

REQUEST FOR PROPOSAL (RFP) FOR

FRONT END COLLECTION AND DISPOSAL OF MUNICIPAL SOLID WASTE FOR ZONE SOUTH (DMC SOUTH AREA) KARACHI, SINDH, PAKISTAN



Sindh Solid Waste Management Board (SSWMB)

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Preamble

Disclaimer

Though adequate care has been taken while preparing this document and information provided therein, but it is advised that the bidder must satisfy himself for the corrections and sufficiency of the Data. Information on any discrepancy should be intimated to this office immediately. If no information is received from any of the bidders within the time of submission date, it shall be presumed that this document is correct and complete in all respects. If considered necessary in the interest of work, Solid Waste Management Board Sindh (SSWMB) reserves the rights to modify, amend or supplement this document.

Section-I

1.1. Notice Inviting Tender

Date	
Provincial Govt. Grant	

Bid Reference No. NIT 12 / 2015-16

- 1) The Sindh Solid Waste Management Board (The Procuring Agency) will be receiving funds from the Provincial Govt. towards the cost of Front End Collection and Disposal of Municipal Waste for DMC (South) Karachi and it is intended that part of the proceeds of funds will be applied to eligible payments under the contract for the works of Front End Collection and Disposal of Municipal Solid Waste of Zone South (DMC South Area) as described in this proposal/bid documents. Bidding is open to all interested eligible National and International bidders/firms and consortiums (eligible bidders are defined in RFP/Bidding Document)
- 2) Sindh Solid Waste Management Board (SSWMB) invites sealed bids from interested firms or persons licensed by the Pakistan Engineering Council (PEC) in the category CB or CA (No Limit) for the works and discipline CE10 or CE01 or ME06 or ME05 and registered with relevant tax authorities of Islamic Republic of Pakistan. In case of Consortiums / Joint Ventures the relevant provisions of PEC Bye-laws are to be followed.
- 3) Bidder may obtain information by acquiring the RFP (Request for Proposal)/Bidding documents (BD) from the office of Sindh Solid Waste Management Board Bungalow No. D-47, Block-2, Clifton, Karachi Pakistan up to 29th September 2015 during the working days and hours.
- 4) The RFP Document/Bidding Document may be purchased by and interested bidder on submission of a written application to the above office and upon payment of a nonrefundable fee of Rs.5000/- or US \$50.
- 5) All bids must be accompanied by a bid security equal to 1% of the total bid amount in the currency in which the bid is priced/quoted as mentioned in the bid document.
- 6) The RFP Document/Bid Document duly filled in all respect in the manner described in the Document must be submitted latest by 30th September 2015 not later than 1500 PST at the office of SSWMB Bungalow No. D-47, Block-2, Clifton, Karachi Pakistan.

- 7) The Proposal/Bid Document will be opened at 1600 hours PST on the same day in presence of the bidders or their authorized representatives, who choose to attend at the address of SSWMB office mentioned above.
- 8) Sindh Solid Waste Management Board reserves right to annul the bidding process and reject all bids or proposal as per SPP Rules 2010.

Executive Director (Operations-I)Sindh Solid Waste Management Board

Section-I

Preamble

Section-I

1.2. Purpose of Request for Proposal (RFP)

The purpose of this RFP is to invite all eligible, reputed and experienced waste management firms or individuals whether National, International or in consortiums/ joint ventures in accordance with relevant provisions of PEC bylaws and SPPRA Rules and Regulations to submit their technical/operational and financial proposal for sweeping, collection/Transportation and disposal of MSW of Zone South (District Municipsl Corporation South Karachi Area under single stage two envelop procedure, open International competitive bidding method.

1.3. Scope of Work / Assignments.

- 1. Door to door collection of garbage & revamping of entire bin system.
- 2. Mechanical or manual Sweeping of roads, streets, lanes, footpaths, medians, green belts and open spaces.
- 3. Washing of specified important major roads and special areas as and when required on special occasions.
- 4. Lifting and transportation MSW from community dustbins sites & collection points to nearby designated Garbage Transfer Station (GTS).
- 5. Establishment of Scientific Monitoring and Tracking of Entire System i.e. vehicle, sanitary staff, assets etc.
- 6. Establishment of complaint management system.
- 7. Community awareness program and its implementation.

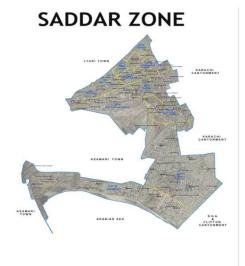
1.4. Brief Description of Zone South (DMC South Area)

District Municipal Corporation (South) is one of the Six DMC of Karachi City. Zone South (DMC South Area) comprises of the following zones:

- a) Saddar Zone.
- b) Lyari Zone.

Total No of UC	Population forecasted in 2015 at growth of 5% Per annum	orecasted or 2015 at in Sq	MSW Generation (MSW Generation Per Year	Existing Solid Waste Collection and Transportati on Vehicles	Available Human Resources (Staff)	Details at Annexure	
		5% Per (Ion) (Ion)		(Ton)		Office	Field	
22	2787990	27.48	1346.82	491590	147	140	3268	1-10

1.5. Map of DMC South



LYARI ZONE



1.6. <u>Definition &</u> Interpretation

- **a.** "Agreement" means agreement signed between the parties (SSWMB and Successful Bidder).
- **b.** "Client" means Sindh Solid Waste Management Board i.e. The Procuring Agency.
- **c.** "Contractor" means the bidder, any entity or person, firm, company, joint venture / consortium that may provide or provides the work and services under the agreement.
- d. "Days" mean calendar days.
- e. "Years" mean calendar year
- f. "RFP" means Request for Proposal prepared by client.
- **g.** "Proposal" means the technical / operational proposal and financial proposal submitted by the bidder.
- **h.** "W&S" the mean the work and services to be performed by the contractor pursuant to the agreement.
- i. "Terms of Reference (TOR)" means the document in RFP, which explains the objective scope of work activities task to be performed, respective responsibilities of client and contractor and expected results and deliverables of assignments.

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- **j.** "Bidder & Tenderer" means any person or persons, contractor, firms, consortium of firms, joint venture submitting the bid or tender.
- k. the word "Tender" is synonymous with "bid" and the work tender document with bidding document and proposal document
- I. "Contract price" means the sum stated in the letter of Acceptance/Award as payable to contractor for execution, performance and completion of works and services according to the scope of work
- m. _"Client representative" means any representative of client appointed from time to time.
- n. "works" means all services to be provided and work to be done by the contractor under the contract.

1.7. Abbreviations

- a) MSW = Municipal Solid Waste
- b) UCs = Union Councils
- c) EPA = Environmental Protection Agency
- d) SPPRA = Sindh Public Procurement Regulatory Authority
- e) SWM = Solid Waste Management
- f) SSWMB = Sindh Solid Waste Management Board
- g) EOBI = Employees Old Age Benefits Institution
- h) \$ = US-Dollars Currency of United State of America
- i) PA = Procuring Agency/Sindh Solid Waste Management Board

1.8. Sections of RFP/Bidding Documents

All Section of RFP and Annexure, Forms are integral part of RFP and considered as tender / bidding documents.

1.9. <u>Procuring Agency Rights to cancel any or all proposal / tender.</u>

The SSWMB is not bound to accept any proposal and reserves the rights to annual the selection process at any time prior to agreement / award of contract without thereby incurring any liability to the bidder. The applicant will not be

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entitled to make any claim from Procuring Agency due to cancellation of the tender.

Section II

Instructions to Contractor/Bidder

Section II

Instructions to Contractor/Bidder

2.1. Information Related to Procuring Agency

Name : Sindh Solid Waste Management

Board.

Address: Bungalow No.D-47, Block-2, Clifton,

Karachi - Pakistan.

Phone No. : +92 21 3537 2982-4 and +92 21 35

Fax No. : +92 21 35863029

e-mail : <u>info@sswmb.gos.pk</u>

Website : www.sswmb.gos.pk

2.2. Language of Proposal and Correspondence

All documents/ proposal and respective correspondence shall be made / prepared in English Language.

2.3. Method of Procurement.

International competitive bidding under SPP Rules 2010 (Amended 2013)

2.4. Period of Contract.

Seven (07) Years after issuance of Work Order extendable for further Three (03) Year based on mutual written consent of contractor and the client and on satisfactory performance of contractor and on same terms and conditions.

2.5. Pre-Proposal Meeting/Pre-Bid Meeting

Pre-proposal meeting will be held on 27th August 2015 at 1500 hours at the office of the SSWMB.

2.6. Clarification, Modification of Bidding Document

Contractor/bidder may request a clarification of RFP Documents not later than 07 days before the proposal [14]

South (S.L)

submission date. Any request for clarification must be sent in writing to the Procuring Agency address. The procuring agency will respond in writing including explanation to the queries to all bidders/contractors, should the procuring agency deem it necessary to amend the RFP as a result of a clarification. It shall be done according to the concerned clause mentioned in this section.

2.7. Visit of the Area of Service/site visit.

- a. The bidder are advised to visit the area of service/site of works and its surroundings and obtain all information that may be necessary for preparing their proposal/bid, and to acquaint themselves with the area, the existing system, the vehicles, offices, workshops and workforce of the existing system of Solid Waste Management of District (South). However the contractors/bidders shall have to do so at their own expenses.
- b. The bidders and any of their personnel or agents will be granted permission by the procuring agency to enter upon his premises and lands for the purpose of such inspection, but only upon the express condition that the bidders, their personnel and agents, will release and indemnify the procuring agency, his personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of such inspection.

2.8. Utilization of Existing Workforce on SWM of DMC South (mandatory)

- a) It is mandatory upon the contractor/bidder to utilize the transferred staff out of the existing SWM workforce of DMC South under this contract. The proposal must include the utilization plan for existing workforce.
- b) Zone wise detailed of staff, their grade wise salaries and cadre of service are given in Annexure 1-18. However, it should be clear that around 1000 employees (plus minus 10%) will be transferred on detailment basis to the contractor. The approximate salary paid to them by thue DMC (South) would be around Pak Rs. 300 million. The bidder must keep this

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- in mind and give a discount in the Tipping Fee proposed.
- c) Contractor/bidder however may be allowed to select the workforce (Field & Office Staff) on the basis of fitness and willingness basis.
- d) The workforce will be provided to the contractor/bidder on detailment basis by the procuring agency for the period of contract.
- e) The contractor/bidder will pay 25% (Twenty Five Percent) detailment allowance on their running basic pay directly to the workforce provided to the contractor on the basis of their performance.
- f) The detailment allowance must be paid to each individual through his or her bank account only and not through open cheque, cross cheque or in the form of cash amount. The details of such allowance so paid must be provided to the procuring agency mentioning the Name, Father's/Husband's Name, Employee No., Amount of allowance and his/her performance at the work.
- g) Detailment allowance shall be calculated on the basis of Running Basic Salary of the individual worker provided to contractor.
- h) The contractor will provide 48 Nos. soaps and 24 Nos. of dusters per year to the individual workforce of grade 01 to 07 against an acknowledgement receipt, copy of which to be provided to the procuring agency.
- i) Casual Leave as admissible under the Sindh Local Council Leave Rules will be granted to the individuals on the request in writing by any individual workforce. Detail of the same shall be provided to the procuring agency in writing.
- j) The contractor/bidder shall pay one honorarium of Rs.1,500/- to the individual of workforce of grade 01 & 02 of service cadre of Sanitary Workers, Muqaddam and Motor Coolie and one honorarium of Rs.2,000/- to the individual workforce of grade 05 to 07 of service cadre i.e. Drivers and Heavy Drivers. The honorarium is to be paid on the occasion of Eid UI Azha.
- k) A committee will be constituted by SSWMB comprising of the officers of SSWMB and nominated persons of successful bidder for the purpose of redressal of any

dispute that arises between contractor/bidder and the workforce.

- The cases of Earned Leave or Medical Leave requested by any individual of workforce must be sent immediately to the committee or authorized officer for necessary action. The committee or authorized officer will decide that either detailment of such individual is cancelled or the leave is granted as per the Sindh Local Council Leave Rules. The decision of the committee shall be final and conclusive.
- m) Contractor may reject any or some individual workforce if contractor considers that they are unwilling to work with the contractor or if not satisfied with their performance. In case that workforce made available to contractor carries out strikes contrarily to law, the contractor shall immediately inform the procuring agency of this act of misconduct by the workforce. The committee formulated by the SSWMB for the purpose to resolve issues of workforce will take appropriate action in this regard and the decision of the committee shall be conclusive and binding to the workforce and the contractor.
- n) The total amount of Gross Salary of workforce of DMC South provided on detailment to the contractor shall be deducted from contractor's monthly bill payable against the works and services executed.
- The lien of workforce so provided to the contractor on detailment will however remain with the Parent Department or Procuring agency.
- p) The contractor must account for the costs incurred on the benefits and salaries of the workforce provided to the contractor in their financial proposal/bid cost in the manner described under the contract document or as decided by the Procuring agency before the final agreement.
- q) The contractor shall recruit and provide staff and workers in addition to the workforce of DMC South, to fulfill the requirements to take up the scope of work satisfactory as mentioned in the contract/RFP Document.
- r) For further detail regarding utilization of existing workforce of DMC South reference be made to technical specification of RFP document.

2.9. Utilization of Existing Solid Waste Collection and Transportation Vehicles of DMC South (Optional)

The contractor may take over a portion of the existing fleet of MSW collection and transportation vehicles of DMC South up to 20% of the total fleet required for the work and these vehicles may be provided by the procuring agency on sell basis with following terms:

- i. The Contractor may inspect the existing fleet that DMC can spare and decide to take over.
- ii. A Joint Committee will assess the value of the vehicles and that amount will be then recovered in equal installments up to three years and adjusted from the monthly bill of the tipping fees.
- iii. In addition to this 20% old vehicles from DMC (South), the contractor may use 10% more hired vehicles but all vehicles must be revamped and improved in an environment friendly manner.

2.10. Utilization of Existing Facilities i.e. Workshop, Offices of DMC South

The contractor may utilize existing offices in the area of respective UCs of the Zone and the central workshop of DMC South, however this facility shall be provided to the contractor on the basis and such terms and conditions as defined and mentioned in the contract agreement

The contractor will be responsible to keep these offices, workshop hander over to them in neat, clean and <u>well-maintained</u> conditions throughout the contract period.

No major addition, alteration in existing structure shall be allowed. The contractor shall be responsible for the payments of all utility bills in respect of theses offices and workshop on due dates and a copy of the same shall be submitted to procuring agency.

Area, Location of workshop and offices is mentioned in the annexures

2.11. Amendments through Addendums

At any time before submission of proposal the procuring agency may amend the RFP by issuing an addendum in

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writing. The addendum shall be sent to all contractor / bidders and will be binding on them. The contractors shall acknowledge receipt of all addendums issued by the procuring agency. To give reasonable time to contractor to take in to account these amendments in their proposal, the SSWMB may, if the amendment is substantial, extend the deadline for submission of proposal. Amendments so made shall form binding on the bidders and will be part of this document.

2.12. Cancellation of Tender before Tender Time

Cancellation of tender/proposal before submission date & time if the matter are found in the tender document which are not possible to be corrected or in case where procuring agency find if necessary, the tender may be cancelled before last hours of submission of tender. If tender is cancelled all submitted tender documents shall be deemed to be rejected and returned to the contractors without being opened. The bidder/contractor will not be entitled to make any claim from procuring agency due to cancellation of tender.

2.13. Proposal Preparation /Cost of Bidding.

The bidders shall bear all costs associated with the preparation and submission of their respective proposals/bids, and the procuring agency will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

2.14. Bid submitted by a Joint Venture.

Bids submitted by a joint venture of two (2) or more firms shall comply with the following requirements:

- (a) one of the joint venture partners, lead firm shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the joint venture partners/firms;
- (b) the bid, and in case of a successful bid, the Form of Contract Agreement shall be signed by the authorized partner so as to be legally binding on all partners/firms;
- (c) the firm/partner-in-charge shall always be duly authorized to deal with the procuring agency regarding all matters related with and/or incidental

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to the execution of works as per the terms and Conditions of Contract and in this regard to incur any and all liabilities, receive instructions, give binding undertakings and receive payments on behalf of the joint venture;

- (d) all partners of the joint venture shall at all times and under all circumstances be liable jointly and severally for the execution of the contract in accordance with the contract terms and a statement to this effect shall be included in the authorization mentioned under Sub-Para (a) above as well as in the Form of Bid and in the Form of Contract Agreement (in case of a successful bid);
- (e) a copy of the agreement entered into by the joint venture partners shall be submitted with the bid stating the conditions under which it will function, its period of duration, the persons authorized to represent and obligate it and which persons will be directly responsible for due performance of the contract and can give valid receipts on behalf of the joint venture, the proportionate participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. No amendments / modifications whatsoever in the joint venture agreement shall be agreed to between the joint venture partners without prior written consent of the procuring agency;
- (f) submission of an alternative Letter of Intent to execute a Joint Venture Agreement shall be mandatory.
- (g) Bidders shall also submit proposals of work methods and schedule, in sufficient detail to demonstrate the adequacy of the bidders" proposals to meet the technical specifications and the timely completion as per schedule each day, each month and every year of the contract till completion of the contract successfully.

2.15. Place, Date, Time and Manner of Submission of Tender/Bid Document/RFP

i) The bidder/contractors are required to submit their proposal/bid at the office of Sindh Solid Waste Management Board not later than 1500 Hours PST on 30th September 2015 in the office of the SSWMB.

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- ii) The Contractors/bidders must submit their proposal/bid under single stage two envelope procedures of SPP Rules. Proposal Bid shall comprise a single package containing two separate sealed envelopes. Each Envelop shall contain separately the Technical/operational proposal and the financial proposal.
- iii) Envelopes shall be marked as Technical/Operation proposal and Financial Proposal in bold and eligible letters.
- iv) The package (Outer Envelop) containing the envelopes shall be marked as proposal for Front End Collection and Disposal of Municipal Solid Waste for DMC South Karachi Division in Bold and legible letters.
- v) The package (outer envelope) shall also be marked the submission address of the Proposal/Bid and Name, Address of Contractor/Bidder.
- vi) The Package (Outer Envelop) shall be sealed, signed and stamped by the contractor or its authorized representative.
- vii) Submitted tender shall not be retrieved or changed for any reason whatsoever.
- viii) Proposal/Bid shall be submitted by hand or may be sent by registered airmail post. Proposals/ bids that are not submitted until due date and time of the submission of proposals/bid will not be considered.
- ix) Where delivery of bid is made by registered mail and the contractor/bidder desired to receive an acknowledgement of receipt of such bid, he shall make a request for such acknowledgement in a separate letter attached to the package (outer envelope) but will not be a part of sealed envelope.
- Upon request, acknowledgment of receipt of bids will be provided to those making delivery in person or by representative.
- xi) Bid submitted through telegraph, telex, fax or e-mail will not be considered.
- xii) Each page of the proposal/bid document must be signed by the contractor/bidder, in case the [21]

proposal/bid document is signed by the authorized representative of the contractor then, the authorization shall be in the form of written power of a attorney accompanying the proposal or in any other form demonstrating that the representative has been duly authorized to sign.

- xiii) The procuring agency at his discretion, extend the deadline for submission of bids/proposals by issuing an addendum notified in newspaper. All rights and obligations of procuring agency and the contractor will thereafter be subject to the deadline as extended.
- xiv) The Technical/operational proposal shall not include any financial information. A Technical proposal containing financial information may be declared non responsive.

The technical proposal shall provide the information as indicated in the following Para.

- a) A brief introduction of contractor's organization and an outline of recent experience of contractor (each, partner in case of joint venture) on assignments of similar nature.
- b) A description of the approach and methodology for performing the assignment covering the following subject, technical approach, methodology, organization and staffing.
- c) The list of the proposed professional, staff team by area of expertise, the position that would be assigned to each staff members and their tasks.
- d) While preparing the technical proposal, contractor must give particular attention to the following:
 - If the contractor considers that it may enhance its expertise for technical operational management and monitoring parts for the assignment to accomplish in a best suited way and in accordance to the requirement of RFP Document he may associate with other contractors/firms. Any such association must clearly indicated in the technical proposal. In case of joint venture, all partners shall be jointly

- and severally liable, and shall indicate the lead firm of joint venture.
- e) Alternative professional staff shall not be proposed and only one Curriculum Vitae (CV) may be submitted for each position.
- f) Comments and suggestions may be given on the terms of reference including workable suggestions that could improve the quality, effectiveness assignments of and requirement of the DMC (South) workforce, machinery and facilities including administrative support, office, workshop and rehabilitation scavengers and any other. However client is not bound to consider the suggestions as whole or partially or otherwise as indicated in RFP Document.

xv) The financial proposal shall include all cost

- a) Associated with scope and performance of work, management and operational cost, remuneration for staff monitoring system and other incidental charges business taxes, local & provincial income tax. taxes. professional taxes, duties, fees, that may levied according to the laws and regulation in being prior to the closing date of submission of proposal and taxes and fees on the equipment, and machinery required and on services performed under this contract. Nothing in the contract shall relieve the contractor/bidder from his responsibilities to pay taxes that may be levied on the profit made to him in respect to contract.
- b) The financial proposal shall contain NO OVERWRITING, CORRECTION and CUTTINGS, the contractor or his authorized represent ative who signed the proposal must initial such corrections, overwriting and cuttings.
- c) The contractor/bidder is required to quote the cost of every work item and total cost of works correctly in figure and words. The price and cost of works and services under this contract must be expressed in US Dollars (\$).

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- d) Bid Security equal to 2% (two percent) of total bid amount in the shape described in clause 2.24 will be attached with financial proposal No Cheque, Demand Draft or Insurance Guarantee shall be accepted as bid security.
- e) All the cost towards salaries, benefit, allowances and honorarium of the work force provided by procuring agency to the contractor on detailment shall be incorporated in the financial proposal.
- f) All cost towards maintenance, repairs, fuel, oil, lubricants, tires, batteries and others, that may occur on the vehicles of the DMC (South) may be incorporated in the financial proposal.

2.16. Currency Unit of Offers and Payments

The bidder shall quote the bid price for each work, item (Services) and the total bid amount in US Dollar (\$) and the interim/running monthly bill payment will be made to contractor in Pakistani Currency at the conversion/exchange rate declared by the State Bank of Pakistan on the date of submission of interim/running monthly bills.

2.17. Conditional and Partial Offers

Contractor / bidder are hereby cautioned that proposal with conditional offers or deviation from the conditions and instructions contained in RFP Document or other requirement stipulated therein shall result in rejection of proposal /bid as non responsive and shall not be considered. Partial offers are not acceptable under this contract. Acceptance shall only be granted for complete job.

2.18. Alternative Proposal not Acceptable. One Bid per Bidder

Alternative proposal is not acceptable. Only one proposal fulfilling all conditions, instructions and requirement contained in RFP should be submitted by each bidder. Alternative proposal shall not be entertained.

Each bidder shall submit only one bid either by himself, or as a partner in a joint venture. A bidder who submits or participates in more than one bid will be disqualified.

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2.19. Eligible Bidder.

This Invitation for Bids is open to all interested bidders who are eligible under provisions of Sindh Public Procurement Rules as mentioned below and the criteria given in the Notice Inviting Tender (NIT)/ Bidding Document.

Firms and individuals, national or international, may be allowed to bid for the work. Any conditions for participation shall be limited to those that are essential to ensure the bidder's capability to fulfill the contract in question.

- (a) Bidders may be excluded if;
 - (i) as a matter of law or official regulations, commercial relations are prohibited with the bidder's country by the federal government, or
 - (ii) a firm is blacklisted/ debarred by the procuring agency and the matter has been reported to the Authority, subject to Rule 30 of Sindh Public Procurement Rules 2010.
- (b) Government-owned enterprises or institutions may participate only if they can establish that they are;
 - (i) legally and financially autonomous, and
 - (ii) operate under commercial laws.

Provided that where government-owned universities or research centers in the country are of a unique and exceptional nature, and their participation is critical to project implementation, they may be allowed to participate; and

Bidders shall include national, international companies and Consortiums or Joint Ventures.

- (c) The national Bidders must be:
 - (i) registered with Pakistan Engineering Council in particular category and discipline,
 - (ii) registered with relevant tax authorities (income/sales tax, wherever applicable)
- (d) The international bidders can participate and when they are successful, they will be give appropriate time to get themselves registered with PEC and relevant tax authorities in Pakistan before signing of the Agreement.

2.20. **Disqualification for Participating in Tender**

Contractor or sub contractor cannot participate in tender in any manner directly or indirectly, in their name or in the name of any other person or firm.

- Those who are prohibited to participate in tender by a. any Govt. institution, authority and those who prohibited by law due to having any criminal record or convection.
- b. Those who have been declared bankrupt by the authorities or have filed bankruptcy.
- C. Those who have been declared or announced as an insolvent by court of law or tribunal or any other authorities or institution.
- d. Those who are under liquidation.
- Those whose affairs are run by any tribunals. e.
- f. Those who have suspended their affairs or those who are in similar position as per the law of their country.
- Those who have been declared defaulter of social g. security contribution or premium payments under the law of Pakistan or as per law of their country.
- Those who have been declared defaulter of taxation h. or revenue department for nonpayment of income tax, sales tax, customs duties, or any other tax levied from time to time in Pakistan or as per law of their country.
- i. Those who have been condemned by decision of any court or law or tribunal because of their nonprofessional or unethical activities or professional malpractices.
- j. Those who have been determined by any institution or organization or authority or agency for adopting or performing non professional attitude or unethical or immoral activities or professional malpractices and such determination resulted from administering them during their jobs.
- k. Those who do not provide the required information or provided misleading of false representation or

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- deliberately suppressed the information to be provided as required in RFP Document.
- I. Those who have been prohibited from professional activity by the Chamber of Commerce in Pakistan or any other equivalent body established for same purpose in the country where they are registered before the date of submission of the bid.
- m. The contractors/bidders who are the blacklisted by Federal Govt., Provincial Govt., Autonomous Bodies and State Bank of Pakistan.

2.21. Exclusion Prohibition and Acts forbidden

The contractor/bidder shall be excluded from participating in tender under following circumstances.

- a. Those who are authorized by procuring agency in any way for preparation of RFP and the committees set out by the procuring agency in this regard.
- b. Those who are authorized by the procuring agency to finalize and to approve the tender process.
- c. The institutions established, with whatsoever reason, in relation with the procuring agency or existing structure of the procuring agency and institution such as foundation, association, union and the companies associated with the procuring agency.
- Those firms and companies who are rendering the advisory or consultancy services in preparation of RFP Document.
- e. The following acts and attitude are forbidden in the tender:
 - To rendered the activities of other participants doubtful, to obscure them from participation in the tender or to offer an agreement to the participant or to influence them to act in a manner, which will effect the other participant or tender process
 - ii. The act and attitude towards fraud, threat, influence, bribery or by any other way to win the tender.

- iii. To issue and use false documents regarding Bid Security or Performance Security etc.
- iv. More than one offers in the tender directly or indirectly in the name of themselves or in the name of others, as in person on in mandate.

The Contractor who participate inspite of these disqualification, prohibitions and exclusions shall stand excluded and their bid security shall be forfeited.

2.22. Subcontracting and Responsibilities.

Bidders/contractors may execute subcontracts for services up to 30% (Thirty Percent) of the total services for each job of solid waste management collection/transportation, door to door collection, manual and mechanical sweeping and mechanical washing and other services which are covered under this RFP Document, subject to approval of SSWMB. The contractor/bidder is responsible for performance of subcontractors to the procuring agency.

2.23. Bid Validity.

Validity period of proposal / bid is 120 (One Hundred and twenty) calendar days following the last date of submission of RFP/Bid Document. Bidder/Contractor may be requested to extend the validity period in writing, and consent of the bidder shall be obtained. If applicants do not agree in such extension bid security of the applicant will be returned.

2.24. Bid Security.

The bidders are required to furnish a bid security equal to 1% (One percent) of total bid amount in the currency in which the bid is priced/quoted, which shall remain valid for a period of 28 (twenty eight) days beyond the validity period of the bid.

The proposal must accompanied with a bid security equal to 1% (one percent) of the contract price in the currency in which the bids is priced/quoted in the form of bank draft / payorder or in the shape of bank guarantee from any scheduled bank of Pakistan in favour of SSWMB.

2.25. Responsiveness of Bid to Bidding Document/RFP.

In preparing their proposals contractors are expected to examine in detail the document comprising the RFP. Material deficiencies in providing the information requested in the RFP document may result in rejection of a proposal as non-responsive.

Prior to detailed evaluation of Bid the procuring agency will determine the substantial responsiveness of the bid to bidding document. A substantially responsive bid is one, which confirms to all the conditions of bidding document without material deviation.

A material deviation is one

- i) Which effects in any substantial way the scope, quality or performance of works and services.
- ii) Which is in consistent with bidding document/RFP and limits in any substantial way, procuring agency rights or the obligation of the contractor/bidder under the scope of work or restriction/adoption of such conditions that would effect unfairly the competitive position of the bidder presenting substantially responsive bid.

2.26. Examination of Bids and Determination of Responsiveness.

- a. Prior to the detailed evaluation of bids, the procuring agency will determine whether the bidder fulfills all codal requirements of eligibility criteria given in the tender notice such as registration with tax authorities, registration with PEC, turnover statement, experience statement, and any other condition mentioned in the NIT and bidding document. If the bidder does not fulfill any of these conditions, it shall not be evaluated further.
- b. Once found to be fulfilling the eligibility criteria, as mentioned in sub- clause a. and in clause 2.19, the bids of eligible bidders will be evaluated for technical responsiveness as per specification and criteria given in the bidding documents. Technical and financial evaluations may be carried out in accordance with, single stage-two envelopes, bidding procedures.
- c. A bid will be considered technically responsive if it (i) has been properly signed; (ii) is accompanied by the required bid security in the manner described in the bid document; and (iii) conforms to all the terms, conditions and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (i) which affect

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in any substantial way the scope, quality or performance of the works; (ii) which limits in any substantial way, inconsistent with the bidding documents, the procuring agency's rights or the bidder's obligations under the contract; or (iii) adoption/rectification whereof would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

d. If a bid has major deviations to the commercial requirements and technical specifications will be considered technically non responsive. As a general rule, major deviations are those that if accepted, would not fulfill the purposes for which the bid is requested, or would prevent a fair comparison or affect the ranking of the bids that are compliant with the bidding documents.

(A). Major (material) Deviations include:-

- (i) has been not properly signed;
- (ii) is not accompanied by the bid security of required amount and manner;
- (iii) failing to respond to specifications;
- (iv) failing to comply with Milestones/Critical dates provided in Bidding Documents;
- (v) sub-contracting contrary to the Conditions of Contract specified in Bidding Documents;
- (vi) refusing to bear important responsibilities and liabilities allocated in the Bidding Documents, such as performance guarantees and insurance coverage;
- (vii) taking exception to critical provisions such as applicable law, taxes and duties and dispute resolution procedures;
- (viii) a material deviation or reservation is one :
 - (a) which affect in any substantial way the scope, quality or performance of the works:
 - (b) adoption/rectification whereof would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

(B) Minor Deviations

Bids that offer deviations acceptable to the Procuring Agency and which can be assigned a monetary value may be considered substantially responsive at least as to the issue of fairness. This value would however be added as an adjustment for evaluation purposes only during the detailed evaluation process.

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e. If a bid is not substantially responsive, it will be rejected by the procuring agency, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

2.27. Return of Bid Security.

- a. The bid security of the contractor / bidder who is awarded the work shall be retained and the bid security of other bidders shall be returned (in the shape it is deposited) after award to successful bidder.
- b. Bid security of the successful bidder (to whom the contract is awarded) will be returned upon submission of performance security. (in the shape it is deposited)

2.28. Forfeiture of Bid Security.

The bid security may be forfeited

- a. If the contractor/bidders withdraw his bid during the period of bid validity.
- b. If the contractor/bidders does not accept the correction of his bid price.
- c. If the successful bidders fails
 - a. To furnish required performance security
 - b. To sign the agreement

2.29. Proposal/Offers to be non responsive without bid security.

Proposal/offers, which are not accompanied with, required amount of bid security in the shape noted above will be rejected as non responsive.

2.30. Evaluation Criteria

Criteria, sub-criteria and point system for evaluation of technical proposal are as under:

1.	Company Profile	Marks
1.1	Number of Similar assignment /work completed by contractor during last five years	5
1.2	Value of Similar Assignment/works	10
1.3	Value and Numbers of appropriate Solid Waste Machinery owned by the company	10
1.4	Organization Structure/Relevant Experience of the firm	5
1.5	Net worth (Financial) of the contractor	10

	including bank financing not less than one		
	billion rupees.		
	Sub Total	40	
2	Technical/Operational approach &	Marks	
	Methodology.		
2.1	Approach & Methodology for the works &	10	
	services		
2.2	Responsiveness to RFP	10	
2.3	Goal Oriented Work Plan	15	
	Sub Total	35	
3	Technical/Operational & Operational	Marks	
	Team		
3.1	Education & Qualification	10	
3.2	Relevant background	10	
3.3	Time expend with the contractor	5	
	Sub Total	25	
	Grand Total	100	
The Minimum Technical Score to qualify is 75 Marks			

2.31. Manner Place, Date and Time of Opening of Bid

- a. The proposal / bid will be opened on 30th September 2015 at 1600 hours by the Tender Opening Committee at the office of Sindh Solid Waste Management Board.
- b. Initially, only the envelope marked "Technical/Operational Proposal" shall be opened.
- c. The enveloped marked "Financial Proposal" shall be retained in the custody of client without being opened
- d. The evaluation committee of the procuring agency shall evaluate the technical/operational proposals on the basis of their responsiveness to RFP, applying the evaluation criteria, sub-criteria and point system specified in RFP Document without reference to the price. Any proposal which is found non responsive shall be rejected at this stage and particularly if the proposal fails to achieve the minimum technical score indicated in RFP document. No amendment in technical proposal shall be permitted during technical evaluation.
- e. After the technical evaluation is completed, the procuring agency shall inform the contractor/bidders, the technical scores obtained by their technical proposals and shall notify those contractor/bidder whose proposal did not meet the minimum qualifying marks or work considered non responsive to the RFP and their proposal will be returned unopened after completing the selection process.

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- f. The procuring agency shall simultaneously notify in writing to the contractor that have secured the minimum qualifying marks and that the date and time and location for opening of financial proposals.
- g. The financial proposals shall be opened publically in the presence of contractor or their representative who chose to attend.
- h. Rectification of arithmetical errors will be made on the basis that if there is discrepancy found between the unit price and total price, that is obtained by multiplying the unit price and the quantity, the unit price shall prevail and the total price shall be corrected accordingly.
- i. If there is the discrepancy found between words and figure, the amount in words shall prevail.

2.32. Preliminary Examinations and Determination of Responsiveness of Bid prior to detailed evaluation of Bid.

- 1. The client will examine the bid whether:
 - a. The bid is complete and does not deviate from the scope of work for any computational error.
 - b. That required securities are furnished.
 - c. The documents have been properly signed.
 - d. That the bid is valid till the required period.
 - e. That bid does not deviate from basic technical requirement.
 - f. That the bids are generally in order.
- 2. The Tender Proposal shall be rejected and not considered:
 - a. If each page of the proposal/bid is not signed by bidder.
 - b. If its validity is less than specified period.
 - c. If it is submitted for incomplete scope of work.
 - d. If it is conditional and contained alternative proposals.

- e. If it indicates that bid price not inclusive the amount of all taxes, incidental charges.
- f. If not accompanied with bid security
- g. If bidder participated in more than one bid.
- h. If received after the deadline for submission of bid.
- If submitted through Fax, Telex, Telegram or e-mail.

2.33. Clarification of Bid.

In examination, evaluation and comparison of bids the procuring agency may at his discretion ask the contractor/bidder for clarification of his bid. The request for clarification and response shall be in writing and no change in price or substance of bid shall be sought, offered or permitted. No bidder shall be allowed to alter or modify his bid after the expiry of deadline for the receipt of the bid.

2.34. Correction of Errors before Financial Evaluation.

- Bids determined to be substantially responsive will be checked by the procuring agency for any arithmetic errors. Errors will be corrected by the procuring agency as follows:
 - a. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern; and
 - b. where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern, unless in the opinion of the procuring agency 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 rate will be corrected.
- II) The amount stated in the Form of Bid will be adjusted by the procuring agency in accordance with the above procedure for the correction of errors and with the concurrence of the bidders. The amount thus corrected shall be considered as binding upon the bidder. If the bidder does not

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accept the corrected bid price, his bid will be rejected, and the bid security shall be forfeited in accordance with clause 2.28 hereof

2.35. Financial Evaluation and comparison of Bids

- i. The procuring agency will evaluate and compare only the Bids determined to be substantially responsive in accordance with clause 2.26.
- ii. In evaluating the Bids, the procuring agency will determine for each bid the evaluated bid price by adjusting the bid price as follows:
 - (a) making any correction for errors pursuant to clause 2.34:
 - (b) making an appropriate adjustment for any other acceptable variation or deviation.
- iii. The estimated effect of the price adjustment provisions of the conditions of contract, applied over the period of execution of the contract, shall not be taken into account in bid evaluation.
- iv. If the bid of the successful bidder is seriously unbalanced in relation to the procuring agency's estimate of the cost of work to be performed under the contract, the procuring agency may require the bidder to produce detailed price analyses for any or all items of the Bill of Quantities to demonstrate the internal consistency of those prices with the methods of performing the work and schedule proposed. After evaluation of the price analyses, the procuring agency may require that the amount of the Performance Security set forth in clause 2.36 be increased at the expense of the successful bidder to a level sufficient to protect the procuring agency against financial loss in the event of default of the successful bidder under the contract

2.36. Performance Security

- a. The successful bidder shall furnish to the procuring agency a Performance Security in the form of pay order or bank guarantee from any scheduled bank of Pakistan, and the amount stipulated in the bidding data and the Conditions of Contract within a period of 28 days after the receipt of Letter of Acceptance, but 07 days prior to expiry date of bid security.
- b. Failure of the successful bidder to comply with the requirements of Sub-clause a. or clauses 2.37 or 2.40 shall constitute sufficient grounds for the annulment of

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the award and forfeiture of the bid security.

c. Validity of performance security shall extend at least seven months beyond the date of completion of contract, or as mentioned in the bidding data to cover defects liability period or maintenance period subject to final acceptance by the procuring agency.

2.37. Signing of Contract Agreement.

- Within 14 days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the procuring agency will send the successful bidder the Contract Agreement.
- 2) The formal Agreement between the procuring agency and the successful bidder shall be executed within 14 days of the receipt of the Contract Agreement by the successful bidder from the procuring agency.
- 3) A procurement contract shall come into force when the procuring agency requires signs contract, the date on which the signatures of both the procuring agency and the successful bidder are affixed to the written contract.

2.38. Stamp Duty

The formal Agreement between the client (Procuring Agency) and the successful bidder shall be duly stamped at rate of 0.3% of sanctioned price and as stated in Letter of Acceptance. The successful bidder will pay stamp duty.

2.39. General Performance of the bidders

Procuring agency may in case of consistent poor performance of the contractor and his failure to remedy the underperforming contract may take such action as may be deemed appropriate under the circumstances of the case including the rescinding the contract and/or black listing of such contractor and debarring him from participation in future bidding process.

2.40. Integrity Pact

The bidder shall sign and stamp the Integrity Pact provided at Annexure-18 to the bidding documents. Failure to provide such Integrity Pact shall make the bidder non-responsive

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2.41. Defect Liability Period

Defect liability period shall be 06 (six) months after the date of completion and expiry of the contract agreement.

2.42. Return of Performance Security

The performance security of the contractor shall be returned after 06 (six) months (defect liability period) of completion and expiry of the contract period, upon determination that the obligation under the contract have been duly fulfilled in accordance with the provisions of contract document and agreement and the contractor has no liability to the procuring agency due to this contract. In case the liabilities of the contractor to the procuring agency and other tax amount due to the contract, then such amount shall be recovered from the amount of performance security and balance amount of the performance security shall be return to the contractor.

2.43. Retention Money.

Retention money shall be deducted from contractor's running performance bill at the rate of 10% (Ten Percent) of monthly bill amount. The retention money shall be released in the currency in which it is deducted (Pak Rupees) after every fifteenth running bill payments of the contractor for the works successfully executed for last twelve month. The amount due to the contractor in respect of retention money shall be released after deduction of such amount as are required to be recovered on account of default of contractor in performing his functions under this contract.

2.44. Format Contract Agreement

Format of Contract Agreement at annexure 11.

2.45. Form of Bank Guarantee for Performance Security

Format of bank guarantee for performance security is attached at annexure 9.

2.46. Inspection of Work & Services performed by the contractor

Representative of procuring agency shall inspect the work and services performed by the contractor under the contract and any deficiencies of work and services shall be notified in writing giving warning letter to the contractor. If the contractor does not recover/remove the deficiencies indicated a penalty as per penalty clauses shall be imposed.

2.47. Letter of Acceptance.

After announcement of tender decision, letter of acceptance will be sent to successful bidder/contractor, inviting for signing of agreement the contract agreement shall be signed within 14 (fourteen) days following the date of letter of acceptance.

2.48. Arbitration

Any dispute that is not amicably resolved shall be finally settled, unless otherwise specified in the Contract, under the Arbitration Act 1940 updated from time to time and would be held anywhere in the Province of Sindh at the discretion of procuring agency.

2.49. Information Related to Contractor / Bidder

a.	Contractor/Bidder Full Name		
b.	Address		
C.	Telephone No		
d.	Fax No.		
e.	E-mail Address.		

2.50. Bidding Data

Bidding Data

SrI#	Data		
1	Name of Work	Front End Collection and Disposal of Municipal Solid Waste for Zone South (DMC South Area) Karachi	

Sindh Solid Waste Management Board

2	The Name of Procuring Agency's Official	Executive Director-I SSWMB		
	Address	Bungalow No. D-47 Block-2, Clifton, Karachi, Pakistan.		
	Telephone#	+92 21 35372982-4		
	E-mail	info@sswmb.gos.pk		
	Facsimile	+92 21 35863029		
	Website	www.sswmb.gos.pk		
3	Procedure of open competitive biding (International Competitive Bidding – ICB)	Single Stage – Two Envelope Procedure a. Proposal shall comprise a single package containing two separate sealed envelopes. Each envelope shall contain, separately the Technical/Operational Proposal & Financial Proposal. b. The package (Outer Envelop) shall be clearly marked the name of the Proposal, date and time of submission and the address and place of the submission and name and address of the contractor/bidder c. The package (Outer envelop) containing the two envelopes must be sealed, signed and stamped by the contractor or its authorized representative.		
4	Proposal shall be submitted by hand or may be sent be registered airmail. Proposal submitted through telegraph, telex, fax or e-mail will not be considered.			
5	Financial Proposal to be submitted with Technical Proposals.			
6	Pre-proposal/Pre bid meeting will be held at the office of SSWMB-Bungalow No, D-47, Block-2 Clifton, Karachi, Pakistan On 27 th August 2015 at 1500 hours.			
7	The proposal/bid submission address is at the office of SSWMB Bungalow No.D-47 Block-2 Clifton, Karachi, Pakistan. Proposal must be submitted no later than the following date & time. 30 th September 2015 at 1500 hours PST			
8	Proposal must remain valid for 120 (One Hundred and Twenty) days after the proposal/bid submission deadline			
9	Bid Security Bid security equal to 1% of total Bid amount will be attached with financial proposal in the form of Pay order, Demand Draft or Bank Guarantee in favour of SSWMB. The bid security shall remain valid for a period of 28 days beyond validity period of the bid. Bid security shall be submitted in the same currency as that in which the bid is priced/quoted.			
10	Clarification may be requested not later than 7 (Seven) days before the submission date. The address for requesting clarification is Executive Director (Opearions-I) Sindh			
	Karachi Pakistan	agement Board Karachi, Bungalow No. D-47 Block-2 Clifton, mb.gos.pk, Facsimile +92 21 35863029		

Sindh Solid Waste Management Board

11	The proposal as well as all related correspondence exchange by the Contractor/Bidder and procuring agency shall be written in English however it is desirable that the firm's personnel have a working knowledge of the national and regional languages of Islamic Republic of Pakistan.
12	Alternative proposals are not acceptable; only one proposal fulfilling all conditions, instructions and requirement contained in RFP should be submitted by each bidder. Alternative proposal shall not be entertained.
13	Valid Registration Certificate of the following Authorities must be attached with the proposal . a. Pakistan Engineering Council in category CB or CA (No Limit) and Discipline CE10 or CE01 & ME06 or ME05 b. Tax Authorities & NTN No.
14	The Contractor/Bidder should quote the cost for each item of works under this contract and total bid price in US Dollars and interim payment/running bill payments shall be made in Pak Rupees (conversion/exchange rate declared by the State Bank of Pakistan shall be applicable of the date of submission of interim bill/monthly running bill for payment.
15	The Contractor/Bidder should quote the cost for each item of works inclusive of all National, Provincial, Local taxes, duties, expenses, contingencies and incidental charges.
16	Contractor/ Bidder must submit the original Technical/Operational Proposal, and the original of the Financial Proposal.
17	Successful Contractor/Bidder is required to submit performance security at 1% (one percent) of the contract amount in form of pay order or bank guarantee in favour of Sindh Solid Waste Management Board, in the currency in which the bid is priced/quoted.
18	Contractor/bidder shall undertake to sign Integrity Pact as per Format provided by SSWMB under this contract.

Section III

Description of Zone South (DMC South Area)

Section III

Description of Zone South (DMC South Area)

3.1. Saddar Zone- Brief Description

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South (S.L)

Saddar zone is in the North of Karachi City. Area of the zone is 21.8 Sq KM, highly populated with an estimated population as of 1998 static is 616151 persons in view of growth rate @ 5% per annum the population of this zone in year 2015 is about 1400000 person.

The Leaner distance between the geometrical centre of this zone to existing Land Fill Site is estimated to above 20 KM therefore MSW of Saddar Zone is inter transported through Garbage Transfer Station (GTS) whereas service radius of MSW collection points (dustbins sites) is about 1 KM.

The sketch map of MSW Collection and Transportation system in the zone is attached at Annexure-1.

The area of Union Council 01,02,03,05,06 and 07 is relatively small as compare to other UC of the Zone but MSW density is on higher side, due to relatively higher population density in these UCs, while area of UC No 04, 08, 09,10 and UC 11 is relatively large having density of MSW generation on relatively lower side. The population density of these UC's is also relatively low.

This zone comprises of 11 Union Council. Details of Municipal Solid Waste Generation in each UC and its population and other detail are given in Annexure-"1-6"

3.2. Demographics.

1) UC#1 Old Haji Camp.

The area of this UC includes surroundings of Timber Market, Spencer Eye Hospital, Akal Bonga Area and Ghas Mandi and comprises of low income and middle income groups. This UC comprise of apartments in majority and quarter type houses with less than 100 Sq yards and narrow lanes 12 to 20 ft in width. The UC is densily populated with MSW generation on higher side as compare to the other UCs of the Zone.

2) UC#2 Garden.

It is thickly populated area which includes surroundings of Love Lane Bridge, Portion of Ghas Mandi, Usmanabad, Siddiq Wahab Road, Azeem Plaza, Ghulam Hussain Qasim Road and comprises of

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low middle income to middle income group. The area comprises of apartments in majority and banglows of 500 to 1000 Sq Yards. The internal streets are 40 to 60ft in width and main roads of 150 to 200ft width. Almost all roads and streets are motorable and carpeted. People from low income to high income groups live in this UC.

3) UC#3 Kharadar .

The area is represented by the surroundings of old city quarters, Punjab Club, Meethadar, Kharadar, Bolton Market, M.A. Jinah Road, Denso Hall, Meriwether Tower, Qamar House, Wazir Mansion etc. It comprises of commercial building with high rise apartments and small houses. It is densely populated area with high rate of MSW Generation. Lanes are narrow width of 12 to 20 ft whereas general roads are of 40 to 60 ft wide. Peoples from low income to middle income group lives in this UC.

4) UC#4 City Railway Colony.

This UC includes, I.I. Chundrigarh Road, Shaheen Complex, KRS Capital Road, New Challi, Chamber of Commerce, S.M. Law College, Bholo Akhara and GPO Buildings etc. It comprises of apartments in majority and quarter type of housing units. Commercial area, offices, banks. Generation rate of MSW is in medium range. Roads are mostly carpeted, motorable with streets of 40 to 60ft width and main roads of around 100ft Width. People from low income to middle income groups occupy this UC.

5) UC#5 Nanak Wara.

This UC comprises of Nanakwara, surroundings of Civil Hospital, SIUT, Chand Bibi Road, City Court, Pan Mandi, Urdu College, Ranchore Line having low income to poor class, with small apartments and quarter type of dwellings. Roads are mostly metaled and carpeted. MSW is generally medium to high in this UC.

6) UC#6 Gazdarabad.

The demographic of this UC is same as that in UC-5. The area is represented by Gazdarabad, Ranchore Line, Ram Sowami and Jubilee Market areas and surrounding of the Agha Khan-III road,

Waheed Murad Road, Mama Parsi School, Hoti Market Police Hospital etc. the roads are mostly metaled and motorable.

7) UC#7 Millat Nagar.

The Millat Nagar is a Katchi abadi the area includes the surroundings of Munshi Razi Ud Din Road, Zoological Garden Nazeerabad etc., comprises of small quarters, apartment and small houses. The roads are metaled and motorable. Streets and lanes are generally of width 20 to 40 ft and main roads 60ft wide the households belong to low-income groups.

8) UC#8 Saddar.

This UC contains mostly its commercial buildings, residential apartments, shopping areas, offices. It is densely populated with MSW generation on higher side as compared with others UCs of the zone. The roads and internal streets mostly 60 to 100ft wide and carpeted. The households may be categorized to low to middle income group.

9) UC#9 Civil Lines.

The area is recognized by its landmarks like Pearl Continental Hotel, PIDC House, Sheraton Hotel, Chief Minister House, Shaheen Complex, Karachi Club etc., the household of the area belongs to middle to high income groups, this UC contains high rise apartments and banglows of 240 to 200 sq yards with comparatively low generation of MSW. This UC have a Katchiabdi in its jurisdiction called Hijrat Colony.

10)UC#10 **Clifton**.

This UC comprises of British Embassy, Iran Embassy, Federation House, National Bank of Pakistan, sports complex etc. it has high-rise apartments dwellings with bungalows 500 to 1000 Sq Yards. Roads, streets and small lanes are all carpeted and motorable. MSW generation is medium to high and door to door collection is being done in some parts of this UC specially in areas where bungalows are located. People from low income to high income live here.

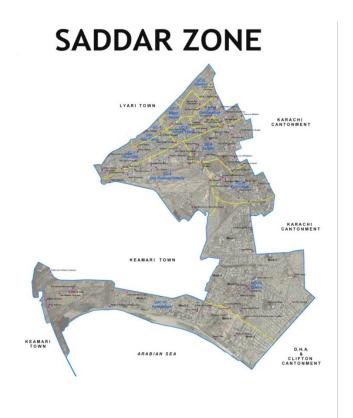
It also has two katchi abadies like Neelam Colony and Shah Rasool Colony.

11)UC#11 Keh Kashan.

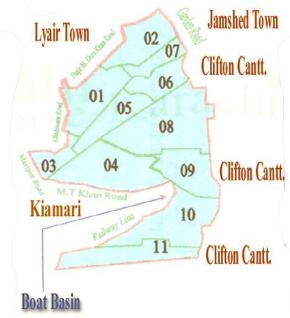
[44]

This UC is comparatively more populated then Clifton UC, the households belongs to high income groups, no katchabadi exist in the area, whereas dynamics and demographics of the area is same as that UC-10 (Clifton) Bin Qasim Park, South City Hospital, Russian Consulate, Clifton Medical Centre, PMC, Pak Refinery, Shell and PSO terminal exists in the area, the area have well established infrastructure including 100 to 200 ft wide carpeted roads and 40 to 60 ft carpeted internal streets.

3.3. Map of Saddar Zone.



SADDAR ZONE



BOUNDRIES AND NUMBERS
OF UNION COUNCIL IN EACH ZONE OF DMC(SOUTH)

3.4. Lyari Zone Brief Description

The total area of Lyari Zone is 5.4 Sq KM. Highly populated with an estimated population as of 1998 census statistics 607992. In view of growth rate at 5% per Annum the population of this zone in year 2015 is about 1384660 person the total MSW out put is about 664.62 tons per day and the population density 255944 Person Per Sq KM and MSW density 123 Tons Per Sq KM are very high in Lyari Zone.

Lyari Zone is faraway from existing two landfill sites (Gond Pass and Jamchakro landfill site) and newly build Dhabeji Landfill site. The linear distance between geometrical centre of the zone and each land fill site is more than 15 KM, therefore MSW of Lyari Zone should be inter transported through GTS, the service radius of MSW collection point in Lyari Zone is 750 meter the zone comprises of 11 Union Councils. The details of MSW generation in each UC its population and other details are given in annexure 7 to 13

3.5. Demographics of Lyari Zone

Lyari Zone is well demarcated area which is known as compact unit, the higher level of population density are reflective of the fact that this area is thickly populated and

[46]

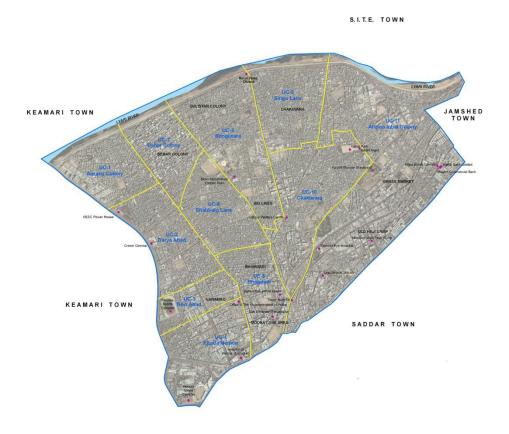
contains vertical expansion, Lyari Zone comprises of the following 11 UCs.

UC No.	UC Name	UC No.	UC Name
1	Agra Taj Colony	7.	Behar Colony
2	Darya Abad	8.	Rangi Wara
3	Nawabad	9.	Singo Lane
4.	Khada Memon Society	10	Chaki Wara
5.	Baghdadi	11.	Allama Iqbal Colony
6.	Shah Baig Lane		

Lyari Zone comprises of Low Income Group in majority and small houses 80 to 120 Sq Yard and narrow lanes 80 to 20 Ft width. This zone is thickly populated and congested zone. MSW generation is very high as compared to the other zones of this district, if in comparison to MSW density of each zone

3.6. Map of Lyari Zone

LYARI ZONE



LYARI ZONE



BOUNDRIES AND NUMBERS OF UNION COUNCIL IN EACH ZONE OF DMC(SOUTH)

3.7. Existing Solid Waste Management System in DMC South

i. Door-to-Door Collection.

At present system for collection of municipal solid waste at door step does not exist in DMC South except in UC-10 (Clifton) of Saddar Zone wherein Block-6, Block-7 & Block-9 of this UC door to door collection system exist and operated by Saddar Zone solid waste management department.

Residents of DMC South throw their household waste to nearby katchra kundi (dustbin) during every time of the day. The shopkeepers of commercial areas and visitors of shopping malls, and residents of DMC South usually throw garbage at the corner of each street, and in front of shops etc. No any strategy or collection plan for doorstep collection exists in DMC South in general.

ii. Street Sweeping.

Main roads, and lanes in DMC South are cleaned manually using brooms and brushes and the sweeping stuff is kept in the form of number of small heaps, besides kerbs and on road sides, which are then lifted with help of Belcha and transported to nearest dustbin site/collection points using wheelbarrow/handcarts. Sweeping stuff is normally

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South (S.L)

thrown into the dustbin. Sweeping is done normally in two shifts i.e. 6:00 AM to 10 AM and then 2:00PM to 5:00PM. Mechanical sweeping is not done in DMC South except on some occasion on the main roads when such machines are provided by KMC.

iii. Washing of Main and Important Roads.

Currently no such practice is being carried out.

iv. Transportation of MSW from Dustbin/Collection points to GTS or nearest Landfill Sites.

> Garbage vehicles i.e. Arm Rolls. Compactors, Dump Trucks, Tractor Trolley designated to each UC of the Zone collects and transport waste from collection points/dustbins to GTS of the Zone. In some cases MSW is transported to nearest land fill sites. Each vehicle is supposed to make 3 to 4 trip a day to clear garbage from dustbins/collection points. Though complete lifting of garbage form the zones could not be made due to non-availability of required numbers of vehicles. Usually containers of 4 to 7 Ton capacity are placed at collection points/dustbins, however in some areas of DMC South garbage is dumped, at open places, such garbage is lifted using loaders and bobcat type of machinery with the help of labourers, using basket to pick and to load garbage into refuse vanes or compactor which is then transported to GTS of Zones. The machinery for lifting and transportation of MSW available with DMC South is very old and not compatible with the machinary normally required for MSW lifting and transportation.

Location of GTS of the Zones of DMC South. ٧.

GTS for the Saddar Zone is located near the boundary of UC9 (Civil Line) at Cantonment area. Whereas in other zones, GTS exist within and at the periphery of the Zone. The service area of the GTS is the whole area of the each zone with MSW handling capacity of each zone is mentioned in respective annexures. The locations of GTS in each zone are mentioned on the maps of the respective Zones.

3.8. **Existing System of Offal Collection & Disposal in DMC** (South)

On the eve of Holy festival of Eid Ul Azah every year, thousands of animals, i.e. goat, lamb, [49]

South (S.L)

sheep, cow, bulls and camels are offered as a sacrifice. These sacrifices is done (as custom) on the door step or within the premises jointly or individually on the roads sides open ground and the offal and other residuals like bone skin parts offals and other intestinal organs etc. are thrown at the door step, road side in the bushes, open ground and collection points, dustbins sites etc. creating an unclean environment with a pungent odor of blood which is seen almost in each area on this event.

This situation is dealt with **MSW** Management of each zone efficiently and affectively. Initiating a specific campaign under an offal collection plan. A day before the event clearing the garbage from dustbins sites is done. The special offal collection campaign usually started just after Eid UI Azha prayer. The offals and other residual animal waste are then collected through machinery within the zones including hired rental vehicles and disposed of in the pits already excavated at designated places where the offal are buried in a manner that create no hazard to the surrounding. Sprinkling the chalk powder and other insecticidal / perfume spray is also done to create pleasant atmosphere.

The campaign is managed in such a manner that area is made clean and clear by the evening of each day event which continuous for three continuous day. An estimated numbers of offals that is collected and buried in DMC South are about 250000 numbers.

3.9. Problem & Short Coming in Existing System

- Waste has never been assigned priority by Government.
- ➤ At Present Door-to-Door Collection System Exists in private sector, however in two blocks i.e. 4 & 7 of Clifton Union Council of Saddar Zone. The system is managed by DMC (South)
- ➤ Poor attendance of Sanitary Workers /Officials affecting street sweeping and waste disposal.
- ➤ In effective system of monitoring / reporting causing indiscriminate dumping of waste on open spaces and road sides, also causing delay in complaint redressal system.
- ➤ Deficient number of concrete dustbins (katchra kundi)/containers in the most of the areas, resulting in open and scattered dumping of garbage.

Sindh Solid Waste Management Board

- Irregular collection of garbage from community bins/collection points due to:
 - Poor Supervision.
 - Too many dustbins sites.
 - Defective, un-appropriate and old garbage vehicles.
 - o POL problems.
 - Political/labour Union intervention.
 - No fix timing of garbage vehicles to collect garbage from dustbin sites and transportation to landfill site.
 - Open transportation of garbage causing environmental pollution.
 - Encroachments, especially in market / commercial area causing difficulties in sweeping, collection and transportation to GTS /Land Fill Site. Hence the required number of trips is not achieved.
 - o No proper GTS facility
 - Scavenging specially on open spaces and roadside dustbins causing scattering of garbage.
 - Existing rules with regards to SWM need to be reviewed, strengthened and enforced.
 - Lack of public awareness/ civic sense regarding SWM collection and disposal.
 - Lack of scientific approach for integrated SWM.

Section IV

Proposed Plan for Zone South (DMC South Area)

Section IV

<u>Proposed Plan for Zone South</u> (DMC South Area)

4.1 Front End Collection Plan (Proposed Plan)

Front End Action Plan. It Includes followings scope of Work and services

- 1. Door to door collection and revamping of bin system.
- Sweeping of roads, streets, lane, footpath, medians and open spaces and sweeping waste collection and disposal.
- 3. Washing of important roads as and when required including on special occasions.
- Lifting and transportation MSW from dustbins sites & collection points to designated GTS.
- Scientific monitoring and tracking system for entire management and operation plan.
- 6. Community awareness program and its implementation.

4.2 Door to door collection mechanism

Door to door collection for Front End Collection Plan/mechanism is categorized as:

(a) Block Collection.

Wherein waste collecting vehicles with one or two waste collecting workers move around the residential blocks on a specified time each day and sounds horns or ring bell and wait at intermediate location for residents to bring waste in polythene bags to the collection vehicles or where the workers with the collecting vehicles collect garbage in a basket at the door step of the residents and throw in the collecting vehicles, which is then disposed of to nearest dustbin site.

(b) Door Step Collection.

Wherein waste is left outside the property by the residents in plastic/polythene bags and picked up by waste collecting vehicles moving in and around the residential area at specific time each day or collected at door step by the sweepers

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every day, equipped with wheel barrow, handcart and disposed of to nearest dustbins sites.

(c) Shared containers type collection.

Wherein a container of suitable capacity is placed at an appropriate place within a residential block, apartment building market and shopping area and residents and other generators, put their waste stuff inside the container. These containers may be of hook and lifting type or may be bucket type with proper tipping arrangements, which are then emptied at by compaction container type compactor vehicles and then again placed at the location. However this operation is done as many times as required to keep the container free of garbage. The location where such containers are placed are kept cleaned and spelled out garbage is swept from the surrounding.

Anyone or all defined categories will be adopted under the front end collection plan for door to door collection keeping in view the demographics of the area, however for the purpose of guidance, sweeping methodology in various UCs of the Zones of DMC South is mentioned hereunder.

Plastic bag will be provided free of cost by contractor/operator to all residential units for the first two months only. The size and grade of polythene bag is given in the technical specification.

Note.

Where block collection and door step collection is adopted, and where possible in case of shared container type collection, organic and inorganic Municipal Solid Waste are to be collected separately and transported to GTS in a manner that these two types of MSW be disposed of at GTS separately as directed by SSWMB officials and this practice is to be adopted in each zone. Organic and inorganic MSW is to be collected in different colored bags and litterbin and containers as the case may be.

Strategy for door-to-door collection in various zones of DMC South

Saddar Zone

Saudai Zone			
Name of UC	Door to door collection Strategy	Suggested Tools and Machinery for door to door collection type.	
UC#1 Old Haji Camp UC#2 Garden UC#3 Kharadar UC#4 City Railway Colony UC# 5 Nanak Wara UC#6 Gazdarabad UC#7 Millat Nagar UC#8 Saddar UC#8 Saddar UC#9 Civil Line Low to Middle & high Income Group Group Congested areas	 Steel Containers of appropriate size & capacity must be placed at appropriate distance. When filled up, must be lifted and disposed of into a compactor vehicle and empty container must be replaced again on the location. The operation of clearing the container be done at least twice a day or as many times as required to keep the container free of garbage Block Collection Strategy: Block Collection may also be adopted in some areas, which are congested and thickly populated using small vehicles moving around the area on fixed timings along with one or two waste collecting workers. 	Details of bucket and bin, bin sizes, frequency of placement, tool to be utilized and polythene bags are given in technical specification. Details of Type of garbage collecting and transporting vehicles, bin mechanism is given in technical specification. Small Compactor vehicles type or small Suzuki / pick up type may be used.	
UC#10 Clifton UC#11 Kehkashan	Block Collection Strategy: Block collection may also be adopted in some areas, which are congested and thickly populated using small vehicles moving	Details of bucket and bin, bin sizes, frequency of placement, tool to be utilize, polythene bags are given in technical specification.	

•	Middle to
	high
	Income
	Group
•	Sparsely

around the area on fixed timings along with one or two waste collecting workers.

Details of Type of garbage collecting and transporting vehicles and bin mechanism are given in technical specification.

areasDoor Step Collection.

Wherein waste is left outside the property by the residents in plastic/polythene bags and picked up by waste collecting vehicles moving in and around the residential area at specific time each day or collected by the sweepers every day equipped with wheel barrow, handcart and disposed of to nearest containers and bucket with tipping arrangements.

Small Compactor vehicles type or small Suzuki / pick up type vehicles may be used.

Lyari Zone

<u> Lyan Lone</u>			
Name of UC	Door to door collection Strategy	Suggested Tools and Machinery for door-to-door collection type.	
UC#1 Agra Taj Colony UC#2 Dary abad UC# 3 Nawa abad UC#4 City Khada Memon Society UC# 5 Baghdadi UC#6 Shah Baig Lane UC#7 Bihar Colony UC#8	 Steel Containers of appropriate size & capacity must be placed at appropriate distance. When filled up must be lifted and disposed of into a compactor vehicle and empty container must be placed again on the location. The operation of clearing the container be done at least twice a day or as many time as required to keep the container free of garbage Block Collection Strategy: Block Collection may also be adopted in some areas which are congested and thickly populated using 	bin sizes, frequency of	

Rangi Wara	small vehicles moving around the area on fixed timings along with one or	
UC#9 Singo Lane UC#10 Chaki Wara	two waste collecting workers.	
UC#11 Allama Iqbal Colony		
Low Income GroupThickly Populated		

4.3 Street Sweeping and Sweeping of Main Roads

i) Classification / Type of Roads.

a. Primary Main Roads.

These are the main roads connecting different zones in a district (dual carriageway), planned and constructed on established engineering practices with proper road geometry, 3 or 4 lane carriageways.

b. Secondary Main Roads.

May be classified as main roads but secondary type, connecting various UCs in a Zone, mostly single carriageways, parts double however in some carriageway facility. Planned and constructed normal engineering on practices with without outside walks, green belts, and median or edge stones and without proper road geometry, three lane single carriageways.

c. Streets.

These are internal roads, connecting various residential blocks, around market and commercial areas mostly 2 lane dual carriageways type with or without sidewalks. Constructed on conventional practice.

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d. Narrow lanes and streets.

Paved or unpaved narrow internal streets in old resident areas, markets and around old commercial areas, single lane to double lane i.e. 10 to 20ft wide with or without sidewalks or edge stone.

ii) Sweeping Methodology.

1. Conventional Type (i.e. manual).

With the help of sweepers, using broom/brushes the sweeping waste is collected through wheelbarrows, transported and disposed of to nearby buckets containers with tipping arrangements.

2. Mechanical Type (i.e. using machine sweepers).

Appropriate, vacuum type mechanical sweeping vehicles including built-in sweeping waste containing facility, shall be used. The sweeping waste shall be disposed of to nearest bucket or container having tipping arrangements.

iii) <u>Proposed Sweeping System</u> <u>under Front End Collection</u> Plan.

a) Secondary Main Roads, Streets and Narrow Lanes. (Manual Sweeping).

It is suggested that on secondary main roads, streets and on narrow lanes and streets sweeping be adopted along manual wheelbarrow and Suzuki / Pickup type of vehicles to transport the sweeping waste from the beat (area) to bucket or containers. Sweeping on internal streets of residential area may be done as per schedule, guideline given specification. Whereas technical market/commercial areas and in bazaar type of market area, sweeping is required two times in a day as mentioned in the schedule of sweeping at technical specification. Contractor must make its own schedule, for the purpose, however the area must be cleaned and cleared from garbage.

b) <u>Primary Main Roads and Secondary Road.</u> (<u>Mechanical Sweeping</u>)

Using mechanical sweepers of appropriate size and capacity for sweeping of these roads as enlisted is to be done. Sweeping stuff may be disposed of to nearest dustbin site or to GTS. Mechanical sweepers of self contained and vacuum type is best suited for the purpose.

List of Primary Main Roads Mechanical Sweeping

S No	Name of Road	Length (KM)
01.	Marine Promenade Road (Dolmen Mall to Khayaban-e-Bedil)	2.81
02.	Khayban-e-Ghalib and Shahra-e-Firdosi (Zia Ud Chowrangi to A.T. Naqvi Chowrangi)	2.75
03.	Khayban-e-Sadi (Boatbasin to Ali Baba Chowrangi)	2.07
04.	Shahrah-e-Iran (Park Tower to Do-Talwar)	1.07
05.	Hatim Alvi Road	0.62
06.	Abdullah Haroon Road and Khayban-e-Iqbal (Fawar Chowk to Do-Talwar)	3.73
07.	Shahrah-e-Roomi (KPT underpass to Boat Basin)	0.90
08.	Chodhary Khaliq Uz Zaman Road and Dr. Zia Ud Din Ahmed Roads (Frere Police Station to Pakistan Chowk)	2.97
09.	I.I. Chundrigar Road (Tower to Shaheen Complex)	2.10
10.	M.A. Jinnah Road (Tower to Sea Breeze Hospital)	3.98
11.	Nepiermole Road	3.30
12.	Mauripur Road	4.26
13.	Mirza Adam Khan Road	4.46
14.	Nishter Road	3.20
15.	Nepier Road	1.55
16.	Shahrah-e-Liaquat	2.70
17.	Preedy Street	1.08
18	M.T. Khan Road	3.30
19.	Mai Kolachi bypass	2.70
20.	Nawab M. Khanji Road	1.08
21.	G. Allana Road	1.58
22.	Shah Wali Ullah Road	1.62
23.	Ahmed Shah Bukhari Road	1.65
24.	Tanner Road	1.68
25.	Ataram Pritam Das Road	2.65
26.	Fida Hussain Sheikha Road	1.23
27.	Chaki Wara Road	2.00
28.	Siddiq Wahab Road	1.36
29.	Aga Khan-III Road (from Karachi Zoo to Avari Hotel)	2.62
	Total	67.02

Proposed Machinery for Mechanical Sweeping and contained sweeping waste capacities under Front-end collection plan.

Proposed Machinery for Washing of Main Roads under Frontend collection plan.

Mechanical Washers -C1

- Type- Automatic sprinkling washing mechanism
- Maximum Washing width 3.5 Meter
- Operating speed 5 to 10 KM Per Hour
- Contained water tank capacity 1000 to 1500 Gallons
- Total number of machine Required= 02 Number





c) <u>Footpath, Medians, Roundabouts and Open</u> <u>Spaces.</u> (Manual Sweeping)

It is suggested that on footpaths, Medians, green belts, roundabouts and open spaces, manual sweeping be adopted along with wheelbarrows and Suzuki/ Pickup type of vehicles to transport the sweeping waste from the beat (area) to bucket or containers placed nearby the area. Sweeping be carried out as per schedule of sweeping provided in technical specification. The purpose is that the area must be cleaned and cleared from garbage.

iv) Proposed Lifting & Disposal of MSW from Collection Points/Dustbin Sites to GTS.

Under the proposed plan efficient and effective collection & transportation system for MSW is to be adopted using appropriate MSW collection, transportation, machineries and collection system. The suggested number of such machines of different MSW contained capacity to handle approx. 1767 Tons Per day MSW generation of DMC South satisfactorily is 58 numbers. A system scheduling that helps keeping the area free of garbage must be devised to attain the target, Number of collection point / dustbin sites are to be significantly reduced that can be done using:

 Containers, bucket, bins having tipping arrangements are to be provided at appropriate locations that can be emptied into a compaction type container mounted on vehicles.

Using compaction type containers mounted vehicles saves labour cost and frequent cleaning of bins, buckets and containers help discourage scavengers, reduce insect/rodent problem, prevent windblown trash, control odor, save inside storage space and outside parking spaces, reduce the health hazards of open dumping. For various such reasons emphasizes is made to use appropriate machinery for solid waste management and transportation.

The bins, buckets andalog with the vehicle type that are recommended for collection, transportation are mentioned hereunder along with pictorial view of desired vehicles and their tipping mechanism. Operation schedule of machines, number required and proposed plan for operation is given in technical specifications.

Proposed Machinery for lifting and Transportation including bin Tipping Mechanism under Front-end collection plan

Bin tipping Mechanism - A1

- Appliance standard metal or plastic rubbish bin.
- Bin cubage 0.24 to 0.3 cubic meter







Bin tipping Mechanism A2 Appliances - metal bucket Bucket cubage = 0.8 meter cube





Bucket raising Mechanism A3
Appliance - big metal rubbish bucket
Bucket cubage = 3.35 meter cube







Bucket tipping mechanism-A4
Appliances - special metal covering bucket.
Bucket cubage = 1.4 to 2 meter cube





Type of Vehicle –Tipping Mechanism – Bin category and type of vehicles

Vehicle Type - compactor semi Automatic **or** Automatic compaction type. Container in-built vehicle with

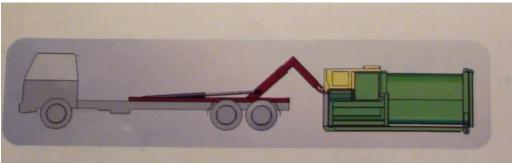
- BIN tipping Mechanism A1
- BIN tipping Mechanism A2
- Bucket raising Mechanism A3
- Bucket tipping Mechanism A4
- Container volume
 - \circ 6.6 M^3
 - \circ 10 M³
 - \circ 12 M^3
 - \circ 16 M^3
- Number required
 - Suggested number of machines having different container capacity that are required to handle MSW generation of DMC South on Daily Basis are mentioned as under:
 - Vehicle with Container Capacity of 6.6 M³ = 09 No.
 - Vehicle with Container Capacity of 10 M³ = 06 No.
 - Vehicle with Container Capacity of 12 M³ = 06 No.
 - Vehicle with Container Capacity of 16 M³ = 07 No.

 Total = 28 No.



Small vehicle tipping mechanism

Appliances- auto tipping bucket



Small vehicle bucket cubage = 1.4 meter cube Capacity of in-built container = 1.5 to 2.5 meter cube

No Required

As many numbers as required in view of the physical conditions.



Container
Hook
Lifting
type

<u>Mechanism</u>

Hook Lifting type Mechanism-B Appliances- metal container Container Cubage

1. 10 m³

2. 07 m³

3. 05 m³

Number required

[68]

 Suggested number of machines required of different container Volume capacity is 05 M³ Volume= 07 No.

10M³ Volume= 06 No. 07M³ Volume= 07 No. Total = 20 No.

4.4 Schedule of Works

Proposed schedule of work and services is given at term of reference and technical specification.

4.5 GTS of Zones and Locations.

- a. Saddar Zone
- b. Lyari Zone

Section V

Terms of Reference & Technical Specification

Section V

<u>Terms of Reference &</u> Technical Specification

5.1 MSW by Definition

Municipal Solid Waste (MSW), commonly known as trash or garbage is a waste type consisting of everyday items that are discarded by pubic includes food waste, market waste, yard waste, landscape waste (tree cutting, bushes, grass cuttings etc). Domestic waste, Slaughter and Sacrificial animal waste (like offals, bones, skin etc.) and other miscellaneous solid waste from residential commercial, institutional areas are included in the category of MSW but it does not include demolition waste (inert waste) Industrial waste, agriculture waste, medical waste or sewage sludge.

The total estimate MSW generation in DMC South is 1347 Ton Per Day, the composition of MSW and its quantum varies depending upon, type of dwelling population, density, commercial activity and density of different type of bazaar and markets in the area. The quantum of MSW also reflects its variation on various occasion, like Eid Festival in the month of Ramdan and Eidul Azha. The quantum also depends on seasonal variation.

Municipal Solid Waste can be classified in several ways, but the following list represents a typical classification:

- Biodegradable Waste i.e.
 Food and kitchen waste, green waste, waste from houses, gardens, papers.
- Recyclable Material i.e.

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South (S.L)

Like paper, glass, bottles, canes, metals, plastic, fabrics, clothes, batteries, old types etc.

- Electrical and Electronics Waste
 Like discarded, electrical appliances etc.
- Composite Waste.
 Waste clothing, Tetra Pack,
 Plastic like toys etc.
- Hazardous Household Waste
 Like paints, chemical in daily
 residential usage, light bulbs,
 tube, spray cane, garden
 fertilizer, different type of
 plastic bottles and cans,
 garden pesticide, herbicides
 etc.

Municipal Solid Waste as defined here above includes all type of waste that is collected at dustbins/collection points except, demolition waste (inert waste) industrial and medical waste, agriculture waste, sewage sludge but includes sweeping waste with a minor component of dirt.

5.2 Transition Period

Transition period for the purpose of implementation of this contract is 03 (three) months starting from date of signing of agreement and issuance of work order. The contractor shall be liable to start the activities at the work and services even in the transaction period.

5.3 Terms of Reference

a. Scope of work

- Door to door collection of garbage & revamping of bin system.
- 2. Sweeping of roads, streets, lanes, footpaths, green belts, medians and open

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spaces and sweeping waste collection and disposal.

- 3. Washing of important roads as and when required on special occasions.
- 4. Lifting and transportation MSW from dustbins sites & collection points to designated GTS.
- 5. Establishment of Scientific Monitoring and Tracking system for all components i.e. vehicle sanitary staff, assets etc.
- 6. Establishment of complaint management system.
- 7. Community awareness program and its implementation.

b. Objective of work and services

The objective of work and services is to provide an efficient, cost effective, environment friendly solid waste collection transportation system. It should have an efficient and effective management and operation system for the public who should be able to live in a waste free and healthy environment. Effective management supported by an efficient monitoring and evaluation system is the key to attain these targets and desired results in time.

c. Task to be performed.

1. Door to door collection.

Door to door collection for Front End Collection Plan/mechanism is categorized as:

(a) Block Collection.

Wherein waste collecting vehicles with one or two waste collecting workers move around the residential blocks on a specified time each day and sound horns or ring bell and wait at intermediate location for

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residents to bring waste in polythene bags to the collection vehicles or where the workers with the collecting vehicles collect garbage in a basket at the door step of the residents and throw in the collecting vehicles, which is then disposed of to nearest dustbin site.

(b) Door Step Collection.

Wherein waste is left outside the property by the residents in plastic/polythene bags and picked up by waste collecting vehicles moving in and around the residential area at specific time each day or collected at door step by the sweepers every day, equipped with wheel barrow, handcart and disposed of to nearest dustbins sites.

(c) Shared containers type collection.

Wherein a container of suitable capacity is placed at an appropriate place within a residential block, apartment building, market or shopping area and residents and other generators, put their waste stuff inside the container. These containers may be of hook and lifting type or may be bucket type with proper tipping arrangements. These are then emptied at by compaction container type compactor vehicles and then again placed back at the location. However this operation is done as many time as required to keep the container free of garbage. The locations where such containers are placed are kept clean and spilled out garbage is swept from the surrounding.

Anyone or all defined categories will be adopted under the front end collection plan for door to door collection keeping in view the demographics of the area. However for the purpose of guidance, sweeping methodology in various UCs of the Zones of DMC South is mentioned hereunder.

Plastic bag will be provided free of cost by contractor/operator to all residential units for the first two month of the contract only.

d. <u>Street Sweeping and sweeping of main roads</u>

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1. Conventional Type (i.e. manual).

With the help of sweepers, using broom/brushes and sweeping, waste is collected through wheelbarrows, transported and disposed of to nearby buckets containers with tipping arrangements.

2. Mechanical Type (i.e. using machine sweepers).

Appropriate, vacuum type mechanical sweeping vehicles including built-in sweeping waste containing facility, shall be used. The sweeping waste shall be disposed of to nearest bucket or container having tipping arrangements.

e. Collection and transportation of MSW

Under the proposed plan, an efficient and effective collection & transportation system for MSW is to be adopted. A system that helps keeping the area free of garbage. To attain above target, number of collection points / dustbin sites are to be significantly reduced that can be done using:

 Containers, bucket bins having tipping arrangements are to be provided at appropriate location that can be emptied into a compaction type container mounted on vehicles.

Using compaction type container mounted vehicles save labour cost and frequent cleaning of bins, buckets and containers help discourage scavengers, reduce insects/rodents problems, prevent windblown trash, control odor, save inside storage space and outside parking spaces and reduce the health hazards of open dumping. For variety of such reasons, emphasis is to use appropriate machinery solid waste management for and transportation.

f. Responsibilities of procuring agency

 In case the procuring agency does not fulfill its obligation regarding signing of agreement, the procuring agency may relinquish its commitments 45 (forty five)

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days after receiving the acceptance letter by procuring agency.

- 2. The procuring agency shall assist and facilitate the contractor in performing the work and services as per the contract in respectful and honorable manner throughout the period of contract.
- The procuring agency shall make all due payments to the contractor in respect to verified monthly bills timely and will be careful and justified in imposing penalties.

g. Responsibilities of contractor

- The contractor will carry out and perform the work and services under this contract in respectful, honorable manner with desire and objective to serve people of the area.
- 2. The contractor will submit his monthly performance bill in time and in accordance work performed correctly and in justifiable manner.
- Contractor shall follow the instructions, guidelines issued by client or by representative of client and shall comply with all such instruction timely.
- Contractor is responsible for ensuring good behavior to public and follow the code of conduct detailed in contract document

5.4 Technical specification.

A. Revamping of Bin System.

The contractor shall provide bin, bucket, and containers having tipping mechanism compatible with compactor vehicles in the color scheme noted below

Saddar Zone – Blue Lyari Zone - Yellow

Marking of Logo and Letters

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Sindh Solid Waste Management Board and the Zone Name shall be written in Capital Bold Letter and its logo shall be placed on bin, buckets and containers with the approval of the Procuring Agency.

Bin Type and Sizes

- 1. Plastic Litterbins of bin cubage 0.24 to 0.3 Meter cube.
- 2. Standard metals bucket with the following cubage:
 - a. Bucket cubage of 0.8 to 1.4 m³.
 - b. Bucket cubage of 1.4 to 2 m³.
 - c. Big bucket cubage 3.35 to 4 m³.
- Standard Metal Container of container cubage 5 to 10 m³.
 All the bins, buckets and containers shall be of tipping type.

Bin Requirements

	Plastic	Standard metal	Standard Metal
Zones	Litterbins of	bucket of	container of
201165	different sizes	different sizes	different sizes
	and colors	and colors	and colors
Saddar	2000 Nos.	1500 Nos.	200 Nos.
Lyari	1500 Nos.	1000 Nos.	100 Nos.
Total	3500 Nos.	2500 Nos.	300 Nos.
Area of	in markets &	in markets,	At appropriate
placement	shops	shopping malls	places in
		& commercial	residential areas,
		centres &	apartment
		residential Unit	blocks,
			residential blocks
			and public places

REMARKS:

Contractor shall provide bins, buckets, and container on prior approval for numbers to be provided at first stage second stage and third stage as desired by procuring agency.

B. Plan for Placement of bins, buckets and containers

The contractor will prepare a comprehensive plan for placement of bins, buckets and containers in various union councils of each zone as per guideline for revamping of bins system.

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The plan submitted by successful bidder shall be reviewed by client after award of the contract and a revise plan shall be prepared with mutual consent of client and contractor and with the approval of client, the approved plan shall be implemented for provision work and services under this contract.

C. Polythene bags

Polythene bags of size 0.5X1 meter in black color of +30 micron thickness with letters and logo of SSWMB printed on it shall be provided by the contractor for door to door collection in the areas where door step strategy is adopted. Contractor will provide such bags free of cost for the first two month of the contract and thereafter bag will be provided to residents on payment. Prior approval of the client shall be required for the cost of the bag provided to residents. Samples of polythene bag shall be sent for approval of client with required printing. Only approved polythene bags shall be provided to the residents for everyday collection of domestic solid waste.

D. Cost of Polythene bags provided free of cost

All cost towards providing/supplying of polythene bags free of cost (for the first two month of the contract) shall be included in unit cost of work and services mentioned in price list.

E. Door to door collection plan

Domestic waste shall be collected by adapting the strategy for door-to-door collection defined under front end collection plan. The contractor shall submit plans for implementation of this system for door-to-door collection along with the tender. Such plan shall be reviewed and reworked with the consent of client and successful bidder and shall subject to approval of competent authority. The approved plan shall be implemented. The strategy for door-to-door collection defined herein the documents using UC wise parameter are basic once and for guidance only. The bidder is supposed to give his own appropriate plan and strategy. Innovation and out of box ideas shall be encouraged.

F. Handcarts and other tools for door to door collection

- Contractor will collect waste from narrow streets, which cannot be accessed by garbage vehicle, through workers using wheeled handcart and empty them into nearby containers or to the compactor vehicles parked in nearby locality. Wheeled handcart bin cubage = 120 Litters
- 2. Contractor may also collect waste from congested residential colonies through workers using wheelbarrows and baskets.

G. Manual sweeping

Manual sweeping of roads shall be done by male/female sanitary workers using broom/brushes. The sweeping waste is collected through wheelbarrows and disposed of into nearby containers or buckets or compactor vehicles parked in the nearby the locality.

Tools for manual sweeping

- 1. Broom and brushes
- 2. Shovel and spades
- 3. Racks
- 4. Basket
- 5. Hoe.

H. Length and area for manual sweeping

a)	Saddar Zon	e	316.00 KM
b)	Lyari Zone		177.66 KM
,	•	Total	493 66 KM

c) Length and area for manual sweeping under following subhead is noted below.

All Madians

All Sa Mater

a)	<u>iviedians</u>		46250 Sq Meter
b)	Footpath		162500 Sq Meter
c)	Roundabouts		3000 Sq Meter
d)	Open spaces		7000 Sq Meter
,		Total	218750 Sq Meter

Note: All measurements are approximate.

I. Workforce required for manual sweeping

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Minimum suggested workforce required for sweeping of roads, green belts, medians, footpaths, roundabouts and open spaces under manual sweeping is 2100 persons.

J. Schedule for manual sweeping

Type of roads	Manual sweeping length meter	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Secondary Main Road	90800	Yes	No	Yes	No	Yes	No	Yes
Streets	196700	No	Yes	No	Yes	No	Yes	No
Narrow lanes	206160	Yes						
Type of Area	Manual sweeping Square meter	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Medians/greenbelt	46250	Yes	No	No	No	No	Yes	No
Footpath	162500	No	No	Yes	No	No	Yes	No
Open spaces	7000	No	No	No	No	No	Yes	No
Roundabouts	3000	Yes	No	No	No	No	Yes	No

Manual sweeping shall be done in 02 (two) shift according to the schedule of sweeping.

06:00AM –to- 10:00 AM Shift-1 02:00PM –to- 06:00 PM Shift-2

All cost towards workers, bins, bucket, container, tools must be included in the unit cast of works and services items mentioned in the price list.

K. Schedule for mechanical sweeping on primary and secondary main roads

	Mechanical	Number							
Zone	sweeping	of	Mon	Tue	Wed	Thu	Fri	Sat	Sun
20110	length	Sweeping	IVIOII	1 ac	vvca	1110		Out	Odii
	meter	Machine							
Saddar	35000	04	Yes	No	Yes	No	Yes	No	No
Lyari	11310	02	Yes	No	Yes	No	Yes	No	No

Standard mechanical sweeping machine of vacuum type with self-contained in-built waste collection container shall be applied at the work.

L. Plan for mechanical sweeping.

Contractor shall prepare a comprehensive plan for mechanical sweeping work of each zone as per guidelines given herein above and will attach the same with the contract document. The client shall review the plan submitted by the successful bidder after award of

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the contract. The approved plan shall be implemented for operation of work and services under this contract.

M. Plan for collection and transportation of MSW and schedule of operation.

Name of DMC	MSW Generation Per day	Number of collection and transportation vehicle	Mon	Tue	Wed	Thu	Fri	Sat	Sun
DMC South	1348	48	Yes						
Door to door collection	Nil	Tool as per requirement	Yes						

N. Plan for mechanical washing of the road

Name of DMC	Length of washing of main roads Per Year	Number of mechanical Washing	Mon	Tue	Wed	Thu	Fri	Sat	Sun
DMC	450 KM	2	Occas	sionally	when	asked	for.	On v	vritten
South			orders	3					

Note:-

The schedule and work plan given herein above are based on basic parameters and are of tentative basis. The bidders are supposed to give their own appropriate plan strategies and schedules. Innovation and out of box ideas shall be encouraged.

O. Proposed Managerial and operational staff requirement

Srl No.	Designation	Numb ers	Qualification	Remarks
01.	Manager Operation	01	Well experienced high qualified professional engineer	Please attached the C.V. of the personal
02	Manager Monitoring & Tracking System	01	Personal may be an I.T. Specialist at least Graduate in computer science with specialization in networking and system management sciences	Please attached the C.V. of the personal
03	Zone Field Incharge	03	Graduate having sufficient experience in SWM.	Please attached the C.V. of the personal
04	Supervisor	22	Graduate having sufficient experience in SWM.	Please attached the C.V. of the personal
05	Asst. Supervisor	44	Intermediate sufficient	Please attached

			experience in SWM.	the C.V. of the personal
06	Muquddam	66	Metric having sufficient experience in SWM.	Please attached the C.V. of the personal

5.5 Basis of current date prices

i. Source of price (Diesel/Petrol/Lubricants)

The source of prices of diesel/petrol/lubricants shall be either obtained from Government of Pakistan (GOP) Federal Bureau of Statistics (FBS) monthly statistical bulletin or Pakistan State Oil (PSO) however for a particular adjustable element the same source shall be used throughout the currency of the contract.

ii. Source price - Labour (Unskilled)

The source price for labour shall be either Govt. of Pakistan (GOP) Federal Bureau of Statistics (FBS) statistical bulletin or statutory notifications. However for a particular adjustable element the same source shall be used throughout the currency of the contract.

iii. Element for price adjustment

Following specified elements is subjected to price adjustment

- a) Fuel (Diesel/Petrol) for vehicles collecting/Transporting MSW only
- b) Labour (unskilled)

iv. <u>Standard Procedure and Formula for Price</u> <u>Adjustment Calculations.</u>

- A) Applicability.
 - a. The provision for price adjustment shall be applicable to this contract and price adjustment shall be applicable as payable in full for original scheduled completion period.
 - b. In the event the completion of contract exceeds the original scheduled period then:
 - i. In case of default on the part of contractor causing delay in original schedule completion, the rate of price adjustment will be frozen at the original scheduled date of

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- completion, however price adjustment will be applicable till actual completion. While computing price adjustment beyond the scheduled completion period, in the event the rate is reduced then that reduced rate will be applicable.
- ii. The price adjustment will be payable in full for the extended period in case the contractor has been granted an extension of time for no fault on the part of contractor duly approved by Sindh Solid Waste Management Board (the procuring agency).
- c. The Basis for compensation (Price Adjustment) will be only those element as specifically listed in clause No.5.5(iii) of this document.
- d. There shall be no price adjustment for the elements which the employer has either supplied free of cost or at fixed prices as well as for those elements for which an umbrella ex gratia or escalation cover is provided by the Government through an executive order or Statutory Regulatory Order (SRO).
- e. The price adjustment provided herein is only for price adjustment in Local Currency (Pak Rupees).
- f. No method other than given in this document is applicable to compute the price adjustment.
- B) Base Date Price and Current Date Price

a. Base Date Price.

The base date price (or Base date index) of the element specified in clause 5.5 (iii) shall be the price of the element which was prevalent twenty eight (28) days prior to the date of submission of tender and such price is to be indicated in writing in the document, as required to be provided by the bidder under appendix-A along with the documentary evidence of specified source. The base date price of the specified

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element shall be obtained from the sources specified under clause No.5.5

b. Current Date Price.

The current date price (or current date index) of the element specified under clause 5.5(iii) shall be price of the element, which was prevalent twenty eight (28) days prior to the start of the execution month (calendar month) to which a particular monthly statement (monthly running bill) is related. The current date price of the specified element shall be obtained from the source specified in the contract and documentary evidence is to be provided by the contractor along with monthly bill statement.

c. Procedure.

The monthly bill statement (monthly running bill) as submitted by the contractor, will be

- i. Subjected to verification by procuring agency or its authorized representatives. In case the billed amount is for more than one month, the amount of bill shall be segregated for actual work done for each month.
- ii. Considering the base date price and current date price, the price adjustment in the billed amount shall then be calculated for the month under consideration in accordance with the formula for price adjustment.
- C) Formula for Price Adjustment (generalized form)

- Pn = is Price Adjustment factor for the work carried out in the period n.
- A = is a constant or non-adjustable portion of the price adjustment factor as specified here under representing

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the non-adjustable portion of contract price.

- b, c, d=are the coefficient or weightage order 0.xx (i.e. fraction having two significant digits) for each specified element of adjustment in the contract. The sum of A, b, c, d, etc shall be one.
- Lo, Mo, Eo,.....= are the base date indices for the specified (adjustable) element.
- Ln, Mn, En,= are the current date indices of the specified (adjustable) element.

If P is the amount payable (prior to adjustment) at the rate entered in the price schedule of work carried out in period n then adjusted payable bill amount to the contractor for the work carried out in period n shall be equal to PnXP.

5.6 Rate analysis

The contractor shall provide rate analysis for each item of BOQ mentioned in the price sheet. The rate analysis should indicate breakup of Unit Cost by activities involved in an item. The consumption of fuel at current rates, factored cost of machines, cost of Litterbins, buckets, containers, polythene bags (that are provided free of cost for two months only), tools, labour cost, managing and monitoring and other cost breakup while evaluating unit price for the items of works and services and shall also provide breakup of cost of other items that are inbuilt in items of works, and the way of evaluation the unit prices. The details are required to assist the reasonability of rates quoted by the contractor.

5.7 Chargeable works

The contractor shall provide polythene bags to the resident free of cost for the first two month of the contract period, afterwards the contractor shall charge the cost of polythene bags from the area residents to whom the bags are provided, however the cost of the bags shall be approved by the client. In any case no cost towards supplying polythene bags to the residents shall be included or inbuilt in the unit price of the item mentioned in the price list

except that provided free of cost for first two month of the contract. After two months, the residents shall be at liberty to buy these polythene bags either from the contractor or open market.

5.8 Procuring agency representative, duties and authorities

The procuring agency will appoint a supervising consulting firm or a team of supervising personnel to examine whether work is being performed in accordance with the standards, quality and specification. The supervising consulting firm or supervising personnel shall verify the monthly performance bill, check monthly performance and shall report to the client. The contractor shall follow to the instructions of the supervising authority.

5.9 Uniform

All field staff of the contractor shall wear a proper uniform as approved by the client. A logo of SSWMB shall be placed on the front pocket and on the back of the uniform, the cost of uniform shall be included in the unit price of work item mentioned in the price list.

5.10 Weightment of MSW.

Payment of MSW collection and Transportation shall be based on weight (Metric Ton=1000Kg), subject to weight quantified/measured through a designated weighbridge (weighbridge designated and approved by SSWMB). The weighing charges shall be borne by the contractor and deemed to be included in the Unit Cost of the item.

5.11 Tentative Weight Assessment.

The weight of Municipal Solid Waste shall be assessed on the basis of its density as (Weight / Volume) Tons Per Cft. (This density shall be subjected to verification by SSWMB and the contractor prior to execution of work. The jointly verified density shall be used for assessment of weight of MSW throughout the contract). The Assessment of weight by density shall not be the basis of Payment. This tentative assessment of weight is a check to ensure that any construction debries or inert waste is not mixed with MSW.

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Contractor for the purpose of assessment shall provide cubage of each and every vehicle container transporting MSW to GTS or Landfill.

Debries and inert waste shall not be mixed with MSW. Any weight of debries or inert waste shall not be subject to payments. If mixed with MSW strict action shall be taken including imposition of penalties and actions that such weight shall not be allowed for payment.

5.12 Rating System and Payment Criteria for sweeping work (Manual and Mechanical).

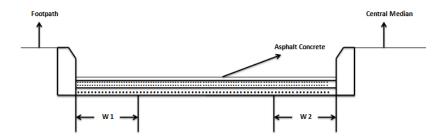
A) Street Cleaning Rating System in Terms of Litter and Dust.

A) Street Cleaning Rating System in Terms of Litter and Dust.						
Numeric Value	Service Standard sweeping works	Payment in terms of percentage of cost of work done				
1	 a) A clean street no litter 					
	 b) A clean street no dust and particles 	100%				
2	 a) A clean street, except for a few one piece of litter 					
	 b) A clean street, except for a few dust particles micron>40 	90%				
3	 a) No concentration of litter. There are no piles of litter, and there are large gaps between pieces of litter. b) No concentration of dust. There are no 					
	b) No concentration of dust. There are no piles of dust, and there are large gaps between minor heap of dust particle or small gaps between dust particles.	80%				
4	a) Litter is concentrated in spots. There may either be large gaps between pile of litter, or small gaps between pieces of litter.					
	b) Dust and particle micron <600 is concentrated in spots, there may either gaps between minor heap of dust particle or small gaps between dust particle	70%				
5	a) Litter is concentrated and there are only small gaps between pieces of litter.					
	 b) Dust and particle micron <1000 is concentrated in spots, there may either gaps between minor heap of dust particle or small gaps between dust particle 	50%				
6	 a) Litter is highly concentrated with no gaps in the pile of litter, the litter is straight line along the curb. 					
	b) Dust is highly concentrated with no gaps in the heaps of dust and particle. The	30%				

	dust is straight line along the curb.	
7	 a) Litter is very highly concentrated and there are no gaps between the piles of litter. The litter is a straight line along and over the curb. b) Dust is very highly concentrated and there are no gaps between the dusts. The dust is a straight line along and over the curb. 	0%

B) Basis for Payment for Sweeping Work.

X-Section of Road



i. Manual sweeping of Road/Streets with Kerb at both edge with or without footpath but not including sweeping of footpath.

W1= 2 Meters Minimum from the edge stone of road

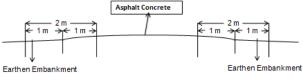
W2= 2 Meters Minimum from the edge stone of road

L = Length of sweeping

Sweeping work measured in KM in one direction of road= W1 and W2 both for length of sweeping L

Note: Single length L of sweeping in one direction (inclusive of both W1 and W2) shall be considered for payment.

ii. Manual sweeping of Road/Streets with earthen embankments or sides without kerbs.

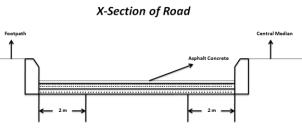


X-Section of Road

Note: Single length L of sweeping in one direction inclusive of both W1 and W2 shall be considered for payment.

iii. Mechanical sweeping of roads single or double carriageways.

 a) Mechanical sweeping of roads (single or double carriageways) with kerb at both



edge with or without footpath, but not including sweeping of footpath

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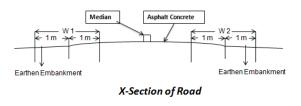
Contractor

W1= 2 Meters Minimum from the edge stone of road W2= 2 Meters Minimum from the edge stone of road

Sweeping work measured in KM in one direction of road= W1 and W2 both for length of sweeping L

Note: Single length L of sweeping in one direction (inclusive of both W1 and W2) shall be considered for payment.

b) Mechanical sweeping of roads single or double carriageways with earthen embankment sides without kerbs having central median or without central median.



Sweeping work measured in KM in one direction of road= W1 and W2 both for length of sweeping L

Note: Single length L of sweeping in one direction (inclusive of both W1 and W2) shall be considered for payment.

5.13 Submission of Monthly Bill

- A. The contractor shall submit the bill for the work and service performed by 7th day of every month. Monthly bill shall be supported by zone wise MSW weight slips along with detail of lifting of MSW along with date, time and location. The contractor in support of their bill shall provide an inventory of roads on which sweeping work is done with length and reference date, time and location. Contractor may use GIS System and other latest technology to provide information in support of his monthly bill submission.
- B. Minimum amount of monthly bill (interim / running payment certificate)

 The amount of interim running payment shall be equal to the amount of certified monthly works executed. The monthly bill shall be paid within 15 days of its submission.

5.14 Demolition, Construction/Building Material and Debris Management Service.

The contractor shall be required to provide demolition construction/building material and debris management service on phone call or on complaint for removal/lifting and disposal of debris of demolition, construction/ building

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material from the area of service (the area of service of DMC South) at his own risk and cost. For the purpose of this management the contractor shall be required to:

- a) Provide as number of vehicle as required to lift and transport of demolition material and debris.
- b) Provide as much staff as required to manage this service.
- c) Construct, manage and operate a construction demolition/building material and debris yard at appropriate place within the same area where demolition material and debris shall be dumped.

The contractor will however be allowed to charge free from the public requesting for lifting/removal of such demolition material and debris. The fee/charges for this service shall be fixed at the rates approved be the SSWMB.

The contractor will also be allowed to sell out demolition construction/building material dumped at the yard at the rates approved by the SSWMB.

The contractor is hereby warned that:

 Dumping of demolition, construction/building material in the community dustbins, on road, streets, lanes, footpath, central median, roundabout & open places is strictly prohibited any violation in this regard will be dealt strictly and penalized as per law / rules.

5.15 Notices.

Prior to impose penalty, the contractor shall be informed by procuring agency officials of his deficiencies through two consecutive notices at week interval after that penalty will be imposed.



Price Adjustment Under Clause 5.5 of Section-V of Contract Document

The source of indices and the weightages or coefficient for us in the adjustment formula under Clause 5.5 shall be as follows:

Cost Element	Description	Weightages	Applicable index							
1	2	3	4							
Non Adju	Non Adjustable Portion									
(i) Fixed Portion		0.49	Official price from public sector organization or statistical bulletin published by Federal Bureau of Statistic (FBS), Statistical Division Govt. of Pakistan Statutory Notification.							
Adjustabl	e portion									
(i)	Fuel Diesel and Petroleum	0.08	Govt. of Pakistan by Federal Bureau of Statistic (FBS), Monthly statistical bulletin or Pakistan State Oil							
(ii)	Labour (unskilled)	0.43	Govt. of Pakistan (GoP) Federal Bureau of Statistic (FBS), Statistical Bulletin and Statutory Notification.							
	Total	1.00								

- For Base Date and Current date indices refer clause No.5.5.
 The base cost indices or prices shall be those applying 28
 days prior to the latest day for submission of bids. Current
 indices or prices shall be those applying 28 days prior to the
 last day of the billing period.
- 2. Any fluctuation in the indices or prices of elements other than those given above shall not be subject to adjustment of the Contract Price.

Appendix-B

Price Adjustment Under Clause 5.5 of Section-V of Contract <u>Document</u>

(To be filled in by bidder/contractor)

Srl No.	Description	Base Date Price	Source
1	2	3	4
(i)	Fuel (Diesel and Petrol)		As given under Clause No.5.5-i
(ii)	Labour (unskilled		As given under Clause No.5.5-ii

Srl No.	Description	Current Date Price	Source
1	2	3	4
(i)	Fuel (Diesel and Petrol)		As given under Clause No.5.5-i
(ii)	Labour (unskilled		As given under Clause No.5.5-ii

Note: The bidder/contractor is hereby cautioned to read clause 5.5 and price adjustment procedure given therein carefully while filling the above appendix.

Appendix-C

List of Subcontractors

I/we intend to subcontract the following parts of the work to subcontractors. In my/our opinion, the subcontractors named hereunder are reliable and competent to perform that part of the work for which each is listed.

Enclosed is documentation outlining experience of sub contractors, the curriculum vitae and experience of their key personnel and type of contracts carried out in the past.

Part of Works (Give Details)	Subcontractor (With Complete Address)
1	2

Note: While filling the above reference may kindly be drawn to Clause No.2.22 of this document.

Appendix-D

List of Solid Waste Machinery / Vehicles & Equipments

Description of Unit (Make, Model, Year	Capacity HP Rating	Condition	Present Location or Source	Dated of Delivery at Site	Fuel consumption Per Kilometer
2	3	4	5	6	7
	of Unit (Make, Model, Year	of Unit HP (Make, Rating Model, Year	of Unit HP (Make, Rating Model, Year	of Unit HP Location (Make, Rating Model, Year	of Unit HP Location Delivery at (Make, Rating Model, Year

Note: While filling the above reference may kindly be drawn to Clause No.4.3 carefully of this document.

Appendix-E

List of Solid Waste Machinery / Vehicles that the contractor intend to purchase from the DMC (South)

Make Model of the Machinery	Type of Machinery	Registration No.
1	2	3
_	_	

While filling the above contractor /bidder is requested Note: to survey the existing machinery of the DMC South

with due care and diligence

Appendix-F

Breakdown of Unit Cost of the item in BOQ by the Activities and Works in that item.

Group of Activities in an item of BOQ:						
No.	Description of the Activities in the Item	Unit	Unit Cost	Quantity	Cost in Pak Rupees	Cost in US\$
1	2	3	4	5	6	7
1.						
2						
3						
4						

Cost = Unit Cost x Quantity

Note: While filling the above contractor /bidder is requested

to study the document and description of Items in

BOQ carefully

Appendix-G

Estimated Progress Payments.

Bidder's estimate of the value of work, which would be executed by him during each of the periods stated below, based on his Programme of the Works and the Rates in the Bill of Quantities, expressed in thousands of Pakistani Rupees.

Quarter/Year/Period	Amounts (Million of Rupees.)
1	2
1 st Quarter	
2 nd Quarter	
3 rd Quarter	
4 th Quarter	
5 th Quarter	
6 th Quarter	
7 th Quarter	
8 th Quarter	
9 th Quarter	
Bid Price	Э

Section VI

Performance Evaluation & Monitoring System

Section VI

<u>Performance Evaluation &</u> Monitoring System

6.1 Scientific Monitoring and tracking system for entire management and operation Plan

The monitoring of processes included in front-end services should be aimed to ensure that the objectives of solid waste management plan are realized and achieved. The proposed mechanism for different processes include:

COMMAND AND CONTROL CENTRE

- Command and Control Centre to be established by the service provider.
- Members from District Municipal Corporation and Sindh Solid Waste Management Board to also be part of central control room.
- Radio monitoring system be established at control room.
- Android-based monitoring system be established at control room.
- GPS tracking system for garbage transportation vehicles.
- The Command and Control Centre should be of a platform that it can be linked with the Central Command & Control Centre to provide real time data.

COMPLAINT CELL

- Complaint cell to be established by the service provider.
- Call waiting time to be less than 5 minutes.
- All complaints to be reported to command and control centre for resolution.
- Command and Control Centre to notify the complaint cell, as the complaint is resolved.
- Complaint cell to duly confirm it with the complainant.
- Linkage between Complaint Cell, Union Council, District Municipal Corporation and Sindh Solid Waste Management Board to be established.
- Concerned Union Council to verify 75% of complaints.

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- District Municipal Corporation and Sindh Solid Waste Management Board to verify at least 33% of the complaints.
- Response time to attend complaints should be less than 8 hours.

FOR STREET SWEEPING

- Monitoring and evaluation committees to be established at level of Union Council, District Municipal Corporation, Sindh Solid Waste Management Board and Service Provider.
- All committees to act independently
- Monthly third party evaluation & monitoring / validation
- Bio-metric and android based attendance system for sweeping staff.

FOR GARBAGE COLLECTION

- Monitoring and evaluation committees to be established at level of Union Council, District Municipal Corporation, Sindh Solid Waste Management Board and Service Provider.
- All committees to act independently.
- Monthly third party evaluation & monitoring / validation.
- Electronic chips should be installed in garbage bins.
- Daily collection report of GTS to be analyzed.

PUBLIC PERCEPTION STUDIES

- A third party firm will conduct quarterly public perception studies.
- The quantum of complaints will be analyzed to assess the performance of service provider.

Section VII

Conditions of Contract and Price Sheet

Section VII

Conditions of Contract and Price Sheet

7.1 Compliance of Laws & Rules Regulation

The contractor shall be bound under this contract to comply with all substantive and procedure laws of Islamic Republic of Pakistan, which may include but are not limited to the followings:

- i) Labour Laws
- ii) Land Laws
- iii) Environmental Laws
- iv) Local Govt. Act. / laws
- v) All National and Provincial Rules and Regulation applicable to the nature of services and works under this contract.

Inability of successful bidder to comply with all laws, rules, regulation and procedures will result in penalization, as per penalty clauses provided in this contract.

All substantive and procedural laws of Islamic Republic of Pakistan including Sindh Public Procurement Rules 2010 amended 2013 shall govern this document.

7.2 RFP Document

All section of RFP documents i.e.

i)	Section-I	Preambles
ii)	Section-II	Instruction to Contractor
iii)	Section-III	Description of the Zones of DMC South
iv)	Section IV	Proposed plan for DMC South

v)	Section-V	Terms and reference and Technical Specifications.		
vi)	Section-VI	Performance Evaluation and Monitoring System		
vii)	Section-VII	Conditions of Contract of Price Sheet		
viii)	Section-VIII	Annexure		

All Sections noted above and the clauses contained therein are part and parcel of RFP Document and are integral part of the agreement and shall be binding upon client and contractor.

7.3 Correspondences-Communications-Notices

All correspondence, communication and notices required or permitted under this contract shall be in writing and in English language and shall be given (to and from contractors & client) at official address provided in this contract document. The relevant parties shall duly notify change of address.

7.4 Language of Agreement

Agreement will be prepared in English language.

7.5 Type of Agreement and Contract Price

The agreement is a unit price contract, the sum of amounts is calculated by multiplying quantity of each work item as indicated in the price list and unit price quoted by the contractor for that work / services items. The payments of each work/services performed by the contractor shall be based on the unit price quoted by the contractor.

7.6 Duties and Taxes

All taxes, duties, fees, and other contractual costs regarding the signing of the contract shall be borne by the contractor.

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7.7 Expenses included in the Contract Price

ΑII costs associated with the operational management, monitoring and performance of works and services according to the contract, expenses related with fuel, spare parts, maintenance and repair, depreciation of vehicles (solid waste collection and transportation vehicles) etc. and cost of other incidental items, cost of transportation, cost of polythene bags, containers. trollies. dustbins. litterbins and others mentioned in various sections of the contract. Cost of any or all insurances related to and for the purpose of works and cost of all taxes required to be paid by the contractor pursuant to laws of Pakistan. All the above-mentioned costs and those mentioned in the sections of the contract document must be taken into account and included in bid price.

7.8 Intermediate payment / Running Bill

The contractor shall submit running bill in the first week of every month for the work and services performed by him. The monthly performance shall be checked and determined by the client subject to verification through client representatives and on the basis of such verified determinations by the client payment shall be made within 15 days after submission of monthly performance bill/running bill by the contractor.

7.9 Insurance of work & work places

The contractor shall be responsible for safeguarding of work and work places. The contractor shall take all insurances required by pertinent legislations and submit the policies thereof to the client. The contractor shall be responsible for any damages cost by its personnel and his subcontractor in respect of work performed under this contract.

7.10 Indemnification by Bidder/Contractor

Contractor shall indemnify, defend and hold harmless the client (SSWMB), its members, officers, directors, employees and representatives from and against any and all claims arising out of or in anyway connected with gross negligence, fraud, or willful misconduct of the contractor or any one acting in contractor's behalf or under its instructions in connection, with this

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contract and contractor's obligations there under. Any cost or expenses incurred by the contractor pursuant to its indemnity obligation under this clause shall be the sole responsibility of the contractor.

AND

The contractor/bidder shall indemnify the SSWMB and its employees against all losses and claims in respect of:

- a) Death or injury to any person, due to accident.
- b) Loss or damage to any vehicle, plant, property which may arrived out of accident or public riots or in consequences of execution of work and against all claims, proceedings, damages, cost, charges and expenses, whatsoever in respect of or in relation thereto the contractor shall indemnify the client, its officers, employees for any loss claims, demands or lawsuits resulting from defects in contractor's performance during execution of work and services.

7.11 Contractor Liability for Indemnification

The contractor shall be directly responsible for the choice or use of defective or non-compliant tools or machineries deficiencies of performance in works and services, mistakes in sufficient supervision or any failure to fulfill his obligation in accordance with the provisions of this contract and specification and any other losses and damages that my occur due to similar reasons. The contractor shall indemnify such losses and damages in accordance with pertinent legislation.

7.12 Penalties & Cancellation of Contract.

Penalties as noted below shall be imposed if negligence, discrepancies and deficiencies on the part of the contractor to fulfill their obligations on the performance of works and services and the requirements to perform such works and services are found during the period of this contract.

a.	If door to door services is not rendered up to the						
	mark or door to door services is rendered partially						
	and non compliance of the requirement for door to						Rs.15000/-
	door	services	mentioned	in	the	technical	Per Day Per
	specif	ications					Zone

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b.	If number of manpower provided is found insufficient to perform works and services satisfactorily and not in accordance with the minimum requirement of manpower mentioned in the contract	Rs.400/- Per Day Per Person
C.	If the vehicle used for collection, transportation of solid waste is found inappropriate to the standards of solid waste management system. (Except where SWM vehicles of the procuring agency is utilized.)	Rs.50000/- Per Day Per Vehicle
d.	If numbers of Solid Waste collection and transportation vehicle is deficient to the minimum requirement for successful collection and disposal of MSW as proposed by the bidder in their proposal.	Rs.100000/- Per Day
e.	If the SWM vehicles are not cleaned and washed and found on road in dirty, out of order and unsafe conditions.	Rs.2000/- Per Vehicle Per Day
f.	If leachate is dropped from the vehicle on roads and working routs.	Rs.5000/- Per Vehicle Per Day
g.	Failure to operate machinery and manpower and vehicles during emergency conditions	Rs.500000/- Per Day
h.	Improper collection of Solid Waste from dustbins and collection point including road sides collection.	Rs.1000/- Per Day Per collection point
i.	If debries are found mixed with MSW while taking weights of MSW at designated weighbridge.	Rs.5000 Per Trip
j.	Number of Garbage Containers, litterbins, tipper bins are found less than the requirement as proposed by bidder in their proposal.	Rs.50000/- Per Day
k.	Failure to clean public areas and removal of waste there from.	Rs.10000/- Per Day
I.	Sweepers personals not wearing uniform (Identifiable to procuring agency)	Rs.500/- Per Person Per Day
m.	Failure to collect domestic waste on road sides footpath and streets in 24hours.	Rs.1000/- Per Day
n.	If garbage containers are not cleared properly and timely as required under the contract	Rs.10000/- Per Day
Ο.	Repeat violation of cleaning and street sweeping services	Rs.20000/- Per Day
p.	On open transportation of garbage	Rs.5000/- Per Vehicle Per Day
q.	If polythene bags for door to door collection to the residents of the area are not provided as mentioned in the contract.	Rs.5000/- Per Day Per Zone

r.	If the works and services to be delivered are not	
	started within the stipulate time i.e. 15 days after	Rs.50000/-
	signing of agreement.	Per Day
S.	If dumping of garbage and other solid waste to	
	any other place other than the approved disposal	Rs.10000/-
	site.	Per Day
t.	Segregation of MSW is prohibited under front end	
	collection plan. If segregation takes place by	
	scavenger or other persons at collection point,	
	,	Per Dustbin
	door collection.	Per Month

If the procuring agency finds any non conformity/contrary to the job description defined in this document. The contractor shall be bound giving a chance to bring his work standards to the satisfaction level of the procuring agency and if the non conformity is not corrected within the time limit granted by the procuring agency, the penalties will be imposed on the contractor.

If non conformity continuous, despite the penalties the procuring agency may terminate the agreement and damages to the procuring agency due to these non conformities of the contractor shall be recovered from his performance securities.

7.13 Resolution of Dispute

- a) Amicable Settlement: If any dispute and differences arises between procuring agency and contractor in connection or arises out of this contract, the procuring agency and contractor shall attempt to settle such disputes (within the provisions of the contract) through discussion in the first instance. The designated representatives of procuring agency and contractor shall promptly used their best efforts in good faith to reach a reasonable and equitable resolution of such dispute.
- b) Settlement through Arbitration: After coming into force of the procurement contract dispute between the parties to the contract shall be settled by complaint redressal committee defined in SPPR 2010 amended 2013 or through arbitration in accordance with arbitration Act. 1940 and Laws for the time being in forced in Islamic Republic of Pakistan.

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7.14 Code of Conduct

The contractor that attempts to get secrete information to conclude illegal agreements with the competitors or to effect the procuring agency during the phase of tender inspection, evaluation and comparison shall result in their offers cancellation and this situation shall be penalized administratively.

The contractor shall act objectively and trust worthy in accordance with rule of business ethic. It should avoid making public announcement regarding the works and services without prior permission and authorization of the procuring agency.

The contractor and its staff shall not act inconsistent way their obligation against the procuring agency and they shall not accept any type of the contributions that may effect their decisions at execution, performance, reporting at the works and services.

Assets of the procuring agency shall not be utilized without appropriate documentations and valid permissions in accordance with the contract. Procuring agency assets shall not be used for personal interest.

Contractor is responsible to ensure that its employees keep good behavior with public during execution of services in the area. Contractor shall be constructive with the public and shall not behave in a disgusting manner to the public. The services that are to be performed are to serve the public. Briberies, tip or commission offered as incentive or reward to any person shall be considered as fraud which is strictly forbidden under this contract. If the contractor found guilty under forbidden clauses of the contract, action shall be taken accordingly.

7.15 Time extension in conditions, situations of force majeure

Time extension shall be granted to the contractor in condition and situation of force majeure, but such condition and situation shall be certified by procuring agency and competent authorities.

The contractor shall not be liable for any failure or delay in performance of his obligation under the

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contract which is caused by circumstances beyond his control under force majeure.

Time extension shall be granted to the contractor in case where the procuring agency fails to fulfill its obligation regarding performance of the contract due to any reason not related with the contractor.

7.16 Access to the service area

Procuring agency and their authorized representative shall have access at all time to service area, offices of the contractor and any document, materials and record and accounts relating to the works and services performed under the contract for the purpose of inspections and reviews.

7.17 Termination upon notice by procuring agency

Procuring agency may terminate the contract upon 30 (thirty) days prior written notice to contractor in the event

- i) That contractor violets and consent to a violation of any law applicable to the services, where the violation may have a material adverse effect on the management and operation of services under the contract.
- ii) procuring agency may terminate the contract immediately upon the bankruptcy of the contractor or in other conditions as specified in the various clauses of the contract.

7.18 Termination by contractor

The contractor may also terminate this contract upon 30 (thirty) days prior written notice to procuring agency in the event

i) That procuring agency failure to perform its material obligations under this contract in timely manner. If the failure do not addressed properly by the contractor for redressal in 30 (thirty) days, but in no case such redressal is made beyond 90 (ninety) days accept if procuring agency continuous to pursue for redressal of such failure.

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7.19 Work in emergency

The contractor in case of emergency may be called upon to provide works and services as per scope of work under this contract and the contractor shall comply with such emergency orders of procuring agency without excuses. Non-compliance of the contractor shall lead to disqualification and will be dealt accordingly

7.20 Payment of Income Tax

The contractor, sub contractor and their employees shall be responsible for payment of all taxes and all type of income taxes, other taxes and taxes on income arising out of the contract and rate and prices coated by the contractor shall be deemed to cover all such taxes.

7.21 Local Taxation

The price coated by the contractor shall include all customs duties, import duties, business taxes income and other taxes that may levied in accordance with law and regulation in force in Pakistan as of the date, 28 days prior to the closing date for the submission of bid and taxes on vehicle machinery tools acquired for the purpose of the contract and on services performed under the contract, nothing in the contract shall relived the contractor from his responsibilities to pay taxes that may levied in respect of the contract.

7.22 Liability of the contractor

The contractor and their sub contractor or assigns shall follow strictly all relevant labour laws including workman's compensation act, and the procuring agency fully indemnified for all claims arising out of any damage by the contractor, his sub contractors or assigns and labour employed by them.

7.23 Price List and B.O.Q.

Item No	Description of Item	Unit	Quantity	Offer Unit Price (US \$) In Figure & in Words	Total Price (in US \$) In Figure & in Words
1.	Providing for and collection of MSW waste, sweeping waste including cost of door to door collection, management, operational, monitoring cost and cost of machineries, labours, sweepers, coolies, drivers, transportation, etc, cost of all taxes and other incidental cost as per the contract document.	Tons	491590 Per Year		
2.	Providing for and manual sweepings of roads and streets including management operational, monitoring cost, labour, drivers, coolies cost and cost of tools and other incidental cost and cost of all taxes as per contract document.	Kilo Meter	110286 Kilo Meter Per Year		
3.	Providing for and manual sweeping of footpath, Greenbelts, medians, Roundabouts, open spaces including management operational, monitoring cost, labour, drivers, coolies cost and cost of tools and other incidental cost and cost of all taxes as per contract document.	Sq Kilo Meter	23 Square Kilo Meter Per Year		
4.	Providing for and mechanical sweeping of roads including management operational, monitoring cost, labour, drivers, coolies cost and cost of tools and other incidental cost and cost of all taxes as per contract document.	Per Kilo Meter	12004 KM Per Year		

5.	Providing for and mechanical washing of main roads including management operational, monitoring cost, labour, drivers, coolies cost and cost of tools and other incidental cost and cost of all taxes as per contract document.	Per Kilo Meter	450 KM Per Year	
6.	Providing and supplying at site of works litterbins, metal buckets, metal container (tipping type) compatible with Solid Waste Machinery including painting of bucket, bin and container in desired color including cost lettering as directed, cost of transportation, manufacturing etc. complete.			
	a) Plastic Litter bin as per required standard having bin cubage of 0.24 to 0.3 Meter Cube	Each	3500 Nos	
	b) Standard Metal Bucket of bin cubage 1. 0.8 to 1.4 Meter Cube 2. 1.4 to 2 Meter Cube 3. 3.4 to 4 Meter Cube	Each Each Each	1000 Nos 500 Nos 1000 Nos	
	c) Metal Container of container cubage 1. 6.6 Meter Cube 2. 10 Meter Cube 3. 12 Meter Cube 4. 16 Meter Cube	Each Each Each Each	20 Nos 40 Nos 40 Nos 80 Nos	
7.	Providing for and collection and transportation of offals and other sacrificial animal waste (on eve of Eid ul Azha) from door steps, roads, streets, lanes open ground i.e. from the whole area under contract including cost of collection, transportation and disposal to landfill site (Gondpass Landfill site) including cost of management, monitoring,	Ton	8500 Ton Per Year	

Sindh Solid Waste Management Board

labours, machinery, incidental cost and cost of all taxes etc. complete	
Per Year of cost of work and services for item listed in Figures	n price list / B.O.Q.
Per Year of cost of work and services for item listed in pwards	
	_
Name of Contractor/BidderAddress:	Seal & Signature —
Landline & Cell # :	
Fax # :	
e-mail address:	

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7.24 Form of BID

FORM OF BID

(Name of Contract/Work)
Having examined the bidding documents including Instructions to Bidders, Bidding Data, and Conditions of Contract, Specifications and Bill of Quantities and Addenda Nos for the execution of the
above-named work, we/I, the undersigned, offer to execute and complete the work and remedy any defects therein in conformity with the Conditions of Contract, Specifications, Bill of Quantities and Addenda for the sum of US Dollar (\$
_) or such other sum as may be ascertained in accordance with the said conditions.
We/I understand that all the Annexure attached hereto form part of this bid.
As security for due performance of the undertakings and obligations of this bid, we/I submit herewith a bid security in the amount of US Dollar
(\$) drawn in your favour or made payable to procuring agency and valid for a period ofdays beginning from the date, bid is opened.
We/I undertake, if our bid is accepted, to commence the works and to complete the whole of the works comprised in the contract within the time stated in the contract document.
We/I agree to abide by this bid for the period of days from the date fixed for opening the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
Unless and until a formal Agreement is prepared and executed, this bid, together with your written acceptance thereof, shall constitute a binding contract between us.
We do hereby declare that the bid is made without any collusion, comparison of figures or arrangement with any other bidder for the works.

We understand that you are not bound to accept the lowest or any bid you may

receive.

- 9. We undertake, if our/my bid is accepted, to execute the Performance Security referred to in Conditions of Contract for the due performance of the Contract.
- 10. We confirm, if our bid is accepted, that all partners of the joint venture/consortium shall be liable jointly and severally for the execution of the Contract and the composition or the constitution of the joint venture/consortium shall not be altered without the prior consent of the procuring agency.

(Please delete this in case of Bid form a single bidder)

in the capacit behalf of	y ofdu	duly authorized to sign Bids for and on				
d this	day of		20			
ature:						
	(Name of Bio Capitals	dder in Blocks) (Seal)	k			
Address:						
Witness:						
Signature:						
Address:						
Occupation:_						

Section VIII

Annexure

Section VIII

Annexure

Saddar Zone	
Annexure-1	MSW Details in Each Union Council
Annexure-2	Statics of House Hold Unit
Annexure-3	Road, Footpath, Median & Open Spaces
<u>Lyari Zone</u>	
Annexure-4	MSW Details in Each Union Council
Annexure-5	Statics of House Hold Unit
Annexure-6	Road, Footpath, Median & Open Spaces
Annexure-7	Existing SW Machinery in Saddar Zone
Annexure-8	Existing SW Machinery in Lyari Zone
<u>Forms</u>	
Annexure-9	Performance Guarantee format
Annexure-10	Integrity Pact.
Annexure-11	Format for Contract Agreement

MSW Details in Each Union Council of Saddar Zone (including Sweeping waste and landscape waste)

									Annex	ure-1
	Ur	nion Council		Population	Population		MSW out put	The		
S. No.	UC #	Name	Population Statistics in 1998	(Forecasted) in Karachi Master plan	forecasted in 2015 at growth of	Area in Sq KM	of each UC /ward (t/d) 0.48 Kg /	Straight Distance b/w UC	No. of Collection Point in	Masonry Dustbin /
	"			2005	5% Per annum		capita per day.	Center & GTS in KM	UC/Ward	Collection points
		Old Haji								
1	1	Camp	68018	103278	154917	2.41	74.36	2.72	11	
2	2	Garden	64139	97388	146082	1.76	70.11	1.15	7	
3	3	Karadar	64470	97890	146835	0.75	70.48	3.42	8	
		City Railway								
4	4	Colony	43002	65294	97941	3.05	47.01	3.28	6	
5	5	Nanak Wara	63041	95721	143581	1.53	68.91	2.45	10	Only 14
6	6	Gazdarabad	65394	99293	148939	1.28	71.49	1.62	8	Offiny 14
7	7	Millat Nagar	52098	79105	118657	0.49	65.59	1.67	11	
8	8	Sadar	65313	99170	148755	4.01	71.40	2.47	14	
9	9	Civil Lines	44874	68136	102204	1.97	49.05	4.45	13	
10	10	Clifton	38007	57709	86563	2.75	41.55	5.99	14	
11	11	Kehkashan	47795	72571	108856	2.07	52.25	6.57	open places 77	
•	Total	11 UC/Ward	616151	935555	1403330	22.07	682.20		102 +77 Open Places	

Note:

The above Data is just an estimation subject to verification by the bidder / Contractor. The purpose of information is to assist the bidder / contractor in formulation of methodology for collection and disposal of MSW, the contractor /bidder should conduct its own investigation and analysis to the check the accuracy of the Data.

Statistic of Household Unit in Saddar Zone.

									Annexur	e- 2
S. No.	Ur UC #	nion Council /Ward Name	Area of UC in Sq KM	Population Statistics in 1998	Population forecasted in 2015 at growth of 5% Per annum	Statistic of Housing Unit in 1998	Housing Units projections for 2015	Income Group	Housing Unit Vise Area Density	MSW out put of each UC /ward (t/d) 0.48 Kg / capita per day.
1	1	Old Haji Camp	2.41	68018	154917	9597	21858	Low Income	Congested	74.36
2	2	Garden	1.76	64139	146082	8491	19339	Low to Middle Income	Congested	70.11
3	3	Kharadar	0.75	64470	146835	11885	27069	Low to Middle Income	Thickly congested	70.48
4	4	City Railway Colony	3.05	43002	97941	6844	15588	Low to Middle Income	Low Density / Widely spread	47.01
5	5	Nanak Wara	1.53	63041	143581	10455	23812	Low to Middle Income	Congested	68.91
6	6	Gazdarabad	1.28	65394	148939	11854	26998	Low to Middle Income	Thickly congested	71.49
7	7	Millat Nagar	0.49	52098	118657	7666	17460	Low Income	Thickly congested	65.59
8	8	Sadar	4.01	65313	148755	11340	25828	Middle to High Income	Low Density / Widely spread	71.40
9	9	Civil Lines	1.97	44874	102204	6837	15572	Middle to Low Income	Low Density / Widely spread	49.05
10	10	Clifton	2.75	38007	86563	9210	20976	Middle to High Income	Low Density / Widely spread	41.55
11	11	Kehkashan	2.07	47795	108856	4972	11324	High Income	Low Density / Widely spread	52.25
Tota	ıl	11 UC/Ward	22.07	616151	1403330	99151	225824			682.20

Numbers of Houses figures are taken from 1998 District Census Report of Karachi South, Population Census Organization Statics Division Govt. of Pakistan Islamabad. Projection for 2015 is tabulated on Prorata basis on static report 1998.

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Road, Footpath, Medians & Open spaces in Saddar Zone.

						Annexui	re-3
S. No.	Road Category	Area of the Zone (Sq KM)	Methodology of Sweeping	Length of Road (Meter)	Width of Road (Meter)	Area (Sq Meter)	Remarks
A	Primary Main Boads		Mechanical	23000	a) 30 to 36 Dual Carriageway	759000	
Α	Primary Main Roads		Sweeping	12000	b) 18 to 30 Single Carriageway	288000	
	Secondary Main Roads	82		53000	a) 12 to 18 Single / Dual Carriageway (Inter connected roads)	795000	
В	Streets	24.28	Manual Sweeping	140000	b) 12 to 15 Single Carriage (internal roads)	1890000	
	Narrow Lane			123000	c) less then 9 Meters (Back Lane/ Narrow Lane)	1107000	
С	Medians		Manual Sweeping	35000	a) 01 Meter	35000	
	Footpaths		Manual Sweeping	70000	b) 01 to 02 Meter	140000	
D	Chowrangi		Manual Sweeping			2000	
Е	Open Spaces					5000	
					Total	5021000	5 Sq KM

Note: The above Data is just an estimation subject to verification by the bidder / Contractor. The purpose of information is to assist the bidder / contractor in formulation of methodology for Sweeping work, the contractor /bidder should conduct its own investigation and analysis to the check the accuracy of the Data.

MSW Details in Each Union Council of Lyari Zone (including Sweeping waste and landscape waste)

									Annexu	re- 4
S. No.	UC #	nion Council /Ward Name	Population Statistics in 1998	Population (Forecasted) in Karachi Master plan 2005	Population forecasted in 2015 at growth of 5% Per annum	Area in Sq KM	MSW out put of each UC /ward (t/d) 0.48 Kg / capita per day.	The Straight Distance b/w UC Center & GTS in KM	No. of Collection Point in UC/Ward	Masonry Dustbin / Collection points
1	1	Agra Taj Colony	45691	69377	104066	0.62	49.95	4.02	5	
2	2	Darya Abad	59281	90012	135018	0.30	64.80	4.31	3	
3	3	Nawa Abad	45107	68490	102735	0.36	49.31	5.68	4	
4	4	Khada Memon Society	58363	88618	132927	0.38	63.80	5.08	5	
5	5	Baghdadi	56653	86021	129031	0.49	61.93	4.32	5	
6	6	Shah Baig Lane	58127	88259	132388	0.38	63.55	3.85	5	18
7	7	Behar Colony	44571	67676	101514	0.49	48.73	3.55	4	
8	8	Rangi Wara	60121	91287	136930	0.55	65.73	2.9	7	
9	9	Singo Lane	49529	75204	112806	0.48	54.15	2.58	5	
10	10	Chakiwara	66208	100529	150703	0.87	72.33	3.46	7	
11	11	Allama Iqbal Colony	64341	97695	146542	0.49	70.34	2.58	9	
	Total	11 UC/Ward	607992	923168	1384660	5.41	664.62		59 + 13 Open Places	

Note:

The above Data is just an estimation subject to verification by the bidder / Contractor. The purpose of information is to assist the bidder / contractor in formulation of methodology for collection and disposal of MSW, the contractor /bidder should conduct its own investigation and analysis to the check the accuracy of the Data.

Statistic of Household Unit in Lyari Zone.

								Annexure- 5		
S. No.	Unio UC #	on Council /Ward Name	Area of UC in Sq KM	Population Statistics in 1998	Population forecasted in 2015 at growth of 5% Per anum	Statistic of Housing Unit in 1998	Housing Units projections for 2015	Income Group	Housing Unit Vise Area Density	MSW out put of each UC /ward (t/d) 0.48 Kg / capita per day.
1	1	Agra Taj Colony	0.62	45691	104066	6401	14579	Low Income	Thickly Populated	49.95
2	2	Darya Abad	0.30	59281	135018	8847	20150	Low Income	Congested	64.80
3	3	Nawa Abad	0.36	45107	102735	7254	16522	Low Income	Congested	49.31
4	4	Khada Memon Society	0.38	58363	132927	9365	21330	Low Income	Congested	63.80
5	5	Baghdadi	0.49	56653	129031	8260	18813	Low Income	Congested	61.93
6	6	Shah Baig Lane	0.38	58127	132388	7573	17248	Low Income	Thickly Populated	63.55
7	7	Behar Colony	0.49	44571	101514	6123	13946	Low Income	Thickly Populated	48.73
8	8	Rangi Wara	0.55	60121	136930	8401	19134	Low Income	Thickly Populated	65.73
9	9	Singo Lane	0.48	49529	112806	7263	16542	Low Income	Congested	54.15
10	10	Chakiwara	0.87	66208	150703	8160	18574	Low Income	Thickly Populated	72.33
11	11	Allama Iqbal Colony	0.49	64341	146542	8436	19214	Low Income	Thickly Populated	70.34
Tota	I	11 UC/Ward	5.41	607992	1384660	86083	196050			664.62

Numbers of Houses figures are taken from 1998 District Census Report of Karachi South, Population Census Organization Statics Division Govt. of Pakistan Islamabad. Projection for 2015 is tabulated on Prorata basis on static report 1998.

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Road, Footpath, Medians & Open spaces in Lyari Zone.

		1			T	Annexure- 6		
S. No.	Road Category	Area of the Zone (Sq KM)	Methodology of Sweeping	Length of Road (Meter)	Width of Road (Meter)	Area (Sq Meter)	Remarks	
٨	Drimary Main Boada		Mechanical	7560	a) 30 to 36 Dual Carriageway	249480		
A Primary Mair	Primary Main Roads		Sweeping	3750	b) 18 to 30 Single Carriageway	90000		
	Secondary Main Roads	5.41	Manual Sweeping	37800	a) 12 to 18 Single / Dual Carriageway (Inter connected roads)	567000		
В	Streets			56700	b) 12 to 15 Single Carriage (internal roads)	765450		
	Narrow Lane			83160	c) less then 9 Meters (Back Lane/ Narrow Lane)	748440		
С	Medians			11250	a) 01 Meter	11250		
	Footpaths			22500	b) 01 to 02 Meter	22500		
D	Chowrangi	(Manual Sweeping			1000		
E	Open Spaces	-				2000		
					Total	2457120	2.46 Sq KM	

Note:

The above Data is just an estimation subject to verification by the bidder / Contractor. The purpose of information is to assist the bidder / contractor in formulation of methodology for Sweeping work, the contractor /bidder should conduct its own investigation and analysis to the check the accuracy of the Data.

Existing Solid Waste Machinery / Vehicles in Saddar Zone

			Odddai 20		Annexure- 7
S.NO.	VEHICLE NO.	MAKE	TYPE	MODEL	Remarks
1	CH:600777	BEDFORD	REFUSE VAN	1988	
2	GS 3073	do	Do	1974-76	
3	CH:601197	do	Do	1988	
4	CH:600773	do	Do	1988	
5	GS:3151	do	Do	1988	
6	CH:600824	do	Do	1988	
7	CH:601196	do	Do	1988	
8	CH:601132	do	Do	1988	
9	CH:600780	do	Do	1988	
10	CH:600747	do	Do	1988	
11	CH: 601194	do	Do	1988	
12	CH:601134	BEDFORD	Do	1988	
13	GS: 8761	ISUZU	Do	1976	
14	CH:1687225	do	Do	1988	
15	CH: 14260	HINO	Do	1988	
16	CH: 16113	do	Do	2002	
17	GS: 5302	do	Do	1976	
			REFUSE VAN (17 Nos.)	Capacity of Ref	Tuse Van = 7 Ton Each
18	CH: 11479	do	ARM ROLL	1986	
19	CH: 14247	do	Do	1986	
20	CH: 21296	do	Do	1986	
21	CH: 15874	do	Do	1986	
22	CH: 10989	HINO	Do	2000	
23	CH: 101490	VOLVO	Do	1992	
24	CH: 100759	do	Do	1992	
25	CH: 101480	do	Do	1992	
26	CH: 101118	do	Do	1992	
27	CH: 101484	do	Do	1992	
28	CH: 100973	VOLVO	Do	1992	
29	CH: 03253	NISSAN	Do	1992	
30	CH: 03241	do	Do	1992	
31	CH: 03242	NISSAN	Do	1992	
			ARM ROLL (14 Nos.)	Capacity of Arr	m Roll = 4.5 Ton Each
32	CH: 159483	VOLVO	COMPACTOR	1992	
33	CH: 159481	do	Do	1992	
34	CH: 159485	do	Do	1992	
35	CH: 159042	do	Do	1992	
36	CH: 14259	Hino	do	1992	

			COMPECTOR (05 Nos.)	Capacity of Co	mpactor = 7 Ton Each
37	CH: 159044	VOLVO	DUMPER	1992	
38	CH: 10981	HINO	Do	2000	
39	CH: 10979	do	Do	1992	
40	CH 10650	do	Do	1992	
41	CH 4044	do	Do	1992	
42	CH 15511	do	Do	1992	
43	CH: 10980	do	Do	2000	
44	CH 343012	do	Do	2000	
45	CH: 16078	do	Do	2002	
46	CH: 11400	HINO	Do	1988	Totally burnt
47	CH: 3943012	ISUZU	Do	1988	
48	A-9	do	Do	1988	
49	A-10	ISUZU	Do	1988	
50	CH:15324	HINO	Do	2007	
51	CH: 15325	do	Do	2007	
52	CH: 15115	do	Do	2007	
			DUMPER (16 Nos.)	Capacity of D	cumper = 7 to 11 Ton Each
53	CH: 21272	do	MULTI LOADER	1992	
54	CH: 21273	do	Do	1992	
55	CH: 21276	HINO	Do	1992	
			MULTI LOADER (03 Nos.)	Capacity of Mu	ltiloader = 4 Ton Each
56	CH: 175646	CASE	SKID LOADER	1992	
57	CH: 175293	do	Do	1992	
58	CH: 175663	CASE	Do	1992	
59	CH: 0489	KOMATSU	Do	2002	
60	CH: 1480	Caterpillar	Do	2004	
61	CH: 1486	do	Do	2004	
62	CH: 09624	do	Do	2007	
63	CH: 09619	do	Do	2007	
64	CH: 09631	Caterpillar	Do	2007	
65	761556	Bob Cat	Do	2007	
66	761557	do	Do	2007	
67	CH: 2197 (753)	Bob Cat	Do	Old Model	
			SKID LOADER (12 Nos.)		
68	CH: 225/21	MESSAY	TRACTOR TROLLY	1989	
69	CH: 0813/24	do	Do	1988	
70	161-516	do	Do	1989	
71	CH: 184-23	do	Do	1989	

72	CH: 0812/09	do	Do	1989	
73	CH: 0817/08	do	Do	1989	
74	161-450	do	Do	1988	
75	CH: 9039-23	do	Do	2003-04	
			TRACTOR TROLLY (08 Nos.)	Capacity of Tra	actor Trolly = 2.5 Ton Each
76	161-346	do	TOCHING TRACTOR (01 Nos.)	1988	
			TOCHING TRACTOR (01 Nos.)		
77	CH: 02/02	do	SHAWAL TRACTOR	2002	
78	CH: 052/15	do	Do	2000	
79	CH: 011-02	MESSAY	Do	2003-04	
			SHAWAL TRACTOR (03 Nos.)		
80	CH: 3600229	ISUZU	CESS POOL (01 Nos.)	1990	
			CESS POOL (01 Nos.)		
81	CH: 1037	FORKAWA	WHEEL LOADER	1992	
82	CH 12911	do	Do	1992	
83	CH 10003162	LUGONG	Do	2007	
84	CH: 98834	do	Do	2007	
85	63801065	TCM	Do	2007	
			WHEEL LOADER (05 Nos.)		
86	CH: 489557	VOLVO	CRABE CRANE (01 Nos.)	1992	

Existing Solid Waste Machinery / Vehicles in Lyari Zone

					Annexure- 8
S.NO.	VEHICLE NO.	MAKE	TYPE	MODEL	Remarks
1	600770		REFUSE VAN		
2	600771		do		
3	600772		do		
4	600821		do		
5	601129		do		
6	601136		do		
7	3111		do		
8	15870		do		
9	14901		do		
10	16071		do		
11	4041		do		
12	4043		do		
13	7101399		do		
14	7101398		do		
15	16109		do		
			REFUSE VAN	Capacity of Refu	use Van = 3.5 Ton Each
			(15 Nos.)		
16	100747	VOLVO	ARM ROLL		
17	100751	do	do		
18	100976	do	do		
19	100755	do	do		
20	100974	do	do		
21	101278	do	do		
22	03240	Hino	do		
23	10986	do	do		
24	21304	do	do		
			ARM ROLL	Capacity of Arm	Roll = 7 to 4 Ton Each
25	159043		(09 Nos.) COMPACTOR		
23	139043		COMPECTOR	Capacity of Co	mpactor = 7 Ton Each
			(01 Nos.)	Capacity of Co	impactor = 7 Ton Each
26	3493011		DUMPER		
27	3576905		do		
28	10982		do		
29	10984		do		
30	3600230		do		
31	3577455		do		
32	13076		do		
33	13078		do		
32	13076		do		

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34	13079	do	ı ı ı
35	13080	do	
36	13080	do	
37	13081	do	
31	13002	DUMPER	Capacity of Dumper = 6 to 15 Ton Each
		(12 Nos.)	Capacity of Bumper = 0 to 13 Ton Each
38	10052	MULTI LOADER	
39	10041		
40	21274	do	
41	21275	do	
- 11	21273	MULTI LOADER	Capacity of Multiloader = 4 Ton Each
		(04 Nos.)	- Cupatri, 07 17 18 18 18 18 18 18 18 18 18 18 18 18 18
42		SKID LOADER	
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
		SKID LOADER (11 Nos.)	
53	161514	TRACTOR	
33	101314	TROLLY	
54	161515		
55	161519		
56	82208		
		TRACTOR	Capacity of Tractor Trolly = 2.5 Ton
		TROLLY	Each
		(04 Nos.)	
57	4604	SHAWAL TRACTOR	
58	200201	do	
		SHAWAL	
		TRACTOR (02 Nos.)	
59	12914	WHEEL LOADER	
60	638801830		
61	10807218	do	
01	1000/218	do WHEEL	
		LOADER (03 Nos.)	

Annexure-9

Format for Performance Guarantee

To be provided to the successful bidder/contractor after acceptance of the bid.

Annexure- 10

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC; PAYABLE BY CONTRACTORS.

(FOR CONTRACTS WORTH RS. 10.00 MILLION OR MORE)

Contract No Contract Value:	Dated		
Contract Title:			
procurement of any cor	ntract, right, interest, privi iinistrative subdivision or a	ilege or other obligation o	has not obtained or induced the r benefit from Government of r entity owned or controlled by
fully declared the brok give and shall not give	erage, commission, fees e e or agree to give to anyon	etc. paid or payable to anyone within or outside Pakis	resents and warrants that it has one and not given or agreed to tan either directly or indirectly ite, broker, consultant, director,
kickback, whether desc procurement of a contr	cribed as consultation fee of act, right, interest, privileg	or otherwise, with the obje	cation, bribe, finder's fee or ect of obtaining or inducing the enefit in whatsoever form from, pursuant hereto.
disclosure of all agreeme	ents and arrangements with any action or will not	h all persons in respect of o	has made and will make full or related to the transaction with invent the above declaration,
making full disclosure, declaration, representate obligation or benefit of	misrepresenting facts or ion and warranty. It agree tained or procured as af	taking any action likely ees that any contract, rig	king any false declaration, not to defeat the purpose of this ht, interest, privilege or other judice to any other rights and lable at the option of PA.
Supplier/Contractor/Corits corrupt business practices sum of any commission aforesaid for the purpos	sultant] agrees to indemnictices and further pay com n, gratification, bribe, find	fy PA for any loss or dama appensation to PA in an am der's fee or kickback give the procurement of any co	n this regard, [name of age incurred by it on account of ount equivalent to ten time the en by [name of Contractor] as ontract, right, interest, privilege
[Procuring Agency]		[Contractor]	

Annexure- 11

Format for Contract Agreement To be provided at the time of Agreement