

TERMS OF REFERENCE (TORs) FOR HIRING INDIVIDUAL CONSULTANT FOR EVALUATION OF EXISTING DISPOSAL / LIFT STATIONS OF WASA, LAHORE

1. BRIEF INTRODUCTION

Water and Sanitation Agency, Lahore Development Authority, Government of the Punjab is the second largest water utility of Pakistan and the largest one in the Province of Punjab. It is operating in an area of 350-Sq. km with the serving population of near about 7 Million and water connections slightly more than 0.7 Million. The source of water is ground water, which is abstracted through more than 595-tubewells. The waste water is disposed into River Ravi and other water bodies through 14 Major Disposal Stations. As the topography of area is flat, therefore, 105-intermediate pumping stations / lift stations are also in operation. The length of sewer infrastructure under WASA, Lahore is more than 5187 KMs which includes more than 100-KMs RCC Box Conduit. The length of Storm Water Drainage System is 485.57- KMs which includes Primary drains of 55.7 KMs and secondary drains of 63.23 KMs. Rehabilitation of Disposal / lift stations is very important to enhance the capacity of system to facilitate residents of Lahore and to avoid any inconvenience.

In this regard, WASA Lahore is seeking the services of an individual consultant who shall provide guidelines and give road map for the evaluation criteria and rehabilitation of Disposal / Lift Stations of WASA, Lahore.

2. OBJECTIVES

To Provide quality and cost-effective criteria for rehabilitation / improvement of existing disposal / lift stations under control of WASA Lahore for proper functioning as well as development of Standard Operational & Management procedures for sustainability of the system.

3. SCOPE OF WORK / DUTIES AND RESPONSIBILITIES OF THE CONSULTANT

- i. Formulation of criteria for evaluation of disposal/ lift stations and frame methodology/ Terms of Reference (TORs) for execution of the assignment.
- ii. Coordinate and liaison with WASA field staff in order to achieve the objectives of the assignment.

- iii. Develop framework for quality assurance programs by setting computer generated forms and report with due consultation from field staff.
- iv. Visual inspection of the exterior conditions at each pump station including Digital photos of each station.
- v. Description of each of the Pump Stations and the equipment on each site.
- vi. Detailed descriptions of deficiencies. Recommendations to improve efficiency, performance, safety, and reliability.
- vii. Planning level budget costs to design and construct the recommended station improvements, a prioritization of recommendations and a capital plan showing the year by year breakdown for implementation of the recommendations.
- viii. Review of operation of the pumps, motors, compressors, screening chamber, penstock gates, forced main/delivery pipe and manifold, dry well, wet well, floating valves, sluice valve/gate valve, air release valve, non-return valve, electric Panel and electric equipment's beside other allied components. This shall also include preparation of complete inventory for asset management of aforementioned components as well as suggestions and recommendations for their necessity or possible improvements in their functions.
- ix. Review of existing heating and ventilation requirements of pumps with concrete suggestions for any possible improvements in light of standard engineering practices of the world and suggestions.
- x. Review of the existing stand-by power system including generator and transfer switch-gear at the applicable pumping stations and suggestions.
- xi. Review electrical TVSS lightning/surge protection needs and suggestions.
- xii. Suggestions/recommendations for Alarm and Monitoring system in existing pumping stations including emergency operation of pumps
- xiii. Any other related activity/ task as assigned by the Agency.

4. TIME DURATION FOR THE PROPOSED CONSULTANCY

The time duration of this consultancy work is Four (04) months will be extendable as per need of the Agency and performance of the consultant.

5. CONSULTANT'S QUALIFICATION & EXPERIENCE

- i. BSc Mechanical / Electrical Engineering from HEC recognized university having valid registration with PEC.
- ii. Consultant with higher qualifications will be preferred.
- iii. At least 10 years' experience in the relevant field.

6. DELIVERABLES

- i. Inception report.
- ii. Development of Standard Operational & Management procedures for sustainability of the system.
- iii. Inventory of disposal / lift stations including pumps, generators, motors, screens, penstock gates, forced main, valves, dry & wet well and other electrical & mechanical equipment.
- iv. Evaluation criteria for improvement and rehabilitation of disposal/ lift stations.
- v. Coding of Machinery.
- vi. Report on suggestions/ recommendations for improvement and rehabilitation of disposal / lift stations.
- vii. Final report.

7. SCHEDULE OF SUBMISISON AND RELEASE OF PAYMENT

SR. No.	Report / Document	Payment
1	Inventory of disposal / lift stations	20%
2	Standard Operational & Management procedures for sustainability of the system.	15%
3	Evaluation criteria for improvement and rehabilitation of disposal/ lift stations.	20%
4	Coding of Machinery	10%
5	Report on suggestion/ recommendations for improvement and rehabilitation	15%
6	Report upon Completion of Services (Final report)	20%