January 12, 2024

Request for Proposal 2024-02

Engineering Services

Groundwater Monitoring at Libau Landfill &

Four Waste Transfer Stations

The proposal includes all work required for groundwater sample collection and laboratory analysis for existing wells at the following locations:

- Libau Landfill;
- Dunning Road Waste Transfer Station;
- Clark Road Waste Transfer Station;
- Gull Lake Waste Transfer Station; and
- Grand Marais Waste Transfer Station.

Groundwater monitoring programs are to be completed within the spring season of each respective calendar year as required by the St. Clements Class 1 Waste Disposal Ground License and Waste Transfer Station Operating Permits issued by Manitoba Sustainable Development (MSD).

SCOPE OF SERVICES

Complete groundwater quality monitoring and reporting as per the current Operating Permits for the Libau Landfill and four Waste Transfer Stations (WTS) in the R.M. of St. Clements. The proposed scope of groundwater monitoring work includes the following tasks:

- Site visits at each location to measure water levels in monitoring wells, purge the wells of stagnant water, collect field water chemistry data, and collect water samples for laboratory analysis. Site visits to be arrange with the R.M. of St. Clements.
- Collection of neat and accurate field notes, documenting all monitoring activities. A summary log will be completed for each sampling event and include comments on any unusual situations or other site issues that are observed.
- Use of Canadian Association for Laboratory Accreditation (CALA)

Rural Municipality of St. Clements
Box 2, Group 35, RR 1
1043 Kittson Road
East Selkirk, Manitoba, R0E 0M0

Office Phone: 204-482-3300
Winnipeg Phone: 204-474-2642
Toll Free: 1-888-797-8725
Fax: 204-482-3098

Email: info@rmofstclements.com

www.rmofstclements.com

accredited laboratory for analysis of all water samples collected in each year. Analytical data from the laboratory shall be reviewed to identify any shortfalls in detection limits or analytical results and draw comparisons or trends referencing historical data.

- Compilation of all laboratory and field data for each of the 2024 and 2025 monitoring programs in summary letter reports for submission to the Rural Municipality of St. Clements and ultimately the Province of Manitoba. One report for each year consisting of all 5 sites, and all wells (previous
Report sent out).

GROUNDWATER MONITORING AND SAMPLING METHODOLOGY

Groundwater monitoring and sampling will include both field measurements and laboratory analyses for groundwater samples collected from 18 wells plus two groundwater field duplicates (for QA/QC purposes). Groundwater levels will be measured in each monitoring well. Stagnant water will be purged from the monitoring wells by disposable bailer or by Waterra tubing (method dependent on site) until three well volumes have been removed or until the well is dry. The wells will be sampled for laboratory analysis once water level recharge has reached 80%. Due to recharge rates, recovery to 80% in most wells will require sampling on the day following purging activities. Wells that sufficiently recover without delay will be sampled on the same day as purging which helps to reduce the time required for the program. Samples collected will be stored in coolers under 10^{o}C for transport to CALA approved laboratory for analysis.

The following monitoring wells at each location will be included in the program:

- Libau Landfill: Five onsite groundwater monitoring wells installed by KGS Group in 1998;
- Dunning Road Waste Transfer Station: Three existing onsite groundwater monitoring wells installed by KGS Group in 2003 (two wells) and 2017 (one well);
- Gull Lake Waste Transfer Station: Three onsite groundwater monitoring wells installed by KGS Group in 2005;
- Grand Marais Waste Transfer Station: Four existing onsite groundwater monitoring wells installed by KGS Group in 2005 (three wells) and 2017 (one well); and
- Clarke Road Waste Transfer Station: Three onsite groundwater monitoring wells installed by KGS Group in 2003.

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The field parameters measured during groundwater monitoring will include the following:

- Depth to Groundwater to calculate site groundwater elevations;
- pH; Conductivity; Dissolved Oxygen; and Temperature.

Samples collected for laboratory analyses will be analyzed for parameters outlined in the Waste Disposal Grounds Operating Permit (Table 6 – Baseline Groundwater Chemistry Parameters – Standards for Landfills in Manitoba – Department of Sustainable Development, 2016), which will include the following:

- Inorganics including Alkalinity (T), Ammonia (T), Arsenic (T), Barium (D), Boron (D), Cadmium (D), Calcium (D), Calcium Carbonate, Chloride, Chromium (D), Conductivity, Copper (D), Iron (D), Lead (D), Magnesium (D), Manganese (D), Mercury (D), Nitrate (Reported as N), Nitrite (Reported as N), Total Kjeldahl Nitrogen (Reported as N), pH, Total Phosphorous, Potassium (D), Silicon (D), Sodium (D), Total Dissolved Solids (TDS), Sulphate, Uranium (D), Zinc (D);
- Volatile Organic Compounds (VOC's) including BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes); and
- Other organics including Biological Oxygen Demand (BOD), Chemical Oxygen

  Demand (COD), and Dissolved Organic Carbon (DOC).

Notes:

1. (D) = Dissolved; 2. (T) = Total

DELIVERABLES

Submit separate annual letter reports summarizing the results of each of the 2024 and 2025 Groundwater Monitoring and Sampling activities. Results will be analyzed using applicable federal and provincial guidelines, and compared with previous monitoring results. Maintain communication with the R.M. of St. Clements Project Manager throughout the contract and will provide project updates advising of project status, budget update and any factors, which may influence the schedule or deliverables.

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SCHEDULE

Complete monitoring and sampling at Libau Landfill and the four Waste Transfer Stations including Dunning Road, Clarke Road, Gull Lake and Grand Marais by May 31 each year. Award is expected by end of February, 2023. Field activities will be communicated and coordinated with the R.M. of St. Clements. Letter reports summarizing the results of each of the 2024 and 2025 sampling programs will be submitted to the client for draft review by September 30 each year. Report will be finalized October 31 each year. Final report to be submitted to Manitoba Sustainable Development prior to December 31 each year.

PRICES

Prices shall be for each location, per year, and include all expenses, such as fees, expenses, and laboratory cost, including all taxes, except GST shall be extra.

PROPOSAL SUBMITTAL

Proposals shall be submitted via email, to pwtech@rmofstclements.com, to Arlita Madrigga, CET, RM of St. Clements, or dropped off at Public Works Office, 155 CIL Road. Submittals to clearly specify RFQ 2024-02.

Deadline for questions is January 19th, 2024, 2:00 pm.

Deadline for submittal is January 26, 2024, 2:00 pm.

Questions, comments, concerns can be via email, or by calling Arlita Madrigga, 204-482-3300.

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