

October 30, 2012

Mr. Steven Morgan
Solid Waste Department
Department of Environmental Protection
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Dept. of Environmental
Protection

NOV 02 2012

Southwest District

RE: **Leachate and Effluent Tanks - Inspection and Repairs**
Southeast County Landfill
Hillsborough County, Florida
FDEP Permit No. 35435-014-SO/01

Dear Mr. Morgan:

On behalf of the Hillsborough County Public Utilities Division, Solid Waste Management Group (SWMG), HDR Engineering, Inc. (HDR) provides herein a summary of the inspections and repairs performed for the leachate and effluent tanks at the Southeast County Landfill (SCLF). The inspections of the interior of the tanks were performed as required in the subject FDEP permit, Leachate Management Plan, paragraph 7.3 (every three years).

TANK INSPECTION

As part of the required inspections, the following tankage and associated equipment were inspected:

- 500,000 gallon capacity leachate storage tank.
- 500,000 gallon capacity effluent storage tank
- Leachate process tank and first stage clarifier.
- Second stage clarifier.
- Effluent holding tank.
- Methanol holding tank.

In addition, piping, fittings, and other equipment were inspected for corrosion and leaks.

INSPECTION RESULTS AND REPAIRS

Based on the results of the tank inspections, interior tank re-coating and repairs were performed. Provided below is a summary of the tank inspection results and subsequent repairs where required.

500,000 Gallon Leachate Storage Tank

The 500,000 gallon capacity leachate storage tank (leachate tank) located within the containment area of the Leachate Treatment and Reclamation Facility was inspected in June 2011 by Process Equipment and Repair Services. The inspection was performed earlier than required as a result of occasional seepage being observed at a few areas along the outer bottom tank wall. Prior to the inspection and subsequent repairs, the leachate tank was drained by County staff for inspection and repairs, if required. Overall, the existing coating system along the interior tank bottom and walls appeared to be adequate. However, peeling of the coating system was observed in some areas. Given that the tank was empty and some peeling of the interior tank coating was observed, as a preventative maintenance measure, the County elected to re-coat the bottom of the tank and the lower one-foot of the interior side wall.

In March 2012, the interior bottom of the leachate tank and lower portion of the interior side wall were cleaned and re-coated using a chemical and corrosion resistant urethane elastomer, manufactured by C.I.M. Industries. The coating was applied using a roller and obtained a film thickness between 10 to 20 wet mils. Once dry, the coating was inspected by HDR staff for thickness and uniformity. The coating system as applied was found to meet the required minimum thickness and appeared to be applied uniformly throughout the work area.

The exterior of the tank, piping, and other associated equipment attached to the leachate tank appeared to be in good condition and required no repairs or re-coating.

Leachate Process Tank and First Stage Clarifier

The leachate process tank including the first stage aeration compartment, first stage clarifier, anoxic compartment, second stage aeration compartment, and sludge holding compartment (process tank) located within the containment area of the Leachate Treatment and Reclamation Facility was inspected in June 2011 by Process Equipment and Repair Services. The condition of the interior coating was marginal in numerous areas. As a result, the County elected to clean and re-coat the interior of the process tank. In addition, prior to cleaning and re-coating the interior of the process tank, minor repairs were made including:

- Replace and/or repair the air diffusers in the first stage aeration compartment.
- Repair the trough in the first stage clarifier.
- Repair pinholes in the interior tank compartment walls.
- Replace the cathodic protection anodes.

Once the minor repairs were completed, the interior of the process tank was commercial sand blasted and cleaned in February 2012. The interior of the process tank was re-coated including a prime coat and a finish coat using a cycloaliphatic amine epoxy manufactured by Tnemec. The

coating system was inspected by HDR staff confirming that the coating system as applied had a dry film thickness of 20 mils, minimum.

Second Stage Clarifier

The second stage clarifier tank located within the containment area of the Leachate Treatment and Reclamation Facility was inspected in June 2011 by Process Equipment and Repair Services. The condition of the interior coating was marginal in numerous areas. As a result, the County elected to clean and re-coat the interior of the process tank. In addition, prior to cleaning and re-coating the interior of the process tank, minor repairs were made including:

- Repair the trough in the first stage clarifier.
- Repair the upper skimmer arm.

Once the minor repairs were completed, the interior of the clarifier tank was commercial sand blasted and cleaned in February 2012. The interior of the clarifier tank was re-coated including a prime coat and a finish coat using a cycloaliphatic amine epoxy manufactured by Tnemec. The coating system was inspected by HDR staff for confirming that the coating system as applied had a dry film thickness of 20 mils, minimum.

Methanol Holding Tank

The methanol holding tank located within the containment area of the Leachate Treatment and Reclamation Facility was inspected in June 2011 by Process Equipment and Repair Services. The methanol tank's interior and exterior coating system appeared to be in good condition. As a preventative measure, the methanol feed pipe from the methanol tank to the anoxic tank was replaced.

Effluent Holding Tank

The effluent holding tank located within the containment area of the Leachate Treatment and Reclamation Facility was inspected in September 2012 by Process Equipment and Repair Services. The effluent holding tank's interior and exterior coating system appeared to be in good condition and therefore no repairs were required.

500,000 gallon Effluent Holding Tank

The 500,000 gallon capacity effluent storage tank (effluent tank) located adjacent to the Leachate Treatment and Reclamation Facility was inspected in March 2012 by Tank Engineering and Management Consultants, Inc. Overall, the existing exterior and interior coating systems appeared

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to be in good condition. Therefore, no repairs and/or re-coating were required during this inspection event.

Impressed Current Cathodic Protection - 500,000 Gallon Leachate Storage Tank

The impressed current cathodic protection system in the 500,000 leachate storage tank was inspected and adjusted in June 2012 by Corrosion Control, Inc. The cathodic protection system was observed to be operating satisfactorily. The final report from Corrosion Control, Inc. was not received until September 2012.

CONCLUSION

Based on HDR's observations, re-coating inspections, and review of contractor final reports, the leachate and effluent storage tanks and equipment appear to be in good operational condition. All inspections and work associated with the re-coating and repair of the leachate and effluent storage tanks were completed by March 15, 2012. Therefore, unless visual observations warrant otherwise, the next inspection of the leachate and effluent storage tanks will be required on March 15, 2015, in accordance with the subject FDEP permit and corresponding Leachate Management Plan. The inspection reports are available for review at the Southeast County Landfill.

Please let us know if you have any questions or require additional information.

Sincerely,
HDR ENGINEERING, INC.



Richard Siemering
Solid Waste Section Manager

cc: Patricia Berry, PUD
Larry Ruiz, PUD