# SOP For Water Quality Monitoring

**Objectives:**

- Regular inspection of the Schemes by the Engineering Assistants and VWSCs concerned for Identification of the areas susceptible to waterborne diseases.
- Suspected drinking water sources of contamination shall be tested for bacteriological analysis in the water testing Laboratories. If any drinking water sources are found unsafe, such sources should be closed immediately and safe drinking water is to be provided to the affected community within 24 hours. The people should be warned not to drink contaminated water.
- The contaminated sources should be flushed and retested. If the contamination persists, then such sources should be closed.
- Daily chlorination shall be ensured as a regular activity and to upload the photos in PR ONE APP by Engg. Assistant.
- The daily water quality checks for free residual chlorine (FRC) shall be conducted at all storage tanks, delivery points, Schools, Anganwadi centres (AWCs) & Public institutions and results to be uploaded by the Engg.Assistant in PR ONE app.
- The repairs of Stair cases and attended to pipeline leakages on top priority.
- The Pipeline leakages & pipelines passing through/across the drains shall be monitored regularly
- Cleaning of the Service Reservoirs to be uploaded in PRONE App by Engineering Assistants every 15 days.

**Water Quality Testing Protocol**: " Source to Delivery point "

**Drinking Water Schemes:**

**PWS & MPWS :**

Chemical & Bacteriological

Frequency : Twice per year (Pre monsoon & Post monsoon)

**CPWS :**

Chemical & Bacteriological

Frequency : Every quarter

**Hand pumps** **:** Suspected sources only to be tested in Laboratory)

**Schools :**

Frequency : monthly once

**Anganwadi centers**

Frequency : monthly once

**Delivery Points**

Frequency : Two samples per month

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**Daily Chlorination**

**Free Residual chlorine**( FRC) : At End Tap point 0.2PPM

Frequency : Every filling

**Cleaning of Storage stricture**

Frequency : Every 15 days

Field Test Kits (FTK) provided to each Village for conducting 8 no's parameters (PH, Chloride, Fluoride, Nitrate, Alkanity, Total Hardness, Iron & Residual chlorine) at Village level.

## Field Testing Kits Parameters :-

| Sl.No | Name of the Parameter | Units | As per IS 10500:2012 | |
|---|---|---|---|---|
| | | | Acceptable Limit | Permissible Limit in the absence of alternate source |
| 1 | PH | No Units | 6.5 - 8.5 | 6.5 - 8.5 |
| 2 | Total Alkalinity | mg/L | 200 | 600 |
| 3 | Total Hardness | mg/L | 200 | 600 |
| 4 | Fluoride | mg/L | 1.0 | 1.5 |
| 5 | Chlorides | mg/L | 250 | 1000 |
| 6 | Iron | mg/L | 1.0 | No Relaxation |
| 7 | Nitrate as No3 | mg/L | 45 | No Relaxation |
| 8 | Residual Chlorine | PPM | 0.2 | 1.0 |

## Laboratory Chemical Parameters – Drinking Water Quality Standards

| Sl.No | Name of the Parameter | Units | As per IS 10500:2012 | |
|---|---|---|---|---|
| | | | Acceptable Limit | Permissible Limit in the absence of alternate source |
| 1 | PH | No Units | 6.5 - 8.5 | 6.5 - 8.5 |
| 2 | Colour | Hazen | 5 | 15 |
| 3 | Taste & Odour | No Units | Agreeable | Agreeable |
| 4 | Turbidity | NTU | 1 | 5 |
| 5 | Total Dissolved Solids | mg/L | 500 | 2000 |
| 6 | Total Alkalinity | mg/L | 200 | 600 |
| 7 | Total Hardness | mg/L | 200 | 600 |
| 8 | Chlorides | mg/L | 250 | 1000 |
| 9 | Fluoride | mg/L | 1.0 | 1.5 |
| 10 | Calcium | mg/L | 75 | 200 |
| 11 | Magnesium | mg/L | 30 | 100 |
| 12 | Sulphate | mg/L | 200 | 400 |
| 13 | Iron | mg/L | 1.0 | No Relaxation |
| 14 | Nitrate as No3 | mg/L | 45 | No Relaxation |
| 15 | Residual chlorine | PPM | 0.2 | 1.0 |