

RSWA BOARD OF DIRECTORS
Minutes of Regular Meeting
November 24, 2008

A regular meeting of the Rivanna Solid Waste Authority (RSWA) Board of Directors was held on Monday, November 24, 2008 at 2:30 p.m. in the Conference Room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

Board Members Present: Mr. Michael Gaffney - Presiding, Mr. Mark Graham, Ms. Judith Mueller, Mr. Gary O'Connell, and Mr. Robert Tucker.

Authority Staff Present: Ms. Tamara Ambler, Mr. David Atkins, Mr. Bruce Edmonds, Mr. Tom Frederick, Ms. Mary Knowles, Ms. Jennifer Whitaker, Dr. Robert Wichser, and Mr. Lonnie Wood.

Also Present: Mr. Jeff Greer – RSWA Citizens Advisory Committee Chairman, Mr. Kurt Krueger – RSWA Attorney Mr. Phil McKalips – RSWA consultant with Environmental Standards, members of the public, and media representatives.

1.0 Call to Order

The regular meeting of the RSWA Board of Directors was called to order by Mr. Gaffney on Monday, November 24, 2008 at 2:30 p.m., and he noted that a quorum was present.

2.0 Minutes of the Previous Meeting

Mr. Tucker moved that the Board of Directors vote to approve the minutes of the regular Board meeting held on Monday, October 27, 2008, seconded by Mr. Graham. The motion was approved by a 5 – 0 vote.

3.0 Executive Director's Report

There was no Executive Director's Report this month.

4.0 Items from the Public

There were no items from the public.

5.0 Consent Agenda

Mr. Gaffney asked if there were any items that the Board members would like to pull for discussion from the Consent Agenda.

- 5a) Staff Report on Finance**
- 5b) Staff Report on Ivy Material Utilization Center**
- 5c) Staff Report on Recycling Operations**
- 5d) Staff Report on Ivy Landfill Environmental Status**
- 5e) Proposed Schedule for the 2009 Board of Directors Meetings**

Mr. Tucker moved that the Board of Directors vote to approve Items 5a), b), c), d), and e) of the Consent Agenda, seconded by Mr. Graham. The motion was approved by a 5– 0 vote.

6.0 Other Business

In regards to **Item 6a), Update on Ivy Environmental Improvements**, Mr. Gaffney recognized Mr. Phil McKalips with Environmental Standards, who would present this report.

Mr. McKalips stated that Mr. Frederick requested that he provide a brief update on the horizontal drilling activities for the new leachate collection system being installed at Cell 3-Lined and Cell 3-Unlined, as well as other environmental improvements being undertaken at the Ivy facility. Handouts that contained more detailed information were then distributed to the members of the Board and also to the members of the public in attendance at the meeting.

Mr. McKalips next reported that all of the Horizontal Drains have been installed, which included three in Cell 3-Lined and one in Cell 3-Unlined. The Horizontal Drains in Cell 3-Lined ranged in length from 677 feet to 684 feet. The Horizontal Drain in Cell 3-Unlined was 1,015 feet in length. The drain pipe material consists of Fiberglass Reinforced Epoxy (FRE), which is used to provide structural strength and withstand chemical resistance. The slotted pipe is approximately 5 inches in outside diameter and 4 inches inside diameter.

Mr. McKalips then discussed flows from the drains installed in Cell 3. Preliminary measurements indicate that flows are “within an order of magnitude of predicted values.” Modeling efforts predicted that each drain in Cell 3-Lined would produce approximately 0.20 gallons per minute (gpm) of leachate. Recent “spot” measurements recorded flows between 0.04 gpm and 0.20 gpm in Cell 3-Lined. In Cell 3-Unlined the models predicted 0.7 gpm, and the current measurement from that drain was 0.02 gpm. Due to the variabilities that can be encountered with modeling efforts, he was very pleased that the results were within the predicted values.

Mr. McKalips next reported that all four drains were expected to produce almost 200,000 gallons per year of leachate, which equates to 40 additional 5,000 gallon tanker trucks that will be used to transport the leachate to the Moores Creek WWTP for final treatment.

Mr. McKalips then discussed why the leachate flow was less than initially predicted. He felt that part of the reason was the amount of plastic material encountered during the drilling activities in Cell 3, which is being pumped out with the leachate material. Precipitation buildup after the leachate is removed might also be an issue. For that reason, redevelopment of those wells might be undertaken more often than originally planned.

Mr. McKalips next commented on what “went right” with the project. Concerns about odor issues, specifically off-site, did not occur due to proper management of the spoils. Also, there were no safety incidences that needed to be addressed.

Mr. McKalips then reported on what could have been done differently. He stated that the number of slots could have been increased, but the drain design was conservatively based due to concerns with the structural integrity of the cell.

Mr. McKalips next commented that he felt overall the project was very successful. The cells will take a little longer to drain than was anticipated based on current flow measurements. He felt that with future well development those flows will approach close to the predicted numbers.

Mr. Gaffney then commented that there were initial concerns with the cell being “full of water,” and now it is estimated that 200,000 gallons of leachate will be removed per year. He inquired how this relates to the total amount of water that is actually in the cell. Mr. McKalips stated that based on the prediction related to the shape of the mound inside the cell and using “out of the book guesses” on its “porosity”, it was predicted that about 40 million gallons to almost 50 million gallons was inside the cell. Based on the modeling and in-situ testing that was conducted, the specific amount of water that would actually drain out of a unit of material would be about 1%. Based on 40 million gallons, only 1% of the free liquid would drain from the cell, which equates to 1 million gallons of liquid that would need to be removed for the cell to attain an acceptable level of stability and for the gas system to function properly. Mr. Gaffney next asked if the original concern about the waste mass “sliding down” was an issue at this time. Mr. McKalips replied that this concern originated from the necessity in using very conservative values when running the models. He felt this was much less of a concern now since the wells have been installed, and as liquid is removed from the cells, the structure should become more stable. Per Malcolm Pirnie calculations, if the liquid was drawn down to a level of 18 feet over the liner, the cell would reach an acceptable safety level related to its stability.

Mr. Tucker next questioned if there has been any major settling occurring with the removal of the liquid. Mr. McKalips stated that installation of the last well has just been completed last Monday so it was too early in the process to make that observation. Mr. Frederick added that some settlement was expected. Through the services of Malcolm Pirnie, some survey markers are being installed in different areas of the cell as well as some devices that measure how the cell might be shifting, which utilize GPS technology to monitor how the cell reconfirms as the liquid is drained and the mass settles. RSWA is awaiting the installation of the survey markers before draining a larger amount of liquid from those cells. If at any point the settling reaches a configuration that might become unstable, the valve can be closed and appropriate actions taken. Leachate removed from the cells will be transported to the Moores Creek WWTP on a 90-day trial basis. The quantity and quality of the leachate will be measured over that time period to determine if further treatment of the material will be needed on-site before continuing to transport to the Moores Creek facility beyond the trial period. He felt that with the anticipated volumes, the option of using a force main to convey the material will not be needed and transporting by tanker will be the most cost effective means. By late March, he felt that the data from the 90-day trial will provide more definitive answers to remaining questions.

Although it might be too early in the process, Mr. Graham asked how long it would take to drain the cell. If the current rate is about 189,000 gallons per year, he assumed that this figure would drop each year. Mr. McKalips stated that based on earlier modeling, it was predicted to take 5 years to drain the cells. Since flows will be one third less than originally predicted, he would estimate about one third more time for the cells to drain. The modeling would need to be redone in order to provide a more definitive time frame, but he would have a better idea after the 90-day trial period.

Mr. McKalips then reported on the in-situ bioremediation project underway at the Ivy site. There were indications that the technology was working in some areas but not as well in others, which was not an uncommon feature with an almost mile-long “treatment front.” Changes in the geochemistry can alter what occurs with the bacteria. They are trying to adapt to those conditions by attempting to push the substrate material further out into the fractured bedrock. The pH levels being observed are also lower than desired so sodium bicarbonate is being added to the substrate material in order to raise those levels. The microbes do well until the pH level falls to about 5.9 to 6.0. At that point, the microbes become dormant. Measurement levels in the remedial areas are currently in the range of 5.5 to 6.5, and the amendment of the substrate will be done on a “trial-and-error” basis in order to determine the proper amount of sodium bicarbonate to raise the pH levels in the treatment areas.

Mr. McKalips next discussed the Soil Vapor Extraction System (SVE) that was installed in the Paint Pit area. He stated that the system has continued to operate successfully throughout the summer without having to use supplemental propane. To date, the system has extracted and destroyed an equivalent of nine 55-gallon drums worth of solvent. To help better understand the process, he used the example of one liter of solvent contained in an Olympic-sized swimming pool being equal to one part per million. The constituents being extracted from the Paint Pit area are at levels 2 to 5 parts per billion.

Mr. McKalips then addressed the Western Pump and Treat System (PTS), which consisted of 9 pumping wells, the Interceptor Trench, and the Underdrain. When the full-scale bioremediation program got underway, the pumping wells and the Interceptor Trench were discontinued. The pumping wells are now being used as injections wells, while the Underdrain continued to be part of the system. Further testing has since determined that the Underdrain was not adequately capturing the groundwater in that area, so with implementation of full-scale bioremediation and the installation of downgradient monitoring points, approval has been requested from DEQ to discontinue this remaining portion of the PTS. Mr. Frederick added that its function would be replaced by the bioremediation program.

Mr. O’Connell next asked about the risks for receiving any future surprises at the Ivy site. Mr. McKalips responded that he had previously felt there would be no “surprises” until the Cell 3 leachate issues were uncovered. However, he could not anticipate any more “surprises” and that he felt the site was on track for a successful closure. Mr. Frederick added that professionals would be “hard pressed to find another landfill site of this size that has had “this many holes poked into it.” If there are more “surprises,” it will “surprise a lot of us.” Mr. McKalips then stated that when DEQ staff came to the site to observe the drilling of the Horizontal Drains, he felt they were really pleased with the reaction of RSWA and the Board to the issues that have arisen at this site in comparison to the response at other sites.

7.0 Other Items from Board/Staff not on Agenda

There were no other items from Board or staff not on the agenda.

8.0 Closed Meeting

There was no need for a closed meeting.

9.0 Adjournment

There being no further business, Mr. Tucker moved the meeting be adjourned, seconded by Mr. Graham. All members voted aye, and the meeting was adjourned at 2:52 p.m.

Respectfully submitted,

Mr. Gary O'Connell
Secretary - Treasurer