a world class African city

REQUEST FOR QUALIFICATION

FOR THE DEVELOPMENT OF AN ALTERNATIVE WASTE TREATMENT FACILITY THROUGH A PUBLIC-PRIVATE PARTNERSHIP

FOR THE CITY OF JOHANNESBURG

TENDER / RFQ NUMBER: COJ/EISD001/25-26

Annexure A: Project Brief

Contents

1. Introduction

1.1 Project background and overview

Existing publicly operated landfills in the City of Johannesburg and the Gauteng Province are fast running out of airspace. The amount of waste generated in the City continues to increase. Causes for increasing waste generation are increased population, higher waste generation per capita and economic growth. The development of new public landfill sites close to the waste generation gravity points is constrained due to the scarcity of suitable land for this purpose within the City's jurisdiction. The entire lifecycle- and environmental cost of establishing remote landfill facilities, the regulatory challenges with developing public landfills outside of the City's jurisdiction, and the associated logistics costs of bringing the waste to these facilities will become prohibitive in future.

Consequently, the City of Johannesburg seeks to procure an Alternative Waste Treatment Facility to divert equal to-, or in excess of 500,000 tonnes per year of Municipal Solid Waste from landfills.

The City seeks to procure the Facility through a Public-Private Partnership where the Private Party executes the Project and delivers the Facility on a Design, Build, Finance, Operate and Transfer basis.

The Term of the Public-Private Partnership will be 25 years from the Commercial Operating Date. The Facility and associated assets will belong to the City of Johannesburg, with the Private party holding the exclusive rights to operate the Facility and its assets over the Term. Upon expiration of the Term, return a functional Facility to the City of Johannesburg, fair wear-and-tear accepted.

The City will deliver Municipal Solid Waste to the Facility, and the Private Party will generate electricity at the Facility. Waste will be supplied Pikitup, the Municipal Entity responsible for Solid Waste Management, and the City will pay the Private Party a Gate Fee to treat this waste.

Electricity generated at the Facility will be purchased by the City and distributed for use within the City's supply area by City Power, the City's entity responsible for electricity supply.

The Private Party will be otherwise responsible and make arrangements for the recovery of recyclables, the beneficiation of by-products, and the disposal of residual waste generated by the Facility.

1.2 City's waste mandate

In terms of the Constitution of South Africa (Act 108 of 1996) and the Municipal Systems Act, 2000 (Act 32 of 2000), the City is mandated to provide waste collection, disposal and cleaning services to all its residents. Pikitup, a City utility, has been mandated to provide the services.

Currently, Pikitup services mainly domestic households from which it derives the majority of its waste and is paid a service fee as agreed in annual budgets with the City. It also renders services to businesses for collecting dailies, bulk container services, and the rental of bins and collecting landfill fees. Pikitup provides services in line with the City mandate as well as commercial services to Johannesburg citizens. Services are provided through waste disposal infrastructure, owned and operated by Pikitup.

1.2.1 Waste generation

The City's 2011 Integrated Waste Management Plan indicates that 1.492 million tonnes of general waste are disposed of per annum. This figure has subsequently been updated to circa 1.6 million tonnes per annum. This figure is expected to increase to over 3 million tonnes per annum due to population increase. Figure 1 below shows the estimated waste generation for the City until 2040.

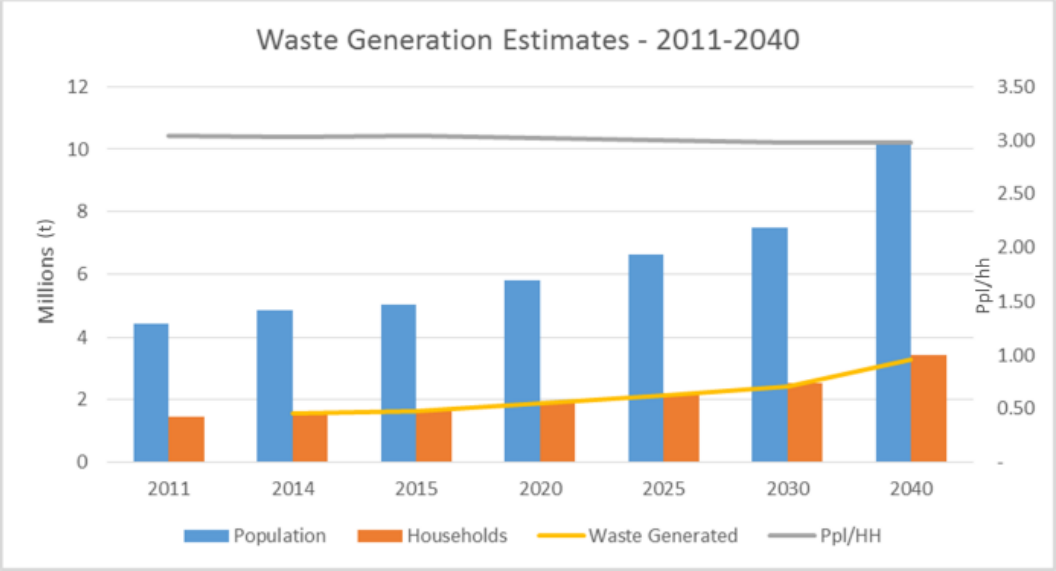

Figure 1: Waste generation estimates

1.2.2 Landfill airspace and waste intervention within the City

The City's key driver for the Project is to reduce waste going to landfills. The combined airspace and lifespans for all four operating sites of the City were estimated as four years. This means the landfill airspace (excluding private landfills) will deplete in 2025 if the City does not consider further interventions to divert waste from landfills.

Following the waste management hierarchy, the City has started implementing interventions towards the vision of zero waste in landfills, cleaner communities, well managed and financially stable waste services, as stated in the National Waste Management Strategy, 2018.

The City has various interventions which are either in place or currently being established. These include, but are not limited to:

a. Improvement of Separation at Source implementation
b. Roll out required infrastructure (upgrading garden sites, buyback centres, mobile and static facilities)
c. Secure the long-term leasing of the Panorama composting facility to a private operator as part of the green waste diversion strategy. In the short-term, accelerate and formalise the securing of green waste off-take partner/s.
d. Collection of garden waste for composting by the private sector is currently underway as and when required.
e. Finalise siting study for an integrated facility including recycling, disposal composting, builders' builders' rubble and chipping of green waste
f. The City has initiated some work in this area by developing its landfill sites for methane gas to be harvested and used in generating renewable power.
g. Production of Biogas (pilot project being implemented).

2. Project Objectives

The key objectives of the City through this Project are to:

a. To reduce the volume of waste to landfills in CoJ
b. To maximise beneficiation of waste, potentially inclusive of, but not limited to:
    i. electricity generation
    ii. recyclable material recovery
    iii. repurposing of building rubble
c. To minimise any potential negative social and environmental impact of the transaction, inclusive of, but not limited to:

i. create jobs and re-employ affected parties such as waste pickers
ii. create a safe and equitable work environment for waste pickers.
iii. promote gender mainstreaming
iv. to promote B-BBEE objectives

d. To opportunities around the recovered recyclable.

3. Project scope

The general scope of this Project is to provide the City with a waste treatment technology facility(ies) that will accept 500 000 tonnes of municipal solid waste per annum through a "Design-Build-Finance-Maintain-Operate-Transfer" Public-Private Partnership (PPP) model.

The Private Party will be responsible for planning, financing, designing, maintaining and operating the Facility under a PPP Agreement.

The Facility shall receive, register, manage and treat municipal solid waste, recover energy, and safely manage residues, emissions and related matters in compliance with all relevant South African legal requirements and standards. The Private Party must prepare and acquire all design data and other necessary documentation. It must also remedy all defects (and all damage caused by defects) in the Facility. The City will describe the agreed performance standard targets to be met by the Private Party through an Output Specification issued to Pre-Qualified Bidders.

It is intended to set outcome-based deliverables rather than be prescriptive on how the Project should be delivered. The intention is for the Private Party, as experienced private sector contractors, to show innovation and apply their experience in proposing the most effective and efficient methods to achieve the City's performance standards and a sustainable solution.

The scope of this Project includes:

- receive and accept contract municipal solid waste delivered by Pikitup or other private operators on behalf of the City and of Pikitup in accordance with specified requirements;
- direct the flow of contract waste to treatment or disposal, as required;
- process contract waste to achieve specified levels of recycling, recovery and diversion of waste from landfill;
- market and sell any recyclables, energy (other than electricity), heat or other recovered products arising from the processing of contract waste, including its transportation in terms of appropriate third-party contracts;

- manage, transport and dispose of residues from treatment or processing of contract waste; in accordance with all applicable legislation;
- safely dispose of contract waste which is not treated in accordance with all applicable legislation;
- provide suitable contingency arrangements in the event of any unavailability of any part of the service to provide a continuous service;
- provide arrangements for service commencement and the expiry or early termination of the service;
- conduct the works and service in accordance with all health, safety and environmental requirements;
- undertake the development, execution and monitoring of all necessary third-party contracts;
- obtain all necessary planning permissions, environmental permits, transportation permits and other authorisations;
- perform and operate the service in accordance with the Output Specifications, agreed Service Delivery Plans and all permits, permissions and authorisations;
- provide the necessary guarantees, warranties, suitably skilled personnel and maintenance of the staff's skills and capabilities;
- implement and comply with a payment and revenue mechanism;
- undertake the operation and maintenance of a comprehensive computer-based information management system for record-keeping and data management (operations data, waste data, financial data, and other data);
- compile all necessary financial and operational records concerning all stakeholders;
- provide smooth and efficient cooperation with the appropriate authorities and swift and immediate compliance with environmental and other requirements;
- undertake the handling and taking action on resolution of complaints and enquiries from the public within the shortest possible time;
- Deliver electricity to City Power;
- discharging a duty of care to exercise timely caution, as well as take immediate and appropriate actions and inform the City and relevant third parties in good time of any problems, the impacts thereof and the actions to mitigate them; and
- safeguarding the Facility and promoting the objectives of the Contract to the best of the operator's abilities.

4. Municipality's view of the PPP

The Design, Build, Finance, Maintain, Operate And Transfer PPP model is the most suitable delivery model as it aligns with the City's objectives and effectively addresses the City's identified technical, financial and operational risks. It also provides an effective method to transfer suitable risks to the Private Party (see Section 8. and potentially achieve value-for-money.

Provided below are advantages related to the afore-mentioned model:

- As a world-class African city, the City recognises that Johannesburg will continue to lead as South Africa's primary business city, a dynamic centre of production, innovation, trade, finance and services. To effectively support this economic hub, it is imperative that the City optimally delivers municipal services, considering best practices and innovative technologies. The Facility exemplifies such innovation and is a landmark project in South Africa that requires local and international technical expertise. Engaging the private sector will enable the City to rapidly mobilise the design, construction and commissioning phases of the Project and benefit through skills transfer from the Private Party during the operations phase;
- If this Project is funded through the City's balance sheet, the sizable capital investment required for this Project will significantly and negatively impact City's current and debt-equity ratios. This would result in the City being required to reprioritise its investments, reducing investment in other areas. By engaging the private sector, the City is in a position to continue with planned investments and simultaneously undertake the Project; and
- The MFMA, National Waste Management Strategy and Integrated Waste Management Strategy encourage the application of alternative service delivery models such as PPPs.
- The City will implement a risk management strategy for the Project that will ensure a proactive and consistent approach to both strategic and operational risks relating to the Project. A risk management register has been established to set out the risks during the Projects procurement, construction and operational phase. Risk mitigation strategy has been applied with a pre - and post-mitigated (residual) risk scoring presented, and each risk will be assigned an owner or owners. The risks allocated to the Private Party will be issued to Pre-Qualified Bidders.

5. Defined performance parameters

It is envisaged that 500 000 tonnes of waste will be processed, and recyclables recovered. The residual waste will be transferred to an incinerator. The location of the facilities will be at Robinson Deep Landfill Site, Cnr. Turffontein and Malboro Road, Turffontein, see Figure 2.

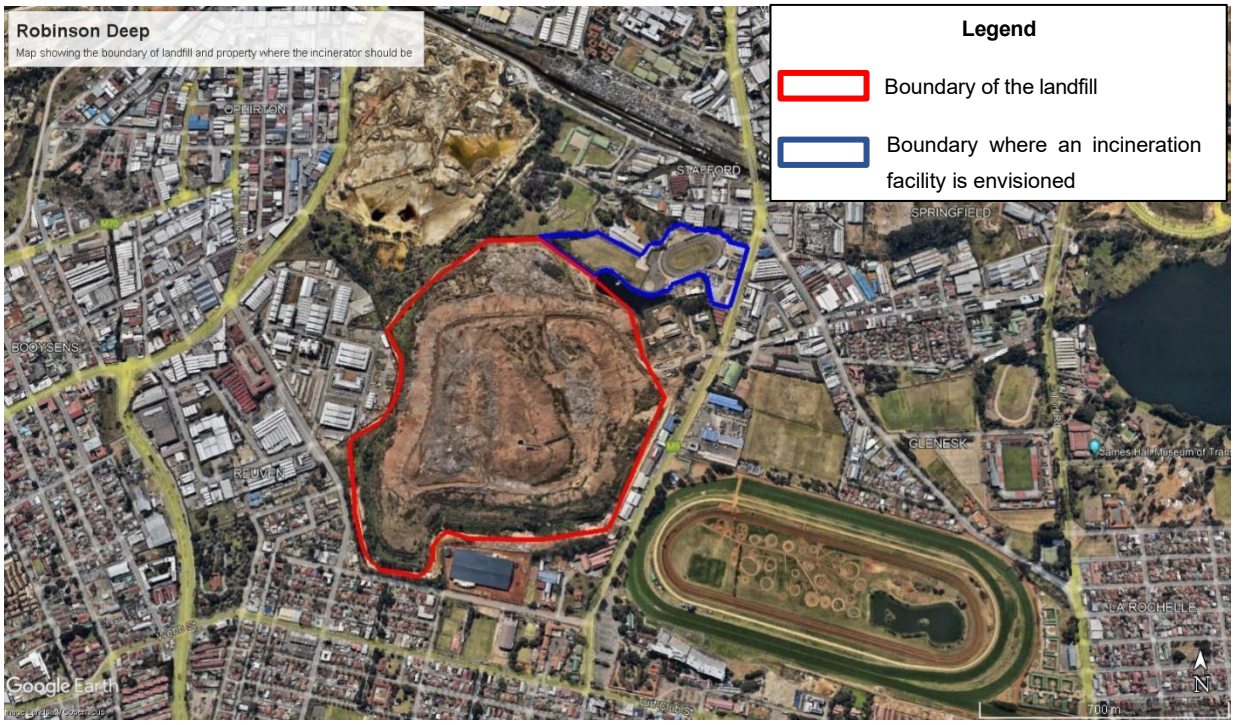

Figure 2: Robinson Deep Landfill

5.1 Waste

The feedstock for the Facility will be general waste comprising municipal solid waste originating in the City, excluding commercial waste presently collected by the private sector. The contracted waste will comprise a nominal 500,000 tons per annum. The actual quantity of waste may range within agreed limited tolerances to allow optimisation and cost-effectiveness during the design stage and allow for variations in calorific value encountered when operational.

Through its waste utility Pikitup and private contractors, the City will be responsible for supplying the specified amount of contracted waste throughout the Term to the Facility. It is intended that the quantity of contracted waste will remain fixed year on year.

There is no accurate information on the calorific value of the waste stream in the City at present. However, it is anticipated that the waste will have net calorific values ranging between 8 and 11 MJ/Kg. Significant variability is also likely to be experienced between different loads of waste arriving at the Facility and at different times of the year. The

anticipated calorific value is expected to be confirmed by the Pre-Qualified Bidders during the RFP stage.

The design of the Facility should make it possible to handle a wide range of waste compositions. It should include accommodation for additions to the pollution control and combustion systems to address future stricter requirements in terms of emissions, combustion characteristics and residue quality.

According to the plant's operational permits, residual products from the treatment shall be taken to appropriate disposal sites or recycled.

The Private Party shall have a backup arrangement in place, approved by the City, for diversion of waste in the event of an unplanned and planned outage of the Facility.

5.2 Plant Design and sustainability

Respondents are required to illustrate their experience and capability to supply a mass-burn incineration solution. Respondents may propose supplementary solutions and alternative processing technologies; however, Respondents are reminded that for the Respondent to be pre-qualified, the proposed technology should have a demonstrable track record internationally in processing mixed MSW with variable composition and calorific value at a similar scale.

City strategic goals place considerable emphasis on sustainability and sound design. Solutions shall be sought that seek to improve the quality of the built environment.

The Private Party may also be required to submit a "Climate Change and Sustainability Statement" during the RFP process, which will set out how their proposals have been developed in consideration of sustainability principles.

The Private Party shall develop its architectural concept for the plant. The Private Party shall be solely responsible for applying for and obtaining all permissions and agreements required to implement its chosen architectural scheme for the Facility.

When choosing the design and layout of the Facility, the Private Party shall make sure that the Facility's buildings can accommodate all operation and maintenance activities without the impediment of staff safety, environmental concerns and operational efficiency. At a minimum, the plant is expected to be designed according to the emission limits of the European standard "Directive 2010/75/EU".

5.3 Civil works

The Private Party shall provide all civil works necessary for the Facility. It shall include, but is not limited to, the following:

- reception and intermediate storage facilities for waste and residual products;
- all buildings and structures needed for the Facility, including control room, office space, staff accommodation, workshops, etc.;
- all engineering works, including supporting structures, foundations, service utilities, excavation and filling;
- all site roads, parking areas, roadway lighting and pedestrian access to all parts of the plant, including access stairways;
- landscaping, including banks, plantation, etc.;
- all drains and other installations concerning stormwater, internal building drainage, and foul sewage; and
- security fencing, including access gates and gate buildings

All building elements shall be of good quality that provides a design life of at least 50 years. The selection and use of proven and well-tried materials in the civil work elements shall be mandatory.

The waste reception hall shall be an integral part of the main building. In the design of the reception hall and storage facilities for the waste, the risk of dust, odour and noise-related nuisances and the risk of fire in the waste bunker must be taken into consideration.

5.4 Mechanical and Electrical Works

The Private Party shall provide all mechanical, instrumentation, process control and monitoring, electrical equipment, and auxiliary equipment to treat the waste.

5.5 Suitability of the site

5.5.1 Water and Sewer requirements

Johannesburg Water has confirmed adequate water and sewer capacity for requirements circa 14.4l/s and 11.4 l/s, respectively. Should the Respondent’s water and/or sewer requirements exceed the above, the Preferred Bidder will be required to highlight this in their RFP bid.

5.5.2 Grid connection

The power generated by the Facility will be fed into the City's electrical network, which is under the operational jurisdiction of City Power.

The grid connection for the Facility will be at Wemmer Substation on its HV-side, i.e. 88kV. The baseline capacity of the Facility influences this. The connection to Wemmer Substation will be via cable as the electrical network in the City is primarily underground cable.

The requirements for Facility connections to Wemmer substation shall be in accordance with the following legislative documents;

- Distribution Grid Code
- Grid Connection Code for Renewable Power Plants (RPPs) Connected to the Electricity Transmission System (TS) or the Distribution System (DS) in South Africa
- The South African Grid Code: The Network Code.

5.5.3 Other site issues

There were no existing fatal flaws uncovered during the site due diligence.

5.6 BBBEE and Socio-economic development

The diversion of waste from landfills will impact the local community, notably informal waste pickers currently active at the Robinson Deep landfill site.

Respondents should include in their proposals an outline socio-economic development plan (indicative plan) which considers the impact of the Project and offers the opportunity for gainful formal employment of these informal waste pickers within their value chain.

This plan should include mainstreaming of gender-related issues and the provision of equal opportunities for women, youth and other designated groups per the latest DBSA Safeguards, IFC standards and other applicable international best practices.

Additionally, Respondents are required to commit to the BBBEE targets as set out in Annexure G. If Respondents cannot commit to specific or all targets, motivation should be provided in their Response.

5.7 Environmental Social and Impact Assessment

The City is currently conducting an ESIA at Robinson Deep for the Facility. The ESIA will be prepared per the National Environmental Management Act, the Development Bank of

Southern Africa Safeguards and the International Finance Corporation Environmental and Social Performance Standards.

The complete study will be made available to the Preferred Bidder.

The Private Party will be responsible for implementing the Environmental Management Plan, documentation and monitoring of all environmental projects, and the collection and maintenance of all relevant environmental data to report environmental performance.

6. Confirmation of budget and Value-for-Money

It is envisioned that the project will be financed through a blended finance solution. The City has successfully applied and received a BFI allocation that assists with the affordability of the project. The BFI allocation, together with other grant funding, will be applied as capital contribution to reduce the gate fee that the Private Party will charge to the City.

Further to the City's commitment on the availability of budget and Value-for-Money for this Project based on the Feasibility Study's Financial Model, there are mechanisms within the Municipal PPP Guidelines that will be followed to ascertain budget and Value-for-Money before signing the PPP Agreement by the Preferred Bidder. These mechanisms include:

- Preparing the Value-for-Money Report to be submitted to the National and Provincial Treasury for Treasury Views and Recommendations IIB following the receipt and evaluations of the RFP bids from the Pre-Qualified Bidders. It is at this activity where Value-for-Money and affordability can be confirmed by the relevant Treasurers and the City based on the bid information received from the Preferred Bidder.
- Following the negotiations with the Preferred Bidder, the City will submit an application for Treasury Views and Recommendations III, containing the PPP Agreement and final negotiated price to the National Treasury, other relevant Government bodies and the public.
- The above will be followed by a Council Report to the City's Council in compliance with Section 33 of the MFMA.

7. Identified revenue parameters and performance monitoring

The payment mechanism to be defined in the RFP will set out the revenue streams that make up the City's monthly payment in return for services (the "gate fee"). There are numerous elements described which aggregate to form the "unitary charge". The payment mechanism will also set out how deductions or other adjustments are applied (and what values of deductions). The elements will include:

- absolute diversion performance of treatment facilities;
- secondary recycling/recovery performance levels; and
- service delivery and key performance indicators.

A performance mechanism will be developed as part of the Output Specification and payment mechanism, designed to ensure good performance by the Private Party and encourage continuous improvement for service delivery, including payment deductions where certain performance targets are not met. A set of key performance indicators will be developed to implement the performance mechanism. The key performance indicators will be developed to ensure that they manage the fundamental aspects of the Contract and provide flexibility to adapt to changes over the life of the Contract. The key performance indicators are likely to include:

- availability of delivery points;
- availability of treatment facilities;
- energy efficiency of treatment facilities;
- environmental, health and safety performance; and
- compliance with service delivery plans.

8. Envisaged risk transfer

A Risk Register with the intended risks for the Private Party will be issued during the RFP stage for the Pre-Qualified Bidders to consider. Risk allocation, including construction, commissioning, and operational risks, will be dealt with under the PPP Agreement. In principle, however, the delivery, availability and operation of the facility/service will be the responsibility of the Private Party. Risks associated with the site and waste as received will be agreed upon with the selected Preferred Bidder.

9. Conclusion

This part of the RFQ document contained the project background, project objective, project scope and associated performance parameters to which the Respondent will be required to respond as per Part B of the main RFQ document and will be scored according to the scorecard provided in Part C.