. A breakdown of the schedule is as follows:

Closure Schedule

Closure Activity	Estimated Duration
Complete Closure Construction Documents and Obtain IEPA Closure Construction Permit	15 months
Decontaminate and Demolish Pond Inlet & Outlet Structures, Remove Sluice Piping	2 months
Dewater	1 month
Excavate Liner System including culvert	6 months
Site Grading	2 months
Closure Certification and Report	5 months

7.5 Post-Closure Plan

Midwest Generation is seeking to close Pond 2 by removal in accordance with 845.740(a). As a result, a post-closure plan is not required for Pond 2 and groundwater monitoring will occur for at least three (3) years in accordance with the sampling program in accordance with 35 Ill. Adm. Code 845 Subpart F.

8.0 Groundwater Modeling, 845.220(d)(3)

The groundwater modeling of the CCR surface impoundment as specified in Section 845.220(d)(3) was presented in the previously submitted initial construction permit application and has not changed. Please reference the initial construction permit application.

8.1 Modeling Inputs and Parameters

There are no amendments to this section; please reference the initial construction permit application.

8.2 Groundwater Modeling Results

There are no amendments to this section; please reference the initial construction permit application.

8.3 Capture Zone Modeling

There are no amendments to this section; please reference the initial construction permit application.

8.4 Groundwater Modeling Software

There are no amendments to this section; please reference the initial construction permit application.

9.0 Groundwater Monitoring Program, 845.220(a)(7)

The groundwater monitoring program of the CCR surface impoundment as specified in Section 845.220(a)(7) was presented in the previously submitted initial construction permit application and has not changed.

9.1 Hydrogeologic Site Characterization

The following subsections provide information on the geology and hydrogeology of the site as required under Section 845.620(b). This information was presented as part of the previously submitted construction permit application but is being presented again for references purposes and are not changed. Site geology and hydrogeology are discussed separately below.

9.1.1 Geology

The physiography of Will County is made up of ground moraines, end moraines, outwash plains, stream terraces, flood plains and bogs. It is in the Till Plains and Great Lakes Sections of the Central Lowland Province. Near surface soils in the vicinity of the subject impoundment have been grouped as Kankakee Fine Sandy Loam and Romeo Silt Loam. These soils are well to poorly drained, respectively. Organic content ranges from 2 to 5 percent and have a low to negligible accelerated erosion rate, a moderate to high corrosivity rate and a pH range from slightly acidic to slightly basic (5.6 to 8.4). Surface runoff class is low (Soil Survey of Will County Illinois). Based on the Surficial Geology Map of the Chicago Region (ISGS Circular No. 460, 1971) the surficial deposits in the vicinity of the subject surface impoundment are identified as part of the Henry Formation, which is generally described as sand and gravel with local beds of silt and/or exposed Silurian dolomite bedrock.

The general stratigraphy in the area consists of unconsolidated glacial deposits, which overlay Silurian dolomite. The Silurian dolomite is underlain by the Maquoketa Group, which includes the Scales Shale, which is considered a regional aquitard separating the overlying Silurian dolomite from the deeper Cambro-Ordovician sandstone and limestone aquifers. To evaluate local stratigraphy and as part of groundwater model development in support of the Construction Permit being submitted under separate cover, water and test well logs were obtained for wells in the general vicinity of the Joliet #29 Generation Station (it is noted that all of these wells are upgradient or side gradient of the Station and two wells on property [see Section 9.1.2]). The depths of these wells range from 43 feet to 605 feet. In addition, well logs from 11 monitoring wells that were installed in the vicinity of the subject surface impoundment, MW-1 through MW-11, with those borings ranging in depth from 27.5 feet to 41 feet. Based on an evaluation of this data, the following general site-specific stratigraphy is defined based on the 11 on-site monitoring well boring logs:

- Fill (approx. 0' to 8.5' thick) – Consisting of a thin layer of top soil and/or coarse gravel fill.
- Silty clay to clay (approx. 0' – 15' thick) – Consisting of black/brown silty clay and clay with a trace of coarse gravel or sand. Not continuous across site along east-west transect.
- Sand and Gravel (approx. 14' to 40' thick) – Consisting of black/brown fine to coarse sand and gravel with limestone fragments noted throughout. May locally include some lenses or interlayering of black silty clay and/or tan silty sand (wells MW-1 and MW-2).
- Sandy silt/silty clay (approx. 0' to 34' thick) – Consisting of black/gray sandy silt grading downward to a gray silty clay with coarse sand. Not continuous across site.
- Bedrock – Consisting of Silurian dolomite – Top of unit encountered at approximately 38.5 feet below ground surface (bgs) at boring location MW-6. Borings noted with increased limestone fragment at base interpreted to be at or near top of weathered bedrock surface. Description of the dolomite discussed in detail below.

Although no specific borings were extended into the dolomite bedrock at this facility, extensive drilling and investigation of the bedrock was completed at the Joliet #9 Station, Lincoln Stone Quarry facility immediately to the south of the Des Plaines River from the subject site. The Silurian dolomite formation is generally consistent regionally, especially over fairly short distances. Based on that work, the following additional bedrock information is provided.

The Silurian dolomite is divided into four units identified as a weathered bedrock rind, Joliet Formation dolomite, Kankakee Formation dolomite and the Elwood/Wilhelmi dolomite. Beneath the Silurian dolomite is the Ordovician age Maquoketa Group consisting of the Brainerd Shale, Fort Atkinson dolomite and the Scales Shale. Although the Brainerd Shale was identified at the above referenced Lincoln Stone Quarry facility with a thickness of approximately 10 feet, this unit is not necessarily regionally continuous; therefore, it may or may not be present beneath the subject site. The Scales Shale unit, however, is extensive and is a recognized regional aquitard, which hydraulically isolates the deeper bedrock aquifers from the shallower Silurian dolomite. Based on the available information, the dolomite bedrock thickness to the top of the Scales Shale beneath the Joliet #29 site is estimated to be 95 to 115 feet.

Regional and local studies and investigations document fractures in the Silurian dolomite describing a primary joint set that is vertical and oriented about N52°E and N40°W. The N40°W joints are described as “more distinct”. Natural spacing between the joint sets ranges from 3 to more than 10 feet, and joint apertures are described as less than 1/16th -inch. Bedding plane fractures are also described. Descriptions from various bedrock quarry walls and from cores obtained during drilling at the Lincoln Stone Quarry site show significant clay infilling of the vertical joints and bedding plane fractures. Evidence of water movement through fractures is interpreted from iron staining and mineralization (primarily calcite, with some pyrite and marcasite).

Silurian dolomite is a calcium-magnesium carbonate rock that includes horizons of cherty (silica) nodules and is documented both regionally and locally to include mineralization along fractures and within vugs (a small to medium-sized cavity inside rocks). The mineralization includes, but is not limited to calcite (calcium carbonate) and various sulfide minerals such as pyrite, marcasite, etc. As such, the presence of these minerals and associated weathering products can also be expected within the overlying unconsolidated materials.

There are no underground mines beneath the subject CCR surface impoundment.

9.1.2 Hydrogeology

An extensive discussion of the hydrogeology at the Joliet 29 Generating Station was included as part of the initial operating permit application and the initial construction permit application. Some portions of that discussion are included below. Based on information from the Soil Survey of Will County, the average annual precipitation is approximately 37 inches with about 63% of that total falling between April and October of any given year. The average seasonal snowfall is approximately just over 10 inches.

The nearest surface water body is the facility intake channel and Des Plaines River located to the south of the subject CCR unit. This reach of river is further identified as the Lower Des Plaines River, which starts upstream of the site at the confluence of the river with the Chicago Ship and Sanitary Canal (CSSC) at the E.J. & E railroad bridge (river mile 290.1). The CSSC is the main tributary to this segment of river contributing approximately 80% of the flow to the river. The segment of river adjacent to the subject site is part of the Dresden Island Pool, which starts at the Brandon Road Lock and Dam (river mile 286) which is immediately upstream of the subject CCR surface impoundment. The Dresden Island Pool is 14 miles in length, approximately 800 feet wide with depth varying between 2 to 15 feet (Lower Des Plaines River Use Attainability Analysis Final Report, IEPA, December 2003). There are no drinking water intakes within the Dresden Island Pool and for that matter on any portion of the Des Plaines River downstream of the site (Meet Your Water – An Introduction to Understanding Drinking Water in Northeastern Illinois, Metropolitan Planning Council, 2017).

Groundwater beneath the subject unit occurs under water table conditions. Saturated conditions are generally encountered between 25 and 35 feet bgs, depending on the well location, within the lower portion of the above-defined sand and gravel unit. Groundwater elevation measurements obtained for the 11 on-site monitoring wells in the vicinity of the subject CCR surface impoundment which includes data for the monitoring wells associated specifically with the subject surface impoundment (Pond 2; upgradient well MW-10 and downgradient wells MW-3 thru MW-5) were submitted as part of the initial Operating and Construction Permit applications. Potential temporal fluctuations with the highest water levels generally occur within the second or third quarters of the year.

Groundwater flow maps for the four quarters from 3rd quarter 2020 through the 2nd quarter 2021 were provided as part of the initial construction permit application. The maps include groundwater elevation data from all 11 wells in the area, including the specific CCR monitoring wells associated with the subject surface impoundment. Based on a review of the maps, groundwater flow is in a southerly direction towards the associated facility water intake channel and the Des Plaines River.

These maps are consistent with historical flow data for the site and they show the horizontal hydraulic gradient is fairly shallow. Background information for this data was provided in the initial Joliet 29 Generating Station Operating Permit application.

At this time, based on the geology discussion in Section 9.1.1 and the site-specific hydrogeology discussions above, the groundwater beneath the CCR surface impoundment is considered as Class I Potable Resource Groundwater in accordance with Section 620.210. It is noted, however, that a Groundwater Management Zone (GMZ) has been established in the vicinity of the subject CCR surface impoundment in accordance with Section 620.250 as part of a Compliance Commitment Agreement (CCA) between Midwest Generation and Illinois EPA.

A survey of all potable water sources within a 2,500 feet radius of the Midwest Generation Joliet #29 Generating Station was completed by Natural Resources Technology (NRT) in 2009. As part of the initial operating and construction permit preparations, KPRG evaluated the NRT information and reviewed the new Illinois State Geological Survey database and interactive map references as "ILWATER". Fifteen potable/industrial use wells are within a 2,500-foot radius of the Station's subject CCR surface impoundment. There are no wells directly downgradient of the subject surface impoundment. Eight of the wells are located 1,500 to 2,500 feet north and northwest of the impoundment (upgradient). Two wells, both owned by Midwest Generation, which service the Station, are located to the west and southwest (sidegradient). Both of these wells are greater than 1500 feet deep and screened within the Cambro-Ordovician limestones/sandstones beneath the Maquoketa Shale. There are several wells south of the Des Plaines River, a hydrogeologic discharge boundary, which service the Joliet #9 Generating Station all of which are also greater than 1,500 feet deep. The well that is located within the Des Plaines River (well 00563) is incorrectly located within the ILWATER database and is actually part of the Olin Chemical operations.

Based on the geology of the site presented in Section 9.1.1 and the above hydrogeology discussions, the primary contaminant migration pathway for a potential release from the subject CCR surface impoundment would be downward migration to groundwater within the unconsolidated sand and gravel aquifer. Due to its proximity to the facility intake channel and Des Plaines River, which is a hydrogeologic flow boundary, minimal to no downward vertical flow mixing would be anticipated within the aquifer. There are no other utility or man-made preferential pathway corridors that would act to potentially intercept the flow to move any contamination in a direction other than to the south. There are no potable water wells downgradient of the subject CCR surface impoundment screened within the aquifer of concern. Also, as previously discussed, there are no potable surface water intakes on the Des Plaines River either along or downstream of the subject site.

The monitoring well system for the subject unit consist of four monitoring wells, MW-10 (upgradient) and MW-3 through MW-5 (downgradient).

Groundwater sampling has occurred on a quarterly basis for the seven detection monitoring parameters listed under Appendix III of the Federal CCR Rule detection monitoring requirements.

Using the currently available data for the subject CCR surface impoundment, site specific Groundwater Protection Standards (GWPSs) have been established in accordance with Section 845.600(b) and were submitted as part of the initial Operating Permit and Construction Permit applications.

10.0 Professional Engineer Certification, 845.220(a)(8)

This amended construction permit application has been prepared to meet the requirements of 35 Ill. Adm. Code 845.220(a) and 845.220(d) that are applicable to the revisions noted in the previous sections.



Timothy J. Stohner, P.E.
Illinois Professional Engineer



11.0 Owner Certification, 845.220(a)(9)

This section has not changed from the previously submitted construction permit application. A certification stating that the owner or operator of the CCR surface impoundment has completed the public notification and public meetings that were required under the Ill. Adm. Code Title 35, Part 845 Section 240 was included in the initial construction permit application.

REVISED FIGURE



T:\projects\midwest\gen\operating and construct permits - various stations\joliet site location maps.dwg

LEGEND	
	FACILITY BOUNDARY
	TYPICAL VEHICLE ACCESS TO POND 2
	LARGE VEHICLE ACCESS TO POND 2
	ALTERNATE VEHICLE ACCESS TO POND 2
	FACILITY FENCE

ENVIRONMENTAL CONSULTATION & REMEDIATION

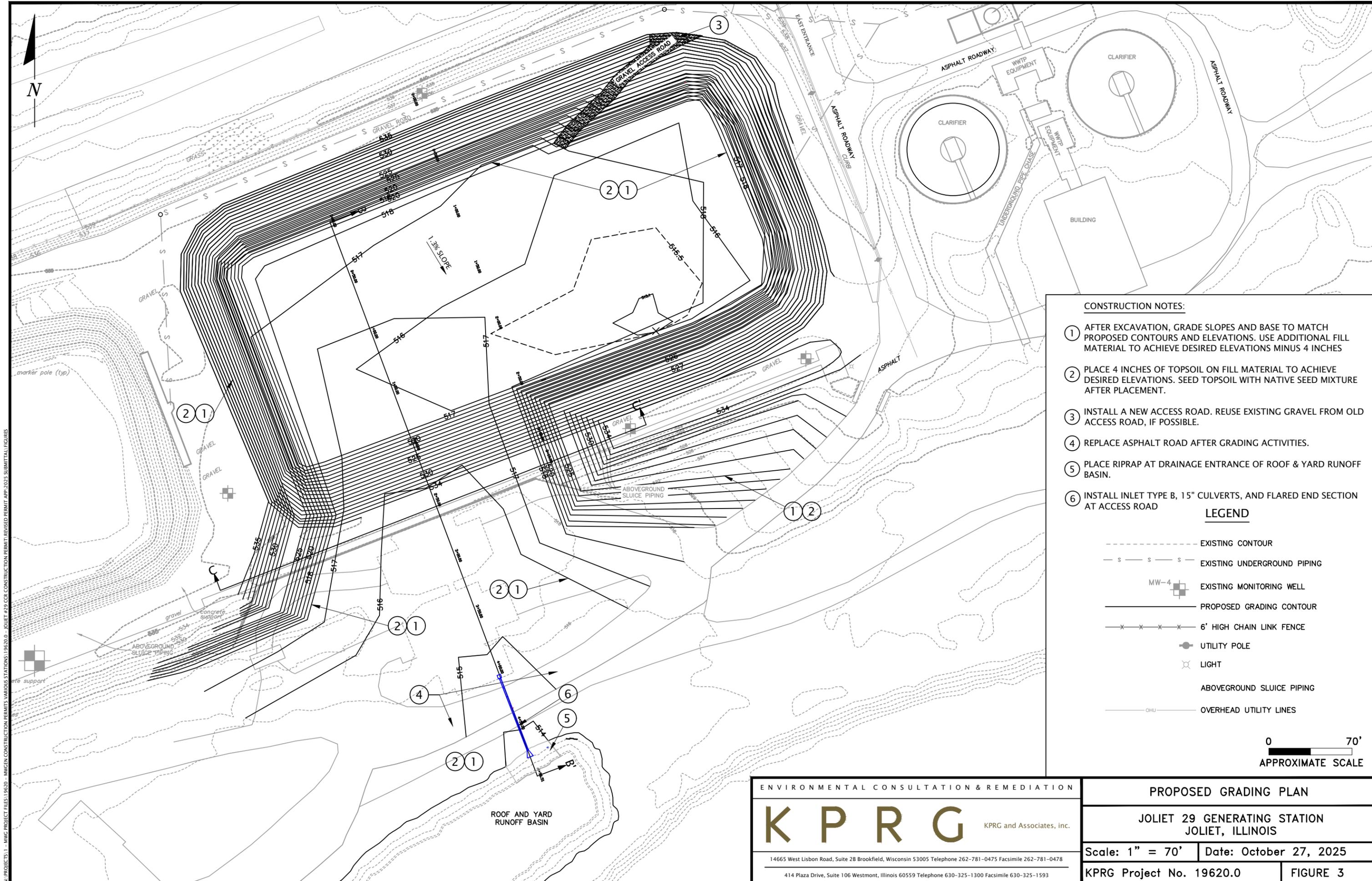
K P R G

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478
 414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

AMENDED SITE TRANSPORTATION MAP	
JOLIET #29 GENERATING STATION JOLIET, ILLINOIS	
Scale: 1" = 250'	Date: September 11, 2023
KPRG Project No. 19620	FIGURE 2

REVISED ATTACHMENTS



CONSTRUCTION NOTES:

- ① AFTER EXCAVATION, GRADE SLOPES AND BASE TO MATCH PROPOSED CONTOURS AND ELEVATIONS. USE ADDITIONAL FILL MATERIAL TO ACHIEVE DESIRED ELEVATIONS MINUS 4 INCHES
- ② PLACE 4 INCHES OF TOPSOIL ON FILL MATERIAL TO ACHIEVE DESIRED ELEVATIONS. SEED TOPSOIL WITH NATIVE SEED MIXTURE AFTER PLACEMENT.
- ③ INSTALL A NEW ACCESS ROAD. REUSE EXISTING GRAVEL FROM OLD ACCESS ROAD, IF POSSIBLE.
- ④ REPLACE ASPHALT ROAD AFTER GRADING ACTIVITIES.
- ⑤ PLACE RIPRAP AT DRAINAGE ENTRANCE OF ROOF & YARD RUNOFF BASIN.
- ⑥ INSTALL INLET TYPE B, 15" CULVERTS, AND FLARED END SECTION AT ACCESS ROAD

LEGEND

- EXISTING CONTOUR
- s - s - s - EXISTING UNDERGROUND PIPING
- MW-4 [Symbol] EXISTING MONITORING WELL
- PROPOSED GRADING CONTOUR
- x - x - x - 6' HIGH CHAIN LINK FENCE
- [Symbol] UTILITY POLE
- [Symbol] LIGHT
- ABOVEGROUND SLUICE PIPING
- OHU — OVERHEAD UTILITY LINES



N:\PROJECTS\1 - MWG CONSTRUCTION PERMITS\19620.0 - JOLIET #29 CCR CONSTRUCTION PERMIT\REVISED PERMIT APP\2025 SUBMITTAL\FIGURES

ENVIRONMENTAL CONSULTATION & REMEDIATION



14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

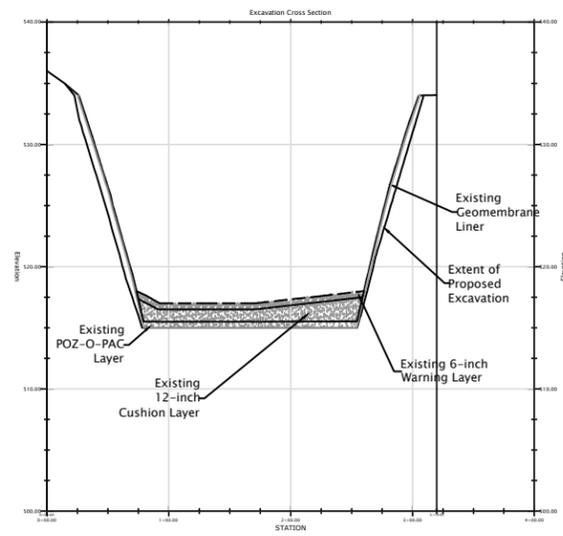
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

PROPOSED GRADING PLAN

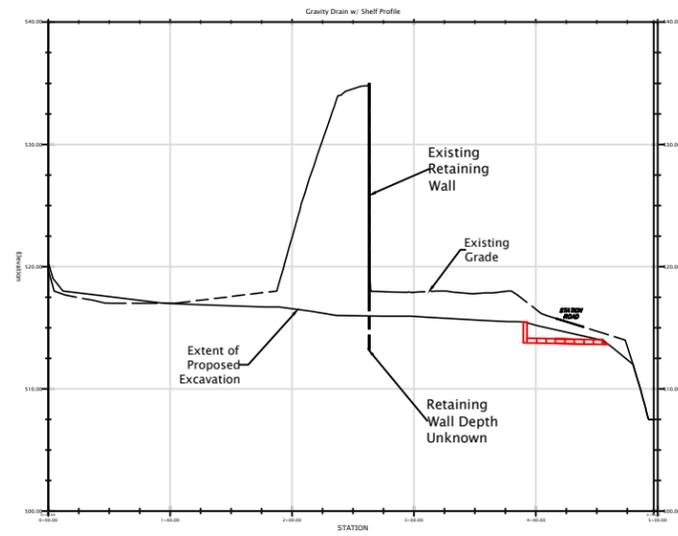
**JOLIET 29 GENERATING STATION
JOLIET, ILLINOIS**

Scale: 1" = 70' Date: October 27, 2025

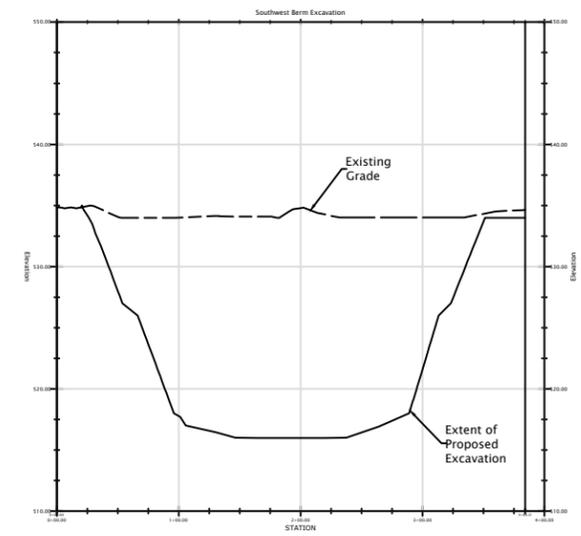
KPRG Project No. 19620.0 FIGURE 3



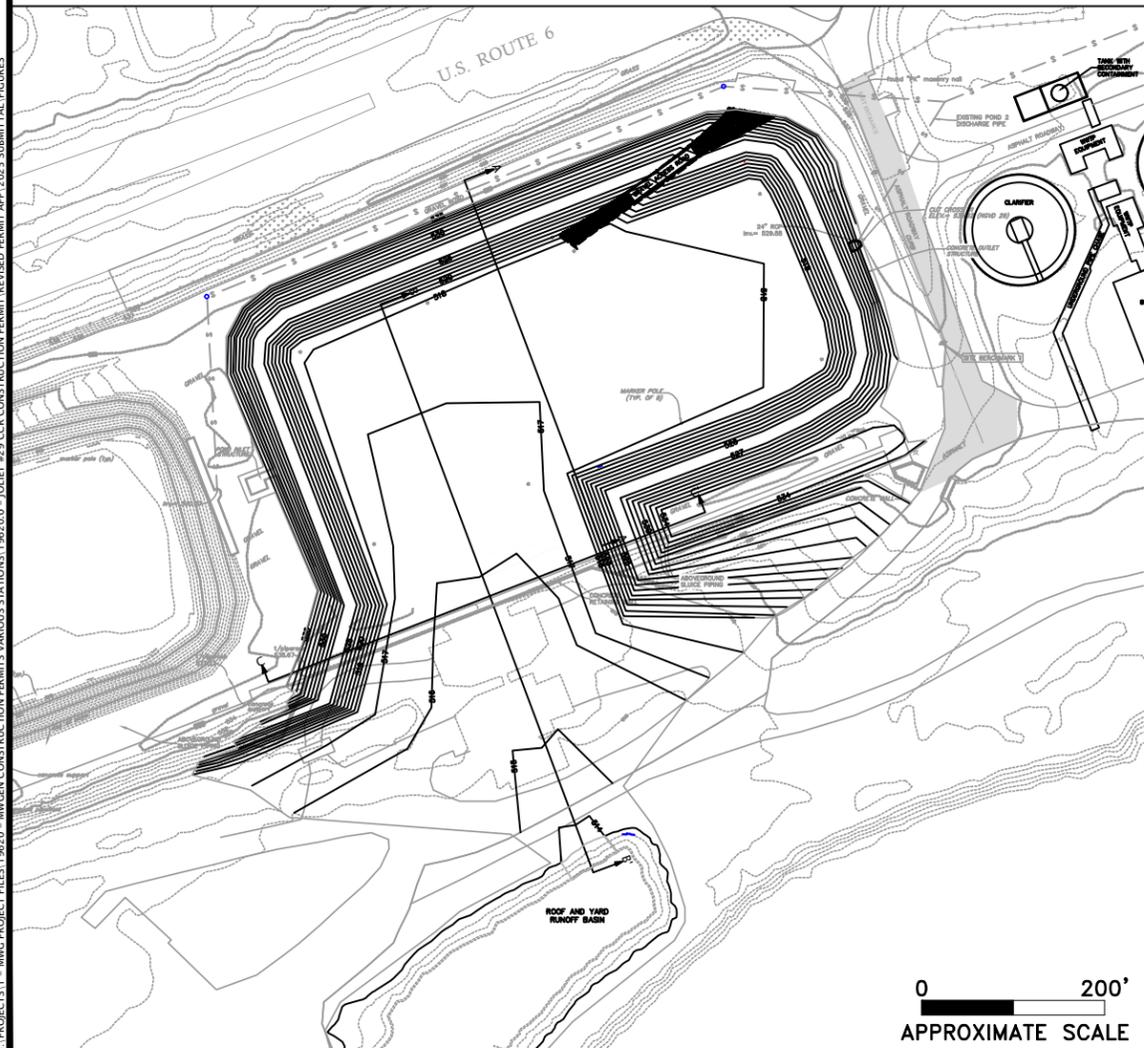
SECTION A-A'
 HORIZONTAL SCALE 1" = 150'
 VERTICAL SCALE 1" = 50'



SECTION B-B'
 HORIZONTAL SCALE 1" = 150'
 VERTICAL SCALE 1" = 50'



SECTION C-C'
 HORIZONTAL SCALE 1" = 150'
 VERTICAL SCALE 1" = 50'



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ATTORNEY-CLIENT PRIVILEGE 0 150'
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

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414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

ASH POND 2 SECTIONS	
JOLIET 29 GENERATING STATION JOLIET, ILLINOIS	
Scale: 1" = 150'	Date: October 27, 2025
KPRG Project No. 19620.0	FIGURE 4

JOLIET 29 GENERATING STATION
POND 2 CLOSURE BY REMOVAL SPECIFICATIONS

DATE: October 2025

SECTION 011100 SUMMARY OF WORK

PART 1 - GENERAL

101. **PROJECT INFORMATION**

Owner: Midwest Generation, LLC (MWG)
Design Engineer: KPRG and Associates, Inc. (KPRG)
Project Name: Pond 2 Closure by Removal
Project Location: Joliet 29 Generating Station
1800 Channahon Rd. Joliet, IL 63436

102. **DESCRIPTION OF THE PROJECT AND GENERAL BACKGROUND**

- a. The purpose of this project is to close Pond 2 at Midwest Generation, LLC's Joliet 29 Generating Station in accordance with the Illinois Pollution Control Board's Coal Combustion Residuals (CCR) Rule, 35 Ill. Adm. Code Part 845.
- b. Pond 2 will be closed by removing the existing gravel warning layer, sand cushion layer, the existing geomembrane liner, the appurtenant structures, and the existing Poz-O-Pac. Following material removal, the base soil will be sloped to allow for the drainage of precipitation to the existing Roof & Yard Runoff Basin.

103. **SCOPE OF WORK**

In general, this Specification covers the technical requirements for a General Work (GW) Contractor to close Pond 2 at the Joliet 29 Generating Station. The Work includes the following activities:

- a. Furnishing and installing temporary sediment and erosion control best management practices (BMPs) prior to and during all phases of earth disturbance work.
 - b. Closing Pond 2 by removing the existing gravel warning layer, sand cushion layer, the existing geomembrane liner, the appurtenant structures, and the existing Poz-O-Pac with offsite disposal of dry waste material in a permitted landfill approved by the Owner and disposal of liquid waste in the existing Pond 3 or as otherwise directed by the Owner.
 - c. Grading and compacting, of the existing soil base and south berm to establish the lines and grades to allow for precipitation to drain from the pond as specified on the Design Drawings. Clean offsite material will be placed, graded, and compacted, as needed, to achieve the desired slopes and elevations.
 - d. Restoring and cleaning the project site.
 - e. Developing fueling and maintenance facilities and practices to protect the project site from hydrocarbon spills or other environmental impacts that may affect the project site, adjacent property, or the Des Plaines River and connected waterways.
- 103.1 In addition, the Work shall include but not be limited to the following:
- a. Engineering and construction services required to perform or install the Work.
 - b. Surveying to ensure the Work is located as indicated on the Design Drawings.
 - c. Furnishing all installation equipment and tools including any calibrated instruments required for monitoring and testing.

- d. Maintaining the project site in a dry condition that includes dewatering of all areas that collect storm water or groundwater in the area controlled by the General Work (GW) Contractor, redirecting any surface water because of rainfall or water generated by the installation Work. Any groundwater and/or surface water, which requires removal from the area of work, shall be disposed of in compliance with the Joliet Generating Station's National Pollutant Discharge Elimination System (NPDES) discharge permit in effect at the time of the Work. The methods and proposed place of discharge shall be approved by the Owner prior to disposing of the water.
 - e. Disposing of excess excavated material and other construction related debris in an off-site permitted landfill approved by the Owner.
 - f. Maintaining a record of the installation (i.e., as-built drawings) in accordance with the technical requirements of this Specification.
 - g. Furnishing the services of qualified personnel at the project site to perform the Work.
 - h. Progress reporting as specified in the Commercial Terms and Conditions.
 - i. Daily site cleanup and disposal of waste and debris.
 - j. Participation in the Owner's on-site safety program, including the Owner's CCR Safety and Health Plan Training.
 - k. GW Contractor shall allow access to all work areas by Owner, Design Engineer, CQA Contractor staff, and other parties as approved by Owner. GW Contractor shall not install, modify, repair, or work on any elements of the project that are subject to the CQA testing and inspection services without notifying the CQA Contractor at least 2 workdays in advance. Work on weekends or holidays shall be scheduled as soon as possible with the CQA Contractor. Failure to provide CQA Contractor adequate advanced notice to staff the site shall result in a hold on work until the CQA Contractor staff arrive on site.
- 103.2 The Work shall conform to the requirements of this Specification and shall be performed and supervised by personnel who are experienced and knowledgeable in the crafts and trades required by the Scope of Work. The Work shall be performed exclusively by the GW Contractor's trained and competent personnel or, where permitted, that of its subcontractor(s); and shall comply with all applicable safety laws, regulations, programs, and practices to ensure the safety of all people located on the work site, including the GW Contractor's personnel (or that of its subcontractor(s)) performing the Work.
- 103.3 Performance of the Work shall include all the labor, supervision, administration, management, material procurement, tools, installation and testing equipment, miscellaneous material, and consumables to perform the Work specified herein.
- 103.4 Provide all installation equipment and all incidental items not shown or specified but reasonably implied for successful completion of the Work and in strict accordance with the Design Drawings and this Specification, including inspection, testing and quality standards.
- 103.5 Provide installation quality assurance and quality control submittals where required.
- 103.6 Prepare red-lined as-built drawings for review upon completion of the Work to document any variances between the construction issue of the Design Drawings and the actual installation. Finalize as-built drawings after the Owner and the Design Engineer review.
- 103.7 All other work as indicated on the Design Drawings, as specified herein, or as required to complete the Work properly.

104. DIVISION OF RESPONSIBILITY & CONTRACTOR QUALIFICATIONS

104.1 Owner:

- a. MWG is the Owner of the facility and has the authority to accept or reject materials and workmanship of the GW Contractor or reports and recommendations of the CQA Contractor. The Owner will ultimately be responsible for the closure construction for Pond 2 and for assuring the Permitting Authority that the construction meets or exceeds the requirements specified in state regulations, permits, Project Specifications, and the Design Drawings.

104.2 Design Engineer:

- a. KPRG is the Design Engineer and is responsible for designing the closure features for Pond 2.
- b. The Design Engineer will assure that the closure design meets or exceeds the construction requirements of the Owner and meets or exceeds the requirements of the Permitting Authority.
- c. The Design Engineer shall resolve unexpected conditions or unanticipated problems during construction, which may require changes to the permitted design. Changes to the permitted design shall require approval of the Owner and Design Engineer to ensure that the original design objectives are still maintained. All changes shall meet state regulatory requirements and the rules promulgated thereunder and may include Permitting Authority-approved variances to the rules.

104.3 Permitting Authority – Illinois EPA:

- a. The Illinois EPA is the Permitting Authority and is responsible for reviewing the permit application for closing Pond 2 to assure compliance with state regulations and for granting the construction permit for the project.
- b. The Permitting Authority may review any design revisions during construction and any requests for variance submitted by the Owner. The Permitting Authority has the authority to review and approve all CQA documentation and reports and to confirm Pond 2 was closed as specified in Project Specifications and the Design Drawings.

104.4 GW Contractor:

- a. The GW Contractor is the firm with whom the Owner establishes a contract for the satisfactory performance of the Work.
- b. The GW Contractor is responsible for the work, quality, and safety of their staff, all subcontractors, and suppliers.
- c. The GW Contractor may devise the Work into the necessary division of responsibilities to execute properly the closure activities.

104.5 Construction Quality Assurance (CQA) Contractor:

- a. The CQA Contractor is the firm with whom the Owner establishes a contract to perform all CQA work.
- b. The CQA Contractor is independent of the GW Contractor and their subcontractors.

105. MATERIAL AND SERVICES FURNISHED BY OTHERS

105.1 The following work has been, or will be, performed and/or provided by Others:

- a. The GW Contractor shall be responsible for dewatering (if necessary) stormwater remaining in Pond 2 after the GW Contractor mobilizes to the site.

- b. Estimated quantity of existing protective layer materials to be removed from the pond will be provided by Owner during the bid period for the Work.
- c. Construction Quality Assurance services will be procured by the Owner.

106. DEFINITIONS

- 106.1 The term "Design Drawing" means the Design Engineer's drawings indicating the Work to be performed.
- 106.2 The term "Work" means the material and services furnished to close Pond 2 as identified on the Design Drawings and as specified herein.
- 106.3 The term "Owner-approved equal" means an acceptable equivalent to a specified material that has been accepted by the Owner.

107. INTENT OF DOCUMENTS

- 107.1 The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intention of the documents is to include all labor, material, equipment, and transportation necessary for the proper execution of the Work.
- 107.2 Discrepancies between the Design Drawings and this Specification or errors or omissions, or mis-descriptions either in the Design Drawings or in this Specification, shall be referred to the Design Engineer for interpretation and adjustment prior to beginning the Work. Do not proceed without the Design Engineer's written acceptance.

108. PERFORMANCE OF THE WORK

- 108.1 The GW Contractor shall provide materials and employ construction practices that are sustainable to the greatest extent possible, including disposal of waste.
- 108.2 The GW Contractor shall provide a representative that will input and provide daily force reports and daily production reports.
- 108.3 The performance of the Work, as specified herein and as indicated on the Design Drawings, shall comply with the current safety and health standards authorized by the U.S. Department of Labor's Occupational Safety and Health Administration, as well as state and local jurisdictional requirements.
- 108.4 The GW Contractor shall take all appropriate precautions to ensure the safety of all people working on site.
- 108.5 The GW Contractor shall maintain the necessary skilled and qualified labor force for the Work to ensure the on-time completion of the Work.
- 108.6 The GW Contractor's personnel shall be competent, capable, qualified, and able to perform the duties required to the satisfaction of the Owner. A supervisor vested with authority to make decisions binding on the GW Contractor shall be assigned to the task to resolve installation problems as they arise so as not to delay completion of the Work.
- 108.7 The GW Contractor shall be solely responsible for advising the Design Engineer in writing of any conflicts between this Specification and the Design Drawings and the GW Contractor's drawings, including performance and levels of quality. The GW Contractor agrees that its obligations, liabilities, and warranties shall not be diminished or extinguished due to its meeting the requirements of this Specification and the Design Drawings.

109. REGULATORY REQUIREMENTS

109.1 The GW Contractor shall at all times be solely responsible for complying with all applicable laws, ordinances, regulations, and codes, including those relating to safety of all persons, in connection with the Work. No obligation of the Owner or Design Engineer shall impose upon them any duty to review the GW Contractor's compliance with safety measures.

110. PROTECTION OF PROPERTY AND PERSONNEL SAFETY

110.1 The GW Contractor shall take adequate precautions to protect existing structures, fences, pavements, aboveground utilities, and underground utilities and to avoid damage thereto. The GW Contractor shall, at no addition expense to the Owner, repair any damage caused by its operations or by that of its subcontractors.

110.2 The GW Contractor shall conduct safety training of all its personnel (including any subcontractors) in accordance with the Owner's safety requirements, including the Owner's CCR Safety and Health Plan.

110.3 The GW Contractor shall take adequate precautions to protect the Des Plaines River, other waterways, and adjacent properties from environmental damage.

111. CLEAN-UP AND DISPOSAL OF DEBRIS

111.1 The GW Contractor shall be responsible for clean-up and disposal of all debris resulting from the installation work. All excess excavated material and other construction related debris shall be properly disposed of (i.e., in an environmentally responsible way) offsite in a permitted landfill approved by the Owner.

111.2 Clean up, disposal, and site restoration, if required, shall be in compliance with the applicable requirements of all access permits. If any additional permits are required for disposal of debris, these shall be the responsibility of the GW Contractor.

111.3 Work areas shall be kept clean and orderly at all times with as little disturbance as possible to existing conditions. Upon completion of work at each site, all tools, equipment, material, and debris shall be completely removed and the area left in a clean condition.

112. EXISTING SITE CONDITIONS

112.1 Prior to performing any Work in any part of the project site, the GW Contractor shall make a thorough field check for the purposes of verifying existing conditions that may affect the Work. The GW Contractor shall include a thorough investigation of the potential interferences and difficulties that it may encounter in the proper and complete execution of the Work, including the field location and identification of underground and overhead utilities within and adjacent to the limits of the Work. The GW Contractor shall advise the Owner immediately of the discovery of any conditions, including the existence of underground and overhead utilities that may affect the timely and safe execution of the Work.

112.2 The GW Contractor shall be responsible for location of underground utilities and obstructions prior to performance of the Work and shall promptly notify Owner of any potential interferences that may impact performance of the Work. Modifications to the design to resolve these interferences shall not be implemented until approved by the Owner.

112.3 The GW Contractor further acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface material and obstacles, including underground or embedded utilities, to be encountered insofar as this information is reasonably ascertainable from:

- a. An inspection of the site (including field location and identification of underground utilities).

- b. Reference drawings made available by the Owner.
- c. Drawings and specifications that are a part of the Contract.
- d. The character and extent of existing work within or adjacent thereto.
- e. Any other work being performed thereon at the time of the submission of bids.

112.4 Should the GW Contractor fail to perform any of the obligations set forth above, the GW Contractor's later plea of ignorance of existing or foreseeable conditions which create difficulties or hindrances in the execution of the Work will not be considered as an excuse for any failure on the part of the GW Contractor to fulfill in every detail the requirements of the Contract nor will such a plea be acceptable as the basis of a claim for additional compensation or time to complete the work.

113. VERIFICATION OF DIMENSIONS ON DRAWINGS AND MEASUREMENTS AT SITE

113.1 The GW Contractor shall make a thorough field check for the purpose of verifying existing conditions that may affect the Work, such as existing topographic data shown on the Design Drawings, difficulties that might be encountered in the execution of the Work for any reason, and dimensions and other questions relating to interconnection of the Work with the existing Pond 2 closure construction.

113.2 The GW Contractor shall satisfy itself as to the accuracy of the dimensions of the existing Pond 2 closure construction as such dimensions relate to the dimensions given on any drawing issued by the Design Engineer. It shall be understood that neither the Design Engineer nor the Owner guarantee the exactness of such dimensions.

113.3 Should the GW Contractor discover any variation in the dimensions of existing conditions and the dimensions given on any drawings issued by the Design Engineer, the GW Contractor shall give immediate notice thereof to the Owner and the GW Contractor shall not proceed with the Work until such variation is resolved.

114. SOIL DATA

114.1 A structural stability and factor of safety assessment for Pond 2 were prepared in June 2021. Site specific soil data and geotechnical recommendations are provided and referenced therein. The geotechnical information in and referenced by this assessment indicates the general character of the subsurface conditions at the site. This information is made available for the GW Contractor's information and for interpretation of soil and water conditions that may be encountered at the site. The logs and test data that are provided are not to be taken as a complete description of the site soil and water information, but only display what was found in borings at the indicated locations. The Owner and the Design Engineer take no responsibility for the accuracy of this information.

114.2 The GW Contractor may obtain additional subsurface information, as it deems necessary, for installation purposes.

115. LINES AND GRADES

115.1 The GW Contractor shall use the existing benchmarks established at the site, as identified on the survey drawings included in the reference documents for the project, to lay out lines and grades on the project site. The GW Contractor is fully responsible for the correctness of such lines and grades and for proper execution of work to such lines and grades.

115.2 The Owner reserves the right to verify correctness of lines and grades during progress of the Work. Such verification by the Owner will not relieve the GW Contractor of responsibility as herein specified.

115.3 The GW Contractor shall preserve and maintain existing benchmarks and reference points established at the project site. Should the GW Contractor, during execution of the Work, destroy or remove any existing benchmark or reference point, the cost to the Owner for re-establishing the benchmark or reference point will be charged to the GW Contractor.

116. CONTROL AND CHARGE OF CONTRACTOR'S WORK

116.1 The GW Contractor shall be responsible for the safety of its employees and subcontractors and for maintaining the safety of the job site.

116.2 The GW Contractor shall be solely responsible for construction means, methods, techniques, sequences, and procedures used in the construction of the Work. The Owner, however, reserves the right to request, and the Contractor shall supply, detailed information regarding the Work such as procedures or work methods.

116.3 Only the Owner (or its authorized representative) has the authority to stop the Work (in accordance with the Commercial Terms and Conditions) if such Work is determined to be not in accordance with this Specification, the Design Drawings, or the Contract documents.

117. DESIGN DRAWINGS

117.1 The Design Drawings prepared by the Design Engineer indicate the physical dimensions of the Work to be installed as defined by the Scope of Work and form a part hereof.

118. REFERENCE DOCUMENTS

118.1 The reference documents assembled by the Design Engineer are for information only.

END OF SECTION 011100

SECTION 319005

EARTHWORK

PART 1 - GENERAL

101. EXTENT

101.1 This section defines the material and work requirements associated with grading existing site soils and preparing/placing Fill within Pond 2 and other tasks, as necessary. The existing site soils and fill will establish the lines and grades so stormwater will drain from the pond. This work is further defined and depicted on the Design Drawings.

101.2 The work shall include, but not be limited to, the following items:

- a. Excavating the granular protective layers covering the pond's existing liner.
- b. Cleaning and decontaminating the existing liner system and the pond appurtenances.
- c. Demolish and remove the existing liner system, the pond appurtenances, and abandoned sluice piping.
- d. Remove the existing concrete retaining wall.
- e. Excavate and flatten the southwest portion of Pond 2's southern berm.
- f. Grading the pond base soils.
- g. Placing and grading Fill, as needed.
- h. Installing catch basin, culvert, and flared end section to lessen the occurrence of sheet flow over the access road between Pond 2 and the Roof & Yard Runoff Basin (R&YRB).
- i. Placing crushed stone to re-surface existing roads on the top of Pond 2's dikes where indicated on the Design Drawings.
- j. Disposing of the existing liner system, excess or unsuitable excavated earthen material and debris in an off-site, permitted landfill approved by the Owner.

102. RELATED WORK SPECIFIED IN OTHER SECTIONS AND SPECIFICATIONS

102.1 The work specified in this section shall be coordinated with work specified in Section 011100 – Summary of Work

103. REFERENCE DOCUMENTS

103.1 Standards, specifications, manuals, codes and other publications of nationally recognized organizations and associations are referenced herein. Methods, equipment, and materials specified herein shall comply with the specified and applicable portions of the referenced documents, in addition to federal, state, or local agencies having jurisdiction.

103.2 References to these documents are to the latest issue of each document, unless otherwise indicated, together with the latest additions, addenda, amendments, supplements, etc., thereto, in effect as of the date of the Contract for the Work.

103.3 Abbreviations listed indicate the form used to identify the reference documents cited in this section.

103.4 ASTM – ASTM International:

- a. C136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
- b. D1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³))
- c. D2487 Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
- d. D2974 Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

103.5 IDOT – Illinois Department of Transportation:

- a. Standard Specifications for Road and Bridge Construction (Adopted January 1, 2022).

103.6 ITP – Illinois Test Procedure:

- a. 27 Sieve Analysis of Fine and Coarse Aggregates
- b. 96 Resistance by Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
- c. 104 Soundness of Aggregate by Use of Sodium Sulfate

104. SUBMITTALS

104.1 The GW Contractor shall submit drawings and data as specified. The GW Contractor's drawings and data shall be submitted via electronic medium in a format compatible for importing into the Owner's information systems (as specified by the Owner).

104.2 Submittals After Award:

- a. Fill Material:
- b. At least 30 days prior to scheduled delivery, the Earthwork Contractor shall submit the proposed source for offsite Fill material and documentation showing that it is free of contaminants by the supplier or a qualified geotechnical engineering consultant that certify the following items comply with or exceed specifications for the material:

Property	Standard⁽¹⁾	Data Required
b1.1 Sieve Analysis	ASTM C136	Percent Passing Selected Sieves
b1.2 Classification of Material	ASTM D2487	Classification
b1.3 Organic Content	ASTM D2974	Percent of Organic Material
b1.4 Atterberg Limits ⁽²⁾	ASTM D4318	Liquid Limit and Plasticity Index

Note:

(1) Test results shall be provided on two random samples taken from each borrow area. If processing of borrow area material is required to meet material specifications, the tests shall be performed on the process material.

(2) Atterberg limits are only required if cohesive/fine grained materials are to be used for Structural Fill.

- c. Crushed Stone Surfacing for Roads:
- d. At least 30 days prior to scheduled delivery, the Earthwork Contractor shall submit certificates for the crushed stone material to be used to re-surface the existing roads on top of the basin dikes, which shall be signed by the supplier or a qualified geotechnical engineering consultant certifying the following items comply with or exceed specifications for the material:

Property	Standard ⁽¹⁾	Data Required
c1.1 Sieve Analysis	ITP 27	Percent Passing Selected Sieves
c1.2 Na ₂ SO ₄ Soundness 5 Cycle	ITP 104	Percent Loss Max.
c1.3 Los Angeles Abrasion	ITP 96	Percent Loss Max.

Note:

- a. Test results shall be provided on two random samples taken from each borrow area. If processing of borrow area material is required to meet material specifications, the tests shall be performed on the process material.

105. QUALITY ASSURANCE

- 105.1 Material and construction procedures shall be subject to inspection and testing by the CQA Contractor hired by Owner. Such inspections and tests will not relieve the Earthwork Contractor of responsibility for providing and placing materials in compliance with specified requirements.
- 105.2 The Owner reserves the right, at any time before final acceptance, to reject material not complying with the specified requirements. The Earthwork Contractor shall correct all deficiencies which inspections, laboratory tests, or field tests have indicated are not in compliance with specified requirements. The Earthwork Contractor shall perform additional tests, at their expense, as may be necessary to reconfirm any noncompliance of the original work, and as may be necessary to show compliance of corrected work.
- 105.3 The Earthwork Contractor shall promptly correct errors or flaws in the work or material identified during construction and which prevent proper installation. The Earthwork Contractor shall make immediate substitution of the noncomplying material or shall make field changes to make the noncomplying material acceptable. The correction or substitution shall be performed at no cost to the Owner.
- 105.4 CQA activities shall be performed as described herein.

PART 2 - PRODUCTS

201. MATERIAL FOR FILL

- 201.1 Definitions:
 - a. Fill is placed within Pond 2 to create the slopes and elevations as identified on the Design Drawings.
- 201.2 Satisfactory Material:
 - a. Granular Material:
 - a1. Granular material for use as Fill shall be rounded or crushed, with less than one percent organic or other deleterious material, free of excess moisture, and a maximum particle size less than one inch.

- a2. Acceptable granular materials are soils which are classified as coarse-grained soils in the Unified Soil Classification System, ASTM D2487. Classifications are GW, GP, GC, SW, SP, or SC, or combinations of these such as SP-SC.
- a3. No material with a silt content of greater than 12 percent (i.e., SM or GM) shall be used for Fill.
- b. Cohesive Material:
 - b1. Cohesive material is suitable for use as Fill if it contains not more than two percent organic or other deleterious material, has a maximum particle size of one inch, has a liquid limit of less than 45, and has a plasticity index of less than 25.
 - b2. Acceptable cohesive materials are soils which are classified as fine-grained soils in the Unified Soil Classification System, ASTM D2487. Classification is CL.

201.3 Unsatisfactory Material:

- a. Material unsatisfactory use as Fill is as follows:
 - a1. Soils classified as organic soils in the Unified Soil Classification System, ASTM D2487.
 - a2. Rock material without a soil matrix in which nesting of rocks could occur.
 - a3. Debris.

201.4 Fill material shall be obtained from an offsite borrow source identified by the Earthwork Contractor and approved by the Owner.

202. RESTRICTIONS ON THE USE OF MATERIAL FOR ANY PURPOSE

202.1 Any material which is frozen is considered unsatisfactory for use as fill.

203. CRUSHED STONE SURFACING FOR ROADS

203.1 Material Requirements:

- a. Crushed stone for re-surfacing existing roads on the top of the pond embankments shall be composed of gravel, crushed gravel, or crushed stone that is processed to meet the following requirements:
 - a1. The material shall conform to Gradation CA 6 in accordance with Paragraph 1004.01(c) of the IDOT Standard Specifications for Road and Bridge Construction.
 - a2. The material quality shall be Class D or better in accordance with Paragraph 1004.01(b) of the IDOT Standard Specifications for Road and Bridge Construction.

203.2 Material Sources:

- a. Crushed stone surfacing material shall be obtained from an offsite borrow source identified by the Earthwork Contractor and approved by the Owner.

204. TOPSOIL

204.1 Material Requirements:

- a. Topsoil shall be friable and loamy (loam, sandy loam, silt loam, sandy clay loam, or clay loam). Sand content shall generally be less than 70% by weight, and clay content shall generally be less than 35% by weight.
- b. Organic soils, such as peat or muck, shall not be used as topsoil material.

- c. Organic matter content shall be not less than 1.5% by weight.
- d. pH shall be within the range 6.0 to 7.5. If pH is less than 6.0, lime shall be added in accordance with soil test results or in accordance with the recommendations of the vegetative establishment practice being used.
- e. Soluble salts shall not exceed 500 ppm.
- f. Sodium adsorption ratio shall be less than 12.
- g. It shall be free of debris, trash, stumps, rocks, and noxious weeds, and shall give evidence of being able to support healthy vegetation. It shall contain no substance that is potentially toxic to plant growth.

205. VEGETATION

205.1 Material Requirements:

- a. The vegetation shall consist of native grasses in accordance with Illinois Department of Transportation (IDOT) Class 4 or Class 4A mixtures or the Slope/streambank grass mixture included with this specification or an approved equal. All seed shall be of high quality and comply with Illinois Seed and Weed Laws.

206. EROSION CONTROL

206.1 Acceptable Materials:

- a. Mulch shall comply with Illinois Urban Manual Practice Standard 875 with straw mulch consisting of oats, wheat, rye, or barley and hydraulic mulch consisting of wood, cotton, straw, or paper – or a combination of the four. If compost is used it shall be thoroughly decomposed organic waste. Chemical mulch bonder shall be approved as safe for the ecosystem.
- b. The erosion control blanket shall comply with IUM Practice Standard Erosion Control Blanket 830 and shall be coconut blankets, jute netting, wood fiber blankets, straw blankets, or an approved equal.
- c. The turf reinforcement mat (TRM) shall comply with IUM Material Specification Turf Reinforcement Mat 805 and shall be equal or greater to Landlok 435 or Enkamat 7020 brand TRMs or an approved equal.

207. DRAINAGE INFRASTRUCTURE

207.1 Material Requirements:

- a. Inlet Type B (IDOT Standard 602306-03B) or Design Engineer-approved alternate installed on the north side of access road south of Pond 2 and north of the R&YRB.
- b. Sufficient sections of 15-inch inner diameter round reinforced concrete pipe (ASTM C-76) or Design Engineer-approved alternate set beneath and perpendicular to the path of the access road. Set pipe at a minimum 1 percent slope to the R&YRB.
- c. Precast reinforced concrete flared end section (IDOT Standard 542301-03) or Design Engineer-approved alternate installed south of the access road to provide drainage flow into the R&YRB.

PART 3 - EXECUTION

301. DEMOLITION, CLEARING, GRUBBING AND STRIPPING

301.1 General:

- a. The work required is shown on the Design Drawings. No work shall be performed outside of the designated area without prior written approval of the Owner.
- b. All work incidental to excavation or fill work will not be specifically indicated on the Design Drawings but shall be performed as part of the work.

301.2 Demolition:

- a. Demolition and removal of minor items which are incidental to the earthwork may be required. The Earthwork Contractor shall identify any such items during their pre-bid walkdown. The Earthwork Contractor shall demolish such items as required as part of the performance of the work.
- b. All waste resulting from demolition work shall be disposed of by the Earthwork Contractor in an offsite disposal area.

301.3 Clearing, Grubbing, and Topsoil Stripping:

- a. All vegetation within areas to be excavated or to receive fill shall be cleared and grubbed, stripped of topsoil and debris, and shall be inspected and approved by the Owner prior to beginning the earthwork operations.
- b. Weeds, small roots, heavy grass, and other vegetation remaining after clearing and grubbing operations shall be removed with the topsoil.
- c. Disposal:
 - c1. Stripped topsoil shall be placed in an onsite stockpile area as directed by Owner. Topsoil may be removed from the stockpile area at a later date and used to cover finished slopes and other designated areas.
 - c2. If any material remains in the topsoil stockpile area after construction is complete, the stockpile shall be relocated to a designated area of the site. The relocated stockpile shall be graded to a maximum slope of 20 percent (five horizontal to one vertical), the top of the pile shall be sloped to drain properly and provided with devices to control erosion, and the stockpile shall be seeded.

302. EXCAVATION

302.1 All material within Pond 2 including the pond's existing liner shall be removed. The limits and specifications for this excavation work are specified on the Design Drawings.

302.2 All material excavated from Pond 2 shall be disposed of as specified by the Owner.

303. PLACEMENT OF EXISTING SITE SOIL AND FILL MATERIAL

303.1 Acceptable Placement Methods:

- a. Acceptable placement methods for the site soil and Fill include:
 - a1. Using a conveyor truck to place material from outside of the pond.
 - a2. Using a crane to place material from outside of the pond.
 - a3. Transporting material into the pond to the point of dumping using trucks or scrapers.

- a4. Alternate placement method(s) proposed by the Earthwork Contractor and approved by the Owner.
- b. Requirements for Transportation of site soil and Fill Materials into Pond 2:
 - b1. Equipment transporting material into the pond shall use the permanent ramp along the basin's eastern dike or the site road located south of Pond 2.
 - b2. Site soil and Fill shall be placed by the "dump and spread" method.
 - b3. When site soil and Structural Fill is being placed, a worker shall safely walk alongside earthmoving equipment spreading the material to spot and remove roots, and other organic material that may be present in the Fill.

303.2 Lift Thickness:

- a. Site soil and Fill material shall be placed in horizontal layers in thicknesses compatible with the material being placed, equipment being used, and the compaction requirements.
- b. Unless otherwise approved by the Owner, the loose thickness shall not exceed the following:
 - b1. 12 inches maximum loose lift thickness for compaction by self-propelled equipment.
 - b2. 4 inches maximum loose lift thickness for compaction by hand-operated equipment.

303.3 Placement of Site Soil and Fill Material:

- a. Each layer of site soil and/or fill shall be evenly spread.
- b. Each lift of site soil and/or fill in Pond 2 shall be uniformly placed to cover the entire length and width of the pond prior to compaction or placement of the next lift.
- c. The top surface of each layer shall be approximately level but shall have sufficient crown or cross fall to provide adequate drainage of water at all times during the construction period. The crown or crossfall shall be at least 1 in 50 (2 percent) but no greater than 1 in 20 (5 percent).
- d. Site soil and/or fill placed on slopes steeper than 20 percent (i.e., 5 horizontal to 1 vertical) shall be overfilled a minimum of 6 inches beyond the face of the slope, measured horizontally, and then cut back and trimmed to the required line and grade to expose a smooth surface uniformly compacted to the required density. Installing the site soil and/or Fill slope to lines and grades shown on the Design Drawings and then compacting is not acceptable on the basin side slopes.

303.4 Compacting Site Soil and Fill Material:

- a. Equipment:
 - a1. Each layer of site soil and fill shall be compacted by tamping, pneumatic-tired roller, or other mechanical means acceptable to the Owner that will produce the specified compaction. Sheep's foot, modified sheep's foot, padfoot, or other non-smooth drums are acceptable to compact site soil and fill placed for this work.
 - a2. At locations where it would be impractical because of inaccessibility to use self-propelled compacting equipment, site soil and fill layers shall be compacted using hand directed compaction equipment.
 - a3. When soils are used that develop a densely packed surface as a result of spreading or compacting equipment, the surface of each layer of site soil and fill shall be sufficiently

roughened after compaction to ensure bonding of the succeeding layer.

b. Inspection and Testing:

b1. All work is subject to inspection and testing by the CQA Contractor. The CQA Contractor shall have access to the work at all times. Testing shall be in accordance with the Contract.

b2. If the site soil and fill material fail to meet the required density, the material shall be removed and replaced or reworked, altering the construction method as necessary to obtain the required density and compaction. Sufficient time shall be allotted between lifts for the necessary testing of the soils.

c. Compaction Density:

c1. Site soil and fill shall be compacted to a minimum of 90% of the maximum dry density as determined by ASTM D1557.

303.5 Fine Grading:

a. Site soil and fill shall be fine graded using the necessary equipment to achieve the desired grades and elevations.

304. GRADING TOLERANCES

304.1 Slopes shall be finished in conformance with the lines and grades shown on the Design Drawings. When completed, the average plane of a slope shall conform to the slope indicated on the Design Drawings, and no point on the completed slope shall vary from the designated plane by more than 6 inches measured at right angles to the slope.

304.2 Maximum Acceptable Deviation from Grade = ± 0.3 feet

304.3 Maximum Acceptable Deviation from Elevation = ± 0.1 feet

304.4 Elevations will be determined after initial settlement has occurred. Initial settlement is that settlement that will occur up to the time of determination and acceptance of final grade elevation as approved by the Owner.

305. TOPSOIL PLACEMENT

305.1 Placement of Topsoil

a. Uniformly distribute topsoil to a minimum compacted depth of 2 inches on 3:1 slopes and 4 inches on flatter slopes.

b. Topsoil shall not be spread while it is frozen or muddy or when the subsoil is frozen or muddy.

c. Irregularities in the surface that result from topsoil placement or other operations shall be corrected to prevent the formation of depressions or water pockets.

d. Compact the topsoil enough to ensure good contact with the underlying soil, but avoid excessive compaction, as it increases runoff and inhibits seed germination and seedling growth. Light packing with a roller is recommended where high maintenance turf is to be established.

e. In areas that are not going to be mowed, the surface shall be left rough.

306. CLEAN-UP

- 306.1 All waste, excess materials, and debris shall be disposed of in an offsite disposal area approved by the Owner.

END OF SECTION 319005

**POND 2 FINAL CLOSURE PLAN
JOLIET #29 STATION
OCTOBER 2025**

1.0 Introduction
[845.720(b)]

Midwest Generation, L.L.C (Midwest Generation) has ceased operating the natural gas-fired generating station, referred to as Joliet #29 Generating Station, located in Joliet, Illinois (“site” or “generating station”). MWG converted the generating station from coal to natural gas in 2016. As part of the previous coal-fired operations, the station operated two ponds (Ponds 1 and 2) and a service water basin (Pond 3). MWG removed all of the coal combustion residuals (“CCR”) from Pond 1 and decontaminated the liner before October 2015, and repurposed the pond as a low volume wastewater pond.¹ Pond 3 is a *de minimis* pond. Both Pond 1 and Pond 3 are not CCR surface impoundments, IPCB Order PCB21-1, May 18, 2023. Pond 2 was used for CCR management/storage until 2019. In 2019, the CCR was removed and all other portions of the exposed liner have been decontaminated. Because Pond 2 was used as a CCR surface impoundment after October 2015, Pond 2 is regulated under the newly promulgated Ill. Adm. Code Title 35, Part 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments (State CCR Rule). Ponds 1 and 2 are no longer in service with no liquids, process system streams, or wastewater directed into the ponds, except for precipitation.

As required by 845.700(b), Midwest Generation will be closing Pond 2. A final closure plan was previously submitted as part of the Joliet 29 Pond 2 construction permit application to execute the closure of Pond 2. That closure plan consisted of closing Pond 2 based on an adjusted standard to reuse the existing geomembrane liner and use the pond as a low volume wastewater pond. Midwest Generation has since decided not to pursue the adjusted standard and close Pond 2 by removal in accordance with 845.740(a). This final closure plan has been revised to reflect this change and is executed in accordance with 845.720(b), which includes completing a closure alternatives analysis. Pursuant to 845.710, a closure alternatives analysis was completed prior to selecting the closure method that will be used for Pond 2. The closure alternatives analysis was performed to evaluate the closure methods involving closure by removal and closure in place. The closure alternatives analysis was completed prior to the currently submitted construction permit application. The closure alternatives analysis was not revised for this closure plan because the closure method discussed in this plan does not deviate from the analysis nor change the results of the analysis.

The previously completed closure alternatives analysis report evaluated three different closure methods. The three different methods evaluated consisted of the following:

- Closure by removal in accordance with Section 845.740;
- Closure by Removal based on Midwest Generation’s Adjusted Standard Petition;
- Closure in place with a final cover system in accordance with Section 845.740.

¹ As a low volume wastewater pond, Pond 1 receives wastewater from other sources at the Station except CCR.

The closure alternatives analysis identified that closure by removal based on Midwest Generation's Adjusted Standard Petition is as effective at protecting the environment when compared to the other two options and will cause the least disturbance to the surrounding neighborhood. However, Midwest Generation has selected closure by removal in accordance with Section 845.740 for Pond 2. This final closure plan identifies the steps necessary to execute the closure by removal and the schedule to complete the closure for Pond 2.

2.0 Closure Narrative **[845.720(a)(1)(A)]**

The closure of Pond 2 will be by removal in accordance with Ill. Adm. Code 35 Part 845.740(a). The CCR was previously removed from Pond 2 in 2019 and only the warning layer remains within the bottom of the pond. Executing the closure outlined in this plan would be to remove the remaining liner system and decontaminating affected areas in accordance with 35 Ill. Adm. Code 845.740(a).

Executing the closure by removal for Pond 2 is a multi-step process. First, the inlet and outlet structures will be decontaminated and demolished with the material hauled offsite for disposal. Next, the remaining warning layer and geomembrane will be removed from Pond 2 along with the remnants of the Poz-O-Pac present beneath the geomembrane liner. After removal, the liner slopes and base beneath where the geomembrane were, would be visually inspected and any identified CCR material would be excavated and hauled offsite for disposal.

Once the existing liner system is removed, the base of Pond 2 and portions of the southern berm will be graded towards the south so any stormwater drains to the existing Roof & Yard Runoff Basin.

3.0 CCR Removal and Decontamination **[845.720(a)(1)(B)]**

Closure of Pond 2 will be through removal in accordance with 845.740(a). Pond 2 will be closed by removal of the existing liner system and decontaminating affected areas in accordance with 35 Ill. Adm. Code 845.740(a). As noted in the previous construction permit application, the CCR was removed from Pond 2 in 2019 and hauled offsite for disposal with the warning layer was left in place. The anticipated steps to execute the closure by removal are listed below.

1. Obtain a construction permit from the Illinois EPA for closing Pond 2.
2. Dewater any accumulated precipitation through Pond 2's existing discharge structure.
3. Remove existing warning layer, cushion layer, geomembrane, and Poz-O-Pac and haul offsite for disposal.

4. Inspect the area beneath the removed components for CCR material.
5. Decontaminate and remove the basin's appurtenant structures (e.g., inlet structure, concrete apron, outlet structure, and piping).
6. Remove the existing sluice pipes, concrete pipe trench, and concrete retaining wall.
7. Grade the ponds' embankments, floor, and southwest slope to establish the desired elevations and slopes for the drainage of water from the pond to the Roof & Yard Runoff Basin. As necessary, additional fill material will be used to establish the desired elevations and slopes.

Dewatering

Accumulated stormwater will be removed with temporary pumps, process through the wastewater treatment system and discharged in accordance with the NPDES permit.

Existing Liner System Removal and Decontamination.

Pond 2's existing liner system consists of the following components (from bottom to top): the Poz-O-Pac, a geotextile cushion, a 60-mil HDPE geomembrane liner, a geotextile cushion, a 12-inch thick sand cushion layer, and a 6-inch thick limestone warning layer. After dewatering, the next steps would be to remove the cushion layer and warning layer from the base of Pond 2 using an excavator or front-end loader and haul off-site for disposal. The cushion layer and warning layer are present across the bottom and extends approximately 4 feet up the side slopes of the pond. The cushion layer consists of 12 inches of sand on top of the geomembrane with 6 inches of limestone screenings on top of the sand, for a total of 18 inches thick. Once the warning layer material is removed from the base, the geomembrane will be removed. It is likely that portions of the geomembrane will be removed along with the warning layer, especially on the base of the pond. As the warning layer is removed, portions or all of the geomembrane on the sides may be removed. Any geomembrane that is not removed with the warning layer will be removed after the warning layer is removed along with the Poz-O-Pac that lies beneath.

It is estimated approximately 12,000 cubic yards (CY) will be hauled offsite to dispose of the geomembrane, cushion layer, warning layer, and Poz-O-Pac. The removed geomembrane, cushion layer, warning layer, and Poz-O-Pac will be handled and hauled offsite for disposal in accordance with 35 Ill. Adm. Code 845.740(c), which includes specifications for proper manifests for each transported truckload, a transportation plan, on-site fugitive dust controls, signage and public notices, and managing stormwater to prevent contamination of surface water and groundwater.

The liner slopes and base beneath where the geomembrane were, would be visually inspected and any identified CCR material would be excavated and hauled offsite for disposal. Based on boring logs previously done at the site, CCR material was not identified in the subsurface soils beneath the existing liner system.

Decontamination and removal of the Appurtenant Structures

Along with removing the warning layer, cushion layer, geomembrane liner, and the Poz-O-Pac, the basin's existing inlet structure, inlet apron, outlet structure, and piping surrounding the pond, etc. will be decontaminated. At a minimum, decontamination procedures will include pressure

washing of the pond appurtenances in a systematic manner to remove all CCR remnants. Following decontamination, the pond appurtenances will be demolished with the demolished material being hauled offsite. Since the pond appurtenances are constructed of concrete and will be decontaminated, it is likely the material will be hauled for disposal at a clean construction and demolition debris landfill.

The piping near the inlet structure and a portion of the piping along the south side of Pond 2 will be removed and decontaminated to remove any CCR remnants. Once decontaminated, the piping may remain at the station or will be hauled offsite for disposal. Pond 2's existing outlet piping is underground, where it will remain, but the pipe will be plugged to prevent water from entering it.

Site Grading

After Pond 2's liner system has been removed, the site grading will occur so that precipitation does not accumulate within the former Pond 2. The west portion of Pond 2's south berm will be cut down and that material along with existing site soils and clean material, as needed, will be placed, graded, and compacted to achieve the desired grades and slopes necessary so stormwater will drain from Pond 2. The stormwater draining from Pond 2 will be directed towards the existing Roof & Yard Runoff Basin (R&YRB). Note that this grading effort will include a catch basin and culvert beneath a site access road to convey waters from the former Pond 2 location to the R&YRB. It is estimated up to 13,000 CY of mostly on-site soil will be used for the site grading. If necessary, off-site soil will be brought on-site to replace unsuitable on-site soils. Whether on-site soils are considered unsuitable will be determined at the time of construction. Riprap will be placed on the edge of the R&YRB where stormwater runoff will enter to prevent erosion. The site grading will allow for stormwater to gravity drain from Pond 2 to the R&YRB.

As the site grading is occurring, field CQA inspections will be performed to ensure construction complies with the approved construction permit.

4.0 Closure with CCR Left in Place **[845.720(a)(1)(C)]**

Closure of Pond 2 will be through removal of CCR and decontamination of areas affected by CCR. Therefore, this requirement is not applicable.

5.0 Maximum Inventory of CCR **[845.720(a)(1)(D)]**

The estimated maximum inventory of CCR on-site contained in Pond 2 is approximately 45,000 cubic yards based upon the estimated quantity prior to the pond's cleaning in the spring of 2019.

6.0 Largest Area of CCR Requiring a Final Cover [845.720(a)(1)(E)]

Pond 2 will be closed by removing the CCR in accordance with 845.740; therefore, this section is not applicable to this closure plan.

7.0 Closure Schedule [845.720(a)(1)(F)]

Implementation of closure through removal of CCR is estimated to require 31 months. Closure is anticipated to begin in 2024 with submittal of the permit application and estimated to be completed sometime in 2027. Prior to initiation of closure, a notice of intent to close will be prepared in accordance with §845.730(d) and an Illinois Environmental Protection Agency (IEPA) construction permit will be obtained. A preliminary schedule of anticipated closure activities is included below. Some of the activities noted in the table below can occur at the same time and the schedule time listed is the anticipated time to complete both activities.

Closure Schedule

Closure Activity	Estimated Duration
Complete Closure Construction Documents and Obtain IEPA Closure Construction Permit	15 months
Decontaminate and Demolish Pond Inlet & Outlet Structures, Remove Sluice Piping	2 months
Dewater	1 month
Excavate Liner System including culvert	6 months
Site Grading	2 months
Closure Certification and Report	5 months

8.0 Initiation and Completion of Closure Activities [845.730 & 845.760]

Closure activities will commence when one or more of the following conditions have occurred:

- No later than 30 days after the date on which the CCR unit received the known final receipt of CCR or non-CCR waste;
- No later than 30 days after the removal of the known final volume of CCR for the purpose of beneficial use;
- Within two years of the last receipt of waste for a unit that has not received CCR or non-CCR waste; or

- Within two years of the last removal of CCR material for the purposes of beneficial use.

Upon completion of the IEPA approved closure activities, a closure report and closure certification will be submitted to IEPA in accordance with 845.760(e). The closure report will contain the following information, 1) engineering and hydrogeology reports, including monitoring well completion reports and boring logs, all CQA reports, certifications, and designations of CQA officers-in-absentia required by Section 845.290; 2) photographs, including time, date and location information of the photographs, of the liner system excavation, site grading, and any other photographs relied upon to document construction activities; 3) a written summary of closure requirements and completed activities as stated in the closure plan and in Part 845; and 4) any other information relied upon by the qualified professional engineer in making the closure certification.

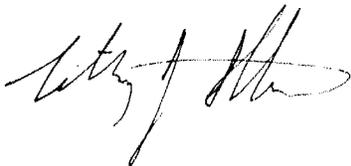
In accordance with 845.760(f), notification of closure of a CCR unit will be made within 30 days of IEPA's approval of the submitted closure report and closure certification. The notification will include certification from a qualified professional engineer, as required by 845.760(e)(2) and will be placed in the facility's operating record.

9.0 Closure Plan Amendments **[845.720(a)(3)]**

This Closure Plan will be amended in accordance with 845.720(a)(3). If a change in the operation of Pond 2 would substantially affect the content of this Closure Plan or if unanticipated events necessitate revision of the plan. If a change in operation requires amendment to the Closure Plan, the plan will be amended no later than 60 days prior to the change in operation being implemented. If an unexpected event occurs that requires amendment of the Closure Plan, the plan will be amended within 60 days of the unexpected event or within 30 days of the unexpected event if the event occurs after closure activities have commenced. Amendments to this Closure Plan will be certified by a professional engineer registered in the State of Illinois in accordance with 845.720(a)(4).

10.0 Professional Engineer's Certification **[845.720(a)(4)]**

This Closure Plan has been prepared to meet the requirements of Ill. Adm. Code Title 35 845.720(b).



Timothy J. Stohner, P.E.
Illinois Professional Engineer

