LEACHATE TREATMENT and RECLAMATION FACILITY TANK ASSESSMENT

OPERATION PERMIT NO. 35435-006-SO

HILLSBOROUGH COUNTY SOUTHEAST COUNTY LANDFILL





SCS ENGINEERS

April 30, 2004 File No. 09200020.24

Ms. Susan J. Pelz, P.E. The Florida Department of Environmental Protection Southwest District 3804 Coconut Palm Drive Tampa, Florida 33619



Subject:

Leachate Treatment and Reclamation Facility Tank Assessment

Operation Permit No. 35435-006-SO

Hillsborough County - Southeast County Landfill

Dear Ms. Pelz:

On behalf of Hillsborough County, Florida, SCS Engineers (SCS) is submitting the following Tank Assessment Inspection Report for the Leachate Treatment and Reclamation Facility (LTRF) at the Southeast County Landfill in Hillsborough County, Florida. The assessment report is a summary of inspections conducted by Tank Engineering and Management Consultants Incorporated (TEAM), maintenance conducted by Hillsborough County Solid Waste Management Department, and on-site observations conducted by SCS. The results of the tank inspections conducted by TEAM are included in Attachment A. The report presented below addresses the regulatory requirements outlined in rule 62-701.400(6)(c)8 and (c)9, F.A.C. for each LTRF tank.

PACT SYSTEM TANK

The Powered Activated Carbon Treatment System Tank was designed by US Filter - Zimpro Systems in Rothschild, Wisconsin and manufactured by Fisher Tank Company of Chester, Pennsylvania. The tank consists of four peripheral compartments and a center clarifier. The entire tank has a steel floor. The tank outer shell, clarifier shell, and floor are fabricated from \(^1/4\)-inch carbon steel, and the compartment bulkheads are fabricated from \(^5/16\)-inch carbon steel.

Exterior of the Tank:

TEAM conducted a structural inspection of the tank that consisted of Ultrasonic Thickness Measurements (metal thickness testing) on the tank shells, floor plates, and bulkheads. UTM readings on the floor ranged from 0.234" to 0.268", indicating a ¼-inch nominal metal thickness. The UTM readings on the exterior tank shell were measured from 0.235" to 0.257", indicating a ¼-inch nominal metal thickness. The UTM measurements on the clarifier shell ranged from 0.228" to 0.243", which indicates a ¼-inch nominal metal thickness with negligible metal loss. The UTM readings on the bulkheads ranged form 0.318" to 0.332", indicating a $^{5}/_{16}$ -inch nominal metal thickness. During the UTM testing, no general or localized (pitting) corrosion/metal loss was noted on the tank shells, floors, and bulkheads.



Ms. Susan J. Pelz, P.E. April 30, 2004 Page 2



Interior of the Tank:

TEAM conducted Day Film Thickness (DFT) measurements on the interior tank epoxy coatings. The interior tank, floor, and bulkhead coatings were measured at 15-30 mils. Some surface coat peeling was noted in the first stage aeration compartment; however, the base epoxy coat of 10-15 mils still is tightly adhered to the tank internal surface.

Electrical continuity testing was conducted on the stainless steel aerator header assemblies in the First Stage Aeration, Re-aeration, and Sludge Holding Compartments. The testing indicated that the stainless steel piping was not isolated from the carbon steel.

Tanks Accessories:

Visual inspection of the tank surfaces and accessories (manways, nozzles, walkways, and stairways) were conducted to examine the metal surfaces for evidence of general corrosion, localized/pitting corrosion, coating conditions, and serviceability. The five shell manways (24 inch-diameter bolted lids) were in very good condition. The tank system access stairs and overhead walkways were in good condition. Minor paint peeling and surface corrosion were noted on the walkway frame.

Conclusions:

Based upon the results of the inspection and on-site observations conducted on the PACT system tank, the tank and accessories appear to be in good condition and functioning adequately to contain and treat the leachate as originally designed and constructed. Please refer to Attachment B for a letter from Hillsborough County stating that recommended repairs and maintenance have been completed.

CLARIFIER TANK

The No. 2 Clarifier tank was designed by US Filter - Zimpro Systems in Rothschild, Wisconsin and manufactured by Fisher Tank Company of Chester, Pennsylvania. The welded steel tank consists of a single clarifier tank with a center stilling well/skirt and surface scum scraper. The entire tank has a concrete floor and center sump. The tank shell is fabricated from ¼-inch carbon steel.

Exterior of the Tank:

TEAM conducted a structural inspection of the tank that consisted of UTMs on the tank shell. The UTM readings ranged from 0.242" to 0.260", indicating a ¼-inch nominal metal thickness. During the UTM testing, no general or localized (pitting) corrosion/metal loss was noted on the exterior or interior of the tank. There was no corrosion noted at the steel-to-concrete interface on the base of the tank shell.

Ms. Susan J. Pelz, P.E. April 30, 2004 Page 3

Interior of the Tank:

TEAM conducted DFT measurements on the interior tank epoxy coating. The tank coating was measured at 9-15 mils. No peeling of the coating was noted on the tank surface.

The concrete floor of the tank was in good condition with no surface cracking or irregularities noted in the concrete. No discoloration of the concrete was noted at the steel-to-concrete interface.

Tank Accessories:

Visual inspections of the tank surfaces and accessories were conducted to examine the metal surfaces for evidence of general corrosion, localized/pitting corrosion, coating conditions, and serviceability. The tank manway was in good condition. The overhead access walkway also was in good condition; no corrosion was noted on the walkway frame.

Conclusions:

Based upon the results of the inspection and on-site observations conducted on the clarifier tank, the tank and accessories appear to be in very good condition and functioning adequately to contain and treat the leachate as originally designed and constructed. No repairs were required for the tank prior to returning the treatment system to service.

LEACHATE GROUND STORAGE TANK

The Leachate Ground Storage Tank was designed and manufactured by AquaStore Engineered Storage Products Company (formally known as A.O. Smith) of DeKalb, Illinois. The bolted steel glass-fused tank consists of a single tank shell, steel floor (bolted floor plates), and aluminum geodesic dome roof. The tank shell is fabricated from ½-inch carbon steel, and the tank floor is fabricated from ½-inch carbon steel.

Exterior of the Tank:

TEAM conducted a structural inspection of the tank that consisted of UTMs on the tank shell and floor plates. UTM readings on the exterior shell were measured from 0.207" to 0.317", which indicated a ¼-inch nominal metal thickness with negligible metal loss. The UTM readings on the floor ranged from 0.081" to 0.144", indicating a $^{1}/_{8}$ -inch nominal metal thickness. During the UTM testing, no general or localized (pitting) corrosion/metal loss was noted on the tank shell or on the floor.

TEAM conducted DFT measurements on the tank exterior fused-glass coating. The exterior plate coating was measured at 6-12 mils. No coating problems or corrosion were noted on the tank exterior.

Ms. Susan J. Pelz, P.E. April 30, 2004 Page 4

Interior of the Tank:

TEAM conducted DFT measurements on the tank interior fused glass coating. The interior plate coating was measured at 8-12 mils. No coating problems or corrosion were noted on the tank interior.

Tank Accessories:

Visual inspections of the tank accessories (dome, manway, ladders, liquid level indicator, bolt caps) were conducted to examine the condition and serviceability of the equipment. The manway and ladders were in good condition, although corrosion was noted on the interior ladder bracket bolts. The float assembly for the target liquid level indicator required repairs. A small number of bolt caps on the tank interior required replacement.

The Harco internal applied (impressed) cathodic protection system for the tank was serviceable and continues to provide corrosion protection inside the GST.

Conclusions:

Based upon the results of the inspection and on-site observations conducted on the leachate GST, the tank and accessories appear to be in good condition and functioning adequately to contain the landfill leachate per the intent of the original design and construction. Please refer to Attachment B for letter documentation from Hillsborough County on recommended repairs and maintenance to the GST.

INSPECTION SUMMARY

Based upon the results of on-site observations and the TEAM inspections, the LTRF process tanks and the Leachate Ground Storage Tank were found to be in good condition with no structural or liquid containment problems. Recommended repairs to the tank accessories, based upon inspection results, have been completed and documented.

If you have any questions regarding the conduct or results of the LTRF tank inspections, please do not hesitate to contact SCS Engineers.

Sincerely,

Larry E. Ruiz, Assoc. AIA

Project Manager SCS ENGINEERS Charles B. Knotts, P.E.

Project Director

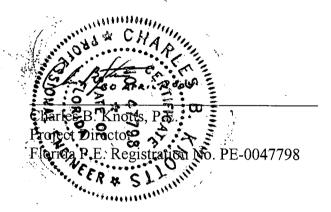
SCS ENGINEERS

TANK ASSESSMENT INSPECTION REPORT LEACHATE TREATMENT AND RECLAMATION FACILITY SOUTHEAST COUNTY LANDFILL HILLSBOROUGH COUNTY, FLORIDA

APRIL 2004

SCS Engineers has prepared this Tank Assessment Inspection Report for the Southeast County Landfill Leachate Treatment System. The inspection was observed, and the report was prepared, under the direct supervision of a Registered Professional Engineer in the State of Florida in accordance with the requirements outlined in Chapter 471, Florida Statutes.

Respectfully Submitted SCS ENGINEERS





ATTACHMENT A TEAM INSPECTION REPORTS

TANK ASSESSMENT INSPECTION REPORT

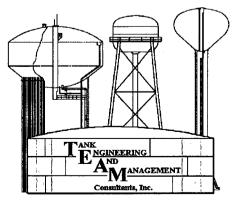


HILLSBOROUGH COUNTY LANDFILL SERVICES SOUTHEAST LANDFILL

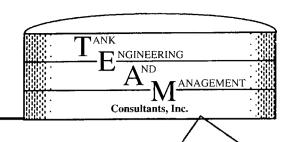
PACT TANK FACILITY 50' DIAMETER X 16' HIGH

LITHIA, FLORIDA

MARCH, 2004



1419 WATERS AVENUE, SUITE 114 TAMPA, FLORIDA 33604 (813) 935-6697 ◆ (813) 931-8458 Fax



Southwest District Tampa

March 10, 2004

Matt Matthews
Hillsborough County Landfill Services
Southeast Landfill
15960 CR 672
Lithia, FL 33503

RE:

Assessment Inspection

50' Dia. Zimpro PACT Facility TEAM Project No: 04-0031

Dear Mr. Matthews:

As authorized by your PO Number POSW04612002, *Tank Engineering And Management Consultants, Inc.*, has performed an inspection of the 50' diameter Zimpro PACT facility owned by Hillsborough County and located at their Southeast Landfill in Lithia, Florida. This report represents the results of that inspection.

This inspection was performed on February 26, 2004, by Larry Edwards of *TEAM Consultants*. The tank was emptied, cleaned and the shell manway opened upon our arrival.

The following information was observed or was furnished to us:

GENERAL:

Structure:

Welded Steel Tank – Five Compartments

Dimensions:

50'-0" Dia. x 16'-0" High

Location:

Southeast Landfill - Hillsborough County, Florida

Manufacturer:

Fisher Tank Company

Year Built:

1994

This tank rests on a concrete slab and is located in a concrete lined containment area with two (2) other leachate tanks and other miscellaneous equipment.

HISTORY:

In 1996 TEAM Consultants was hired by Hillsborough County to inspect this tank and locate corrosion problems and recommend repairs. Following that inspection, patch plates were installed over the corroded areas and the stainless steel piping was isolated from the carbon steel tank.

In 1998, TEAM Consultants re-inspected the tank and found it in good condition, however, the stainless steel piping was not isolated. The contractor on-site repaired the stainless steel piping. Following repairs, TEAM re-tested and found the piping isolated.

In 2001, TEAM Consultants performed an inspection of the entire tank. The tank was found in good condition. The coating in the aeration section was peeling, but sound coating was found underneath. The stainless steel aerators were also found to not be isolated.

INSPECTION RESULTS:

Metal Condition:

Ultrasonic thickness measurements (UTM's) were taken on the shell, floor, and each bulkhead. UTM readings on the floor ranged from 0.234" to 0.268", which indicates a ¼" nominal plate that is in good condition. No significant top side pitting was found on the floor plates.

UTM readings on the exterior shell ranged from 0.235" to 0.257", which indicates a $\frac{1}{4}$ " nominal plate thickness that is in good condition. Several lap welded patch plates have been installed on the tank shell, which were fabricated from $\frac{1}{4}$ ", 5/16", and $\frac{1}{2}$ " plate. UTM's on each of the patch plates indicated little or no metal loss.

The shell of the center clarifier tank was also tested. UTM's on the clarifier shell ranged from 0.228" to 0.243" which indicates a 1/4" nominal plate with minor metal loss. No pitting was visible on the clarifier shell.

The UTM's taken on the bulkheads between the compartments ranged from 0.318" to 0.332". These bulkheads were apparently constructed of 5/16" nominal plate and are in very good condition. No pitting or corrosion was visible on any of the bulkheads.

The stainless steel piping in three compartments was tested using a continuity tester. At the time of the inspection the piping was NOT isolated from the carbon steel tank.

Coating Condition:

The coating in each of the compartments is in very good overall condition. Dry Film Thickness (DFT) measurements were taken and ranged from 15 to 30 mils. The coating on the interior of the First Stage Aeration Tank is peeling. The areas under the peeled coating still have 10-15 mils of coating on them. Apparently the peeling is caused by a failure of cohesion between coating layers. No corrosion was visible in the areas of peeled coatings. The coating in the other compartments is in very good condition. Minor coating peeling and corrosion were found on the side of the catwalk.

ACCESSORIES:

- 1. **Manways:** There are five shell manways in this tank. Access into each of the five compartments is provided by a 24" diameter shell manway. All manways were found to be in very good condition.
- 2. **Stairway:** A steel stairway provides access to an overhead walkway, which connects the PACT Facility and the adjacent 20' diameter clarifier tank. The stairway and walkway were found in very good condition.

RECOMMENDATIONS:

Repairs and Renovations:

1. Isolate the stainless steel piping from the carbon steel tank. We would suggest disassembling the pipe supports, cleaning the rubber and mounts, and carefully re-assembling. After assembly, re-check for isolation.

CONCLUSIONS:

This PACT Facility was found to be in good overall condition. With the recommended repairs and continued maintenance, this tank should provide excellent service for many years.

We appreciate the opportunity of performing this inspection service for you.

Should you have any questions regarding the information contained herein, please do not hesitate to contact us.

Sincerely,

Tank Engineering And Management Consultants, Inc.,

Jeff Kitchen

NACE Corrosion Technician #5630

James E. Pandolph, P.E.

Florida P.E. License No. 17067



1. Tank north side.



3. Tank south side.



2. Tank north side.



4. Tank south side.



5. Tank stairs.



7. Catwalk top.



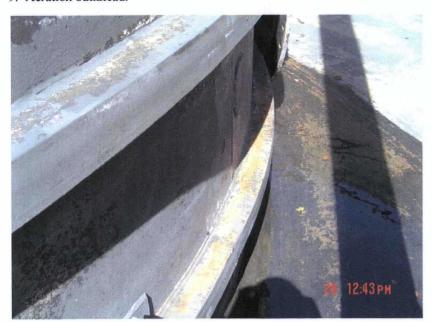
6. Catwalk side.



8. Aerators.



9. Aeration bulkhead.



11. Stiffner corrosion in aeration section.



10. Aeration bulkhead.



12. Wall corrosion in aeration section.



13. Clarifier shell top.



15. Clarifier shell bottom and manway.



14. Clarifier center top.



16. Clarifier center bottom.



17. Anoxygen interior.



19. Anoxygen mixers.



18. Anoxygen roof under.



20. Anoxygen floor.



21. Reoxygen overall.



23. Reoxygen pipe.



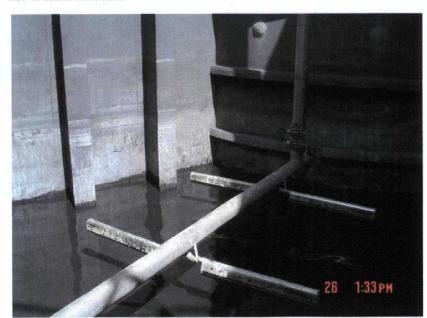
22. Reoxygen wall.



24. Reoxygen wall.



25. Decant bulkhead.



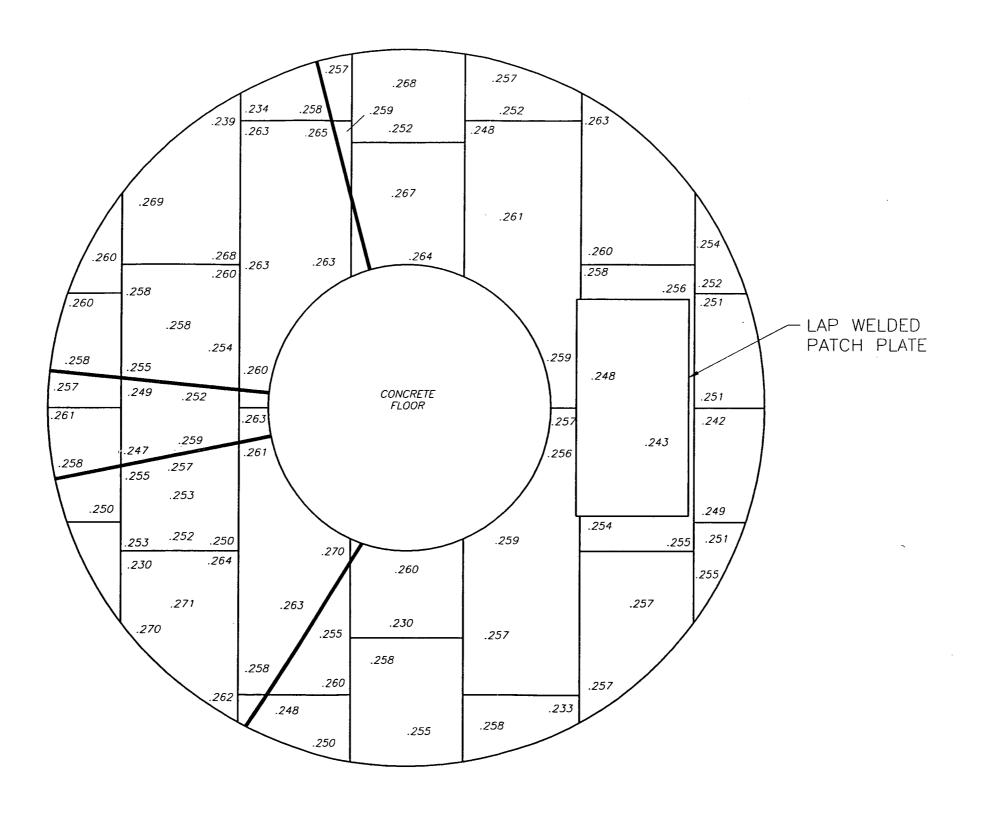
27. Decant aerator.



26. Decant center top.



28. Decant center bottom.



DRAWN BY:	JWK	ĺ
CHECKED BY:	JWK	
APPROVED BY:	JEP	
SCALE:	NTS	ĺ
DATE: 3/	/2 /04	ĺ

Tank Engineering And Management
Consultants, Inc.

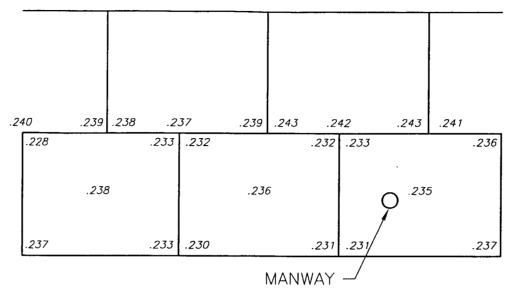
1419 W. Waters Ave., Suite 114 Tampa, Florida 33604 PHONE (813) 935-6697 • FAX (813) 931--8458 FLOOR PLATE THICKNESS

HILLSBOROUGH COUNTY

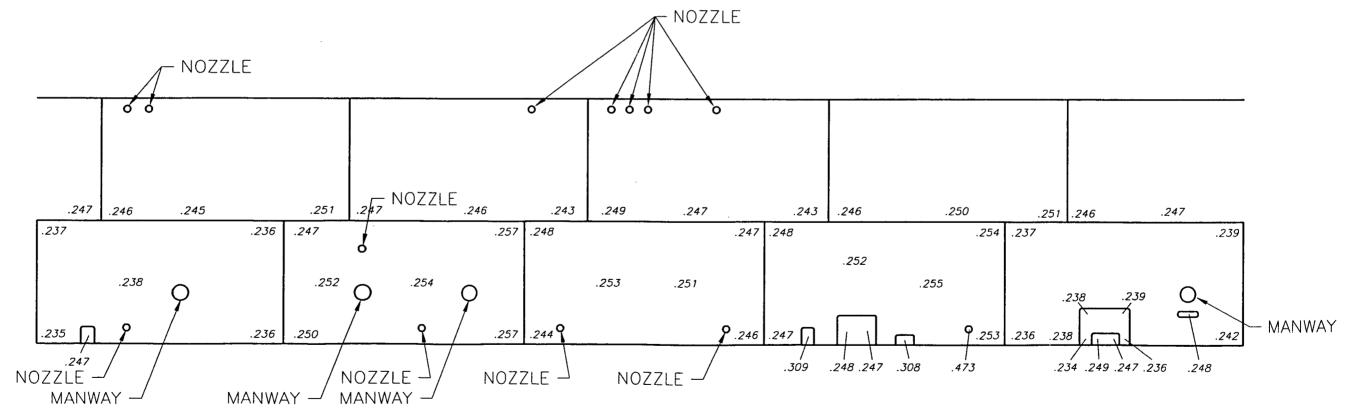
SOUTHEAST LANDFILL - PACT FACILITY

ARCHIVE FILE 04-0031 PACT PROJECT NO. 04-0031

DRAWING NO. 1 OF 2







OUTER SHELL

DRAWN BY:	JWK	Tank Engineering And Management
CHECKED BY:	JWK	Consultants, Inc.
APPROVED BY:	JEP	1419 W. Waters Ave., Suite 114
SCALE:	NTS	Tampa, Florida 33604
DATE: 3	/2/04	PHONE (813) 935-6697 • FAX (813) 931-8458

SHELL PLATE ROLLOUT HILLSBOROUGH COUNTY

ARCHIVE FILE 04-0031-PAC1 PROJECT NO. 04-0031 DRAWING NO.

2 OF 2

SOUTHEAST LANDFILL - PACT FACILITY

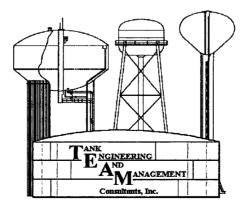
TANK ASSESSMENT INSPECTION REPORT



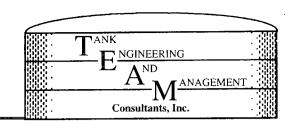
LEACHATE STORAGE TANK 70' DIAMETER X 20' HIGH

LITHIA, FLORIDA

MARCH, 2004



1419 WATERS AVENUE, SUITE 114 TAMPA, FLORIDA 33604 (813) 935-6697 ◆ (813) 931-8458 Fax



March 10, 2004

Matt Matthews Hillsborough County Landfill Services Southeast Landfill 15960 CR 672 Lithia, FL 33503

RE: Assessment Inspection

70' Dia. Leachate Storage Tank

Hillsborough County, Southeast Landfill

TEAM Project No: 04-0031

Dear Mr. Matthews:

As authorized by your PO Number POSW04612002, *Tank Engineering And Management Consultants, Inc.*, has performed an inspection of the 70' diameter Leachate Storage Tank owned by Hillsborough County and located at their Southeast Landfill in Lithia, Florida. This report represents the results of that inspection.

This inspection was performed on February 27, 2004, by Jeff Kitchen of *TEAM Consultants*. The tank was emptied, cleaned and the shell manway opened upon our arrival.

The following information was observed or was furnished to us:

GENERAL:

Structure:

Bolted Steel Tank

Dimensions:

70'-0" Dia. x 20'-0" High

Location:

Southeast Landfill – Hillsborough County, Florida

Manufacturer:

A.O. Smith

Year Built:

1993

This tank rests on a concrete slab and is located in a concrete lined containment area with two (2) other leachate tanks and other miscellaneous equipment.

HISTORY:

In 1998 TEAM Consultants inspected this tank to locate corrosion problems and recommend repairs. Following that inspection a Harco internal cathodic inspection system was installed, the existing galvanic anodes were removed, and other minor repairs were performed.

TEAM Consultants also performed an inspection of this tank in March 2001. The report for that inspection was issued to the County at that time.

INSPECTION RESULTS:

Metal Condition:

The metal was in very good condition. No topside pitting was found on the floor. No pitting or active corrosion was found on the shell plates. Minor corrosion was noted on the interior influent pipe and the exterior anchor bolt nuts.

Coating Condition:

The coating on the interior and exterior is in very good condition. Dry Film Thickness (DFT) measurements were taken and ranged from 8 to 12 mils on the interior and 6-12 mils on the exterior. It appears that the coating has worn slightly since the last inspection. However, no coating problems or active corrosion was observed on the interior or exterior

Geodesic Dome Roof:

The aluminum geodesic dome roof appeared to be in good condition. The roof was not leak tested as part of this inspection.

Accessories:

- 1. **Manway:** The 24" manway was found to be in very good condition.
- 2. Ladders: The interior and exterior ladders were found in good condition. The small bolts on the interior ladder brackets were severely corroded. The interior ladder is slightly bowed.
- 3. **Overflow**: The overflow pipe is in good condition. Some signs of previous leakage were noted, but it appears to have been fixed.
- 4. **Liquid Level Indicator**: This tank has a target board style liquid level indicator. Minor corrosion was noted around the fittings on the roof. One of the arms that hold the float to the guide wires was broken.
- 5. **Bolt Caps**: Some nut protective caps were missing on the interior of the tank. The nuts that were uncovered appeared to be in good condition, though.

RECOMMENDATIONS:

Repairs and Renovations:

- 1. Replace corroded bolts on interior ladder brackets.
- 2. Replace missing bolt caps on the interior of the tank and re-seal.
- 3. Replace guide arm on level indicator float.
- 4. Maintain proper settings and operation of the cathodic protection system.

CONCLUSIONS:

This Leachate Storage Tank was found to be in good overall condition. With the recommended repairs and continued maintenance, this tank should provide excellent service for many years.

We appreciate the opportunity of performing this inspection service for you.

Should you have any questions regarding the information contained herein, please do not hesitate to contact us.

Sincerely,

Tank Engineering And Management Consultants, Inc.,

Jeff Kitchen

NACE Corrosion Technician #5630

ames E. Pandolph, P.E.

Florida P.E. License No. 17067



1. Tank south side.



3. Tank north side.



2. Tank south side.



4. Tank north side.



5. Exterior ladder top.



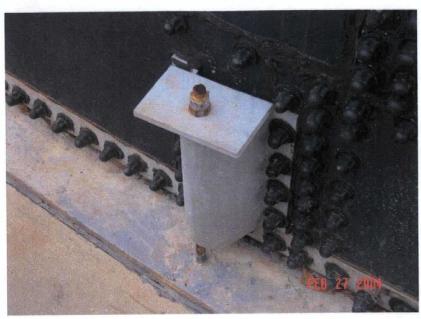
7. Manway Exterior.



6. Overflow discharge.



8. Manway interior.



9. Anchor chair.



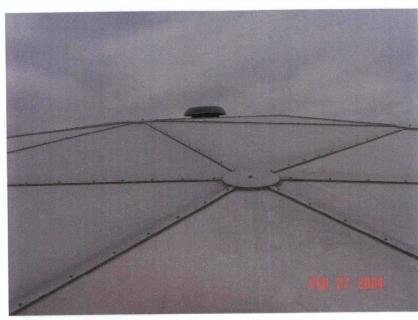
11. Lower nozzle exterior.



10. Piping top.



12. Lower nozzle interior.



13. Roof exterior.



15. Roof interior.



14. Roof hatch.



16. Cathodic protection float



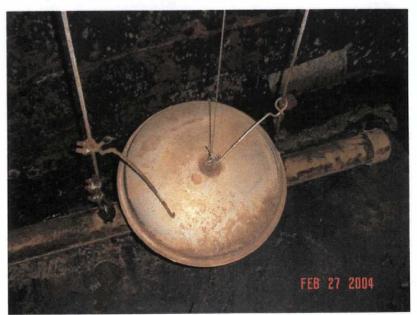
17. Interior ladder top.



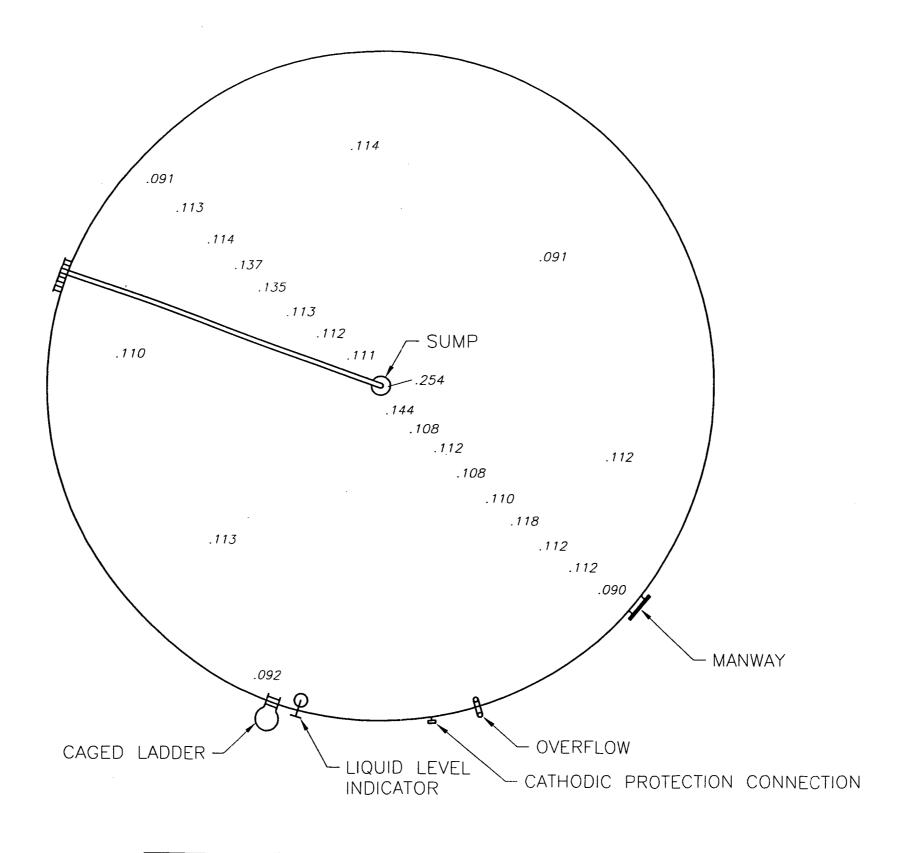
19. Interior ladder lower.



18. Center sump



20. Liquid level indicator float.



	DRAWN BY:	JWK
	CHECKED BY:	JWK
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	SCALE:	NTS
	DATE: 3	/4/04

Tank Engineering And Management Consultants, Inc.

1419 W. Waters Ave., Suite 114

Tampa, Florida 33604

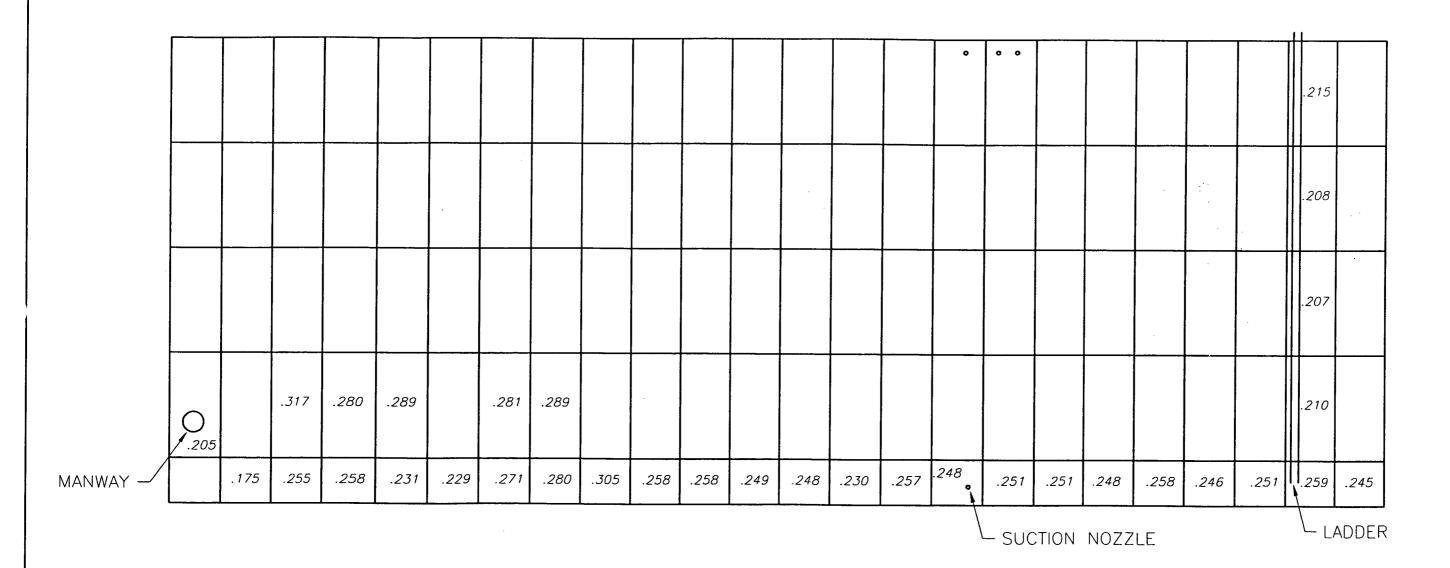
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TANK INSPECTION - PLAN VIEW
HILLSBOROUGH COUNTY SE LANDFILL
LEACHATE STORAGE TANK

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SHELL PLATE ROLLOUT

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Tank Engineering And Management Consultants, Inc.

1419 W. Waters Ave., Suite 114

Tampa, Florida 33604

PHONE (813) 935-6697 • FAX (813) 931-8458

TANK INSPECTION - SHELL ROLLOUT
HILLSBOROUGH COUNTY SE LANDFILL
LEACHATE STORAGE TANK

ARCHIVE FILE 04-0031 ST

PROJECT NO. 04-0031

DRAWING NO. 2 of 2



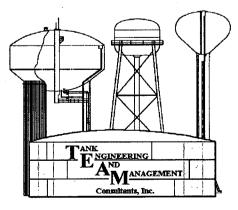
Southwest District Tampa

HILLSBOROUGH COUNTY LANDFILL SERVIČES SOUTHEAST LANDFILL

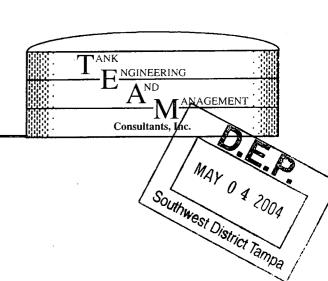
CLARIFIER TANK 20' DIAMETER X 16' HIGH

LITHIA, FLORIDA

MARCH, 2004



1419 WATERS AVENUE, SUITE 114 TAMPA, FLORIDA 33604 (813) 935-6697 ◆ (813) 931-8458 Fax



March 10, 2004

Matt Matthews Hillsborough County Landfill Services Southeast Landfill 15960 CR 672 Lithia, FL 33503

RE:

Assessment Inspection

20' Dia. Clarifier

TEAM Project No: 04-0031

Dear Mr. Matthews:

As authorized by your PO Number POSW04612002, *Tank Engineering And Management Consultants, Inc.*, has performed an inspection of the 20' diameter Clarifier Tank owned by Hillsborough County and located at their Southeast Landfill in Lithia, Florida. This report represents the results of that inspection.

This inspection was performed on February 26, 2004, by Larry Edwards of *TEAM Consultants*. The tank was emptied, cleaned and the shell manway opened upon our arrival.

The following information was observed or was furnished to us:

GENERAL:

Structure:

Welded Steel Tank - Concrete Floor, Open Top

Dimensions:

20'-0" Dia. x 16'-0" High

Location:

Southeast Landfill - Hillsborough County, Florida

Manufacturer:

Fisher Tank Company

Year Built:

1994

This tank rests on a concrete slab and is located in a concrete lined containment area with two (2) other leachate tanks and other miscellaneous equipment. The interior floor of this tank is concrete. No manufacturer's drawings were provided for this tank during our inspection.

HISTORY:

In 2001, TEAM Consultants inspected this tank. No repairs were recommended at that time.

INSPECTION RESULTS:

Metal Condition:

Ultrasonic thickness measurements (UTM's) were taken on the shell. The UTM readings ranged from 0.242" to 0.260", which indicates a ¼" nominal plate that is in good condition. No pitting was found on the interior or exterior of the shell.

The concrete to steel interface at the base of the shell appeared to be in good condition. No active corrosion was visible in that area. This area should be monitored in the future for signs of corrosion.

Coating Condition:

The coating on the interior and exterior is in very good overall condition. Dry Film Thickness (DFT) measurements were taken on the interior shell and ranged from 9 to 15 mils.

ACCESSORIES:

- 1. **Manway:** Access into the tank is provided by a 24" diameter shell manway. The manway was found to be in very good condition.
- 2. Stairway: A steel stairway provides access to an overhead walkway, which connects the Clarifier Tank and the adjacent PACT Facility. The stairway and walkway were found in very good condition.

RECOMMENDATIONS:

Repairs and Renovations:

1. No repairs are recommended at this time.

CONCLUSIONS:

This Clarifier Tank was found to be in very good condition. With continued maintenance, this tank should provide excellent service for many years.

We appreciate the opportunity of performing this inspection service for you.

Should you have any questions regarding the information contained herein, please do not hesitate to contact us.

Sincerely,

Tank Engineering And Management Consultants, Inc.,

Leff/Kitchen

NACE Corrosion Technician #5630

James E. Pandolph, P.E.

Florida P.E. License No. 17067



1. Tank overall..



3. Tank Manway.



2. Tank overall.



4. Inlet pipe.



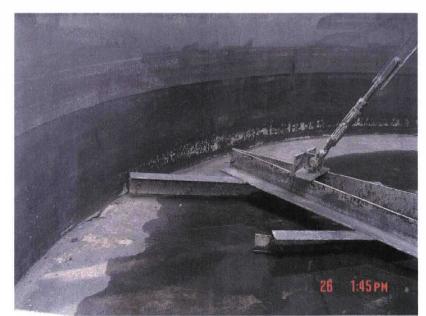
5. Center structure.



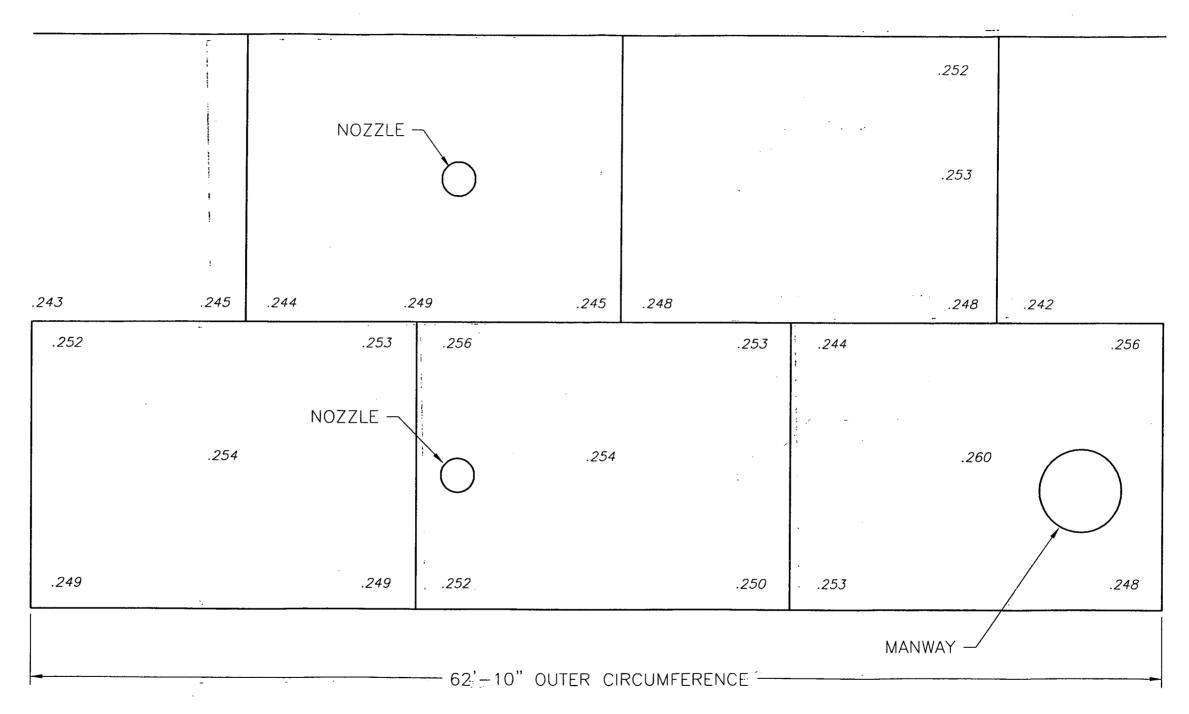
7. Mixer end.



6. Mixer center.



8. Mixer end.



SHELL PLATE ROLLOUT

DRAWN BY:	JWK	Ta
CHECKED BY:	JWK	
APPROVED BY:	JEP	
SCALE:	NTS	
DATE: 3/	2/01	ĺ

Tank Engineering And Management Consultants, Inc.

1419 W. Waters Ave., Suite 114

Tampa, Florida 33604

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SHELL PLATE ROLLOUT

HILLSBOROUGH COUNTY

SOUTHEAST LANDFILL - CLAIFIER TANK

ARCHIVE FILE 04-0031-CLAF PROJECT NO. 04-0031

DRAWING NO.

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FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MAY - 4 2004
SOUTHWEST DISTRICT
TAMPA

ATTACHMENT B HILLSBOROUGH COUNTY INSPECTION LETTER

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April 22, 2004

Chuck Knotts, Project Manager SCS Engineers 3012 U.S. Highway 301 North Suite 700 Tampa, Fl. 33619 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION MAY - 4 2004

SOUTHWEST DISTRICT TAMPA

Re: Inspection of Pack Tanks at Hillsborough County Southeast Landfill Leachate Treatment Facility

Dear Chuck:

During the week of March 1, 2004 Tank Engineering and Management (TEAM) inspected the ground storage tank and the pack processing tanks. TEAM identified three (3) items that needed repair:

- 1) Guide arm to tank level float was broken;
- 2) Ingress/Egress ladder had rusted bolts that needed replacing;
- 3) In the carbon steel tank the stainless steel piping was not isolated from the carbon steel tank.

Hillsborough County employees performed the following repairs:

- 1) Float level arm was replaced;
- 2) All bolts, nuts and washers on the ladder were replaced with stainless steel bolts, nuts and washers;
- 3) The stainless steel piping was disassembled and all isolating rubber mounts were cleaned and piping reassembled. A continuinty check was performed to assure the stainless steel was isolated from the carbon steel tank.

If you require additional information please call.

M. Matt Matthews