

## **TERMS OF REFERENCE (TOR)**

### **FOR**

#### **HIRING OF CONSULTANCY SERVICES AGAINST**

#### **“3<sup>RD</sup> PARTY VALIDATION FOR WORK OF SEWERS DESILTING IN SOUTH ZONE WASA, LAHORE”**

### **1. BACKGROUND**

WASA Lahore is responsible for management, operation and maintenance of sewerage, and drainage services in the city. For efficient sewerage system, agency needs to rehabilitate sewerage through repeated cleaning of sewers to achieve design capacity of sewer and ensure smooth flow and safe disposal of sewage.

Urban flooding in monsoon is one of the serious challenges of Lahore city usually being faced owing to under developed. Urban flooding during monsoon usually befalls due to intense rainfalls that occur more than forecasted. It's a complex global phenomenon that stems from the combination of extreme hydrological and meteorological events followed by widespread devastation, economic damages and loss of human lives. Unplanned urbanization, population sprawl, transmigration and upsurge of built-up areas with passage of time are primary causes of inundation and flooding during monsoon in city.

### **2. OBJECTIVES**

Completion of desilting process pertaining to sewers before monsoon is of prime importance. Desilting of sewer is carried out by WASA staff as well as through contract which needs to be re-validated by consultants as Third Party with the following objectives:

- i) To verify the desilting work of sewers carried out by WASA staff.
- ii) To deploy officials at each site of work throughout working hours and ensure daily progress.
- iii) To submit report and recommend actions against concerned engineer in-charge in case of failure of work due to inefficiency of WASA officers / officials.
- iv) To observe behavior of sewer/drain to ensure execution of work and work will not delay due to surcharge of sewer.
- v) To verify deployment of manpower, machinery, equipment, working hours for carrying out desilting work.
- vi) Physical verification of water level in sewers for smooth functioning and recommend tube well timings in specific area of desilting to be carried out.

- vii) To guide WASA staff about methodology of desilting operation to achieve maximum results.
- viii) To ensure progress of desilting as per schedule and target.
- ix) To compile the progress of desilting works of sewers on daily & weekly basis and submit report.
- x) To verify consumption of POL being used in machines for desilting work.
- xi) To ensure use of Health, Safety equipment by labor while desilting work.

### 3. SCOPE OF WORK / DUTIES AND RESONSIBILITIES OF CONSULTANT

The overall scope of work is to supervise / validate the desilting activities as per details given below, but not limited to this:

Details of sewer manholes in all Towns in South Zone WASA: 183, 198 Nos.

Sr. No.	Description	GBT	JT	AIT	NT	Total
1.	Manholes	56,673	23,940	64,469	38,216	<b>183,198</b>

Guj Buksh Town: GBT

Jubilee Town: JT

Allama Iwbal Town: AIT

Nishter Town: NT

Length and size of sewer desilted.

- Sewer Line: 2811 km
- R.C.C Conduit Sewer: 100 km

Sr. No.	Description	Total Length of Sewer in km				
		GBT	JT	AIT	NT	Total
1.	Length (Trunk + Lateral + Submains)	502.13	385.73	601.35	635.47	<b>2124.68</b>

#### **4. DUTIES AND RESPONSIBILITIES OF CONSULTANT**

The duties and responsibilities of the consultants will include but not limited to the following:

- i) Consultant will prepare a comprehensive and logical action to carry out the verification/validation of work and will present it to the Client.
- ii) Consultant would be required to physically verify 100% of machinery and its working.
- iii) Consultant would be required to physically verify 100% physical verification of staff and their working hours.
- iv) Consultant would be required to physically verify 100% physical verification of fuel consumption.
- v) Consultant would be required to physically verify 100% physical verification of desilting of sewers at different sites.
- vi) Consultant would be required to monitor the implementation of planned schedule in all towns.
- vii) Consultant would be required to prepare daily progress report.
- viii) Consultant will develop videos / images for the desilting processes and also prepare and deliver fortnight presentations regarding the desilting activities.
- ix) For the already done desilting work before hiring / mobilization of the consultant, the consultant will collect all the available data, reports, photographs, fuel consumed, working hours of machinery and staff. The consultant will thoroughly examine the data and will ascertain the adequacy of the desilting work done on the basis of quality and quantity. They will also co-relate the data for the work done with the work being done to ascertain the accuracy of work done.

#### **5. ROLE OF CLIENT**

- i) The Client will nominate coordinators i.e. who be authorized to approve the action plan / work plan proposed by the Consultant and receive the Consultant Inspection report.
- ii) The Client will provide all the data of its existing sewerage and drainage system to the Consultant required for monitoring and Third Party Validation of desilting process.
- iii) Client will allow the access to the Consultant to its infrastructure where the verification and Third Party Validation is required.

#### **6. ROLE OF CLIENT**

- i) Inception report (covering all the program, methodology for the task and proposed schedule within one week)

- ii) Daily & weekly report
- iii) Fortnight report alongwith presentation
- iv) Monthly report
- v) Final report
- vi) Evaluation report (05 hard copies and 01 soft copy) clearly specifying his observations and findings
- vii) Recommendations / suggestions for improvement if any.

## 7. DURATION OF ASSIGNMENT

The Consultant will be required to complete all the activities and furnish the final report in a period of three (03) months.

## 8. DURATION OF ASSIGNMENT

Sr. No.	Designation	Qty.	Months	Qualification
1.	Project Manager	1	0.25	B.Sc. Mechanical Engineering with at least 15 years of relevant experience
2.	Senior Engineer (Mechanical)	1	1	B.Sc. Mechanical Engineering with at least 10 years of relevant experience
3.	Safety Engineer	1	1	B.Sc. Mechanical Engineering with at least 05 years of relevant experience
4.	Inspector / Quantity Surveyor	4	3	D.A.E in Mechanical with at least 05 years of relevant experience
5.	Cameraman / Technician	2	3	Suitable qualification
6.	Support Staff	6	3	Suitable qualification