

**CONSULTANCY SERVICES FOR
TECHNO-ECONOMIC FEASIBILITY STUDY, INCLUDING
PREPARATION OF PRELIMINARY DESIGN, COST ESTIMATION,
PC-I DOCUMENT, RFP DOCUMENT ETC. FOR
ESTABLISHMENT OF NEW LANDFILL SITE FOR KARACHI AT
DHABEJI**

BRIEF SCOPE / TERMS OF REFERENCE FOR THE ASSIGNMENT

(Note: This is outline of ToR – Detailed ToRs, deliverables etc. shall be provided to shortlisted firms in RFP document)

The brief scope of work of the consultancy assignment is as follows:

Background:

Karachi is the biggest city of Pakistan having population of around 20 Million. Solid Waste Management is the biggest problem in the city at the moment. Total waste generation of the city is about 12,000 tons/day. Out of 12,000 tons the 9,000 tons of waste is generated within the administrative jurisdiction of Karachi Metropolitan Corporation (KMC) / District Municipal Corporation (DMC) and District Council Karachi (DCK). The remaining 3,000 tons of waste is generated in areas of other civic administrative bodies e.g. Cantonment boards, SITE, KPT, Pakistan Railways etc.

There are two landfill sites available for the disposal of the solid waste being produced in the city. These two landfills located at Gond Pass and at Jam Chakro (Near Surjani Town) are not proper sanitary landfills but open and burning dumps. These landfills have contributed to water and air pollution and serve as a breeding ground for insects / rodents and many vectors of disease transmission. In addition, these dumps are unsightly and very often have effect of depressing the value of nearby land and properties. Moreover both landfill sites are located on one side i.e. Northwest of the city. No landfill site is available to cater the need of eastern side of the Karachi.

An acceptable alternate to the poor practices of waste disposal has been the sanitary landfill. This alternate requires the planning and applying of engineering and construction techniques. In order to achieve above said objectives and improve the current situation of the garbage disposal, Sindh Solid Waste Management Board (SSWMB) plans to establish a new landfill site on eastern side

of city for which 3000 (Three thousand) acres of land have been acquired for new landfill site at Dhabeji.

As a part of 'Integrated Solid Waste Management Strategy' the SSWMB intends to hire the services of reputed and experienced National Consulting Firms for conducting Techno-economic Feasibility Study to suggest most appropriate, technologically sustainable, economically feasible and environmentally safe option of Sanitary Landfill Site for Karachi. The consultant shall also be responsible for preparation of Preliminary Design, Cost Estimation, preparation of PC-I Document, RFP document, etc., for the proposed Sanitary Landfill Site near Dhabeji.

With the establishment of sanitary landfill site, the water, air pollution and leachate will be controlled effectively. The waste to energy plants along with composting facility at landfill could also be established. After this landfill the value of land and property of nearby area will be increased. Apart from this sanitary landfill will provide clean and healthy atmosphere.

Necessary Infrastructure and various other facilities required to make the proposed landfill site functional and safe shall include but not limited to the following:

- Roads on and off the site and ramps;
- Buildings (Office, Guard room and watch & ward towers);
- Utilities above and below ground;
- Scales;
- Fire protection facilities.
- Surface drainage (natural and constructed) and ground water;
- Profiles of soil and bedrock;
- Leachate collection and treatment facilities;
- Gas control devices;
- Security fencing and gates;
- Workshops;
- Parking lots;
- Electrical sub - station and area lightening;
- Water supply system (storage and network);
- Sewerage system (network and disposal arrangements).

Scope of Consultancy Works:

- Analysis and Waste characterization;
- Conduct new and review existing studies relating to different types of Landfill sites;
- Conduct feasibility of the proposed Landfill site at Dhabaji based on scientific methodologies/criteria while taking into account technical, environmental and community related aspects and to prepare layout and maps;

- Preliminary Engineering Design of Landfill Site (Equipment specification and preliminary designs of civil works, utilities and electrical installations etc.);
- Rough Cost Estimates on the basis of Preliminary design;
- **Foreign Consultants Inputs (Minimum 100 hours):** Foreign consultants'/experts' inputs shall be taken for design criteria, specifications and engineering designs/ functionality requirements by local consultants and same should be documented and integrated into the considering the ground realities;
- Co-ordination with Sindh Environmental Protection Agency (SEPA) for conducting Environmental Impact Assessment (EIA)/IEE, if required;
- Acquisition of Environmental, Topographical, Geographical, Hydrological (surface & ground water), Metrological data and identification of all underground facilities (i.e. cables, drains, gas line, telephone and electric line);
- Prepare and submit all required surveys soil investigations, design related reports, GIS based maps and progress reports;
- Preparation of Feasibility Report;
- Preparation of Project PC-I, incorporating all the Project Costs on the basis of Preliminary design;
- Preparation of Bidding Documents as per SSPRA rules 2010 (Amended 2013);
- Pre-qualification of Contractors as per SSPRA rules 2010 (Amended 2013), if required;
- The total services shall also include any other extra work assignment relating to the project by competent authority of SSWMB not covered in contract. However, this shall be carried out on mutually agreed terms and conditions.

Note: 6 Copies of each report shall be submitted by the Consultants.