**REQUEST FOR QUOTATION: EFFLUENT QUALITY MONITORING FOR EMALAHLENI LOCAL MUNICIPALITY FOR THE PERIOD OF OCTOBER 2022**

SCOPE OF WORK FOR EFFLUENT QUALITY MONITORING FOR EMALAHLENI LOCAL MUNICIPALITY

**Requirements:**

* A SANAS Accredited Laboratory (physical, chemical and microbiological);
* SACNASP Registered Technicians
* Trained samplers
* Safety file
* During sample collection the following should be adhered to:
* Record date of sample collection;
* Record weather condition;
* Record chlorine level dosage;
* Record free chlorine level;
* Record the name of the duty Process Controller;
* Record availability of water;
* Record any other critical observations around the sample site.
* The critical information that must be reflected on the certificate of analysis is the following:
* Laboratory name;
* Date of sample;
* Type of water sample e.g. potable, sewage, surface, borehole, etc
* Physical condition of the sample on receipt;
* Date of sample receipt;
* Form of custody must be completed by both the sampler and the Laboratory
* Completion date of analysis completion;
* Lab sample reference number;
* Lab certificate number;
* Name of sampler, etc;
* SANAS Logo;
* PTS Membership number for NLA and SABS.

**REPORTING OF CERTIFIED ANALYTICAL RESULTS**

* In the event that a microbial non-compliance is detected, the SANAS Laboratory shall call for a repeat sample within 14 days;
* If the microbial non-compliance is detected, it shall be recorded as such and an investigation shall be initiated in order to determine the root cause for the failure. Re-sampling shall take place within 14 days and ONLY after corrective action has been confirmed;
* The turnaround time for microbial results is 5 days unless otherwise agreed to;
* The turnaround time for chemical results is 21 days unless otherwise agreed to.
* The submission of preliminary results is acceptable where investigation into non-compliance results exceeds the prescribed turnaround times.

 **INCIDENTAL SERVICES/SPECIAL SAMPLE**

|  |  |
| --- | --- |
|  | Provision for repeat sampling due to water quality failures.  |
|  | Provision for special sampling due to unforeseeable incidents within the water supply chain and/or the sewage collection system and/or the catchment. E.g. Industrial spillages, illegal waste-water discharges, etc |

**WASTE-WATER COLLECTION SYSTEMS**

 **Emalahleni Local Municipality has eight (8) Waste-Water Collection systems and two (2) privately owned, namely:**

* Riverview Waste-Water Collection System;
* Klipspruit Waste-Water Collection System;
* Ferrobank Waste-Water Collection System;
* Ga-Nala Waste-Water Collection System
* Naauwpoort Waste-Water Collection System;
* Phola/Ogies Waste-Water Collection System;
* Rietspruit Waste-Water Collection System.
* Thubelihle Waste-Water Collection System.
* Bankenveld Waste-Water Collection System.
* Clearwater Waste-Water Collection System.

**RIVER WATER STREAMS TO MONITOR**

* Upper Olifants River;
* Klipspruit tributary to Loskop Dam;
* Brugspruit tributary to Loskop Dam;
* Steenkoolspruit downstream Witbank Dam;
* Noupoortspruit tributary of Witbank Dam
* Rietspruit Dam
* Tributary of Wilge upstream of Loskop Dam

**The wastewater collection systems and up and down streams cover a kilometre radius of 300km**

**Waste-Water Collection Systems and sampling points:**

|  |  |  |
| --- | --- | --- |
| Plant Name | Sample Points  |  Monitoring frequency |
| Raw Influent | Final Effluent | Up- and Downstream |
| Riverview | 1 | 1 | Upper Olifants River (downstream Witbank Dam) | Monthly |
| Klipspruit | 1 | 1 | Klipspruit (Klipspruit tributary to Loskop Dam) | Monthly |
| Ferrobank | 1 | 1 | (Brugspruit tributary to Loskop Dam) | Monthly  |
| Kriel/Ga-Nala | 1 | 1 | Steenkoolspruit (Upstream of Witbank Dam) | Monthly |
| Naauwpoort | 1 | 1 | Noupoortspruit tributary of Witbank Dam  | Monthly  |
| Rietspruit | 1 | 1 | Rietspruit Dam  | Monthly  |
| Phola/Ogies | 1 | 1 | Tributary of Wilge River  | Monthly |
| Bankenveld | 1 | 3 | N/A | Monthly |
| Total number of Sample points |  9 |  10 | N/A | N/A |

**Parameters for analysis:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Monthly compliance monitoring program for raw sewage:** | **Monthly compliance monitoring program for sewage effluent:** | **Monthly compliance monitoring program for Up and Down streams**  |
| **Item** | **Description** | **Description** | **Description** |
| 1 | pH  | pH  | pH  |
| 2 | Conductivity | Electrical Conductivity | Electrical Conductivity |
| 3 | Suspended solids | Suspended solids | Suspended solids |
| 4 | COD | COD (Filtered or Unfiltered) | COD (Filtered or Unfiltered) |
| 5 | OA | OA | OA |
| 6 | Ammonia | Ammonia | Ammonia |
| 7 | TKN | Nitrate | Nitrate |
| 8 | Nitrate | Orthophosphate | Orthophosphate |
| 9 | Total Phosphate | Soap, Oil and grease | Soap, Oil and grease |
| 10 | Orthophosphate | Chloride | Chloride |
| 11 | Fats, Oil & Grease | Fluoride | Fluoride |
| 12 | Chloride | Potassium | Potassium |
| 13 | Fluoride | Sulphate | Sulphate |
| 14 | Potassium | Manganese | Manganese |
| 15 | Sulphate | Total Alkalinity | Total Alkalinity |
| 16 | Manganese  | Faecal Coliform | Faecal Coliform |
| 17 | Total Alkalinity | Free Chlorine | Free Chlorine |