Request for Proposal – Closure & Capping of Existing Dumpsites

2015

BIDDING DOCUMENTS – REQUEST FOR PROPOSAL (RFP)



Ministry of Urban Development

[NAME OF	ULB]
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REQUEST FOR PROPOSAL

FOR

Selection of Contractor for Closure and Capping of Existing Dumpsites

VOLUME I: General Terms and Condition of Proposal

Date of Issue	•	
Date of Pre-Bid Meeting	:	
Date of Submission of Bid	•	

Date Month, Year

LIST OF VOLUMES

Volume I of the RFP Document provides the following:

Section 1 Bid Notice

Section 2 Overview

Section 3 Summary of the Scope of Works

Section 4 Bid Format

Section 5 Instruction to Bidders

Section 6 Bid Evaluation

Volume II Financial Proposal Requirements and Forms

Volume III provides the Project Description and Technical Specifications and data for the Project.

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NOTICE OF DISCLAIMER

The information contained in this Request for Proposal (RFP) has been prepared solely to assist prospective Bidders in making their decision of whether or not to submit a bid. [Name of the ULB] does not purport this information to be all-inclusive or to contain all the information that a prospective Bidder may need to consider in order to submit a proposal. The designs, drawings, technical data and any other information provided in this RFP is only indicative and neither [Name of the ULB] nor its employees, officers nor its consultants will make or will be deemed to have made any current or future representation, promise or warranty, express or implied as to the accuracy, reliability or completeness of the information contained herein or in any document or information, whether written or oral, made available to a Bidder, whether or not the aforesaid parties know or should have known of any errors or omissions or were responsible for its inclusion in or omission from this RFP.

Neither [Name of the ULB] or its employees or consultants make any claim or give any assurance as to the accuracy or completeness of the information provided in this RFP Document. Interested parties are advised to carry out their own investigations and analysis of any information contained or referred to herein or made available at any stage in the bidding process in relation to the Project. Bidders have to undertake their own studies and provide complete design and closure plan for the [Name/ Location of dumpsite site].

This RFP Document is provided for information purposes only and upon the express understanding that such parties will use it only for the purpose set forth above. It does not purport to be all-inclusive or contain all the information about the Projects in relation to which it is being issued.

The information and statements made in this RFP document have been made in good faith. Interested parties should rely on their own judgments in participating in the said Project. Any liability is accordingly expressly disclaimed even if any loss or damage is caused by any act or omission on part of the aforesaid, whether negligent or otherwise.

This RFP Document has not been filed, registered or approved in any jurisdiction. Recipients of this document should inform themselves of and observe any applicable legal requirements.

[Name of the ULB] makes no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the RFP document.

[Name of the ULB] reserves the right to modify, suspend, change or supplement this RFP. Any change to the RFP will be notified to all the Bidders to whom the RFP is issued. No part of this RFP and no part of any subsequent correspondence by [Name of the ULB], its employees, officers or its consultants shall be taken as providing legal, financial or other advice nor as establishing a contract or contractual obligation. Contractual obligations would arise only if and when definitive agreements have been approved and executed by the appropriate parties having the authority to enter into and approve such agreements. [Name of the ULB] reserves the right to reject all or any of the Bids submitted in response to this RFP at any stage without assigning any reasons whatsoever.

Bidders are responsible for all costs incurred by them when evaluating and responding to this document and any negotiation costs incurred by the recipient thereafter. [Name of the ULB] may in its sole discretion proceed in the manner it deems appropriate which may include deviation from its expected evaluation process, the waiver of any requirements, and the request for additional information. Unsuccessful Bidders will have no claim whatsoever against [Name of the ULB] nor its employees, officers nor its consultants.

1.0 BID NOTICE

[Name of the ULB] invites sealed Two Packet Bids from eligible Bidders to "Undertake [name of site] landfill closure, capping and landfill gas/ leachate management on Build- operate and transfer (BOT) basis". Bidders who satisfy the qualification criteria below are eligible to submit bid for this work. However Bidders are advised to note the complete qualification criteria specified in the bid document to qualify for the award of the contract.

	1	
RFP FOR THE WORK OF	SELECTION OF CONTRACTOR TO	_
	UNDERTAKE CLOSURE AND LANDFILL GAS/	
	LEACHATE MANAGEMENT AT [-]LANDFILL
	ON BUILD-OPERATE AND TRAI	NSFER (BOT)
	BASIS	
DATE OF ISSUE		
BID SECURITY	[Bid Security Amount]	
DUE DATE OF BID SUBMISSION		
TIME AND DATE OF OPENING OF	DATE	TIME
Technical Proposal:	[]	15.30 hours
	DATE	
Financial Proposal:	[]	15.30 hours
TIME AND DATE OF PRE-BID MEETING	[]	11.00 hours
	[Address of pre-bid conference	
	location]	
OFFICE ADDRESS FOR SUBMISSION OF	[]	
BID	[Address of pre-bid conference location	on]
SIGNATURE & DESIGNATION OF BID		
SUBMISSION OFFICER		
BIDDERS NAME & CONTACT ADDRESS		
AND		
PHONE NUMBERS		

Qualification Criteria:

(a) Technical Experience

The company/consortium shall have undertaken at least one project for landfill closure/capping and landfill gas extraction work of a municipal solid waste dumpsite with area not less than [specify area based on requirement] acres.

AND

(b) Financial Status

- Minimum annual average turnover of [-----] in last three financial years or
- Minimum average net worth of Rs. [-----] in last three financial years

(c) Condition for Consortium

In case of consortium, the lead member should have minimum stake of [51%] in the consortium throughout the contract period.

(d) Other eligibility requirements

The prospective Bidders shall submit

- i) Audited balance sheet for the last three years, indicating turnover liabilities, investments etc. above
- ii) Copy of Bidders PAN no., Sales tax certificate,
- iii) Proof of Company registration document/MoA/incorporation certificate.

Interested Bidders may obtain further information about the Bid documents at the office of [Insert name of ULB official].

All correspondence / enquiries should be submitted to the following in writing by fax/ registered post / courier:

Attn. of
Address

Phone
Fax

Bid Security

The aforesaid Bid must be accompanied by the Bid Security. The Bid Security shall be in form of a crossed demand draft / banker's cheque drawn in favour of [------] payable at [-----] from any Scheduled Bank.

Pre Bid Meeting

In the Pre Bid Meeting the prospective Bidders will have an opportunity to obtain clarification regarding details given in the document. It is advised to all the Bidders to visit the site and familiarize themselves about the site condition, before the Pre Bid Meeting. The queries requiring clarifications shall be forwarded to the [------] before [------]. Place Date and Time for Pre Bid Meeting are as mentioned earlier.

Submission of Bids

Bid must be submitted in two packets as elaborated in Bid document (sealed in common envelope superscribed with details as explained in Bid document).

'Technical Proposal': - Volume I and III along with required qualification information and technical requirement, all duly signed and stamped.

'Financial Proposal': - Volume II Duly signed & stamped.

The bid not submitted in line with the bid clauses and without Bid Security in the form specified, will be out rightly rejected. The Technical bid of only those Bidders will be evaluated who have submitted Bid Security.

Opening of Bids

The Technical bid package will be opened on [-----]. Bidders or their authorized representative who wish to participate in Bid opening can remain present on the due date and time. Only one representative of each firm will be allowed to remain present. Price Bids of only those Bidders will be opened, who are successful in the Technical Evaluation.

General Instruction

The Bidders are advised to read carefully the "Instruction" contained in the Bid documents.

[Name of the ULB] reserves the right to accept or reject any or all Bids without hereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidders of the grounds for the Employer's action.

2.0 OVERVIEW

2.1 BACKGROUND TO [NAME OF THE ULB]'S MSW DISPOSAL

[Provide information on quantity of waste generated and disposed per day, location of the dumpsite, years of operation and other relevant information related to the dumpsite]

[The dumpsite fall under the category of uncontrolled solid waste disposal facility. Under business as usual scenario, anaerobic decomposition of organic content of the waste is leading to landfill gas generation, comprising mainly of methane. The site do not have any infrastructure to collect landfill gas emissions. As, the site is not scientifically managed, there is no control over the escape of the landfill gas into the atmosphere and also on the leachate generated from the site.]

2.2 OBJECTIVES OF THE PROJECT

[Name of the ULB] is seeking proposals from eligible Bidders to undertake the works required for *closure of [name] dump site and Landfill Gas/ Leachate management on Build- operate and transfer (BOT) basis* and the development and maintenance of a vegetative cover thereon which would act as a suitable green area for the local community. The maintenance services will be contracted for a period of fifteen (15) years including defect liability period of one year from the date of completion of the development of the vegetative Layer on the capped dump site.

This RFP is structured to provide prospective Bidders with sufficient information on which to prepare a Proposal and is organized in the following manner:

Volume I of the RFP Document provides the following:

Section 1 Bid Notice

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3.0 SUMMARY OF THE SCOPE OF WORKS

3.1 PRESENT STATUS OF THE [NAME] DISPOSAL SITE

[Provide Description of the existing dumpsite]

The objective of this project activity is closure of existing dumpsite site at [location] in a planned and scientific manner. The proposed project plans to stop uncontrolled dumping on the site, control fires and re-contour and stabilize slopes so that a final cover can be laid and landfill gas emissions is brought under control.

Appropriate closure of the dumps with capture and destruction of methane can produce major reductions in Greenhouse Gas (GHG) emissions from this site. The project would not only contribute to India's efforts to curtail Greenhouse Gas (GHG) emissions, but will also result in significant local environmental and social benefits. Residents near this landfill site will benefit for the improved aesthetics of neighbourhood, reduced leachate migration/ contamination and no landfill gas emission.

The main elements of the closure Plan for the Project include:

- Slope reformation and waste levelling
- Closure Layer/ capping
- Landfill gas collection & management system
- Leachate collection & management system
- Surface runoff management system
- Boundary wall
- Other infrastructure (periphery road, administrative building, landscaping, electrical works etc.)
- Flaring of landfill gas

3.2 SCOPE OF WORK

The scope of work for the project is divided in two categories i) works during Closure Phase (one year from the date of signing of contract) ii) Service and maintenance works during Post Closure Phase (fifteen years from the closure date).

A) Closure Phase

The broad scope of work to be carried out by the selected contractor includes following component but not limited to

Levelling, compaction and reformation of waste slopes at [site], which primarily include revising the capacity of the landfill by engineering the site slopes to [provide planned slope ratio].

Providing the cover layer over the final finished profile of the landfill (i.e., on the top and side slopes). The cover layer for the landfill to be designed to achieve maximum recovery of landfill gas and minimise loss to the environment. The cover system proposed for the project is composite type and comprises of following layers from top to bottom

Top Soil: Vegetative layer made up of topsoil, thickness 45 cm as the outer most Closure Layer layer. The soil for this layer shall be transported from approved borrow pits suitable for growing vegetation and developing landscaping.

LFG Collection Layer: This layer shall be made up of material of permeability coefficient greater than (k) 10⁻² cm/sec having 15 cm thickness.

Drainage Layer: This layer shall be made up of drainage composite of 6 mm thickness and shall be laid below the LFG collection layer.

Impervious Layer: This layer shall consist of 1.5mm thick HDPE liner and amended soil of thickness 15 cm below it.

Install a gas collection network, comprising an adequate number of gas collection wells with inter connected header and feeder pipes for landfill gas collection at all the landfill sites and perimeter groundwater pumping wells.

Assess the quantity of landfill gas generated and if feasible make provision for utilisation of LFG captured from the landfill via a gas engine of suitable capacity.

Provide flaring system for flaring of landfill gas in emergency.

Development of leachate collection system comprising of pneumatic pump submerged in each gas extraction well and a network of feeder and header pipes.

Construction of leachate treatment system comprising of [capacity & type] wastewater treatment plant

Development of surface water management system comprising of surface water drain and a de-silting chamber

Comply with all the legislations and statutes including MSW Rules and amendments thereof

Development of other infra structural facilities which primarily include the following

- a. Boundary wall
- b. Landscaping and greenbelt
- c. Internal roads
- d. Administration building and guard room

Note: For design details and quantity estimation refer Volume III

B) Closure Phase

The Contractor will be required to ensure maintenance of the capped and sealed [name] dump site and of the vegetative layer that is developed on it, for a period of fifteen years from the date of taking over. The works for the post closure phase will include:

- 1) Quarterly detailed site inspection to identify areas of subsidence and their repair by levelling the areas with earth and recapping with landfill cover as per the specifications used for closure.
- 2) Monthly detailed inspection of gas collection manifold and flaring system; and
- 3) Daily/regular collection and transportation of leachate to the treatment plant.
- 4) Regular watering and maintenance of landscape areas and
- 5) Periodic environmental monitoring to ascertain ground water and air pollution due to the closed landfill.

- 6) Provide security at the site to regulate access of public and ensure safety of the facilities.7) Comply with all the applicable statutes and legislations, including MSW Rules and amendments thereof

4.0 BID FORMAT

4.1 TECHNICAL BID

Technical Bid shall comprise of details of Bidder (format provided in Annexure 6) and a detailed dumpsite closure and landfill gas/ leachate management plan (format provided in Annexure 7) along with other relevant Annexures.

The dumpsite closure and landfill gas/ leachate management plan submitted by the Bidders must be in line with the design specifications and terms indicated in **Volume III.**

- a) The dumpsite closure and landfill gas/ leachate management plan must provide for all the activities specified in the Scope of Works
- b) The dumpsite closure plan must be accompanied by detailed drawings and site plans for the intended closure and capping of the dumpsite as well as landscaping plans for the vegetative layer to be developed over the capped dumpsite.
- c) Time Period for dumpsite closure and development of gas/ leachate management system is one year from the date of signing of contract with [Name of ULB]. The dumpsite closure and landfill gas/ leachate management plan shall provide a time schedule for the completion of all the works specified for closure phase.
- d) Post-Closure Plan: The dumpsite closure plan must provide for the operation and maintenance plan for fifteen years from the date of taking over (completion of the works relating to the closure and capping of the [name] dump site including completion of development of vegetative layer on the capped dumpsite).
- e) Submission of a dumpsite closure plan that does not provide for the complete closure and capping of the [name] dump site with development of a vegetative layer thereon, could be considered as a non-responsive Bid.

4.1.1 FINANCIAL BID

The Price Bid for the project will comprise of two elements:

- (i) Price for the Closure Works and
- (ii) O&M Fee as per the format provided in the financial proposal.

The Dumpsite Closure Contract will be a fixed price contract. All taxes, duties, levies and cess levied or to be levied by State or Central Government shall be on account of the contactor and shall be deemed to have been included in the consideration payable in the offer. The Financial Bid should provide for the total price of each of the two elements with the Price break up for each of the Works giving the rate for each material and services.

4.1.2 PAYMENT SCHEDULE

[Name of ULB] would be making monthly payments based on the value of work completed in a given month. An interest free mobilization advance of 10 percent of the contract price will be paid against bank guarantee. The mobilization advance will be adjusted in 10 equal installments against the monthly payments due to the contractor.

The O&M Fees would be paid on a monthly basis.

The Contractor is expected to consider this payment schedule while working out the Financial Proposal

5.0 INSTRUCTION TO BIDDERS

5.1 ELIGIBLE BIDDERS

Any Company/Consortium of not more than three (3) members, who meets the qualification criteria and who procures a copy of this RFP Document from[Name of ULB], is eligible to submit Bid for the award of the Dumpsite Closure Contract.

This is an international competitive bidding process. There is no restriction on Bidders based on their nationality. Bidding consortiums are allowed with total members not exceeding three (3) companies. However, a Company cannot be a member of more than one bidding consortium.

5.2 ONE BID PER BIDDER

Each Bidder shall submit only one Bid. The submission of, or participation in, more than one Bid by a Bidder or as a partner of one or more than one bidding consortium will result in the disqualification of all Bids in which it participates. Each Bidder is required to submit the Acknowledgement of receipt of RFP Document in the form specified in Annexure 1 within one week of obtaining the RFP Documents. Bidders who have not submitted the acknowledgement shall not be allowed to submit a Bid.

5.3 POWER OF ATTORNEY

Bidders shall, as part of their Bid, submit a written power of attorney authorizing the Signatory of the Bid to commit the Bidder.

5.4 INDIVIDUAL BIDDER AND CONSORTIUM

An individual Bidder is allowed to submit the qualifications of its shareholders and/or parent companies and/or subsidiaries for being considered while determining compliance with the minimum technical eligibility criteria. If the strengths of a shareholder or a subsidiary or parent or group company is sought to be relied upon, then a letter of commitment in the form specified in Annexure 3 to this RFP Document will have to be submitted by such shareholder or subsidiary or parent company.

The Bidders are encouraged to put up a complete consortium structure with a cap of three (3) members that would have to include the technical member(s) along-with their parent/subsidiaries so as to ensure that the complete consortium is identified at the time of submitting the Bid.

Every consortium of Bidders is required to submit a copy of a duly executed Memorandum of Understanding between its members along with its Bid. The Memorandum of Understanding should, at a minimum, cover the principles stated in Annexure 4 to this RFP Document. Each member of a bidding consortium will have to submit a Letter of Commitment in the form specified in Annexure 3. Furthermore, each member of a bidding consortium is required to submit a letter of acceptance in the form provided in Annexure 5 to this RFP Document.

It is clarified that the lead member of the consortium would be regarded as being responsible for the due implementation of the Dumpsite Closure Contract.

The following Rules are indicated to define the overarching framework of any joint venture between the Bidders for the Landfill Closure Contract:

- (i) The consortium member who is positioned & who complies with the technical capability criteria will be regarded as the technical member of the consortium. The technical member along-with its subsidiaries & other external members are to be defined and detailed as per the format in Annexure 6 of RFP. The Technical member of the consortium will be required to hold a minimum of [----%] equity share capital in the joint venture for the duration of the Landfill Closure Contract
- (ii) The consortium member who is positioned & who complies with the financial capability criteria will be regarded as the financial member of the consortium. The Financial member is to be defined and detailed as per the format in Annexure 6 to Volume I of RFP. The Financial member of the consortium will be required to hold a minimum of [---%] for the duration of the Landfill Closure Contract
- (iii) If in the consortium technical and financial partner is the same, it should have atleast [60] % stakes in the consortium
- (iv) The consortium will be allowed to grant an equity stake in the Contractor to financial investors and lenders, as required to enable due financing of the Contractor.

[Name of ULB] shall be notified of the shareholding pattern of the Contractor and any change in the shareholding pattern that would result in the dilution of the equity stake of the lead consortium member of the technical members or a change in control of the Contractor shall require the prior consent of [Name of ULB].

5.5 BID SECURITY

- (i) The Bidder shall furnish, with its Bid, a demand draft drawn on a Nationalized Bank, in favour of "[------]" payable at [location] in the amount of [amount] ("Bid Security").
- (ii) The Bid Security shall remain valid for a period of one-hundred and eighty (180) days beyond the original validity period for the Bid or for such extended period as agreed upon by the Bidder. No interest shall be payable on the Bid Security. The Bidder shall bear the cost relating to providing its Bid Security.
- (iii) Any Bid not accompanied by the Bid Security shall be rejected by [Name of ULB] as being a non- responsive Bid.
- (iv) The Bid Securities of unsuccessful Bidders will be returned within two month finalisation of successful Bidder.
- (v) The Bid Security of the successful Bidder will be retained by [Name of ULB] and the winning Bidders shall ensure that the Bid Security remains valid till the time the selected Bidder has signed the Landfill Closure Contract agreement and submitted the performance guarantee under the Landfill Closure Contract.
- (vi) The Bid Security will be forfeited if:

- (1) Bids are withdrawn within validity period of the Bid;
- (2) Bidder fails to sign Landfill Closure Contract(s), as the case may be, upon selection;
- (3) Bidder fails to comply with the Bid process

5.6 VALIDITY OF BID SUBMITTED

The Bids submitted by the Bidding Company's/ Consortium of Bidders shall be valid for at least six (6) months or such date the [Name of ULB] may so demand.

5.7 AMENDMENT OF RFP DOCUMENTS

- (1) At any time prior to the deadline for submission of proposals, [Name of ULB] may amend the RFP documents, including any contractual document, by issuing an Addendum.
- (2) Any Addendum thus issued shall be part of the RFP documents and shall be communicated in writing by mail or by fax to all short listed Bidders to whom the RFP documents are issued.

5.8 LANGUAGE OF BIDS

The Bids, and all correspondence and documents related to the Bids exchanged by the Bidder and [Name of ULB], shall be written in the English language. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate English translation of the relevant passages, in which case, for purposes of interpretation of the Bid, the English translation shall prevail. Any material that is submitted in a language other than English, and which is not translated into English, will not be considered.

5.9 BIDS

Each Bid shall comprise of two sealed envelopes marked as follows:

Cover I: "Technical Proposal" (Original plus two with clearly marking "Original" and "Copy")

Cover II: "Financial Proposal" (Original plus two with clearly marking "Original" and "Copy")

Cover I "Technical Proposal" shall provide: (i) a covering letter in the format specified in Annexure 2 to this RFP Document, (ii) information related to Bidders background, past performance, description of the proposed plan for implementing the Landfill Closure and the other required components of the relevant Project, (iv) Landfill Closure and Gas/ Leachate Management Plan and (v) Detailed drawings for the Landfill Closure.

Duly signed copies of the original RFP documents are to be provided in cover I

Cover II: "Financial Proposal" shall provide the detailed price of the Bidder to perform all the works under the Landfill Closure Contract. This information will be provided by filling up the Rate Schedule (Bill Of Quantities) enclosed with this RFP

5.10 SUBMISSION OF PROPOSALS

The original Proposal (Technical Proposal and Financial Proposal) shall be neatly prepared and printed. It shall contain no inter-lineation or overwriting, except as necessary to correct errors made by the firm itself. Any such corrections must be initialled by the person or persons who sign(s) the Proposal.

An authorized representative of the firm shall initial all pages of the Proposal. The representative's authorization shall be confirmed by a written power of attorney accompanying the Proposal.

For each Proposal, the Bidders should prepare two copies in addition to the original. Each Technical Proposal and Financial Proposal should be marked "Original" or "Copy" as appropriate. If there are any discrepancies between the original and the copies of the Proposal, the original governs.

The original and the copy of the Technical Proposal shall be placed in a sealed envelope clearly marked "Technical Proposal for [Dumpsite Name] Project" and the original and the copy of the Financial proposal in a sealed envelope clearly marked "Financial Proposal for [Dumpsite Name] Project "and with a warning: "Do Not Open with the Technical Proposal." Both envelopes shall be placed into an outer envelope and sealed. This outer envelope shall bear the submission address and other information.

The completed Technical and Financial Proposal must be addressed to the [--------] and delivered at the following address on or before 1500 Hours, on [-------Date-----]. Any Proposal received after the closing time for submission of proposals shall be returned unopened.

Office of the []
[Name of ULB]
[Address]

After the deadline for submission of proposals, the Technical Proposal shall be opened immediately at the mentioned time.

5.11 WITHDRAWAL OF PROPOSALS: EFFECT ON BID SECURITY

- (a) The Bidder will not be able to modify a Bid after the deadline for submission of Bids. Only such Bids that are submitted before the deadline for submission may be modified or withdrawn by the relevant Bidder, provided that written notice of the withdrawal is received by [Name of ULB] prior to the deadline for submission of Bids.
- (b) The Bidder's withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with the provisions of Section 5.11 with the outer and inner envelopes additionally marked WITHDRAWAL".
- (c) In the event of withdrawal of a Bid by the Bidder, after the deadline for its submission, [Name of ULB] reserves the right to forfeit the Bid Security, at its sole discretion.

5.12 CONFIDENTIALITY

Information relating to the examination, clarification, evaluation and comparison of Bids, and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process. Any effort by a Bidder to influence [Name of ULB] evaluation of Bids or award decisions will result in the rejection of the Bidder's Bid.

5.13 CLARIFICATION OF BIDS

- (a) To assist in the examination, evaluation, and comparison of proposals, [Name of ULB] may, at its discretion, (i) ask any Bidder for clarifications, in writing, (ii) make presentation of its proposal to [Name of ULB].
- (b) In addition, [Name of ULB] may utilise any consultant or other advisor to assist in the examination, evaluation, and comparison of proposals.

5.14 EXAMINATION OF PROPOSALS AND DETERMINATION OF COMPLIANCE

[Name of ULB] would be forming a Technical Committee (TC) comprising representatives of [Name of ULB], Consultant and Independent Expert(s) for examination and evaluation of the Proposals. [Name of ULB] would select the Contractor based on the recommendations of the TC.

(a) General Compliance with the Bid process requirements will be determined as follows:

Prior to evaluation of any Bid, [Name of ULB] will determine if the Bidder's submission is in total compliance with the requirements. Only if the submission is in total compliance, [Name of ULB] will review and evaluate the information provided in Cover I to ensure its substantial compliance. If the Bid is not in substantial compliance, the submission will be rejected and the Bidder will be eliminated from the competition.

- (b) Determination of Compliance of the Bid: Material Deviation Prior to the detailed evaluation of the Bid, [Name of ULB] will determine whether each Bid or Bidder, as the case may be:
- (i) Has been properly signed & sealed and contains any required written representations or commitments;
- (ii) Is accompanied by the required Bid Security;
- (iii) Has provided the required information in reasonable detail under this RFP;
- (iv) Provides clarification and/or substantiation that [Name of ULB] may require to determine responsiveness;
- (v) Submits a Landfill Closure and Gas/Leachate Management Plan that provides for the complete closure and capping of the [Name] dumpsite along with gas utilization system, Leachate management plan and a vegetative Layer thereon.

A Bid that is in total compliance is one that conforms to the preceding requirements without material deviation or reservation.

A material deviation or reservation is one (1) which affects in any substantial way the scope, quality, or implementation of the Projects; or (2) which limits in any substantial way [Name of ULB]'s rights or the Bidder's obligation under the draft agreements, or inconsistent with the RFP documents (3) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

5.15 EVALUATION OF BIDS

[Name of ULB] will evaluate only those Bids that have been determined to satisfy the compliance requirements set forth in this RFP, including the general evaluation criteria specified in this RFP.

5.16 CORRECTION OF ERRORS

(i) Bids determined to be responsive will be checked by [Name of ULB] for arithmetic errors. Errors will be corrected by [Name of ULB] as follows: Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.

Where there is a discrepancy between the unit rate and the line item total resulting form multiplying the unit rate by the quantity, the unit rate as quoted will govern, unless in the opinion of [Name of ULB], there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted will govern and the unit rates will be corrected.

(ii) The amount stated in the Bid will be adjusted by [Name of ULB] in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, the Bill will be rejected and the Bid Security may be forfeited in accordance with clause 5.5 (vi).

5.17 SELECTION OF SUCCESSFUL BIDDER

[Name of ULB] will select the Bidders who have, in the sole discretion of [Name of ULB]: (i) satisfies all other compliance requirements of the RFP and (ii) has quoted the lowest cost of undertaking the works under the Landfill Closure Contract. Please note that in the event the successful Bidder is a Consortium (of not more than three (3) members), it would have to mandatorily constitute company under the Companies Act, 1956 having the shareholding pattern reflecting the Consortium as provided in Paragraph 5.4 between the time period of issuance of the Letter of Intent and the execution of the Landfill Closure Contract.

5.18 [NAME OF ULB]'S RIGHT TO ACCEPT ANY BID AND REJECT ANY OR ALL BIDS

[Name of ULB] reserves the right to accept or reject any Bid, and to cancel or withdraw the bidding process and reject all Bids, at any time prior to the announcement of the winning Bidder selected as the Contractor, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for [Name of ULB]'s action.

5.19 NOTIFICATION OF SELECTION

Prior to expiration of the period of Bid validity, [Name of ULB] will notify the successful Bidder by fax confirmed by registered letter that its Bid has been accepted. Simultaneously [Name of ULB] will also inform the unsuccessful Bidders that their Bids have been unsuccessful.

5.20 SIGNING OF LANDFILL CLOSURE CONTRACT

- (i) At the same time that [Name of ULB] notifies the successful Bidder that its Bid has been accepted, [Name of ULB] will send the Bidder the draft Landfill Closure Contract agreement, as the case may be for the relevant Project, in the form provided in the RFP documents and specifying the time frame within which the Landfill Closure Contract needs to be executed by the successful Bidder.
- (ii) Within the timeframe stipulated by [Name of ULB] for execution of the Contract, the successful Bidder will pay the requisite legal & stationery charges, sign the Landfill Closure Contract and deliver it to [Name of ULB], together with the required Performance Guarantee.
- (iii) If the Bidder does not sign the Landfill Closure Contract within the time frame indicated for its signing, [Name of ULB] reserves the right to offer the Landfill Closure Contract to the Bidder, which in its sole discretion has submitted the second lowest preferable Bid.

5.21 BIDS AT COST OF BIDDERS

Each Bidder shall bear the cost of preparation of its own Bids. [Name of ULB] shall not be responsible for any reimbursements or be in any manner liable for any cost incurred by a Bidder in the preparation and submission of its Bid pursuant to this RFP.

5.22 BIDDER TO FULLY INFORM ITSELF

Each Bidder is expected to and shall deemed to have fully informed itself of the Project and the potential requirements and costs for the implementation of the Project. The information in this RFP is being provided in good faith only for assisting the Bidders and is not to be taken as a representation of any fact or undertaking. Each Bidder is required to undertake its own due diligence in order to formulate a suitable Bid.

5.23 CORRUPT OR FRAUDULENT PRACTICES

[Name of ULB] requires that Bidders/Suppliers/Contractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, [Name of ULB]

- (a) Defines for the purpose of this provision, the terms set forth below as follows:
 - (i) "Corrupt practices" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution; and
 - (ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process of the execution of a contract to the detriment of the

[Name of ULB], and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the [Name of ULB] of the benefits of free and open competition.

- (b) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question
- (c) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract.

6.0 BID EVALUATION

It is hereby clarified that [Name of ULB] retains the complete discretion to accept or reject any Bid and to evaluate a Bid and select a Bidder as a Contractor. However, in order to enable the Bidders to formulate acceptable and relevant Bid the following indicative principles of Bid evaluation are provided.

6.1 EVALUATION CRITERIA

The following criteria have been developed by [Name of ULB] to provide specific guidance in understanding program priorities and selecting Proposals that will best serve the goals and needs of [Name of ULB]. The evaluation criteria are divided into two categories:

- 1. Compliance by Bidder of the Eligibility Criteria and Technical Evaluation of Proposal
- 2. The financial Bid submitted by the Bidder

Cover 1 of each Bid shall be first opened and evaluated to assess if the Bidder meets the Eligibility Criteria. Only if the Bidder is found to have submitted a responsive technical Bid shall its Financial Proposal in Cover 2 be opened.

The Technical Bid would be considered responsive if it meets the following conditions:

- (a) It is received by the due date, including any extension thereof, if any
- (b) It is duly signed, sealed and marked as provided in this RFP
- (c) It contains all the information and documents as requested in the RFP
- (d) It contains the information in the formats specified in this RFP
- (e) It mentions the Bid validity period as specified in this RFP
- (f) It provides information in reasonable details. [Name of ULB] reserves the right to determine whether the information has been provided in reasonable detail
- (g) There are no inconsistencies between the Bid and the supporting documents

- (h) The Technical Bid complies with the minimum technical requirements for the landfill closure as provided in this RFP
- (i) Bid Security accompanies the bid document

A Bid that is substantially responsive is one that conforms to the preceding requirements without material deviation or reservation. A major deviation or reservation is one: (i) which affects in any substantial way, the scope, quality, or performance of the Project, or (ii) which limits in any substantial way, inconsistent with the RFP, [Name of ULB]'s rights or the Bidder's obligations under the Landfill Closure Contract, or (iii) which would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

The Technical Proposal of the Bidders would be evaluated for adequacy of design and operations so as to comply with the conditions set out in this RFP and Landfill Closure Contract.

Evaluation of the Financial Bid will be taken up only after the Technical Bid is found to meet the requirements of this RFP. [Name of ULB] reserves the right to reject the Bid of any Bidder without opening the Financial Bid if the Technical Bid is found to be not substantially responsive to the requirements of this RFP.

On evaluation of the Financial Proposals, the Bidders, shall be graded in accordance with the price quoted by them, with the Bidder specifying the lowest price being ranked first.

This does not in any way limit or restrict the rights of [Name of ULB] to select a Bidder or reject Bids. [Name of ULB] does not expect to use a weighted ranking to compare Bids.

[Name of ULB] seeks Bids that are substantially responsive to the requirements of this RFP, from duly qualified Bidders that will provide the lowest viable overall price to [Name of ULB] for the landfill closure and maintenance of vegetative Layer.

The lowest price to [Name of ULB] as proposed in a Bid will be determined as follows:

The Bidder is required to submit a Bid for the technical design of the landfill closure based on the technical requirements for the closure provided in Volume III of this RFP. In the event the Bidder submits a technical design for the landfill closure that provides technical solutions different from that provided in Volume III of this RFP, then the Bidder is required to submit two Bids, one for the design based on the technical specifications provided in this RFP, and second for the design based on the technical solution that the Bidder is proposing (alternate Bid).

Bids will be evaluated based on the design given in the RFP. The lowest price would be the lowest value of sum total of capital and O&M costs as quoted by the Bidder in the Financial Proposal.

If the selected Bidder has given an alternate design, which is accepted by [Name of ULB], the price for the design given by the Bidder will be the contract price. To determine contract price, the rates quoted in the Bid considered for evaluation will be considered. For materials/works not mentioned in the RFP, the Bidder will be required to include the rates in the alternate Bid.

ANNEXURES

ANNEXURE 1: ACKNOWLEDGEMENT OF RECEI	PT OF RFP DOCUMENT	
Acknowledgment should be addressed to the [] and returned to the ollowing address on receipt of the RFP Document)		
Office of the [[Name of ULB] [Address]]	
Request for Proposal Document number		
Request for Proposal Document collected by (Name of the person)	е	
Designation		
Name of the organization		
Address		
Signature		
Date of Receipt		

ANNEXURE 2: FORMAT OF COVERING LETTER TO THE BIDS

(The covering letter is to be submitted by the Bidding Company or the Lead Consortium Member of a Bidding Consortium, along with the Cover 1 of the Bid)

vieliber of a bluding Consortium, along with the Cover 1 of the blu)			
	Date: Place:		
To The Municipal Commissioner [Name of ULB]			
Dear Sir,			
Sub: Selection of Contractor to Implement [Name of	f site] Landfill Closure Project		
Please find enclosed one (1) original + two (2) copies of a Contractor for implementing the [Name of site] Landfill Clefor Proposal ("RFP") Document issued by the [Name of ULB]	osure Project in response to the Request		
We hereby confirm the following:			
1. The Bid is being submitted by	_ (name of the Bidding Company) who is		

- 2. We have examined in detail and have understood the terms and conditions stipulated in the RFP Document issued by [Name of ULB] and in any subsequent communication sent by [Name of ULB]. We agree and undertake to abide by all these terms and conditions. Our Bid is consistent with all the requirements of submission as stated in the RFP or in any of the subsequent communications from [Name of ULB].
- 3. The information submitted in our Bid is complete, is strictly as per the requirements as stipulated in the RFP, and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid.
- 4. We confirm that our Commercial Bid does not contain Conditions.
- 5. The Bidding Company / Bidding Consortium of which we are the Lead Consortium Member (*Please strike out whichever is not applicable*), satisfies the legal requirements and meets all the eligibility criteria laid down in the RFP.
- 6. A Power of Attorney from the Bidding Company/Lead Consortium Member authorising the undersigned as the Authorised Representative, Signatory and Contact Person who is authorised to perform all tasks including, but not limited to providing information, responding to enquiries,

entering into contractual commitments on behalf of the Bidder, etc., in respect of the Project is included as a part of the Proposal.

For and on behalf of

Signature (Authorised Representative and Signatory)

Name of the Person: Designation:

Enclosure: Power of Attorney

ANNEXURE 3: LETTER OF COMMITMENT

(Each member of a Consortium has to submit a letter of commitment. To be submitted along with the Cover 1 of the Bid)

		ate: lace:
	funicipal Commissioner of ULB]	
Dear Si	Sir,	
	Sub: Selection of Contractor to Implement [Name of site] Landfill Clos	ure Project
Consor	nas reference to the Bid being submitted by	ber of the Bidding
	Selection of Contractor to Implement [Name of site] Landfill Closure P quest for Proposal ("RFP") issued by the [Name of ULB] dated	Project in response to
We her	reby confirm the following:	
1.	We(name of the Key Person), have examined understood and satisfied ourselves regarding the contents mainly in respect	
•	The Request for Proposal Document issued by [Name of ULB];	
•	All subsequent communications between [Name of ULB] and the Bid (Name of the Bidding Company or of the Lead Bidding Consortium);	
•	(Applicable only for a Bidding Consortium) The MoU sign(Name(s) of Members); and	ned between/among
•	The RFP being submitted by(name of the Bidding Co. Member in case of a Bidding Consortium).	mpany or of the Lead
2.	We have satisfied ourselves regarding our role as	(here give a brief ject we shall perform

3.	The nature of our legal relationship with the Bidding Company / Lead Member of the Bidding Consortium, is specified in the RFP, as per the requirements stated in the RFP Document.
4.	We undertake to support (name of the Bidding Company / Lead Consortium Member, for which the Letter of Commitment is being furnished) in respect of the roles (briefly define the roles of the Bidding Company / Lead Consortium Member) as detailed in the Bid being submitted by (name of the Bidding company or of the Lead Consortium Member in case of a Bidding Consortium).
5.	We therefore request [Name of ULB] to consider our strengths, our experience, and our track record as specified in the RFP pursuant to the conditions specified in the RFP, for the purposes of evaluation of the Minimum Eligibility Criteria.
For and	on behalf of
Signatu (Author	rised Representative and Signatory)
Name of Designa	of the Person: ation:

ANNEXURE 4: PRINCIPLES OF MOU TO BE EXECUTED BETWEEN CONSORTIUM MEMBERS

(To be executed on appropriate value of Rs 100 stamp paper procured in Delhi)

In case of a Bidding Consortium the principles based on which the Memorandum of Understanding (MoU) shall be executed between / among the members of such consortium, are stated below:

- 1. The document should clearly specify the roles and responsibilities of each of the Members, along with their proposed equity contribution. It is expected that the individual members have role definitions not conflicting with those of the other Members.
- 2. The document should clearly designate one of the Members as the Lead Consortium Member. The Lead Consortium Member shall be responsible for the performance of the terms of the Agreement to be signed between [Name of ULB] and the Successful Bidder/ Bidding Consortium. In the event the Bidding consortium constitutes a Project Company then the Lead Consortium Member shall have the obligation to hold the minimum equity in the Project Company as specified in this RFP Document.
- 3. The Member assessed for Technical Capability shall enter into a formal agreement with the Lead Consortium Member upon award of the Landfill Closure Contract to the Bidding Consortium. The agreement shall capture the understanding as agreed upon in this document. The Technical Member(s) shall have the obligation to hold the minimum equity in the Project Company as specified in this RFP Document.
- 4. The Lead Consortium Member shall be responsible for: Ensuring the individual and collective commitment of each of the Members in honouring the obligations under this RFP document. The Lead Consortium Member would be overall responsible for the implementation of the Landfill Closure Contract. All Members shall be jointly and severally liable for the same. In the event the Bidding consortium constitutes a Project company then the Lead Consortium Member shall ensure that each of the member provides its equity contribution and in the event of a default by a member, it makes good such contribution.
- 5. The document should be duly signed by each of the Consortium Members.
- 6. The document should be executed on an appropriate stamp paper.
- 7. The document should be specific to the provision of the Services and the submission of the bid pursuant to this RFP Document.
- 8. The document should be valid for a minimum of twelve months from the last date for submission of duly filled in Request for Proposal. The validity period of the document should be extendible on the original terms, if required by [Name of ULB].

ANNEXURE 5: LETTER OF ACCEPTANCE

(The Letter of Acceptance is to be submitted by EACH Member of the Bidding Consortium)

	Date : Place :
	Municipal Commissioner ne of ULB]
Dear	· Sir,
Sub	: Selection of Contractor to Implement [Name of site] Landfill Closure Project
Cons comp Con	has reference to the Bid being submitted by
We l	hereby confirm the following:
1.	We(name of the Member furnishing the Letter of Acceptance), have examined in detail and have understood and satisfied ourselves regarding the contents including in respect of the following:
The	RFP Document issued by [Name of ULB]
•	All subsequent communications between [Name of ULB] and the Bidder, represented by(Mention name of the Lead Member);
•	The MoU signed between / among
2.	We have satisfied ourselves regarding our role as (here give a brieg description of the role) in the Project as specified in the Bid. If the Bidding Consortium is awarded the Project we shall perform our role as outlined in the Bid to the best of our abilities. We have examined the Bid in detail and the commitments made in the same. We agree and undertake to abide by the Bid and the commitments made therein.
3.	We authorise (name of the Lead Member), as the Lead Member and authorise the same to perform all tasks including, but not limited to providing information, responding to enquiries, entering into contractual commitments etc. on behalf of the consortium, in respect of this Project.
4.	We understand that, no change in the membership in the Bidding Consortium, in the role and form of responsibility of any Member shall be permitted after submission of the Bid. If any change in the membership of the Consortium is desired, it would need to be communicated to

[Name of ULB] in writing for its approval. [Name of ULB] would reserve the right to reject such requests for a change of Consortium structure, if in its opinion; it would adversely affect the same.

For and on behalf of

Signature (Authorised Representative and Signatory) Name of the Person: Designation: Director/Managing Director/Chief Executive Officer

ANNEXURE 6: FORMAT FOR DESCRIPTION OF BIDDER IN COVER I OF A BID

Name of the Bidding Company / Bidding Consortium and Address	
Name of the Lead Consortium Member (In	
case of a Bidding Consortium) and Address	

In case of a Bidding Consortium:

S.	Name of each	Proposed % equity contribution into	Role as per the understanding
No	Member	the Contractor	signed between all the Members

Following details also need to be filled by Bidder:

- 1. Date of incorporation and /or Commencement of Business
- 2. Brief description of the Bidder's main line of business
- 3. Details of individual (s) who will serve as the point of contact/ communication for VMSS with the Bidder:
 - a. Name
 - b. Designation
 - c. Company/Firm
 - d. Address:
 - e. Telephone number
 - f. Email Address
 - g. Fax Number
 - h. Mobile Number
- 4. Details of Authorized Signatory of Bidder
 - a. Name
 - b. Designation
 - c. Company/Firm
 - d. Address:
 - e. Telephone number
 - f. Email Address
 - g. Fax Number
 - h. Mobile Number
- 5. In case of Consortium
 - a. the information (1-4) should be provided for all the members of the consortium.
 - b. information regarding role of each member should be provided as per table below:

S.N.	Name of Member	Role (specify whether Lead Member of	
		Operator)	
1.			
2.			
3.			

ANNEXURE 7 : FORMAT FOR SUBMITTING LANDFILL CLOSURE AND GAS/LEACHATE MANAGEMENT PLAN

- 1. <u>Levelling, Compaction and slope reformation:</u> Indicate number, type and capacity of equipments/machinery to be deployed for the purpose, provide the basis for deciding the number and justify the time period estimated for the activity and operation and maintenance details.
- 2. <u>Closure Layer</u>: Detail the proposed method and quality control protocol for laying various landfill cap layers, quantities of materials, equipments/machinery proposed to be deployed and justification of the proposed to complete the capping work and operation and maintenance details.
- 3. <u>Gas collection network:</u> Provide a special distribution of gas wells, design of gas wells and details of header and feeder pipes and operation and maintenance details
- 4. <u>Gas utilization for power generation / flaring:</u> Provide details of the system for gas utilization (power generation)/flaring including layout of the facility, capacity, installation and operation and maintenance details
- 5. <u>Leachate collection system and surface water drainage works:</u> Present the design basis for leachate collection system and surface water drainage system and provide the design details including the alignment, treatment, disposal locations and invert levels.
- 6. <u>Landscaping:</u> Provide a conceptual landscape plan along with final elevation drawings detailing each element of landscape plan. Detail the proposed integration of development of landfill plan with the laying of final layer of the cover. Detail camouflaging and limiting the access to gas manifold through landscape elements. The landscape plan and capping design should ensure that the landfill can be opened for controlled access to people after one year of completion of landfill capping.
- Other infrastructure: Provide details of other infrastructure proposed for the project including internal roads, boundary wall, admin building, laboratory building etc.
- 8 Operation and Maintenance (O&M): For 15 years from the date of Taking Over.

All of the above should be suitably supported with the engineering drawings, manpower requirement, fuel/power requirement and explanation of estimated time schedule.

Based on the above work requirement, the Bidder will provide details of plant, machinery and equipment proposed to be deployed in the works and their status (new or old).

The Bidder shall also provide a list of key personnel proposed to be deployed for the work with their curriculum vitae.

If the Bidder also quotes for an alternative design, the design should be accompanied with engineering drawings, BoQ and rates for all works/materials utilized in the project design in the following format:

Sr. No.	Works/materials	Quantity	Rate	Amount	Drawing Reference
(a)	Closure element (1)				
1	Item 1				
2	Item 2				
3	Item				
(b)	Closure element (2)				
	Item 1				
	Item 2				
	Item				
(c)					

	RFP: Landfill Closure and gas/leachate management plan
VOLUME II. Finance	cial Proposal Requirements and Forms
VOLUME II. FIIIaii	ciai i roposai ixequii ements anu rorms

TABLE OF CONTENT

- 1.0 Summary of Financial Proposal
- 2.0 Form 1 Break up of Capital Cost
- 3.0 Form 2 Break up for O&M Cost

1.0 SUMMARY OF FINANCIAL PROPOSAL

(A) Capital Cost Investment (Grand total of Form 1)

(B) Total O&M Cost (Grand total of Form 2)

(C) Total (A) + (B)

Rs.

Rupees in words

Note: The price should be inclusive of all applicable taxes, levies, duties etc. under the prevailing laws of Government of India.

2.0 FORM 1 – BREAK UP OF CAPITAL COST

	Components		Capital Cost (Rs)						
SN		Manpower	Material	Equipment and machinery	Contingency	Subtotal			
1	Cut and fill requirement								
2	Provision of landfill cover								
3	Surface water drainage								
4	LFG collection system								
5	Leachate management system								
6	Other infrastructural facility								
а	Administrative building								
b	Boundary wall								
С	Road								
d	Monitoring network								
Α	Subtotal								
В	LFG Flaring system								
С	Power Plant (if applicable)								
D	Subtotal (Rs)								
E	Grand Total (Rupees in words)				1				

3.0 FORM 2 – BREAK UP FOR O&M COST

	Components	Capital Cost (Rs)						
SN		Manpower	Equipment and machinery	Consumable/ Fuels etc	Contingency	Subtotal		
1	Cut and fill requirement							
2	Provision of landfill cover							
3	Surface water drainage							
4	LFG collection system							
5	Leachate management system							
6	Other infrastructural facility							
а	Administrative building							
b	Boundary wall							
С	Road							
d	Monitoring network							
Α	Subtotal							
В	LFG Flaring system							
С	Power Plant (if applicable)							
D	Subtotal (Rs)							

E Grand Total (Rupees in words)

Note: A cost escalation of __()__ % per year, would be incurred to the cost components during entire O&M period

	RFP: Landfill Closure and gas/leachate management plan	
VOLUME III: Proje	ct Description & Technical Specification	
VOLUME III: Proje	ct Description & Technical Specification	
VOLUME III: Proje	ct Description & Technical Specification	
VOLUME III: Proje	ct Description & Technical Specification	
VOLUME III: Proje	ct Description & Technical Specification	
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VOLUME III: Proje	ct Description & Technical Specification	

PROVIDE PROJECT DESCRIPTION & TECHNICAL SPECIFICATION ALONG WITH BASIC DRAWINGS BASED ON DETAILED SITE SPECIFIC TECHNICAL ASSESSMENT. A SAMPLE TEMPLATE IS PROVIDED BELOW WITH ONLY SPECIFICATION OF CLOSURE MATERIAL BASED ON MSW RULES, 2000.

1.0 [Name of Dumpsite] Existing Condition

Provide description of the existing dumpsite

- Location
- Waste Quantity/ Characteristics of Waste dumped
- Operational History Years of operation, waste quantity dumped year wise
- Surrounding site features
- Location Map
- Site Pictures
- Site Contour & Topography map

2.0 Closure Plan for [Name of Dumpsite]

The proposed closure plan for [Name of Dumpsite] should have following components

- Slope reformation and waste levelling
- Closure cover
- Landfill gas collection & management system
- Leachate collection & management system
- Surface runoff management system
- Other infrastructure (periphery road, administrative building, boundary wall landscaping, electrical works etc.)

Following section provides details of each of the foresaid components

2.1 Slope Reformation and Waste Levelling

Provide detail plan for slope reformation/ waste levelling plan.

TABLE 1: CLOSURE DETAILS FOR [NAME OF SITE]

SN	Item	Description
1.	Side Slope	
2.	Landfill operational uptil	

3.	Waste receipt rate:	
(a)	Municipal Solid Waste (MSW) (TPD)	
(b)	C&D waste (TPD)	
4.	Earthwork in cut and filling back and compaction for slope reformation (cum)	
5.	Base Elevation (m)	
6.	Maximum Elevation (m)	
7.	Elevation of 10m wide three benches (m)	
8.	Capacity of the landfill for future waste (cum)	
9.	Surface Area (3-D) (sqm)	

Provide proposed contour plan and sectional details for [name of site]

2.2 Proposed Closure cover Layer

Modified closure cover for the closure of the {Name of Site} site has been proposed. This cover layer has been designed based on the technical requirements of each cover component and the mandatory requirements as per MSW rules. The cover layer proposed for the project is composite type, in order to provide additional stability to the slope of [proposed slope]. Following section provide details of the cover layer proposed for [Name of Dumpsite].

Top Soil:

Vegetative layer made up of topsoil of thickness 45 cm is proposed as the top most layer. The soil for this layer shall be transported from approved borrows pits suitable for growing vegetation and developing landscaping.

LFG Collection Layer:

A LFG collection layer made up of granular soil of permeability coefficient (k) greater than 10^{-2} cm/sec of 15cm thickness is proposed below the top soil to accommodate network of header and feeder pipes for LFG collection. Construction and Demolition (C&D) waste (of 25 mm size) can also be utilised for the layer.

Drainage layer

6mm drainage composite is proposed below the LFG collection layer as drainage layer. The reasons for proposing 6 mm drainage composite over conventional granular soil are highlighted below

- Permeability coefficient (k) for drainage composite is similar to granular soil (greater than 10-2 cm/sec)
- The cost of granular soil in the state of Delhi is very high as compared to the drainage composite;
- Providing 6mm drainage composite reduces the overall thickness of cover layer at the steep slope of 1V:2.5H and also contribute towards increase in the slope stability, indirectly.

Impervious Layer:

An impervious layer of 1.5mm thick HDPE liner has been proposed below the drainage layer. This liner will act as a waterproof layer and also prevent the escape of landfill gas from the landfill into the atmosphere. One side textured HDPE liner is proposed for the side slope whereas smooth HDPE liner is proposed for the top cover. An additional protection layer of amended soil (15cm) below the liner has been proposed to safeguard against any infiltration.

Proper overlapping, jointing and anchoring of HDPE shall be provided to avoid leakage of water/landfill gas. The laying and spreading, jointing, etc shall be done as per the manufacturer's specification. On completion of the cover layer landscape would be developed over the closed landfill which will include green cover, shrubs, pathways etc.

Detail of the cover layer proposed for [Name of the dumpsite] site have been provided in Table 2

TABLE 2: DETAILS OF COVER LAYER – [NAME OF DUMPSITE]

	-		on on
	Component	Unit	Quantity
1.	Top soil (45 cm thick)	m^3	
2.	LFG collection layer of granular soil (15 cm thick) for	m ³	
	laying of Header & Feeder network		
	aying of fredder & recuer network		
3.	6mm drainage composite	Sq.m	
	,		
3.	HDPE smooth liner (1.5 mm thick) –top surface	Sq.m	
	, , ,		
4.	HDPE textured liner (one sided) – side slope	Sq.m	
		·	
5.	Protection Layer of amended soil(15 cm thick)	m ³	
	·		
6.	Developing greenery over top soil	ha	
	, , , , , , , , , , , , , , , , , , , ,		

2.3 Landfill Gas (LFG) Management System

- LFG extraction wells
- A network of header and feeder pipes,
- Condensate control system,
- Centrifugal Blowers for gas pumping
- 2.4 LFG Flaring/Power Production Systems
- 2.5 Leachate Management System
- 2.6 Design of Boundary Wall (if applicable)
- 2.7 Design of peripheral road (If applicable)
- 2.8 Design for other structures

- Administrative Building
- Laboratory facility for post closure monitoring
- Site Electrification
- Landscaping
- Post Closure Monitoring