

Winnebago Reclamation Services, Inc. (“Applicant”), also known as Rock River Environmental Services, has applied for a 401 Water Quality Certification for impacts associated with construction of two soil stockpiles. The proposed project location is Section 31, Township 43 North, Range 2 East, Winnebago County, Illinois and Section 6, Township 42 North, Range 2 East, Ogle County, Illinois. The proposed project includes establishing two stockpile areas, as well as providing improvements to an associated farm ditch to offset the impacts. The property is bordered by Interstate 39 to the east, Edson Road to the south, Lindenwood Road to the west, and agricultural fields to the north.

The proposed project establishes two stockpile areas to provide additional accommodation for the 5 million cubic yards of clean earthen material generated from the 222-acre landfill expansion. The Applicant previously received local, state, and Federal authorizations to expand its existing landfill. Stockpile Site 1 is a 90-acre parcel south of Edson Road immediately east of Kilbuck Road. As future cell development in the Eastern Expansion Unit (EEU) continues, Stockpile 2 is proposed for temporary clean soil stockpiling in 6 acres of the southwest corner of the EEU. Stockpile 2 will discharge to a small intermittent drainageway north of the proposed stockpile.

The stockpile project would result in 1.64 acres of unavoidable permanent losses to wetlands and 0.96 acres of temporary impacts. All existing wetlands are degraded and dominated by invasive plant species. The Applicant proposes to mitigate for permanent and temporary impacts to all jurisdictional wetlands by acquiring 1.64 acres of wetland bank credits from Northern Illinois Wetland Mitigation (WMB) and by restoring a wetland on-site (0.96 acres) as part of a larger previously proposed bioswale project.

The purpose of the proposed project is to provide uninterrupted waste services to local communities. The landfill stockpile construction was anticipated to begin in 2018 with completion by 2022. Information used in this review was obtained from the Joint Application dated April 12, 2018; supplemental information dated February 27, 2019; USACE Public Notice dated May 9, 2018, and supplemental information dated December 7, 2020 and February 10, 2021.

Data that was used in this review included information that was submitted for a previous request for water quality certification (Log No. C-0084-18). Regarding the previous request, the Illinois EPA determined that waterway characterization data provided with the original application dated April 12, 2018, did not satisfy 35 IAC 302.105(f)(1)(a) “Antidegradation” requirements and on May 12, 2020, the Agency issued a denial of water quality certification under CWA Section 401. Subsequently on December 7, 2020, the Applicant submitted information necessary to complete the public record and on February 2, 2021 the Applicant submitted a new request for 401 certification in accordance with 40 CFR Part 121. The cumulative data provided by the Applicant for this project, under both the previous application and the current application, is hereby referred to as the application.

Identification and Characterization of the Affected Water Body.

Applied Ecological Services, Inc. (AES) identified 10 wetland areas (6.88 total acres) and delineated several wetland types on the agriculture field in July 2017. This project involves temporarily impacting 0.96 acres of wetland and 1.64 Ac of permanent impacts which are identified below.

Wetland 2 is an area of 1.28 acres with a varying width swale that eventually connects to the east-west running ditch along Edson Road. Wetland 2 contains several herbaceous wetland species scattered along

the swale and hydrologically stressed soybeans. Primary wetland hydrology indicators include inundation and saturation and a secondary indicator includes geomorphic position. Wetland 2 exhibits all three wetland criteria. All 1.28 acres of Wetland 2 would be permanently impacted.

Wetland 8 is an isolated wetland ditch comprised of 0.23 acres that runs along the entire length of Edson Road within the road right-of way. A total of 0.01 acres of Wetland 8 would be permanently impacted.

Wetland 9 is a 0.35-acre, intermittent swale/wetland area located at Edson Road and flows north to join a larger intermittent stream. Data confirmed the presence of hydric soils and numerous dominant hydrophytic plants in this area, including silver maple (*Acer saccharinum*), black willow (*Salix nigra*), sandbar willow (*Salix interior*), silky dogwood (*Cornus obliqua*), and reed canary grass (*Phalaris arundinacea*). This wetland area met all three wetland criteria. All 0.35 acres of Wetland 9 would be permanently impacted.

Wetland 10 is a 0.96-acre, intermittent stream/wetland area that is tributary to Kilbuck Creek. Data gathered confirmed the presence of hydric soils and numerous dominant hydrophytic plants in this area, including silver maple (*Acer saccharinum*), black willow (*Salix nigra*), sandbar willow (*Salix interior*), elderberry (*Sambucus canadensis*), silky dogwood (*Cornus obliqua*), purple meadow-rue (*Thalictrum dasycarpum*), giant goldenrod (*Solidago gigantea*), and reed canary grass (*Phalaris arundinacea*). This intermittent stream/wetland area met all three wetland criteria. All 0.96 acres of Wetland 10 would be temporarily impacted. The confluence of the unnamed tributary of Kilbuck Creek with Kilbuck Creek is approximately 0.25 miles from the project site.

The unnamed intermittent swale tributary to Kilbuck Creek (associated with Wetland 9) is a General Use Water with 0 cfs of flow during 7Q10 low-flow conditions. The unnamed tributary is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System* or given an integrity rating in that document. The unnamed tributary, tributary to Kilbuck Creek Waterbody Segment IL_PQB-03, is not listed on the 2018 Illinois Integrated Water Quality Report and Section 303(d) List since it has not been assessed. The unnamed tributary is not subject to enhanced dissolved oxygen standards.

The General Use unnamed tributary to Kilbuck Creek associated with Wetland 10 has 0 cfs of flow during 7Q10 low-flow conditions. The unnamed tributary is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System* or given an integrity rating in that document. The unnamed tributary, tributary to Kilbuck Creek Waterbody Segment IL_PQB-03, is not listed on the 2018 Illinois Integrated Water Quality Report and Section 303(d) List since it has not been assessed. The unnamed tributary is not subject to enhanced dissolved oxygen standards.

This intermittent drainageway exists as stormwater conveyance that intercepts runoff and conveys stormwater ultimately discharging into Kilbuck Creek. This 500 foot section of the tributary is identified as Reach 1 and Reach 2 and is located south of the West Sedimentation Basin and Lindenwood Road culvert (upstream). The remaining portions of the tributary from Lindenwood Road to Kilbuck Creek are segments identified as Reach 3 through Reach 5 (downstream). Flow rates vary from 0 cfm during low-flow conditions, to as much as 80 cfm as a result of ground water dewatering for landfill cell construction.

On June 30, 2020, surface water samples were obtained from 2 locations, one upstream and one downstream. These composite samples were analyzed for 23 parameters required as part of the facility's NPDES permit. Grab samples were analyzed for 6 additional parameters. The results showed that there was some chronological variability in the water quality of the two sets of downstream data (Sample Location #1) but it was determined that this was likely due to dewatering activities (which were occurring

at the time of sampling events) and the proximity of Outfall 011, which is located between Sample Location #1 and #2. Overall the data shows the water quality at the two sample locations to be similar with minimal to no variability or influence of the East Expansion unit development and operation. Laboratory results are included as part of the documents submitted for 401 re-evaluation.

Stream characterization was performed by breaking the unnamed tributary to Kilbuck Creek into 5 reaches starting with Reach 5 which is the furthest downstream and is immediately upstream of Kilbuck Creek, and ending with Reach 1 and Reach 2, which are proposed for temporary impacts. Reaches 1 and 2 are east of Lindenwood Road and are the furthest upstream reaches. Findings are as follows:

Reach 5: The stream in this reach had moderate channelization and low sinuosity. Pool and riffle development was very low and bank erosion was moderate with low stability. Sediment deposits were present as well. Dominant vegetation was comprised of silver maple (*Acer saccharinum*), eastern cottonwood (*Populus deltoides*) and reed canary grass (*Phalaris arundinacea*). Overall eco-condition was poor. Fish species observed consisted of Johnny darter (*Etheostoma nigrum*) and fantail darter (*Etheostoma flabellare*). One dead mussel, the threeridge mussel (*Amblema plicata*), was observed. Reach 5 benthos reflects a fair rating with Illinois EPA's recommended methodology scoring of 28.2 mIBI.

Reach 4: The stream in this reach had low channelization and sinuosity, with very low pool and riffle development. Bank erosion was moderate with low stability. Dominant vegetation was comprised of silver maple and eastern cottonwood. The riparian area was observed to be degraded secondary growth floodplain forest. Overall eco-condition was poor. Fish species observed Johnny darter and Fathead minnow (*Pimephales promelas*). The upstream end of Reach 4 ended with a culvert that can act as a barrier to fish movement under certain flow conditions. Reach 4 benthos reflects a fair rating with Illinois EPA's recommended methodology scoring of 35.3 mIBI.

Reach 3: The stream in this reach had moderate channelization and low sinuosity with low pool and riffle development. Bank erosion was moderate and showed evidence of spoil deposits on the bank as a result of high water events. Dominant vegetation was comprised of primarily reed canary grass. The riparian area was observed to be old field outside of the reed canary grass areas immediately along the creek. Overall eco-condition was poor. No fish were observed and therefore not sampled. The upstream end of Reach 3 was a box culvert that goes under Lindenwood Road. Reach 3 benthos reflects a fair rating with Illinois EPA's recommended methodology scoring of 31.6 mIBI.

Reach 2: This reach is located within the 150-meter tributary (Reach 1 and Reach 2) proposed for temporary impacts. The stream in this reach had moderate channelization and low sinuosity. Pool and riffle development was very low and bank erosion was moderate with low stability. Some outside bends showed toe blowout. Dominant vegetation was comprised primarily of reed canary grass with scattered non-native weeds and some native wetland vegetation. The riparian area was observed to be degraded and decayed old-growth floodplain forest. Overall eco-condition was poor. The fish community here was observed to be moderately diverse, consisting of Johnny darters and several minnow species including shiners and fathead minnows. Reach 2 benthos reflects a fair rating with Illinois EPA's recommended methodology scoring of 38.1 mIBI.

Reach 1: This reach is also located within the 150-meter tributary proposed for temporary impacts. The upstream end of Reach 1 connects to a constructed bioswale. This bioswale was constructed to treat waters coming from offsite agricultural fields and a stormwater runoff

detention basin. The stream in this reach had moderate channelization and sinuosity. Pools, riffles, and runs had limited distinction between them. Bank erosion here was low with moderately stable banks. Sediment accumulation was low with few washouts and point bars of deposition. Dominant vegetation was primarily non-native reed canary grass and barnyard grass (*Echinochloa crusgallii*) with an adjacent old field (the likely source for reed canary grass seed). The riparian area's overall eco-condition was poor. Some pioneer fish species were present here, likely moving up from lower reaches during high water events. Reach 1 benthos reflects a fair rating with Illinois EPA's recommended methodology scoring of 37.6 mIBI.

Overall, flow, gradient, substrate and habitat did not vary within Reaches 1-5 of the unnamed tributary of Kilbuck Creek. Additionally, macroinvertebrate richness or abundance did not show any great variation. Portions of the tributary had some higher quality, less pollution-tolerant macroinvertebrates, but was largely dominated by widespread, abundant, pollution-tolerant species. The abundant species included left-handed/bladder snails (*Physa* spp.), blackfly larvae (*Simulium* spp.) and chironomid/red bloodworm (*Polypedium flavum*). Overall, the tributary's benthos reflects a fair rating with the Illinois EPA's recommended methodology scoring of mIBI between 28.2 and 38.1. Fish throughout the five reaches were moderately diverse but were made up primarily of more pollution-tolerant species such as Johnny darter (*Etheostoma nigrum*) and Fantail darter (*Etheostoma flabellare*). No gamefish were observed, and the species present appeared typical compared to similarly sized tributaries. The species observed consisted of ones that likely move around when able as changes occur in temperature and flow. Temporary dewatering activities contributed to flow augmentations at the time of the study. This activity was discontinued shortly after the study was completed.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

Pollutant load increases from the proposed project would likely include increases in suspended solids during land grading and stockpiling activities. The proposed stockpiling activity would include filling of wetlands for construction of Stockpiles 1 and 2. All impacted wetlands are low-quality wetlands that have been degraded by nearby agricultural use. Additionally, soil erosion control and stabilization measures are to be in place prior to construction and there should be no loading increases above current levels from the agricultural land use.

Fate and Effect of Parameters Proposed for Increased Loading.

The increase in suspended solids from proposed activities would be short-term and temporary. The proposed measures to minimize the potential effect to the receiving water include soil stabilization via vegetation, use of aggregate cover for temporary and non-paved road, installation of diversion berms, perimeter ditches, barrier filter, vegetative filter sedimentation basins and energy dissipaters. Such controls will be inspected on a routine basis and maintained in working order by cleaning out or dredging eroded sediment and reseeding as necessary.

A total of 1.64 acres of wetlands would be permanently impacted and 0.96 acres of wetlands would be temporarily impacted. All existing wetlands are degraded and dominated by invasive species and the permanently impacted wetlands would be replaced at a 1:1 ratio. A total of 1.64 credits would be purchased from the Northern Illinois Wetland Mitigation Bank. This wetland bank is within 20 miles of the impact site and is along the same receiving stream (Kilbuck Creek).

Wetland 10 (0.96 acres) would be temporarily impacted during the construction of the Stockpile 2 site. To convey offsite storm water around the expansion, a conveyance connection between Lindenwood Road and the permitted bioswale is needed. The intention of the wetland mitigation for the 0.96 acres of temporary impact is to restore emergent wetlands in the bottom and lower banks of the swale to help

improve the water quality of the stormwater conveyed through the bioswale and ultimately to Kilbuck Creek. The wetland will be mitigated at a 1:1 ratio and the continuation of the bioswale stormwater conveyance system that travels from the eastern end of the landfill expansion near I-39 through this area. These actions would replace and restore the impacted wetland and greatly enhance the aquatic functions over current conditions, providing diverse wildlife habitat while also providing significant water quality benefits for Kilbuck Creek, the receiving stream.

Purpose and Social & Economic Benefits of the Proposed Activity.

The purpose of the project is to provide continued and uninterrupted solid waste services to the City of Rockford and communities within northern Illinois. The expansion would provide for an additional 20 years beyond the currently permitted solid waste disposal facility by providing approximately 38,843,000 tons of additional disposal capacity.

Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.

According to the 2011 update to the Winnebago County Solid Waste Management Plan, Winnebago County has reviewed various long-term disposal options and determined landfilling is currently the most appropriate method to manage solid waste. In assessing alternatives for siting of stockpile locations, numerous factors were considered, such as floodplains and wetland impacts. Numerous other alternative sites were evaluated within a one-half to one-mile buffer of the existing landfill and are discussed below.

1. Preferred Alternative Stockpile Location: The preferred stockpile alternative proposes to mitigate impacts to 1.64 acres of low quality, agriculturally influenced wetlands. The stockpile sites meet the project purpose; provide for sufficient landfill excess soil stockpiling for the life of the landfill; routes haul roads to minimize wetland impacts; and retains the peripheral wetlands.
2. No Build Alternative: Although no wetland impacts would occur, this alternative prevents the expansion and continuance of services to the communities, unless a willing seller is found. At this time there are no alternate sellers.
3. Closed and Capped Landfill: Stockpiling additional soils on the closed and capped landfill cells was deemed not practicable as the closed landfills are at their designed heights and slopes. Adding additional soils may negatively impact slope stability.
4. Stockpile Location South of Preferred Site: An ~80-acre agricultural field directly to the south of the preferred site has wetlands and saturated soils of comparable acreage to the preferred site. The landowner was not willing to sell this parcel.
5. Stockpile Locations East of I-39: The longer haul distance to these sites would result in increased greenhouse gas emissions and infrastructure (roadway) impacts from the haul trucks, as well as the distance causing a stockpiling cost increase of over \$10-\$15 million.
6. Stockpile Locations Between N. Kilbuck Road and Kilbuck Creek: These locations were determined to be impracticable because they are not owned by the Applicant, they are within the Kilbuck creek floodplain, federally listed species have habitat within the riparian corridor, and four separate landowners would need to sell their properties.
7. Stockpile Locations South of the East Expansion Unit and West of I-39: The alternative was not considered further, because wetland impacts would likely be similar or greater and neither of these two landowners are willing to sell their property.

8. Stockpile Location in Quarry North of the East Expansion Unit: An old quarry and associated lands north of the landfill's EEU was assessed as potential stockpile area; however, the site is too small, is adjacent to a USEPA Superfund site being remediated, and includes Illinois State Natural Area (Winqvist Prairie). The area also contains wetlands and has site access issues (e.g. high voltage powerlines between the EEU and the quarry).
9. Land north of East Expansion Unit: Although owned by the Applicant, the land extensive wetlands interspersed with agricultural lands that may provide Indiana and/or Northern long-eared bat habitat and old fields could potentially support Prairie Bush Clover (*Lespedeza leptostachya*) habitat. Additionally, a high voltage powerline bisects the land to the north making it less desirable for stockpiling.

The proposed project would follow conditions set forth by the Agency and USACE. The least intrusive alternative would be to not complete the project. This is not an acceptable alternative given the need to provide additional landfill capacity without impacting service to local communities. Wetland impacts were avoided and minimized to the extent practicable while achieving the purpose and need of the project.

Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities.

On August 16, 2017, an IDNR EcoCAT consultation was initiated for Stockpile 1, Project #1801185, with the Illinois Natural Heritage Database showing the following protected resources may be in the vicinity of the project location: Winqvist Prairie INAI Site and Winqvist Prairie Natural Heritage Landmark. On September 25, 2017, IDNR's Division of Ecosystem and Environment issued notification under an EcoCAT endangered species consultation that adverse effects from the Stockpile 1 project are unlikely and consultation has been terminated.

This consultation was resubmitted on February 10, 2021 for Stockpile 1, and a new Project # 2110328 was assigned. An auto-termination was generated for this consultation on February 10, 2021.

On September 26, 2017, an IDNR EcoCAT consultation was initiated for Stockpile 2, Project #1802569, with the Illinois Natural Heritage Database showing the following protected resources may be in the vicinity of the project location: Winqvist Prairie INAI Site, Winqvist Prairie Natural Heritage Landmark, and Prairie Bush Clover (*Lespedeza leptostachya*). On October 6, 2017, IDNR's Division of Ecosystem and Environment issued notification under an EcoCAT endangered species consultation that adverse effects from the Stockpile 2 project are unlikely and consultation has been terminated. This consultation was resubmitted on February 10, 2021 for Stockpile 2, and a new Project #2110331 was assigned. A no concerns letter was returned stating that EcoCAT identified protected resources that may be in the vicinity of the proposed action. IDNR evaluated this information and concluded that adverse effects are unlikely and terminated the consultation on February 10, 2021.

The USFWS database lists four federally listed species as potentially occurring in Winnebago and Ogle Counties, including the endangered Indiana bat (*Myotis sodalist*), the threatened Northern Long-Eared bat (*Myotis septentrionalis*), the threatened Eastern Prairie Fringed orchid (*Platanthera leucophaea*), and the threatened Prairie Bush clover (*Lespedeza leptostachya*). The proposed project offers very limited habitat structure for potential roost trees and offers no caves/mines for hibernation of the Indiana and Northern Long-Eared bat. However, tree removal would be restricted to the winter months. The proposed project is an active agricultural field, a small pasture/old field, and a riparian corridor along an intermittent stream that does not offer preferred habitat for Eastern Prairie Fringed orchid and Prairie Bush clover.

In 2017, the Illinois State Historic Preservation Office (SHPO) reviewed the Stockpile 1 site and requested completion of a Phase I Archeological Survey. Midwest Archeological Research Services, Inc. completed a Phase 1 survey during the week of December 3, 2017, and in October 2017 identified two prehistoric archeological sites. Both sites were not eligible for nomination to the National Register of Historic Places due to lack of sufficient archeological material. In a letter dated December 28, SHPO confirmed they have no objection the undertaking proceeding as planned.

In 2013, the SHPO reviewed the Phase I survey documentation for the landfill expansion area that included Wetlands 9 and 10 and determined that no significant historic, architectural or archaeological resources are located within the proposed project area, and therefore they have no objection to the undertaking proceeding as planned. An updated letter was provided by SHPO on March 2, 2018.

Agency Conclusion.

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time this assessment was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity will benefit the community by providing adequate waste services for an extended period. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.