

MEMO

TO: Gregg Mandsager, City Administrator
FROM: Timothy C. Buelow, P.E.
DATE: February 2, 2017
RE: Muscatine County Sanitary Landfill – Consent Order/Project Status Update

Mr. Mandsager,

Barker Lemar Engineering Consultants has prepared this memo summarizing the status of activities associated with Administrative Consent Order No. 2015-SW-02 (Consent Order) and other Muscatine County Sanitary Landfill (Landfill) projects being worked on at this time.

Major activities associated with the Consent order completed in 2016 included the following:

1. Background sampling and statistical evaluation of the new Point of Compliance wells – results indicated lower levels of groundwater impact than was present in the wells installed too close to the waste boundary, however, groundwater impact that requires bracketing is still present.
2. Continued natural attenuation and geochemical sampling to evaluate the source (landfill gas or leachate) of the groundwater impact and the contribution of mother nature to clean up the impact – results indicate groundwater impact is primarily from leachate migration and that mother nature is contributing to the groundwater cleanup.
3. Installation of additional monitoring wells to delineate the areas of groundwater impact – bracketing monitoring wells were installed on the east and southwest sides of the Landfill. Based on sample results, one to three additional monitoring wells will be required on both the east and southwest sides of the landfill.

The table on the following page delineates the Consent Order activities and completion status of the activities relative to the required schedule. As indicated in the table, the 2016 activities are complete. Future activities for calendar year 2017 include the following:

1. Completion of the 2016 Summary of Findings report, which will discuss in detail the 2016 activities.
2. Installation of additional monitoring wells to delineate the areas of groundwater impact to the east and southwest of the Landfill.
3. Completion of the assessment of corrective measures report.

Additional projects that are being worked on at this time include the following:

1. Phases 5 and 6 Master Plan to permit additional airspace at the Landfill – an estimated approximately 17 years of life will remain at the Landfill with the permitting of the Master Plan. This project is essentially complete. On January 31, 2017, the DNR issued tentative approval of the Master Plan pending completion of the public notice.
2. Annual services – groundwater monitoring and reporting, leachate and landfill gas reporting, landfill inspections, financial assurance, etc.
3. Financial evaluation of potential solid waste management synergies that might exist between the Muscatine County Solid Waste Management Agency and the Waste Commission of Scott County.

| Activity | Consent Order Paragraph | 1 st Half 2015 | 2 nd Half 2015 | 1 st Half 2016 | 2 nd Half 2016 | 1 st Half 2017 | 2 nd Half 2017 |
|---|-------------------------|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 1. Hydrogeological Review | 3 | 3/2/15 | | | | | |
| 2. Geochemical Sampling/Evaluation | 4a | | | | | | |
| 3. Groundwater Plume Delineation | 4b, 8 | | | | | | 8/1/17 |
| 4. Natural Attenuation Sampling/Evaluation | 4c, 6a | | | | | | |
| 5. Waste Boundary Delineation | 4b, 6b | | | | | | |
| 6. 2015 Summary of Findings of Activities | 5 | | | 3/1/16 | | | |
| 7. POC Well Installation | 6b | | | | | | |
| 8. Background Sampling of New POC Wells | 6c | | | | | | |
| 9. 2016 Summary of Findings | 7 | | | | | 3/1/17 | |
| 10. Assessment of Corrective Measures (ACM) | 9 | | | | | | 12/1/17 |
| 11. Public Meeting ⁽¹⁾ | 10 | Within 60 days of DNR approval of the ACM | | | | | |
| 12. Select a Remedy ⁽¹⁾ | 11 | Within 60 days of the public meeting | | | | | |

Notes:

1) Items 11 and 12 would occur in 2018 or later and are dependent on review and approval schedules.

- Indicates completed activity.
- Indicates activity yet to be completed.