STATEMENT OF BASIS FOR MODIFICATION

Northeast Mississippi Solid Waste Management Authority, NE Mississippi Regional Landfill

Tippah County

Walnut, Mississippi

Water NPDES No. MSS049301

December 29, 2021

The facility has applied for permit modification due to lateral expansion of the landfill. As part of the expansion, the facility has applied for permit modification for two new outfalls, Outfall 004 and Outfall 005. Sedimentation basins will be used to allow settling of suspended solids prior to discharge of non-contact storm water to the receiving streams. In addition, the facility has applied for permit modification for the addition of second sedimentation pond for Outfall 001.

1. FACILITY INFORMATION

Facility Name: Northeast Mississippi Solid Waste Management Authority, NE Mississippi Regional Landfill

Facility Address: 2941 County Road 302

Walnut, MS 38683

Walnut,

Permit No.: MSS049301

SIC: 4953

Permit Writer: Rajeev Gupta

EPD Branch: Water Branch II

1. NATURE OF BUSINESS

This facility is a Municipal Solid Waste (MSW) landfill.

1. EFFLUENT AND RECEIVING STREAM FLOW DATA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Outfall No. | Discharge Type | Total Area Drained | Receiving Stream | Current Status |
| 001 | Storm water | 110.2 acres | Unnamed Tributary of Hurricane Creek | Partially Constructed |
| 002 | Storm water | 70.2 acres | Unnamed Tributary of Hurricane Creek | Partially Constructed |
| 003 | Storm water | 38.5 acres | Unnamed Tributary of Big Creek | Constructed |
| 004 | Storm Water | 21.5 | Unnamed Tributary of Hurricane Creek | Proposed |
| 005 | Storm Water | 51.3 | Unnamed Tributary of Hurricane Creek | Proposed |

The discharges from Outfall 001, Outfall 002, Outfall 003, Outfall 004, and Outfall 005 consist or will consist of non-contact storm water runoff associated with construction, development, and operation of the landfill, except for working face runoff and leachate. Storm water which comes into contact with solid waste materials is contained and treated as leachate.

Hurricane Creek and Big Creek are designated as Fish and Wildlife and are located in the North Independent Streams Basin. All immediate receiving streams have a 7Q10 flowrate of zero.

1. TMDL AND 303(d) ISSUES

The receiving streams do not appear on the 2020 State of Mississippi 303(d) List of Impaired Waterbodies. This permit complies with the two (2) following applicable TMDLs:

* Phase 1 TMDL Biological Impairment due to Organic Enrichment/Low Dissolved Oxygen and Nutrients for Muddy Creek in the North Independent Streams Basin (June 2006; ID# 306062602)
* Phase 1 TMDL for Fecal Coliform for Muddy Creek in the North Independent Streams Basin (October 2005; ID# 305101902)

V. TYPE OF WASTEWATER TREATMENT

Sedimentation basins will be used to allow settling of suspended solids prior to discharge of non-contact storm water to the receiving streams.

VI. ANTIDEGRADATION

An Anti-degradation Report was submitted and approved for the modification.

1. EPA APPLICABLE CATEGORICAL GUIDELINES

Not applicable.

1. DATA FROM APPLICATION FORM 2F

**Outfall 001**

|  |  |  |
| --- | --- | --- |
| Parameter | Maximum Value | Number of Samples |
| Oil and Grease | < 1.4 mg/L | 1 |
| BOD | < 12 mg/L | 1 |
| COD | 73 mg/L | 12 |
| TSS | 227 mg/L | 12 |
| Total Nitrogen | 0.692 mg/L | 1 |
| Total Phosphorus | <0.2 mg/L | 1 |
| pH | 8.57 SU | 12 |
| Barium | 0.086 mg/L | 5 |
| Chromium | 0.0043 mg/L | 5 |
| Parameter | Maximum Value | Number of Samples |
| Cobalt | 0.0073 mg/L | 5 |
| Lead | 0.035 mg/L | 5 |
| Nickel | 0.053 mg/L | 5 |
| Zinc | 0.017 mg/L | 5 |

**Outfall 002**

|  |  |  |
| --- | --- | --- |
| Parameter | Maximum Value | Number of Samples |
| Oil and Grease | 1.9 mg/L | 1 |
| BOD | < 12 mg/L | 1 |
| COD | 106 mg/L | 12 |
| TSS | 696 mg/L | 12 |
| Total Nitrogen | 2.50 mg/L | 1 |
| Total Phosphorus | 0.330 mg/L | 1 |
| pH | 8.47 SU | 12 |
| Barium | 0.055 mg/L | 5 |
| Chromium | 0.008 mg/L | 5 |
| Cobalt | 0.0075 mg/L | 5 |
| Lead | 0.018 mg/L | 5 |
| Nickel | 0.033 mg/L | 5 |
| Vanadium | 0.0066 mg/L | 5 |
| Zinc | 0.017 mg/L | 5 |

|  |  |  |
| --- | --- | --- |
| Parameter | Maximum Value | Number of Samples |
| Oil and Grease | < 1.4 mg/L | 1 |
| BOD | < 12 mg/L | 1 |
| COD | 99 mg/L | 12 |
| TSS | 444 mg/L | 12 |
| Total Nitrogen | 0.831 mg/L | 1 |
| Total Phosphorus | 0.330 mg/L | 1 |
| pH | 7.88 SU | 12 |

**Outfall 003**

**Outfall 004**

|  |  |  |
| --- | --- | --- |
| Parameter | Maximum Value | Number of Samples |
| Oil and Grease | 2.0 mg/L | Est. |
| BOD | 12 mg/L | Est. |
| COD | 80 mg/L | Est. |
| TSS | 60 mg/L | Est. |
| Total Nitrogen | 2.50 mg/L | Est. |
| Total Phosphorus | 0.30 mg/L | Est. |
| TKN | 0.20 mg/L | Est |
| pH | 8.6 SU | Est. |
| Barium | 0.086 mg/L | Est. |
| Chromium | 0.008 mg/L | Est. |
| Cobalt | 0.0075 mg/L | Est. |
| Parameter | Maximum Value | Number of Samples |
| Lead | 0.035 mg/L | Est. |
| Nickel | 0.053 mg/L | Est. |
| Vanadium | 0.0066 mg/L | Est. |
| Zinc | 0.017 mg/L | Est. |

**Outfall 005**

|  |  |  |
| --- | --- | --- |
| Parameter | Maximum Value | Number of Samples |
| Oil and Grease | 2.0 mg/L | Est. |
| BOD | 12 mg/L | Est. |
| COD | 80 mg/L | Est. |
| TSS | 60 mg/L | Est. |
| Total Nitrogen | 2.50 mg/L | Est. |
| Total Phosphorus | 0.30 mg/L | Est. |
| TKN | 0.20 mg/L | Est |
| pH | 8.6 SU | Est. |
| Barium | 0.086 mg/L | Est. |
| Chromium | 0.008 mg/L | Est. |
| Cobalt | 0.0075 mg/L | Est. |
| Lead | 0.035 mg/L | Est. |
| Nickel | 0.053 mg/L | Est. |
| Vanadium | 0.0066 mg/L | Est. |
| Zinc | 0.017 mg/L | Est. |

VIII. PROPOSED FINAL LIMITATIONS

1. Average Permit Limitations

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outfall Nos. | Parameter | Categorical Limitation | Water Quality Limitation | Present Permit Limitation (PPL) | Proposed Permit Limitation | Basis1 |
| 001, 002, 003, 004, and 005 | pH | None | 6.0 SU (min) | 6.0 SU (min) | 6.0 SU (min) | MSWQS |
| TSS | None | None | Report (mg/L) | Report (mg/L) | PPL |
| COD | None | None | Report (mg/L) | Report (mg/L) | PPL |

1. Maximum Permit Limitations

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outfall Nos. | Parameter | Categorical Limitation | Water Quality Limitation | Present Permit Limitation (PPL) | Proposed Permit Limitation | Basis1 |
| 001, 002, 003, 004, and 005 | pH | None | 9.0 SU (min) | 9.0 SU (min) | 9.0 SU (min) | MSWQS |
| TSS | None | None | Report (mg/L) | 90 mg/L | SLL |
| COD | None | None | Report (mg/L) | Report (mg/L) | PPL |

1 Basis: PPL = Present Permit Limitation; MSWQS = Mississippi Water Quality Standard; SLL = Standard Landfill Limitation

All parameters shall be monitored semi-annually with a grab sample of the effluent. Results will be reported annually on a Discharge Monitoring Report (DMR).

As is found in the existing permit, several conditions for storm event sampling records, SWPPP certification form, and SWPPP development, components, controls, implementation, and amendments are being added to the proposed permit.

Two conditions for proposed Outfalls 004 and 005 are being added. One condition addresses inspections during construction and the second condition addresses the submittal of a Form 2F Application within one year after the commencement of discharge.