GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS
RECEIVER

January 28, 2013

Mr. Martin Roush
General Manager
Guam Waterworks Authority
578 N. Marine Drive
Tamuning, Guam 96913

RE: Confirmation of acceptance of Leachate Wastewater Discharge from Ordot Dump

Dear Mr. Roush:

Thank you for the courtesy Mr. Paul Kemp, Mr. Thomas Cruz and the Guam Waterworks Authority (GWA) extended to us during our meeting on November 8, 2012 regarding the future discharge of the existing leachate from the Ordot Dump to the Hagatna Wastewater Treatment Plant (WWTP). This letter is to confirm the acceptance of the leachate wastewater discharge by GWA.

During the November 8th meeting, Mr. Kemp stated that based upon the preliminary data provided that day, GWA did not have any concerns with acceptance of this leachate flow as long as the site is able to store flows for as much as 12 hours during high rainfall events. Our design team is incorporating the requested storage capability into the closure design that is underway. We are also writing to confirm project flow volumes and to update GWA on the projected characteristics of the leachate. Acceptance of the leachate stream will occur once leachate collection is initiated and the storage capacity is in place at the Guam Solid Waste Authority (GSWA) Ordot Dump site and the sewer conveyance system has been constructed from the Dump, along Dero Road, to the nearest existing GWA sewer manhole by Aqueda Johnston Middle School in the village of Ordot. We expect discharge will occur by mid-2014, and we will keep you updated on the schedule as the design and construction bidding process evolves. It is important to note, based on discussions with GWA's Engineering staff, the conveyance system should include gravity collection wherever possible, which will be an added benefit to GWA.

Confirming our discussions and the handout we provided on November 8, 2012, the leachate stream will consist of solid waste leachate collected from a series of underground porous interceptor trenches around the perimeter of the Ordot Dump and a much smaller volume of condensate water which will drain from the landfill gas collection system. Stormwater is prevented from contact with the leachate by an impervious cover system and managed by a stormwater collection system on the Ordot Dump.

Wastewater Flows, Characteristics, and Loads

Projected peak daily flows after closure are 50,000 gallons per day (gpd), with a much lower long-term average flow projected at 3,600 gpd. Construction is projected to occur in two Phases over two years beginning in 2014, with one-half of the cap and leachate collection system being built during Phase I (first dry season in 2014) and the other half being built during Phase II (second dry season in 2015). We anticipate similar peak flows during construction. Discharges will be pumped from the site leachate storage facility located at the southern base of the Ordot Dump via the new sewer line to be constructed as a part of the closure plan into the GWA sewer system. This will occur over a 12- to 24-hour period each day, resulting in an anticipated peak instantaneous flow rate of approximately 80 gallons per minute (gpm).

Attached for your review is an updated summary of the leachate quality data for samples collected from four representative site locations over the last three quarters of monitoring. The results are similar to those we provided on November 8, 2012 (see Table 1). The leachate stream contains low levels of iron and aluminum, trace levels (µg/L or parts per billion) of certain other metals, dissolved salts, trace (µg/L or fractional µg/L) levels of a handful of volatile and semi-volatile organic compounds, as well as Biochemical Oxygen Demand (BOD_5), Ammonia (NH_3-N), and Total Suspended Solids (TSS). As shown in Table 2, at the projected peak daily flow and using the mean concentrations from the 12 samples, mass loadings are calculated at 60 lb BOD_5/day, 27 lb NH_3-N/day, and 39 lb TSS/day.

Treatment at Hagatna WWTP

We anticipate that this updated information will allow GWA to confirm its previous conclusion about the acceptability of this leachate discharge for treatment. The estimated leachate flow rate will comprise a fraction of the daily flow capacity at the Hagatna WWTP, which we understand to be an average of 6.5 million gallons per day. At the projected peak daily leachate flow, the leachate would comprise about $1/130^{th}$ of the total Hagatna WWTP wastewater flow, and at the projected average leachate flow, only $1/1800^{th}$ of the Hagatna WWTP flow.

Confirmation of Formal Acceptance of Leachate Discharge

As Receiver for the GSWA, Gershman, Brickner & Bratton, Inc. (GBB), would appreciate written communication confirming GWA's acceptance of the Ordot leachate discharge, as our project team is finalizing design plans and specifications for the closure of the site and for the new sewer along Dero Road

If GWA requires any further clarification, please advise as soon as possible. GSWA looks forward to a mutually beneficial long-term relationship with GWA.

Sincerely,

David L. Manning
Receiver Representative

Attachments

cc: Chris Lund, Receiver Project Manager
Woodie Muirhead, Brown and Caldwell
Doug Lee, Brown and Caldwell
Jeff Pintenich, Brown and Caldwell
Paul Baron, GHD