September 17, 2021
File No. 25220091.00

Ms. Ann Bekta
Wisconsin Department of Natural Resources
South Central Region
2514 Morse Street
Janesville, WI 53545-0249

Ms. Carolyn Cooper
Wisconsin Department of Natural Resources
South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711-5367

Subject: Feasibility Report Addendum No. 1 – Eastern Vertical Expansion
Dane County Landfill Site No. 2 (Rodefeld)
Madison, Wisconsin (License #3018)

Dear Ms. Bekta and Ms. Cooper:

On behalf of Dane County, SCS Engineers is submitting four copies of the enclosed Feasibility Report (FR) Addendum No. 1 for the proposed Eastern Vertical Expansion of Dane County Landfill Site No. 2 (Rodefeld). This addendum responds to your comments from the FR incompleteness determination letter dated July 15, 2021.

If you have any questions or comments regarding the FR addendum, please call Betsy at 608-333-5408.

Sincerely,

Betsy Powers, PE
Senior Project Manager
SCS Engineers

Sherren Clark, PG, PE
Project Director
SCS Engineers

BLP/JR/AJR/SCC

cc: Per attached distribution list

Encl. Feasibility Report Addendum No. 1

I:\25220091.00\Deliverables\FR Addendum No 1\210917_Bekta_FR Addendum 1_FINAL.docx

Feasibility Report Addendum No. 1

Eastern Vertical Expansion
Dane County Landfill Site No. 2 (Rodefeld)
7102 US Hwy 12 & 18
Madison, Wisconsin 53718

Prepared for:

Dane County Department of Waste & Renewables
1919 Alliant Energy Center Way
Madison, Wisconsin 53713

SCS ENGINEERS

25220091.00 | September 17, 2021

2830 Dairy Drive
Madison, WI 53718-6751
608-224-2830

Table of Contents

Section Page

Plan Set

Attachments

I:\25220091.00\Deliverables\FR Addendum No 1\210917_Bekta_FR Addendum 1_FINAL.docx

[This page left blank intentionally]

CERTIFICATIONS

"I, Betsy Powers, hereby certify that I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of ch. A-E4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E8, Wis. Adm. Code; and that to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code."

Signature

Senior Project Manager, PE 32933
Title

9/17/2021
Date

"I, Sherren Clark, hereby certify that I am a licensed professional geologist in the State of Wisconsin in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code; that the preparation of this document has not involved any unprofessional conduct as detailed in ch. GHSS 5, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code."

Signature

Vice President, PG 853
Title

9/17/2021
Date

[This page left blank intentionally]

1.0 GENERAL

Wisconsin Department of Natural Resources' (WDNR's) letter of incompleteness dated July 15, 2021, (see **Attachment A**) is divided into three parts:

- Part A contains a list and explanation of items needed to complete the FR in accordance with NR 512, Wisconsin Administrative Code (Wis. Admin. Code) and ch. 289, Wis. Stats;
- Part B contains a list of additional information, not specifically required by code or statute, but necessary for WDNR to make a determination on the proposed expansion; and
- Part C contains additional general comments related to site feasibility or the proposed preliminary design, construction, or operation of the proposed expansion.

Each comment is presented below, followed by Dane County's response.

1.1 PART A. INFORMATION REQUIRED FOR FR COMPLETENESS

1. ***Locational Criteria [s. NR 504.04(2)(a) and NR 504.04(3)(f), Wis. Adm. Code]: Provide a well construction report, well driller information, and information regarding the former and present well owners for the two water supply wells (the biogas facility well and the Michael Niebuhr well [PW-51]) which Dane County is requesting an NR 504 locational criteria exemption from. Section NR 504.04(2), Wis. Adm. Code, states the department cannot grant exemptions from s. NR 504(3)(f), Wis. Adm. Code, unless information on the well location, current and immediate past well owners, well driller, well log and construction details, and the general hydrogeologic setting is submitted to the department.***

   Response: Well construction reports for the two water supply wells located within 1,500 feet of the proposed Eastern Vertical Expansion (the biogas facility well and the Michael Niebuhr well – [PW-51]) are included in **Attachment B.** The reports include the well driller information.

   Michael Niebuhr has been the only owner of the PW-51 well, and Dane County Department of Waste & Renewables (f.k.a. Dane County Department of Public Works) has been the only owner of the biogas well.

   The general hydrogeologic setting for the two wells includes a thick sequence of unconsolidated glacial drift of the Horicon Formation deposited over dolomite bedrock of Ordovician age (Prairie du Chien Group) and underlying Cambrian sandstones.

2. ***General Submittal Requirements [s. NR 512.05, Wis. Adm. Code]: Provide a copy of Appendix G and Appendix N in an addendum. Appendix G and Appendix N are missing from 2 of the 4 feasibility copies sent to the department.***

   Response: A copy of Appendix G is included in **Attachment C**, and Appendix N is included in **Attachment D**.

3. *General Submittal Requirements [s. NR 512.05, Wis. Adm. Code]: Provide justification on why an exemption is warranted for the pond and private water supply well setback requirements. The department acknowledges that these locational criteria were granted exemptions for the Eastern Expansion. However, the department must re-evaluate locational setbacks with each expansion to consider any cumulative effects of the contiguous expansion and the existing landfill.*

   Response: The pond exemption request is justified because the proposed Eastern Vertical Expansion is not hydraulically connected to the pond and will not impact water quality or water levels in the pond.

   Justification for the private well exemption request for the Niebuhr well and the biogas well is based on the following:

   - The water supply wells are cased through the unconsolidated deposits into the bedrock and the wells withdraw water from the bedrock units.
   - The biogas well is cased to 123 feet and has a total depth of 540 feet. The unconsolidated deposits and uppermost bedrock include clay and shaley units, limiting downward movement of shallow groundwater near the landfill.
   - The bedrock groundwater flow direction is toward the southwest; therefore, the Niebuhr well is not downgradient from the proposed Eastern Vertical Expansion or existing landfill.
   - The biogas well is potable, but only used for process water and an emergency eye wash and shower station.
   - The existing landfill has had limited to no impact on the surrounding groundwater quality beyond its design management zone.

4. *Existing Conditions Plan Sheet [s. NR 512.11(1)(b), (g), and (h), Wis. Adm. Code]: Provide a revised existing condition plan sheet (Plan Sheet 2) that includes the following items:*

   - *The intermittent stream/drainage ditch located north and northeast of the landfill limits. Based on Figure 1-1, there is an intermittent stream located north and northeast of the landfill limits within 1,500 feet of the landfill limits, near the wetlands north of the landfill and the intersection of County Highway AB and Femrite Drive. On Plan Sheets 3 and 4, this feature is labeled as a drainage ditch.*

     Response: The Existing Conditions Plan Sheet included in the **FR Addendum 1 Plan Set** has been revised to include the label for the drainage ditch, similar to what is shown on Plan Sheets 3 and 4.

   - *The water supply well located northeast of the landfill near the intersection of Femrite Drive and Hope Road. Based on Figure 2 of the May 7, 2020 ISI Request, this water supply well appears to be located close to 1,500 feet from the landfill limits. If the water supply well is located within 1,500 feet of the landfill limits, it should be depicted on the existing conditions plan sheet.*

Response: The water supply well near the intersection of Femrite Drive and Hope Road is not shown on the existing conditions maps because it is not within 1,500 feet of the landfill limits.

- *The locations of G-5R, G-6R, GP-25R, and GP-26R. The soil boring logs and well construction logs for gas probes G-5R, G-6R, GP-25R, and GP-26R are included in Appendix Q, however, the locations of these borings/monitoring devices are not depicted on the plan sheet.*

  Response: The Existing Conditions Plan Sheet included in the **FR Addendum 1 Plan Set** has been revised to include the locations of GP-5R, GP-6R, GP-25R, and GP-26R, and abandoned monitoring points G-5'SD', G-6'SD', GP-25, and GP-26 are now shown as abandoned.

5. *Waste and Leachate Characterization [s. NR 512.12(1), Wis. Adm. Code]: Provide an analysis and description of the physical and chemical characteristics of residues from licensed construction and demolition Material Recycling Facilities (MRFs), as required for waste streams that constitute more than 5 percent (%) of landfill capacity. Based on Table 6-1, an average of 7.1% of the waste accepted at the landfill from 2017-2019 was residues from qualified licensed construction and demolition MRFs.*

   Response: Category 31 includes residual waste from the construction and demolition (C&D) Material Recycling Facility (MRF) to the landfill (up to 30 percent of total C&D processed is exempt, and the excess is subject to fees). The C&D MRF residuals are highly variable and completely dependent on recycling efficiency of the C&D MRF. The materials qualified under Category 31 consist of fairly large and mostly intact materials, mainly composed of:

   - Plastic film,
   - Cardboard,
   - Insulation,
   - Plastics, and
   - Undesirable wood products.

   Since the material is highly variable, large, and mostly intact, a representative sample for chemical analysis would be difficult to collect. Dane County has provided photographs of a C&D MRF residuals trailer unloading into the landfill (refer to **Attachment E**).

6. *Proposed Preliminary Design [s. NR 512.14(1)(c), Wis. Adm. Code]: Provide a plan sheet that shows the proposed maximum intermediate waste grades.*

   Response: Dane County has decided to propose a 5 percent overfill, rather than the 10 percent originally proposed in the FR. A plan sheet showing the proposed maximum waste grades within the vertical expansion area based on a 5 percent overfill is included in the **FR Addendum 1 Plan Set (Sheet 18)**.

   A maximum 5 percent waste overfill was previously approved within the Eastern Expansion limits. Sheet 18 in the **FR Addendum Plan Set** shows the maximum 5 percent top of waste overfill grades within the limits of the proposed Eastern Vertical Expansion. Grades outside of the limits of the Eastern Vertical Expansion represent top of final cover grades. A plan sheet showing the maximum 5 percent waste overfill grades throughout the entire Eastern

Expansion and Eastern Vertical Expansion limits will be included with the Plan of Operation.

7. ***Proposed Preliminary Design [s. NR 512.14(1)(d), Wis. Adm. Code]: Provide an updated site map with the sampling plan in Appendix K that shows the locations of all sampling points and devices. The sampling plan submitted in Appendix K does not include a site map as required by s. NR 507.16(1)(a), Wis. Adm. Code.***

   Response: **Attachment F** includes an updated site map and an updated sampling plan.

8. ***Environmental Review – Proposed Physical Changes [s. NR 512.16(2)(d), Wis. Adm. Code]:***

   - ***Provide a discussion of all emissions and discharges such as dust, engine exhaust, odors, noise, gases, leachate, storm water and collected groundwater associated with post-closure of the landfill.***

     Response: Emissions and discharges such as dust, engine exhaust, odors, noise, gases, leachate, water and collected groundwater during post-closure of the landfill will be less than during active operations.

     - Dust will be significantly reduced with post-closure since all areas will be capped; dust will likely come from access roads when vehicles are used for routine maintenance and monitoring activities. Dust will continue to be generated from the on-going operation of the C&D waste recycling facility on the property, as well as continued operation of the renewable natural gas (RNG) gas plant and associated off-loading facility.
     - Engine exhaust will be minimal and will occur during routine maintenance activities and monitoring events. Engine exhaust will continue to be generated from the on-going operation of the C&D waste recycling facility on the property, as well as continued operation of the RNG gas plant and associated offloading facility.
     - Odors will decrease post-closure since areas will be capped, with an active gas collection system.
     - Noise will be significantly reduced after waste is no longer accepted (due to elimination of MSW haulers accessing the site and a significant reduction in outdoor heavy equipment operations).
     - Post-closure, landfill gas will continue to be collected efficiently, minimizing potential emissions and odors. In addition to regulatory compliance, Dane County will continue to be incentivized to maximize gas collection efforts due to the continued operation of the RNG gas plant.
     - With the final cover in place, no additional water will be added to the waste mass, reducing the volume of leachate generated.
     - Storm water runoff is expected to increase with the final cover system in place over the entire Eastern Vertical Expansion. The storm water management features will be designed for the post-closure condition as part of the Plan of Operation. These features will be adequately sized to manage runoff during the post-closure condition.

   - ***Provide a discussion of noise and emissions that may be expected from the existing renewable natural gas (RNG) facility and flare. The report mentions vehicle and landfill machinery exhaust as an emission source but does not appear to address the exhaust or noise emissions from the existing RNG facility or the emissions from the flare. Also, include a discussion on use of the flare when the RNG facility is down***

or no longer in use. Section 13.2.6 of the report does not include such a discussion.

Response: Dane County expects only nominal increases in the volume of noise and amount of exhaust from the existing RNG facility and flare as a result of the proposed Eastern Vertical Expansion. Processing of gas takes place within enclosed equipment and/or buildings. There are no neighbors in the immediate vicinity of the RNG facility, and that is unlikely to change in the future. To date, the landfill has not received any complaints related to noise from the RNG facility or flare

Dane County has also provided an off-loading station adjacent to the RNG facility that allows off-site RNG (e.g., from farm digesters) to be injected into the interstate pipeline via the connection that Dane County has established. The off-loading station promotes the production of additional RNG from producers that may otherwise not be able to finance the cost to make a physical connection to an interstate pipeline. There are emissions from vehicles delivering loads of RNG to the off-loading station. To date, Dane County has not received any complaints related to noise from the off-loading facility.

The landfill currently has an air permit for the emissions created by the destruction of landfill gas in the RNG facility and flare. The expansion of the landfill will potentially increase gas generation, or extend the length of time it is generated. An air permit will be submitted to the WDNR prior to the construction of the Eastern Vertical Expansion that addresses the potential for increased emissions from the landfill gas system.

9. *Environmental Review – Existing Environment [s. NR 512.16(3)(b), Wis. Adm. Code]: Provide a description of the dominant aquatic and terrestrial plant and animal species and habitats found in the area near the proposed expansion.*

Response: The proposed expansion is located on an existing landfill, so the land has already been disturbed and provides minimal value for wildlife habitat. Wildlife activity in the area is mainly transient, such as traveling, feeding, and resting. Wildlife in the area include songbirds (e.g., sparrows, goldfinch, etc.), raptors (e.g., turkey vultures, hawks, etc.), and small to medium-sized mammals (e.g., mice, rabbits, coyotes, raccoons, deer, etc.).

The area surrounding the proposed expansion includes areas of woodland associated with the site screening. This consists of a mix of hardwoods (e.g., Bur Oak, Red Oak, Black Cherry, Shagbark Hickory, Box Elder, Red Pine), and an understory composed of Boxelder, Mixed Oaks, Buckthorn, Black Locusts, Honeysuckle, Cherry, and Cotton woods. Staghorn sumac is also growing near Highway 12/18.

Wetlands are also located within the vicinity of the proposed expansion (see Existing Conditions plan sheet in the **FR Addendum 1 Plan Set**). Construction of the proposed expansion is not expected to impact the wetlands, as discussed in Section 8.8.2 of the May 2021 FR.

10. ***Environmental Review [s. NR 512.16 Wis. Adm. Code]: Provide a discussion of the probable impacts the proposed vertical expansion may have to local residents and the surrounding area, such as air quality, windblown debris, dust, visual impacts, noise, and other emissions and discharges.***

    Response: Section 13.4.1 of the May 2021 FR addresses probable impacts to the surrounding area. As noted in the response, the landfill has several operational procedures and systems in place to minimize the impacts to local residents and the surrounding area related to air quality, windblown debris, dust, visual impacts, noise and other emissions, and discharges from the existing landfill. These systems and procedures will continue to be utilized for the proposed expansion. With the increase in elevation that will result from the proposed vertical expansion, there is potential for odors, debris, and dust to travel further, as well as increased visual impacts. Dane County is addressing these potential impacts through the following:

    - Additional site screening is proposed as discussed in Sections 1.3.5 and 8.9 of the May 2021 FR.
    - Continued implementation of the dust control measures as outlined in the Dust Control Plan already developed for the landfill.
    - Continued implementation of the odor control measures outlined in the Odor Control Plan already developed for the landfill.
    - Continued control of litter through the placement of daily cover, perimeter fencing and use of portable litter fencing when needed, along with collection of wind-blown debris as needed.
    - The Plan of Operation will provide design details for additional measures that will help control emissions, including updating the landfill gas extraction system layout and increasing landfill gas extraction well perforated screen lengths to account for the proposed vertical expansion.
    - Increased visual impacts are expected with the vertical expansion. This will be most pronounced for the six residences and the church along CTH AB and immediately east of the landfill property. As part of the Local Negotiation Process, Dane County and the local municipalities have agreed to increase annual compensation for the neighbors. Additionally, Dane County plans to install a final cap with native prairie grass and light recreational areas, which should help reduce long term visual impacts. Dane County has also purchased some of the closest properties to the landfill, including several residences, a food establishment, and farmland. The farmland includes more than 150 acres of cropland, which is currently being developed into a solar field. The development of this solar field will effectively prevent additional residential development adjacent to the landfill, reducing the possibility for future neighbor impacts during the life of the landfill.

1.2 PART B. INFORMATION NEEDED FOR FEASIBILITY DETERMINATION

1. ***Provide the relevant text from Section 1.4.1 of the 2013 Eastern Expansion feasibility report if it is being used to justify exemption requests for the proposed Eastern Vertical Expansion. Section 1.4.1 of the 2013 Eastern Expansion feasibility report is referenced as partial justification for exemption requests related to the proposed vertical expansion's alternative geotechnical investigation program (AGIP). However, the text of Section 1.4.1 from 2013 is not included in the feasibility report.***

Response: Items 8 [NR 512.09(4)(a)], 9 [NR 512.09(4)(b)] and 12 [NR 512.09(6)(b) and (c)] in Section 1.4.1 of the Eastern Vertical Expansion FR reference Sections 1.4.1 and 6.1.1 of the Eastern Expansion FR (TRC, 2013) in regards to difficulty collecting samples during the Eastern Expansion permitting. Relevant text from Sections 1.4.1 and 6.1.1 of the Eastern Expansion FR is provided below to further support the justification for these exemption requests:

[From Section 1.4.1 of the Eastern Expansion FR]:
NR 512.09(4)(a) *– An exemption is requested for the requirement to conduct five geotechnical grain-size tests on each major soil unit. The upper soil unit (Loess) is highly disturbed and/or discontinuous across the [Eastern] Expansion area and as a result, test data is available from four locations. Additional grain-size tests were performed on samples collected from the unit across the remainder of the landfill site. The data is included in Appendix K [of the Eastern Expansion FR]. This unit will generally be removed or regraded during the construction of the landfill. The isolated lower fine-grained lacustrine unit also had four samples tested to meet this requirement. This unit extends under the northwest portion of the site and pinches out within the [Eastern] Expansion area. As a result, this unit was only encountered in three borings. Samples from this unit were analyzed in each of these borings.*

NR 512.09(4)(b) *– An exemption to the requirement for conducting two laboratory hydraulic conductivity tests on each fine-grained unit. One test was performed on each of the two fine-grained units encountered at the site. Similar to the limitations described in the exemption request for the analysis of grain size from this unit, additional laboratory permeability tests were not practical, thus warranting an exemption.*

NR 504.06(6)(c) – Geology and NR 512.09(6)(b) and (c). *An exemption is requested for the requirement to perform consolidation testing on samples collected from each geologic unit in each proposed landfill phase, as required by NR 512.09(6). Borings were extended to the depth required for compliance with NR 512.09(6)(b) in each proposed phase. However, consolidation tests could not be performed for each geologic unit because soil could not be collected in Shelby tubes due to the composition and/or density of the soils. The soil underlying the Eastern Expansion is primarily coarse-grained. Where Shelby tubes were advanced at 10 locations, only three recovered sufficient undisturbed sample to perform the consolidation testing and two locations returned no soil at all. Soil boring logs and soil analytical data presented in Appendix J and Appendix K [of the Eastern Expansion FR] support the requested exemption. This exemption is warranted because the large volume of geotechnical data and the long history of effective landfill activity at the site demonstrate the suitability of the subsurface material for this purpose. As an alternative for evaluating consolidation and settlement of the subgrade in the Eastern Expansion, data and laboratory test results from samples collected in the field were used.*

[From Section 6.1.1 of the Eastern Expansion FR]:
The WDNR AGIP opinion letter issued October 26, 2012 (Appendix B [of the Eastern Expansion FR]), stated that the WDNR did not anticipate granting an exemption from required consolidation testing. Therefore, several attempts were made to collect samples from the major geologic units for consolidation testing as described in NR 512.09(6). As indicated in the letter, these samples are to be used to demonstrate that the relevant material properties of the soil samples collected from borings for the proposed Eastern Expansion are representative of the stratigraphy and properties from previously collected samples in each cell. Several attempts were made to collect thin-walled samples (Shelby tubes) within the glacial units. Attempts were made at 10 locations in the major units present onsite. Two

locations did not recover any sample, and of the eight locations that had recovery (>6 - inches), only three had sufficient undisturbed sample to perform consolidation testing. The two attempts with no recovery resulted in a collapsed Shelby tube, likely due to the density and composition of the soils. Photographic documentation of one of the collapsed Shelby tubes and laboratory documentation of disturbed samples is included in Appendix K [of the Eastern Expansion FR].

2. ***Provide clarification on exemption request No. 2, which requests an exemption from s. NR 507.05(1)(d), Wis. Adm. Code, for wells M6A, M6C, and M9B. Table 1 in Appendix C indicates that a soil test in the screen zone was not performed at wells M6B, M28, and M29, in addition to wells M6A, M6C, and M9B. If this is the case, then these additional wells should be explicitly mentioned in exemption request No. 2.***

   Response: Dane County requests an exemption from NR 507.05(1)(d), which requires collection and testing of a soil sample from the screened interval of a monitoring well, for existing wells M6A, M6B, M6C, M9B, M28, and M29.

   This exemption was requested in the Eastern Expansion AGIP (TRC, 2012b) and FR (TRC, 2013). These borings were completed during previous permitting processes and at the time of boring, it was not a standard practice to collect and test soil samples from the screened interval of a monitoring well. Additionally, a significant amount of geotechnical data exists from the units in which these wells are screened.

3. ***Provide clarification on exemption request No. 13, which requests an exemption from s. NR 512.11(2), Wis. Adm. Code. The final paragraph of the exemption request indicates that the geologic cross-sections that were prepared for the 1992 feasibility report and the landfill's Eastern Expansion will be provided with the proposed vertical expansion feasibility report. However, Section 5.3.1 of the feasibility report states that based on discussions with the department, only those cross sections that pass through the proposed vertical expansion are provided.***

   Response: The last sentence of the last paragraph of exemption request 13 is revised as follows: "The original geologic cross sections prepared for the Eastern Expansion FR that pass through the Eastern Vertical Expansion area are provided for this FR (see Plan Sheets 5 through 14)."

4. **Provide a revised Table 1-1 that clarifies the following items:**

   a. **Clarify whether NR 140 exemptions are being requested for wells that have been abandoned or if the exemptions are being requested for their respective replacement wells. Exemptions are currently being requested for M-302A, M-302B, M-303A, WT-202A (iron), WT-202B, and M- 17B, which have been abandoned. Exemptions for their replacement wells (M-302AR, M-302BR, M-303AR, WT-202AR [iron], WT-202BR, and M-17BR) are not being requested.**

      Response: Dane County requests exemptions for active wells M-302AR, M-302BR, WT-202AR, WT-202BR, and M-17BR (chloride), and rescinds the requests for exemptions for abandoned wells. For M-302AR, M-302BR, WT-202AR, and WT-202BR, baseline monitoring for parameters not included in the routine monitoring program has not been performed to date; therefore, we are requesting exemptions based on the

previously approved NR 140 exemptions for the original wells for iron, manganese, and/or nitrite+nitrate.

For M-303AR, the initial baseline monitoring indicates that an exemption for manganese will not be needed for the replacement well. Table 1-1 in **Attachment G** has been revised to reflect the requested exemptions. As discussed in the response to Comment B.13, Dane County proposes to include a plan for performing additional baseline monitoring in the Plan of Operation.

b. Clarify whether a chloride exemption is being requested for WT-202AR and M-302BR. Table 1-1 indicates that a chloride preventative action limit (PAL) exemption is being requested for these two wells, but Table 7-1 indicates that an exemption is not being requested. Revise Table 7-1 if necessary.

Response: Dane County requests chloride exemptions for active wells WT-202AR and M-302BR. Table 7-1 in **Attachment G** has been revised to reflect the requested exemption.

c. Clarify whether M-303A has been abandoned and replaced by M-303AR or M-302BR. Table 1-1 currently indicates M-303A has been abandoned and replaced by M-302BR.

Response: Monitoring well M-303A has been abandoned and replaced by M-303AR. Table 1-1 in **Attachment G** has been revised to reflect this replacement well.

5. *Provide a revised Table 7-1 that includes PAL exceedances for chloride at WT-204A.*

Response: Table 7-1 in **Attachment G** has been revised with 2018 through 2020 chloride exceedances at WT-204A.

6. *Provide clarification on why the laboratory that analyzes the landfill's groundwater samples has a Limit of Detection (LOD) for dichloromethane that is above the department's associated PAL. Based on groundwater data submitted to GEMS, the laboratory LOD and Limit of Quantitation (LOQ) for dichloromethane is 1.6 ug/L and 5.0 ug/L, respectively. However, the PAL and enforcement standard (ES) for dichloromethane is 0.5 ug/L and 5.0 ug/L, respectively.*

Response: TestAmerica's laboratory in University Park, Illinois, analyzes samples collected at Rodefeld Landfill. TestAmerica states they cannot achieve lower levels for dichloromethane using the instrumentation they have. TestAmerica is certified for analysis of volatile organic compounds (VOCs) and determines the lowest method detection limits they can achieve in accordance with method and regulatory requirements. TestAmerica complies with NR 140.16(2), which requires:

2) The laboratory shall select the analytical methodology which:
(a) Is specified in rules or approved by the regulatory agency, and
(b) Is appropriate for the concentration of the sample, and
(c) Is one of the following:
1. Has a limit of detection and limit of quantitation below the preventive action limit, or
2. Produces the lowest available limit of detection and limit of quantitation if the limit of detection and limit of quantitation are above the preventive action limit.

7. *Provide a revised Table 1 in Appendix C so it is clear the information from M3's boring log is being used for boring M3A (similar to how well's M6A and M6B reference M6C). A boring log for M3, but not M3A, is included in Appendix C.*

   Response: Monitoring well M-3A replaced abandoned well M-3. Monitoring well M-3's boring log is being used for boring M-3A. Table 1 in **Attachment H** has been revised to communicate that information.

8. **Provide clarification on why the replacement wells M9AR, M9BR, M28R, M302AR, and M302BR are not included in Table 1 of Appendix C, while the replacement wells M17AR, M17BR, and M303AR are included. In the January 8, 2021 AGIP, it is stated that "Table 1 includes three replacement wells (M 17AR, M17BR, and M303AR) not included with the Eastern Expansion. The replacement wells have not been counted towards the number of existing borings and wells but are included in the Table 1 to provide complete current information." According to Section 5.2 of the feasibility report, M9A, M9B, M28, M302A, M302B, M17A, M17B, and M303A have all been abandoned and replaced since 2014, and all are included in Table 1 of Appendix C.**

   Response: Appendix C in the Feasibility Report was a copy of the previously submitted January 8, 2021 AGIP, so it was considered a record copy of a previous document and we didn't make any edits to it. However, as the FR was prepared, it was noted that some wells that could have been included in Table 1 of Appendix C were not included, and they were discussed in the text. To make it more clear what geologic information is currently available, we have included a revised version of AGIP Table 1 in **Attachment H**.

9. *Provide the slug tests results for replacement wells M17AR, M17BR, and M303AR if the tests have been performed. The January 8, 2021 AGIP stated the slug tests for replacement wells M17AR, M17BR, and M303AR were anticipated to be submitted with the feasibility report.*

   Response: Hydraulic conductivity testing using a pressure transducer was conducted on wells M-17AR, M-17BR, and M-303AR on July 27, 2021. The initial test results for M-303AR were not usable due to problems associated with using the pressure transducer with limited water depth in the well. A bail down test was performed on M-303AR on August 10, 2021, to obtain hydraulic conductivity results. Hydraulic conductivity results for M-17AR, M-17BR, and M-303AR are included in **Attachment I**.

10. *Provide clarification on what the yellow-highlighted borings/monitoring wells signify on Plan Sheet 1 in Appendix C.*

    Response: The yellow highlighting was intended to correlate to the wells and borings listed on Table 1 in the AGIP; however, wells M-303A, 303AR, 17A, 17B, 17AR, and 17BR were inadvertently not highlighted. The locations of all wells and borings, including the five additional replacement wells added to AGIP Table under the response to Comment B.9 above, are shown on the updated Existing Conditions drawing in the **FR Addendum 1 Plan Set** (Plan Sheet 2).

11. *Provide an updated sampling plan. The sampling plan submitted in Appendix K appears to be the same sampling plan submitted in the 2013 Eastern Expansion feasibility report. Items such as plan sheet numbers and monitoring devices have not been updated. Items such as these should be updated to reflect the proposed vertical expansion feasibility report, as well as any other changes to the landfill's monitoring program since 2013.*

    Response: An updated sampling plan is provided in **Attachment F**. The plan includes a figure showing the locations of currently installed monitoring points. The figure will be updated as additional points are installed and added to the monitoring program, or are abandoned and removed from the monitoring program.

12. *Provide clarification on the location of well nest WT108A/P108B. In Section 5.3.2 of the feasibility report, it states that the strongest downward vertical groundwater flow gradient was at the WT108A/P108B well nest at the east end of the landfill. However, based on the existing conditions plan sheet, WT108A and P108B are located at the west end of the landfill.*

    Response: Well nest WT108A/P108B is located at the west end of the landfill.

13. *Provide clarification on why the baseline groundwater quality has not been established for the replacement wells M9AR, M9BR, M-28R, M-302AR, and M-302BR. In Section 5.3.3 of the feasibility report, it states that "the replacement wells installed in 2014, M9AR, M9BR, M-28R, M-302AR, and M- 302BR, have been sampled as part of the routine semiannual monitoring program but have not been analyzed for supplemental baseline parameters as indicated in a letter dated March 12, 2015 (Appendix B). Within this letter, it states 'it is understood since monitoring wells (M-9AR, M-9BR, M-28R, M- 302AR, and M-302BR) were installed as replacement wells, that specific NR 507 requirements were met by the data collected at previously installed wells."*

    Response: Because these replacement wells were each installed more than 10 feet from the original monitoring well, Dane County proposes to include a plan for performing additional baseline monitoring in the Plan of Operation. For parameters that are included in the routine monitoring program, and have been sampled for at least eight times, Dane County will include proposed preventive action limits (PALs) and alternative concentration limits (ACLs) in the Plan of Operation. PALs and ACLs for baseline parameters that are not part of the routine monitoring program will be evaluated and submitted to the WDNR for review and approval after the additional baseline monitoring is complete. The required completion of the remaining baseline groundwater monitoring for replacement wells could be included as a condition of the Plan of Operation approval.

14. *Provide clarification on whether the bolded statement below is referencing the proposed vertical expansion or the 2013 Eastern Expansion. In Section 8.8.2 of the feasibility report, it states that "surface water balances for pre- and post- development conditions were evaluated as part of the Eastern Expansion FR (TRC, 2013). The evaluation showed approximately 20 acres of the approximate 500-acre watershed that drains into Wetland 1 draining to Wetland 4 as a result of the proposed Eastern Vertical Expansion development."*

    Response: This "surface water balances for pre- and post-development conditions were evaluated as part of the Eastern Expansion FR" text is new text associated with the Eastern Vertical Expansion. The next sentence should be corrected to state, "The evaluation showed approximately 20 acres of the approximate 500-acre watershed that drains into Wetland 1 draining to Wetland 4 as a result of the proposed Eastern Expansion development."

As noted in the final two sentences, the storm water management system features for the proposed Eastern Vertical Expansion will be designed to maintain the same approximate water balance to the wetlands. The detailed design will be presented with the Plan of Operation.

15. ***Provide clarification on whether any of the waste types within the Category 19 – Fee Exempt Waste Used for ADC waste stream would constitute more than 5% of landfill capacity. Based on Table 6-1, an average of 11.9% of the waste accepted at the landfill from 2017-2019 was fee exempt waste used for ADC.***

    Response: Dane County has approval to use the following for alternative daily cover (ADC):

    - Fines from the C&D MRF located on the property
    - Spray-on ADC (Posi-Shell®)
    - Spray-on ADC (Posi-Shell®) with waste latex paint included as an additive
    - Grit/screening, which includes materials from storm water systems such as catch basins or stormwater basins (e.g, leaves, debris, refuse, etc.)
    - Street sweepings

    Based on tracking records maintained by Dane County, only the fines from the C&D recycling facility used as ADC make up more than 5 percent of the waste stream from 2017 through 2019. Information on the physical (grain size distribution) and chemical characteristics (asbestos, arsenic, cadmium, chromium, lead, nickel, mercury, reactive sulfide) of the C&D fines for the last 5 years are included in **Attachment J**.

16. ***Provide clarification on how the 1.08% value for the projected population growth for the landfill's service area (i.e. Dane County) was determined or calculated. The department did not see this figure on the Wisconsin Department of Administration-Demographic Services Center's website.***

    Response: According to the Wisconsin Demographic Services Center, the population of Dane County was 488,073 in 2010 and 543,408 in 2020. This represents an average annual population growth of 1.08 percent over that time span.

    The equation to calculate the growth rate is $Pop_{(2020)} = Pop_{(2010)} \times (1+ i)^n$, where i = growth rate, and n = number of years (10) or,

    $$i = \sqrt[n]{Pop(2020)/Pop(2010)} - 1$$

17. ***Provide clarification on why Section 3 of the feasibility report states that the anticipated date of site closure is 2031, but Section 14.3 and Table 14-8 indicate that the net landfill capacity would be consumed before 2030. Additionally, Section 3 of the feasibility report states that the site life of the proposed vertical expansion would be three to three and a half years. However, the annual estimated waste intake values from Table 14-8 appear to indicate that the site life of the proposed vertical expansion would be less than three years.***

    Response: The anticipated date of closure is based on the capacity of the proposed Eastern Vertical Expansion and the estimated waste intake rate at the landfill based on historic

tracking of incoming waste. The closure dates from the needs analysis are based on the total waste capacity in the service area, assuming no other landfills within the service area pursue an expansion, beyond those that have already submitted an FR. Under this scenario, Dane County Landfill Site No. 2 would potentially take additional waste if another landfill in the service area closed rather than pursuing an expansion. This approach is based on guidelines for performing a needs analysis, while the previous is based on an assumption of similar filling rates to what the landfill has seen in the past.

18. *Provide justification for the proposed maximum intermediate waste grade of up to 10 percent higher than the final waste grades to allow for settlement (Section 8.3.6). Please be aware the department has typically approved 5 percent maximum intermediate waste grades to account for settlement. A 10 percent higher maximum waste grade would require information that supports the higher rate of settlement and financial assurance for removal and disposal of the waste between the 5 and 10 percent elevations.*

    Response: Dane County is altering this request and requests approval for the maximum intermediate waste grades to be up to 5 percent higher than the final waste grades to allow for settlement. A Maximum Waste Grades plan sheet is included in the **FR Addendum 1 Plan Set (Sheet 18)**.

1.3 PART C. ADDITIONAL COMMENTS

1. *The following wells and parameters were granted NR 140 exemptions in the 2013 Eastern Expansion feasibility determination; however, they do not appear to have approved alternative concentration limits (ACLs) in the 2014 Eastern Expansion plan of operation approval table:*

    - *Chloride, WT-204A (active)*
    - *Antimony, WT-119A (active)*
    - *Cadmium, WT-108A (active)*
    - *Nitrate, M-302A (abandoned and replaced with M-302AR)*

    The August 7, 2014 addendum to the Eastern Expansion plan of operation contains a proposed PAL for chloride at WT-204A (290 mg/L) that was calculated by TRC, but the PAL does not appear to have been approved. The August 7, 2014 addendum also states that additional sample rounds for antimony at WT119A and cadmium at WT-108A were required before an ACL could be calculated, and that following collection of additional data, the appropriate calculations would be completed and that ACLs would be proposed for the department's concurrence. It doesn't appear that data for any additional sample rounds for antimony at WT-119A (two additional rounds based on GEMS) and cadmium at WT-108A (1 additional round based on GEMS) were submitted to the department if they were collected.

    It appears that the missing ACLs for the above wells is an outstanding issue that needs to be resolved. If the department issues a favorable feasibility determination, then the department views the plan of operation as an opportunity to bring resolution to these items and may include a condition that the Plan of Operation propose calculated ACLs for the respective substances at wells WT-204A, WT-119A, and WT-108A .

    Response: Dane County agrees with this determination and will include ACLs for the above mentioned wells in the upcoming Plan of Operation.

2. *An exemption is being requested for waste limits within 1,000 feet of Highway 12 & 18, Hope Park, and the Yahara Hills Public Golf Course. Section 7.1.4. of the feasibility report states that screening measures are planned, but the screening measures will not completely screen the landfill. Note the department has typically required landfills to provide screening of the waste at all times within 1,000 feet of state highways or parks.*

   Response: As indicated in Section 8.9 of the May 2014 FR, Dane County proposes to provide continual screening of the waste within 1,000 feet of Highway 12/18 by the following methods:

   - Preserving as many existing mature trees around the perimeter of the Eastern Vertical Expansion as possible.
   - Replacing trees that did not survive and were required as part of the 2014 Plan of Operation approval.
   - Planting additional trees in select areas of the site (refer to the Landscape Plan in **Attachment K**).
   - Creating a waste berm along the outside edge of the waste mass that includes intermediate soil cover placed on the exterior slope, then placing waste on the interior side of the waste/intermediate cover berm.
   - Constructing soil berms, as necessary, at the outside edge of the waste mass around the perimeter.