

**PLACEMENT ABOVE THE UPPERMOST AQUIFER LOCATION RESTRICTIONS  
LINCOLN STONE QUARRY  
JOLIET #9 STATION  
OCTOBER 2018**

Pursuant to Code of Federal Regulations Title 40, Part 257, Subpart D (40 CFR), Section 257.60, KPRG and Associates, Inc (KPRG) prepared this report to document compliance with location restrictions related to placement above the uppermost aquifer for the existing Lincoln Stone Quarry (the Quarry) at the Joliet #9 Station (Site) in Joliet, Illinois.

The work presented in this report was performed under the direction of Joshua Davenport in accordance with §257.60. Richard Gnat reviewed this report in accordance with KPRG's quality assurance/quality control procedures.

**1. *Placement Location Restriction Determination***

The base of the Quarry is elevation 501 ft amsl and the upper limit groundwater elevation is 555.35 ft amsl. The Quarry is not separated from the upper limit of the uppermost aquifer by a minimum of five (5) feet.

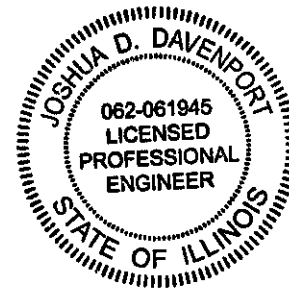
**2. *Limitations and Certification***

This report was prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in the field of civil engineering. The contents of this report are based solely on the observations of the conditions observed by KPRG personnel and information provided to KPRG by Midwest Generation. Consistent with applicable professional standards of care, our opinions and recommendations were based in part on data furnished by others, which was consistent with other information that we developed in the course of our performance of the scope of services. The information contained in this report is intended for use solely by Midwest Generation and their subconsultants.

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**WETLANDS LOCATION RESTRICTIONS  
LINCOLN STONE QUARRY  
JOLIET #9 STATION  
OCTOBER 2018**

Pursuant to Code of Federal Regulations Title 40, Part 257, Subpart D (40 CFR), Section 257.61, KPRG and Associates, Inc (KPRG) prepared this report to document compliance with location restrictions related to wetlands for the existing Lincoln Stone Quarry (the Quarry) at the Joliet #9 Station (Site) in Joliet, Illinois.

The work presented in this report was performed under the direction of Joshua Davenport in accordance with §257.61. Richard Gnat reviewed this report in accordance with KPRG's quality assurance/quality control procedures.

***1. Wetlands Location Restriction Determination***

In order to determine if the Quarry was located in wetlands, it was necessary to determine if wetlands are present in the area of the Quarry. Site visits to the Quarry did not identify any wetlands around the perimeter of the Quarry that would indicate if wetlands were present prior to the mining of the Quarry. The national wetlands inventory (NWI) and the Will County Geographical Information System (GIS) Data Viewer were viewed to identify the presence of wetlands around the Quarry. Neither the NWI nor the Will County GIS Data Viewer identified wetlands around the Quarry, but the NWI did identify wetlands located inside the Quarry. The wetlands identified inside the Quarry were classified as a lake habitat with a classification code of L1UBHx. The definition of each component of this classification code is as follows:

- L = System: Lacustrine. The Lacustrine System includes wetlands and deepwater habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, and emergent mosses or lichens with 30 percent or greater areal coverage; and (3) total area of at least 20 acres. Similar wetlands and deepwater habitats totaling less than 8 ha are also included in the Lacustrine System if an active wave-formed or bedrock shoreline feature makes up all or part of the boundary, or if the water depth in the deepest part of the basin equals or exceeds 8.2 ft at low water.
- 1 = Subsystem: Limnetic. This Subsystem includes all deepwater habitats (i.e., areas > 8.2 ft deep below low water) in the Lacustrine System. Many small Lacustrine Systems have no Limnetic Subsystem.
- UB = Class: Unconsolidated Bottom. Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.
- H = Water Regime: Permanently Flooded. Water covers the substrate throughout the year

in all years.

- x = Water Chemistry: Excavated. This Modifier is used to identify wetland basins or channels that were excavated by humans.

The active mining of the limestone and the use of this open Quarry to store CCR from the burning of coal at Joliet generating stations 9 and 29 created the necessary conditions for the wetland that has been classified inside the Quarry. The removal of the limestone created the manmade topographical depression that fulfills the first requirement for a Lacustrine System and the excavated water chemistry (x) designation as noted above. The exposure of the limestone during the mining activities removed vegetation within the area, which fulfills the second requirement for a Lacustrine System. The sluicing of CCR from the generating stations into the Quarry for storage created the standing water and the manmade depression was large enough to allow the surface of the water to be at least 20 acres in size, which meets the third requirement for a Lacustrine System. In addition, the standing water will minimize the potential for vegetation to establish itself on the CCR. The limestone was removed to a depth that allowed the stored water to achieve a depth greater than 8.2 feet deep, which is why the Limnetic Subsystem (1) designation is applicable. The manmade depression is permanently flooded because it was created in a way that does not allow for the natural drainage of the water, which is why the water regime permanently flooded (H) designation is applicable.

The wetland classification given to the standing water and the area within the Quarry is a result of the mining operation and the CCR material storage activities that took place in this area. Therefore, based on this evaluation, the Quarry is not located in a wetland, but an area classified as a wetland that was artificially created within the Quarry.

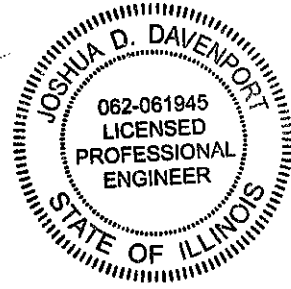
## ***2. Limitations and Certification***

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**3. References**

U.S. Fish and Wildlife Service, 2018. "National Wetlands Inventory," <https://www.fws.gov/wetlands/>, accessed 7 September 2018.

Will County, 2018. "GIS Data Viewer," <http://www.willcogis.org/website2014/gis/applications.html>, accessed 7 September 2018.

**FAULT AREAS LOCATION RESTRICTIONS  
LINCOLN STONE QUARRY  
JOLIET #9 STATION  
OCTOBER 2018**

Pursuant to Code of Federal Regulations Title 40, Part 257, Subpart D (40 CFR), Section 257.62, KPRG and Associates, Inc (KPRG) prepared this report to document compliance with location restrictions related to fault areas for the existing Lincoln Stone Quarry (the Quarry) at the Joliet #9 Station (Site) in Joliet, Illinois.

The work presented in this report was performed under the direction of Joshua Davenport in accordance with §257.62. Richard Gnat reviewed this report in accordance with KPRG's quality assurance/quality control procedures.

**1. *Fault Areas Location Restriction Determination***

The Quarry is not located within 200 feet (60 meters) of a mapped Holocene-aged fault, as mapped by the United States Geological Survey (USGS) Quaternary Fault Database [USGS, 2018]. Therefore, the location of the Quarry complies with the requirements outlined in §257.62(a).

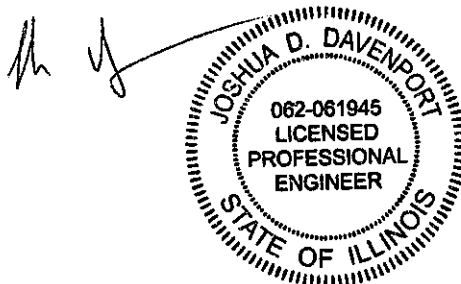
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**3. *References***

USGS, 2018. "Quaternary Fault and Fold Database," <https://earthquake.usgs.gov/hazards/qfaults/>, accessed 17 September 2018.

**SEISMIC IMPACT ZONES LOCATION RESTRICTIONS  
LINCOLN STONE QUARRY  
JOLIET #9 STATION  
OCTOBER 2018**

Pursuant to Code of Federal Regulations Title 40, Part 257, Subpart D (40 CFR), Section 257.63, KPRG and Associates, Inc (KPRG) prepared this report to document compliance with location restrictions related to seismic impact zones for the existing Lincoln Stone Quarry (the Quarry) at the Joliet #9 Station (Site) in Joliet, Illinois.

The work presented in this report was performed under the direction of Joshua Davenport in accordance with §257.63. Richard Gnat reviewed this report in accordance with KPRG's quality assurance/quality control procedures.

***1. Seismic Impact Zones Location Restriction Determination***

The U.S. Geological Survey (USGS) National Seismic Hazard Tool website was used to provide the peak ground acceleration based on a 2% probability in 50 years, with a land designation of 'a site on rock' with a ground acceleration of 760 m/s in the upper 30 meters. The peak ground acceleration was determined to be 0.070 g in 50 years, which is less than 0.10 g in 50 years. The Quarry complies with the location requirement in 257.63(a) and is not located in a seismic impact zone. The peak ground acceleration where the Quarry is located is 0.070 g in 50 years, which is less than 0.10 g in 50 years, which is the minimum threshold specified in the regulations.

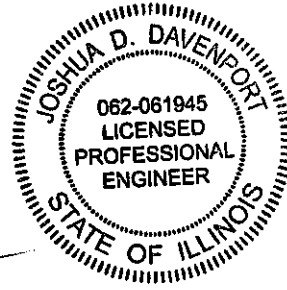
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A handwritten signature in black ink, appearing to read "JD Davenport", written over the bottom right portion of the professional seal.

3. *References*

USGS, 2018. "National Seismic Hazard Tool," <https://www.earthquake.usgs.gov/hazards/interactive/>, accessed 17 September 2018.

**UNSTABLE AREAS LOCATION RESTRICTIONS  
LINCOLN STONE QUARRY  
JOLIET #9 STATION  
OCTOBER 2018**

Pursuant to Code of Federal Regulations Title 40, Part 257, Subpart D (40 CFR), Section 257.64, KPRG and Associates, Inc (KPRG) prepared this report to document compliance with location restrictions related to unstable areas for the existing Lincoln Stone Quarry (the Quarry) at the Joliet #9 Station (Site) in Joliet, Illinois.

The work presented in this report was performed under the direction of Joshua Davenport in accordance with §257.64. Richard Gnat reviewed this report in accordance with KPRG's quality assurance/quality control procedures.

**1. *Unstable Areas Location Restriction Determination***

The Quarry is not located in unstable areas. Therefore, the location of the Quarry complies with the requirements outlined in 257.64(a).

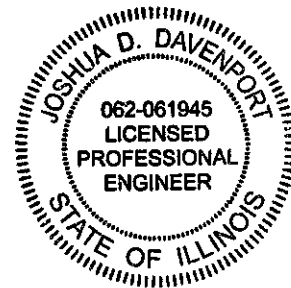
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