MINUTES OF MEETING FOR "OUTSOURCING OF SOLID WASTE MANAGEMENT SERVICES (ALONG WITH AVAILABLE RESOURCES) FOR THREE DISTRICTS OF BAHAWALPUR DIVISION

BWMC Participants:

1. Chief executive Officer BWMC
2. Muhammad Ayaz Kalyar (Member Board of Directors)
3. Chief Financial Officer, BWMC
4. Manager Procurement, BWMC
5. Manager Operations, BWMC
6. Manager MIS, BWMC

Bidders Participants:

1. Agha Humayon Babar Khan (Through video link), J.V Daewoo Express, JV Ghulam Hussain & Sons, JV Waste Buster
2. Abdullah Abbasi, J.V Daewoo Express, JV Ghulam Hussain & Sons, JV Waste Buster
3. Shoaib Khalid, JV (Shoaib Khalid, JV Saleem & CO

Date: 19-July-2024, **Time:** 1430 Hours, **Venue:** BWMC Office Al-Aqsa Mall-MTA, Bahawalpur

This shall be considered as an Addendum No.1 to the Bidding Documents under clause 2.2.3 "Amendment of Bidding Documents" and shall be considered as its integral part. Meeting started with the name of Almighty ALLAH. Manager Procurement & Chief Financial Officer briefed the salient features of the bidding document. Procurement Committee of BWMC invited the prospective bidders to ask the queries regarding the bidding document of the subject cited project. Queries of the prospective bidders are as follows;

1. Observation received from JV Shoaib Khalid, JV Saleem & CO

Sr. No.	Observations	BWMC Reply
1	Can bidding price be higher than the quoted price in the document?	As per Govt. Rule
2	Can the contractor use less or more workers, machinery as proposed in the document? Please take this into consideration as some contractors might be able to operate on a higher efficiency. This will greatly benefit the overall sector.	Not allowed
3	On page number 63, number of TCP is not mentioned for urban. Is it up to contractors' discretion?	Yes
4	Will the government/BWMC/MC provide the land required to construct dumpsite? How much time will be given to contractor to build this? Furthermore, can the dumpsite be built in phases as required by the contractor to solid waste? For instance, if 10 acres will suffice for one year, the contractor can build 10 acres in the first year and remaining in the coming years	State land will be provided for dumpsite by the client; the contractor will develop the controlled dumpsite within three (03) months from the date of signing of contract. (as per detailed mentioned in clause 4.7 of RFP.
5	Installing trackers, VTMS software and other soft components will take time. 3 months should be awarded to contractors to become fully operational in terms of KPIs.	Reference clause 4.7.3, Trackers must be installed on all vehicles before mobilization.

		The client will pay only for registered vehicles with VTMS system, in case of any replacement for any vehicle the contractor will inform the client in written form at least 3 days before) unregistered vehicle's claim will not be considered for payment **Contractor must be careful and payment will be deducted about possible technical issues like;** • **Signal Loss**: GPS devices losing signal, causing tracking interruptions. • **Data Inaccuracy**: Incorrect location or speed data. • **Hardware Failures**: Malfunctions in tracking devices, vehicles batteries, devices theft or any other malafide activity performed by the concerned driver • **Software Bugs**: Errors in the VTMS application causing incorrect reporting. • **Any other issues etc.**
6	Can the waste collected be recycled and will the contractor retain its revenue?	No. Waste is the property of the client. However, it will be mutually agreed at the time of establishment of MRFs.
7	Rehabilitation of existing site is not clear. Should the contractor include its cost in its bidding, or this will be a special and extra payment will be given to contractor incase this happens?	All costs included in the given estimate.
8	Can number of HR be reduced if contractors achieve higher efficiency. Because this will affect the costing as salaries are the largest expense in Solid waste.?	No Change
9	As stated, the existing workforce from MC will join the contractors labour force. Furthermore, there is penalty involved for late attendance, uncleaned roads, D2D collection. The government employees have a habit of coming to work late, being ineffective at their job and sometimes not coming to work at all. These government employees in most tehsils will comprise more than 30% to 40% of labour force. The contractor should not be penalized for their inefficiencies and incompetency. Furthermore, what mechanism will be adopted if the government employees refuses to work? This will affect contractors KPIs. KPIs state 90% target score for KPIs which is already very difficult to achieve. Please clarify as 10% margin does not justify the government labor portion of 40%.	No Change
10	In what condition will be the machinery transferred from MC/BWMC/Government will be? In case, the machinery is nonoperational or is very cost expensive, this will impact contractors costing. What	Machinery will be provided to the successful bidder as available condition; R& M cost is already included in the given estimate.

	mechanism will be there to facilitate the contractor? Again, this will impact KPIs score as well.	
11	How much time will be given to construct the weigh bridge. During the construction, please clarify how will be waste weighed for finalization of payments?	As per the clause 4.7, the contractor will develop the controlled dumpsite with allied facilities within three (03) months from the date of signing of contract. Rental weight bridge will be hired by the contractor from first day of mobilization till installation of his own weight bridge. Rental weight bridge shall be up to the client satisfaction.
12	There is no target revenue given to be achieved. No information regarding how many houses fall under 5 marlas, how many under 10 marlas and so on? If the contractor has performed his/her duties and the residents/commercial user still do not pay, how will BWMC/MC/government facilitate the contractor? It is written if collection is less than 5%, the contract will terminate which is too strict for any contractor. What if BWMC/MC/Government fails to facilitate the contractor, how will be the contractor facilitated?	No Change
13	What if the waste collected is more than projected in the documents or is less than projected? This will impact contractors costing. Assumptions can go so far and ground reality is different. Please clarify what mechanism will be adopted in such a situation?	No Change
14	In what frequency will be payments be made? Weekly? Monthly?	On Monthly Basis
15	In case of delays in payment to contractor or any delays from BWMC/government/MC, contractor's cash cycle will be disturbed which will impact its operations and productivity. How will be the contractors compensated in this situation?	In case the submitted invoice is not verified /cleared within thirty days after submission of invoice, then only the verified portion of the invoice will be paid. However, unverified amount will be made after verification/resolution of dispute/arbitration.
16	Please share the time extension notification for bidding as discussed in the last pre bid meeting on 19th July.	Bid Submission date has been extended up till Aug 5, 2024.
17	It will greatly benefit if the three-year bid and performance guarantee be reduced to one year. This will improve contractors' performance and cash flow.	Bid Security, in favor of Bahawalpur Waste Management Company shall be 1% of the estimated cost/price for three years, across all tehsils in Bahawalpur Division in shape of Bank Guarantee/CDR in order to healthy competition

2. Observations received from J.V Daewoo Express, JV Ghulam Hussain & Sons, JV Waste Buster

Sr. No.	Relevant Clause	Observation / Suggestions	BWMC Reply
18	**Solid Waste Management Operations Plan**	The maps attached to the operational plan are not readable, making it challenging to develop an accurate plan for waste collection, transportation, manual and mechanical sweeping, and the establishment of transfer stations. ***Therefore, we request the provision of GIS maps, tehsil-wise, that detail important infrastructure pertinent to solid waste management. These maps will help to plan and execute our waste management strategy with precision.***	Tehsils available maps will be shared again. However, GIS maps are not available with BWMC
19	**Performance Security**	The performance security requirements outlined in the bidding documents currently vary, with most districts requiring 5% of the three-year contract value, while Gujranwala only requires 2% of the three-year contract value. In the case of Multan, RFP requires only PKR 20 Million bid security and PKR 20 Million performance security. ***To ensure fairness and consistency, it is requested that as far as bid security and performance security are concerned these should be kept uniform (bid security: 2% and performance security: 5%) throughout the Punjab for standardization***	Performance guarantee will be the 2% of the contract price for three years in the shape as defined in the bidding document. The successful bidder shall submit unconditional performance guarantee which shall be valid for 39 months.
20	**Financial Capability Criteria**	In the financial capability criteria, it is required that the bidder provide evidence of cash availability through a bank statement or available credit facility, which must not be older than 24th July 2024. Given that the bid submission date is 25th July 2024, it is impractical to expect bidders to obtain a bank statement issued on the last working day before bid submission, attach it to the technical bid, and transport it to other cities within such a tight timeframe. This requirement places an undue burden on bidders, as obtaining and processing the necessary financial documentation from banks often requires additional time. Moreover, the logistics of compiling the bid package and ensuring its timely submission to various locations further complicates compliance with this criterion. ***Therefore, it is requested that the cut-off date for the issuance of the bank statement or credit facility letter should***	**No Change.** As bid Submission date has been extended up till August 5, 2024, so the arrangement of bank statement of accounts however bank certificates for credit facilities/ limit will be accepted.

		be set at least a month before the bid submission deadline. Furthermore, instead of bank statements, the client may agree on a Bank Certificate. However, the winner of the bid(s) may be asked to submit bank statements before entering into a formal agreement with the client.	
21	**Resource Requirements**	In the technical evaluation criteria, it is mentioned that the bidder must participate in any tehsil by submitting non-identical resources for each tehsil regarding bank balance, credit limits, machinery, and human resources. ***It is submitted that the condition of non-identical resources should be removed as typically resources are hired / procured / rented after obtaining the contract or work order. It is not practical to hire resources at the bidding stage as it poses a significant investment risk to the bidders. The same resources should be acceptable at the evaluation stage; however, if the contract is awarded, separate resources will be provided in the period to be agreed according to the project execution timelines.***	No change.
22	**Extension of Proposal Preparation Time**	The 15 days for preparing Technical and Financial Proposals is too short. Given the complexity and variation across the 110 distinct tehsils, it is extremely difficult to adequately study, survey, develop, design, and calculate a financial model within the current timeframe. ***Therefore, it is requested to grant an extension of at least 40-50 days for the submission of bids to ensure the preparation of a fully responsive technical and financial proposal to meet the client's requirement and ensure the value of money.***	Bid Submission date has been extended up till Aug 5, 2024.
23	**Minimum Waste Guarantee**	The bidding documents do not provide a minimum waste guarantee. We assume that the client must have done the due diligence about available waste (tonnage) in the area. ***It is therefore requested that a minimum waste guarantee of 70% should be given to mitigate the contractor's risk.***	No Change
24	**Adjustment Mechanism for Waste Tonnage**	If the amount of waste mentioned in the RFP is not available in the area, there should be a mechanism to adjust the bid price so that the contractor can recover its investment within the contract period.	No Change

25	**Listing Available Infrastructure**	The RFP doesn't include a list of the available infrastructure such as collection points, transfer points, workshops, parking lots, etc. ***It is suggested that if the infrastructure is available then:*** • ***Provide a list of the available infrastructure; and*** • ***Pictorial evidence to record its existing condition;*** ***If infrastructure is unavailable, it should be clearly stated that it needs to be developed by the contractor.***	No existing available resource (collection points, transfer points, workshops, parking lots, etc.) counted for this. All have to be managed by the contractor.
26	**Land Acquisition for Infrastructure**	The land acquisition for infrastructure development such as collection points, transfer stations, and controlled dumpsites is pivotal. The RFP requires that the successful bidders will have to acquire the land for the infrastructure. It is suggested that: • The client should procure land and obtain all necessary environmental approvals. If the client disagrees with the acquisition of the land then at least the RFP should give an indicative price of the land for waste collection points, transfer stations, controlled dumpsite, workshop, parking lot etc.; and • The contractor should be responsible for the development of the infrastructure.	It is informed that the bidder shall be responsible for arrangement of land & establishment of transfer stations, collection points, parking area and allied facilities etc. It is further informed that the land for establishment of controlled dumpsite shall be provided by concerned MCs. State land will be provided for dumpsite.
27	**Monthly Maximum Penalty Limit**	There is no maximum limit for the penalties in the RFP. ***It is suggested that the maximum upper limit of the penalties should be limited to 10% of the invoice value.***	No Change
28	**Motorcycle Rickshaw Capacity**	The requirement for motorcycle rickshaws assumes they can lift 700 kg of waste. ***This should be rechecked, considering the weight of the superstructure, and the requirement recalculated. Furthermore, the client should be clear about the fact that motorcycle rickshaws cannot be registered with the Excise and Taxation Department.***	Capacity for waste lifting was checked in field as well as during the road show organized by LWMC. The service provider will comply the policy of the government.
29	**Access to Water**	Ideally, the client should give access to available hydrants in the area without charging for water, as it might be difficult for the contractor to arrange it.	No Change
30	**Specification of Equipment and**	The RFP has not attached the specifications for the equipment, tools,	Attached

	Civil Infrastructure	machinery, vehicles and civil infrastructure. ***Ideally speaking to ensure standardization and apple-to-apple comparison of the financial bids, the RFP should provide specifications for equipment, tools, machinery, vehicles, and civil infrastructure.***	
31	**Sanitation Fee Collection**	The RFP entrusts the responsibility of sanitation fee collection to the contractor. ***It is suggested that the client should float a separate tender for fee collection, as SWM contractors may lack the legal authority and experience to do this task.***	No Change
32	**Exact Workload Calculation**	The location of disposal sites and transfer points should be decided upfront, procured by the client, and provided in the RFP to allow for accurate workload calculation for various vehicles.	It is responsibility of the contractor. Tentative locations are part of plan but Contractor will finally decide and will take the approval from the BWMC.
33	**Clarification on MRFs**	The RFP states that if GOPb establishes MRFs, the contractor may need to segregate waste at TCPs and transport it to MRFs. This needs clarification, as it contradicts the purpose of MRFs.	No. Waste is the property of the client. However, it will be mutually agreed at the time of establishment of MRFs.
34	**Incremental Compliance for DTD Waste Collection**	The requirement for 90% compliance for DTD Waste Collection is too high initially. ***It is suggested to implement an incremental increase, e.g., 60% in Year 1, 70% in Year 2, and 90% in Year 3.***	No Change
35	**Commercial Area Coverage Penalties**	Penalties for non-coverage of commercial areas should account for factors like encroachments and illegal parking, which may hinder service delivery. The client should share responsibility for making such areas accessible.	No Change
36	**Penalty for Vehicle Deficiency**	Penalties for vehicle deficiency should consider mechanical faults. Contractors should be given reasonable time to carry out necessary repairs and maintenance depending on the nature of the fault such as minor or major.	No Change
37	**Backup Vehicle Requirement**	The RFP should specify the percentage of backup vehicles required to ensure uniformity in financial proposals from different contractors.	No Change
38	**Subcontracting Limit**	In the RFP the subcontracting has been allowed without any upper limit. ***It is therefore suggested that the sub-contracting should be allowed to the maximum limit of 30% of the overall scope of work.***	**No Change** Contractor is responsible for the execution of the work as per standards defined. Any sub-letting will only be executed with prior approval of the BWMC.
39	**Construction Activities**	The RFP under the heading of Definitions states that the "Construction Activities"	Lay outs / Design are attached.

		means construction of ramp(s), boundary wall and other constructions by the bidder/contractor at the TSs as per the design and specifications agreed by the Procuring Agency". The decision about agreeing to the specification by the Procuring Agency after the declaration of the successful bidder seems irrational and it may lead to unnecessary conflict between the contractor and the procuring agency. ***It is therefore suggested that the relevant specification should be made part of the RFP and the contractor should be allowed to prepare its financial bids to meet the given specification to avoid post-award conflicts.***	
40	**Development Phase**	The RFP under the heading of Definitions states that "Development Phase" means the mutually agreed period between the procuring agency and contractor/bidder during which the bidder/contractor will undertake the necessary activities and perform its obligations related to this assignment/job as per TORs. ***It is suggested that the development phase as well as the execution phase should be defined upfront in the RFP to mitigate unnecessary post-award conflict.***	Infrastructure development phase of TCPs / Enclosures / dumpsite is clearly mentioned under Section VI special condition of contract clause 03 Commencement of services.
41	**Commencement of Services (GCC Clause 8)**	The RFP document indicates that: • GCC 8.1 (a) — The effective date for commencement of services is 15-30 days after the signing of the contract. The machinery will be mobilized within the 15-30 days mentioned above. ***This period is too short to procure/rent the machinery in 15-30 days. Therefore at least 45 -60 days should be allowed.*** GCC 8.1 (b)— The infrastructure development for TCPs & waste enclosures will be carried out within thirty (30) days from the signing of the contract without imposing any penalty. Similarly, the contractor will develop the controlled dumpsite within three (03) months from the date of signing of the contract without imposing any penalty related to the dumpsite. However, shift arrangements will be the responsibility of the contractor during this tenure of waste disposal. In case of non-availability of government land for the establishment of a controlled	No Change related to mobilization period. Lay outs / Design attached.

		dumpsite, rent of land will be paid to the contractor with prior approval of the Client. ***If the client doesn't commit to providing land for the infrastructure, then these timelines are highly unrealistic.*** • ***The infrastructure development for TCPs & waste enclosures should be allowed within ninety (90) days from the signing of the contract without imposing any penalty; and*** • ***Similarly, the contractor should be given at least one hundred and eighty (180) days to develop the controlled dumpsite from the date of signing of the contract without imposing any penalty related to the dumpsite.***	
42	**Data Sheet 2.3.8**	The RFP document under 2.3.8 indicates that "the number of documents to be completed and returned One original (01) and One True Copy of original and same will be signed by Authorized Person along with one soft copy in a separate USB". ***It is suggested that if the procuring agency requires a soft copy of the technical and financial proposal in USB, this must be deleted as it is too cumbersome to scan the entire technical proposal in hard-bound form.***	No Change Only requires Soft Copy of the Technical proposal/bid Documents.
43	**Procuring Agency's Right to Vary Quantities at Time of Award**	The RFP document indicates that "the Procuring Agency within permissible rules may increase or decrease the scope of services/quantities of Outsourcing of Solid Waste Management Services including Primary and Secondary Collection, Transportation and Disposal of Solid Waste to Dumpsite". ***In case of a decrease in the quantities after the signing of the agreement, there should be some price adjustment mechanism to mitigate the investment risk of the contractors.***	No Change
44	**Bank Certificate**	Bank certificates shall be allowed instead of bank statements	Contractor will provide bank statement of accounts however bank certificates for credit facilities/ limit will be accepted.
45	**Definitions: "Assets"** means the movable and immovable properties and assets, including	Is it mandatory for the successful bidder to procure the assets on its balance sheet or the successful bidder can obtain the assets on rental mode to perform the services mentioned in the scope of work?	Agreed and replace the definition as under; Refer to the definition of assets specified under Section-I, bidder shall return the properties &

	the Vehicles procured by the Bidder / contractor or acquired from the procuring agency for undertaking the Bidder / contractor's Obligations. Bidder shall return the properties & assets including vehicles to the procuring agency in acceptable condition.		assets including vehicles to the procuring agency, which will be handed over to the contractor by the procuring agency, in an acceptable condition
46	**Definitions "Bid Price"** means the price calculated as the product of services quoted by the Bidder in accordance with financial forms and TORs (Scope of Services) for a period of 03 years	"As per the definition of "Assets", all the assets will be transferred to procuring agency after the end of contract duration i.e. 03 Years. As successful bidder has to obtain financing from the commercial banks to perform the services given in scope of work, therefore contract duration should be minimum 06 years to allow all the bidders to obtain financing from the commercial banks."	No Change
47	**Definitions "Bidder / contractor's Taxes"** means any and all taxes (and duties), direct or indirect, whether imposed by Pakistan or elsewhere and whether imposed directly by a governmental authority or indirectly through any other person (including local/provincial governments), imposed or assessed by any federal or provincial/local taxing authority in Pakistan or elsewhere (or any political subdivision	Any change in the bidder/contractor taxes after the bid submission deadline should be pass-through and adjusted in the Bid Price as and when there is a change in the bidder/contractor's taxes.	Already provided in clause SCC Clause 8 & 2.3.3 of ITB of the bidding documents

	thereof or therein) whether general or special, whether ordinary or extraordinary, whether foreseen or unforeseen, payable by the Bidder / contractor in connection with the Bidder / contractor`s Obligations whether payable in instalments or not and regardless of whether such taxes are chargeable directly or primarily to the Bidder / contractor or any other person in connection with the Bidder / contractor`s Obligations and whether any amount in respect of them is recoverable from any other person		
48	**Definitions "Consents"** means all such approvals, consents, authorizations, notifications, concessions, acknowledgements, licenses, permits, or similar items that is or are required to be, from time to time, obtained and/or maintained by the Bidder / contractor for the performance of its obligations under the Contract.	Procuring agency to please explicitly specify the consents successful bidder require to perform its scope of the services as per bidding documents.	No Change
49	**Definitions**	Please See Comment on Sr. 28	No Change

	"Operations Period" means a period of 03 years (extendable for another three years on annual basis) from the signing of the Contract, during which period the Bidder / contractor will perform the contractual obligations		
50	**Definitions "Owned Machinery"** means the machinery / vehicles to be purchased by the Bidder / Contractor.	Please See Comment on Sr. 27	Refer to the definition of Assets specified under Section-I, bidder shall return the properties & assets including vehicles to the procuring agency, which will be handed over to the contractor by the procuring agency, in an acceptable condition.
51	**Definitions "Rented Vehicles"** means the vehicles to be acquired by the Bidder / contractor on rental basis from any party through legal arrangements for performance of the Bidder / contractor's Obligations, in accordance with this Bidding Document and the Contract. Submission of Fitness Certificate for the rented vehicles is mandatory before execution of the services under the Contract. Certificates must be submitted in 1st quarter of each calendar year. (SWMC. GWMC)	"Rented Vehicles Definitions contradicts with the Assets Definition. Please make the definition consistent. As per the Assets Definition, all the assets procured by the successful bidder to perform its scope of services will be transferred to the Procuring Agency at the end of contract duration. Whereas assets acquired on lease basis, will be retained by the successful bidder. Please remove inconsistency in the definition"	Refer to the definition of Assets specified under Section-I, bidder shall return the properties & assets including vehicles to the procuring agency, which will be handed over to the contractor by the procuring agency, in an acceptable condition

52	**2.3.3 – Bid Price** Bidder shall quote bid price for complete project duration i.e. three years and evaluation will be carried out on the basis of Total Bid Price for three years. Partially / Conditionally filled bid price will be declared nonresponsive.	"Minimum contract duration should be six years. Does the cost estimate consider the usage of rented machinery or owned? Or it is assumed the usage of 30% owned and 70% rented? The document said that cost estimates are based on 26 working days, are the requirements on special events, holidays, and other ad hoc requirements by the authorities have been considered?"	No Change. All Operational Plans will be prepared by the contractor and BWMC will review and approve the plan for execution. Resources will be based on the actual working requirement. Cost related to special events are part of the estimates.
53	**2.3.3 – Bid Price** Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet. A Bid submitted with an adjustable price quotation will be treated as non-responsive and may be rejected.	We understand monthly invoice of the successful bidder will be subject to escalation as per _____ clause of the Special Conditions of the Contract.	Refer to the clause 9 of the Special Conditions of the Contract.
54	**8.1 Bid Form**	It includes that if our Total Bid for all services is accepted, we will provide the performance security in the sum equivalent to five (5) per cent of the three-year contract price as elaborated in BDS & SCC, for the performance of the Contract. ***The 5% performance security of the contract price seems EXCESSIVE, especially for the bidders who wish to participate in multiple bids. It is therefore suggested that the performance security must be kept at 5% of the one-year contract price and to be renewed every year for the duration of the project.***	Performance guarantee will be the 2% of the contract price for three years in the shape as defined in the bidding document. The successful bidder shall submit unconditional performance guarantee which shall be valid for 39 months.
55	**2.6.2 – Performance Security** Within Fifteen (15) days of the	As financial institutions need security perfection, charge registration with SECP and the approval of transaction from their credit committee before the issuance of Performance Guarantee, this period must	No Change

	receipt of notification of award from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in accordance with the Conditions of Contract, in the Performance Guarantee Form provided in the Bidding documents.	be increased to 60 days after the issuance of Letter of Award.	
56	Bank Balance / Credit Limit If bank balance + credit limit upto 24th July, 2024 is equal to or more than 2 months' cost of total cost of the contract, full marks will be awarded	"This must be the average cash balance and unutilized RF lines as per the last three years audited financial statements. Time between statement availability should be more."	No Change
57	**Cost Estimates:**	"The documents states that the cost is inclusive of all applicable taxes. Need clarity regarding Sales Tax applicability on the Waste Management Project. Does the client assumed Sales Tax while calculating the cost of the project or the bidder/contractor need to cater Sales tax impact itself. Also, dies the invoicing as Administrative / Collection charges and the contractor share in that includes sales tax or now?"	The cost estimates are inclusive of all applicable taxes. Whereas Punjab Sales Tax on services is taken as 16 % which is already included in estimated cost.
58	**Notification of Award:** You are requested to furnish your performance guarantee as per bidding document and stamp papers as per stamp duty Act 1899 within Fifteen (15) days and thereafter sign the Contract within Three (03) days after the receipt of performance	Please See Comment on Sr. 36	No Change

	guarantee and stamp papers		
59	**Draft Contract – Sr. 02** The following documents shall be deemed to form and be read and construed as part of this Contract. (In case of discrepancy between the Documents, the following sequence will prevail); (a) Complete Bidding Document (Signed & Stamped) (b) The Bid Form and the Price Schedule submitted by the Bidder; (c) The Schedule of Requirements / Work Plan / Deputation Plan; (d) The Technical Specifications / TORs (Scope of Services); (c) SOPs, KPIs, Plans and Maps (f) The Special Conditions of Contract; and (g) The General Conditions of Contract; (h) The Procuring Agency's Notification of Award (i) Addendum (if any)	Please also add "Clarifications provided by the Bidder" in response to the bidder queries as part of the contract	No Change

60	**General Conditions of the Contract:** 10.3. As per rule-62 of PPR-14, payments shall be made promptly by the Procuring Agency, but in no case later than thirty (30) days after submission of an invoice or claim by the Service Provider, provided the work is satisfactory and duly verified by the representative(s) of Procuring Agency / Client deputed and authorized in this regard.	Procuring agency to specify the number of days in which Authorized Representative of the Procuring Agency to approve the invoice. In case no objection is raised by the Authorized Representative of the Procuring Agency within 07 days of the submission of invoice by the successful bidder, client invoice seems to be deemed approve.	In case the submitted invoice is not verified /cleared within thirty days after submission of invoice, then only the verified portion of the invoice will be paid. However, unverified amount will be made after verification/resolution of dispute/arbitration.
61	**General Conditions of the Contract – Change Order** The Procuring Agency may at any time pursuant to GCC Clause 15, by a written order given to the Service Provider / Contractor, make changes within the scope of the Contract or any additional scope of work, only if it is established and admitted as inevitable for the successful completion of the services with prior approval of Board of Directors, LWMC	Any change order would be with the consent of successful bidder and payment mechanism of any Change Order should be agreed mutually between successful bidder and the procuring agency.	No Change
62	**General Conditions of the Contract -** Termination for Convenience	As successful bidder would have made significant investment to carry out the services as stipulated by the Procuring Agency in the contract, in case contract is terminated by the Procuring Agency under clause Clause 23 of the General	No Change

		Conditions of the Contract, Procuring Agency should pay the successful bidder present value of its profit for the remaining contract duration discounted at K+3	
63	**General Conditions of the Contract** – Taxes and Duties	Any change in the taxes and duties after the bid submission date should be adjusted in the Bid Price.	No Change
64	**"Section 6: Special Conditions of the Contract 9.0 Price Variation** Pn = A + b (Ln/Lo) + **""the sum of A, b, c, etc., shall be one"""**	GCC-13.1 (n): Increase and Decrease of Cost Escalation Factor Working Particulars / %age / Adjustment Factors Fuel Cost 27.31% C HR Cost 32.27% B Other Operational Cost 40.39% A Total Net Operational Cost 100.00% "In above picture, the escalation factors are defined as "A", "B", and "C". Small letters are used in the explanation of the formula as seen on left. Clarity required if this is a typo or there is a separate definition for small and CAPITAL letters in the document which is missing. Also, "the sum of A, b, c etc. is equal to 1", only in the base case when "Ln" and "Fn" are equal to "Lo" and "Fo". In every other scenario it will be lower or higher than 1 (one) based on the escalation or de-escalation in that period. This should be clearly defined in the document to avoid any ambiguity in the definitions. "	It is informed that it's a clerical mistake & the definition of small letters is same as that of capital letters.
65	**Section 7: Commencement of Services**	Commencement of services days should be increased to 60-90 days.	No Change
66	**Section: 5 Obligation of the Contractor**	The RFP document indicates that the Contractor shall procure/purchase its machinery at least 30% of the total machinery as specified in Section III during the first year of the contract. Does it mean that the remaining 70% will be on a rental basis? Please confirm.	No change
67	**Clarification**	**Sr. 01** *Previous Table1: Summary of Tehsil* **Table 1: Summary of Tehsil** **Tehsil Khanpur** **Total Waste Generation:** 381 Tons/Day **Urban Waste Generation:** *(0.45 Kg/ capita)* 260 Tons/Day **Rural Waste Generation:** *(0.3 Kg/ capita)* 121 Tons/Day **Table 1: Summary of Tehsil**	*(Clarification) Table1: Summary of Tehsil* **Table 1: Summary of Tehsil** **Tehsil Khanpur** **Total Waste Generation:** 381 Tons/Day **Urban Waste Generation:** *(0.45 Kg/ capita)* 121 Tons/Day **Rural Waste Generation:** *(0.3 Kg/ capita)* 260 Tons/Day

Tehsil Rahimyar Khan	
Total Waste Generation:	616 Tons/Day
Urban Waste Generation: *(0.45 Kg/ capita)*	363 Tons/Day
Rural Waste Generation: *(0.3 Kg/ capita)*	252 Tons/day

Table 1: Summary of Tehsil

Tehsil MinchanAbad	
Total Waste Generation:	201 Tons/Day
Urban Waste Generation: *(0.45 Kg/ capita)*	162 Tons/Day
Rural Waste Generation: *(0.3 Kg/ capita)*	39 Tons/Day

Table 1: Summary of Tehsil

Tehsil Liaqatpur	
Total Waste Generation:	368 Tons/Day
Urban Waste Generation: *(0.45 Kg/ capita)*	341 Tons/Day
Rural Waste Generation: *(0.3 Kg/ capita)*	27 Tons/Day

Table 1: Summary of Tehsil

Tehsil Sadiqabad	
Total Waste Generation:	483 Tons/Day
Urban Waste Generation: *(0.45 Kg/ capita)*	347 Tons/Day
Rural Waste Generation: *(0.3 Kg/ capita)*	136 Tons/Day

Table 1: Summary of Tehsil

Tehsil Rahimyar Khan	
Total Waste Generation:	616 Tons/Day
Urban Waste Generation: *(0.45 Kg/ capita)*	252 Tons/day
Rural Waste Generation: *(0.3 Kg/ capita)*	363 Tons/Day

Table 1: Summary of Tehsil

Tehsil MinchanAbad	
Total Waste Generation:	201 Tons/Day
Urban Waste Generation: *(0.45 Kg/ capita)*	39 Tons/Day
Rural Waste Generation: *(0.3 Kg/ capita)*	162 Tons/Day

Table 1: Summary of Tehsil

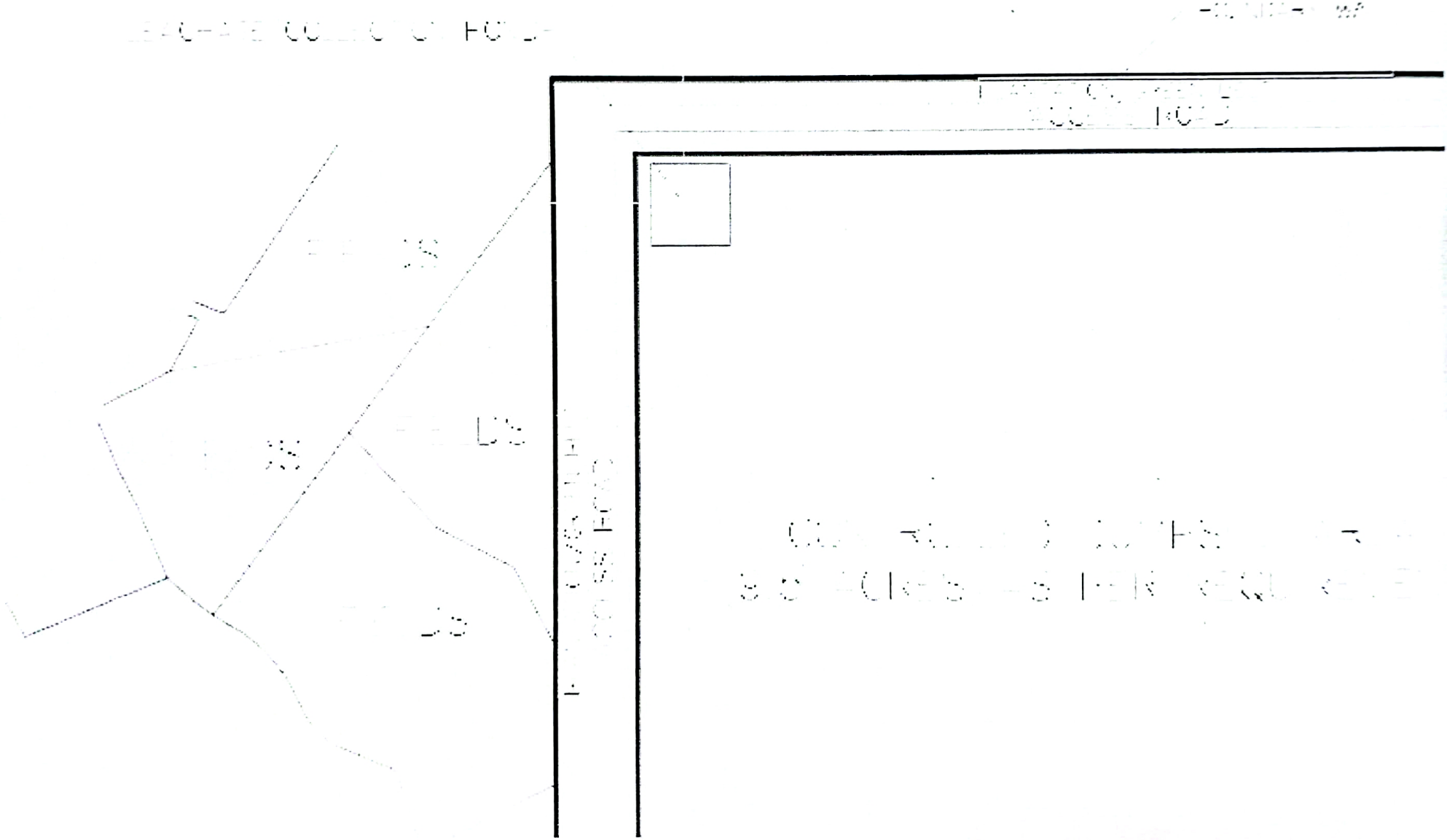
Tehsil Liaqatpur	
Total Waste Generation:	368 Tons/Day
Urban Waste Generation: *(0.45 Kg/ capita)*	27 Tons/Day
Rural Waste Generation: *(0.3 Kg/ capita)*	341 Tons/Day

Table 1: Summary of Tehsil

Tehsil Sadiqabad	
Total Waste Generation:	483 Tons/Day
Urban Waste Generation: *(0.45 Kg/ capita)*	136 Tons/Day
Rural Waste Generation: *(0.3 Kg/ capita)*	347 Tons/Day

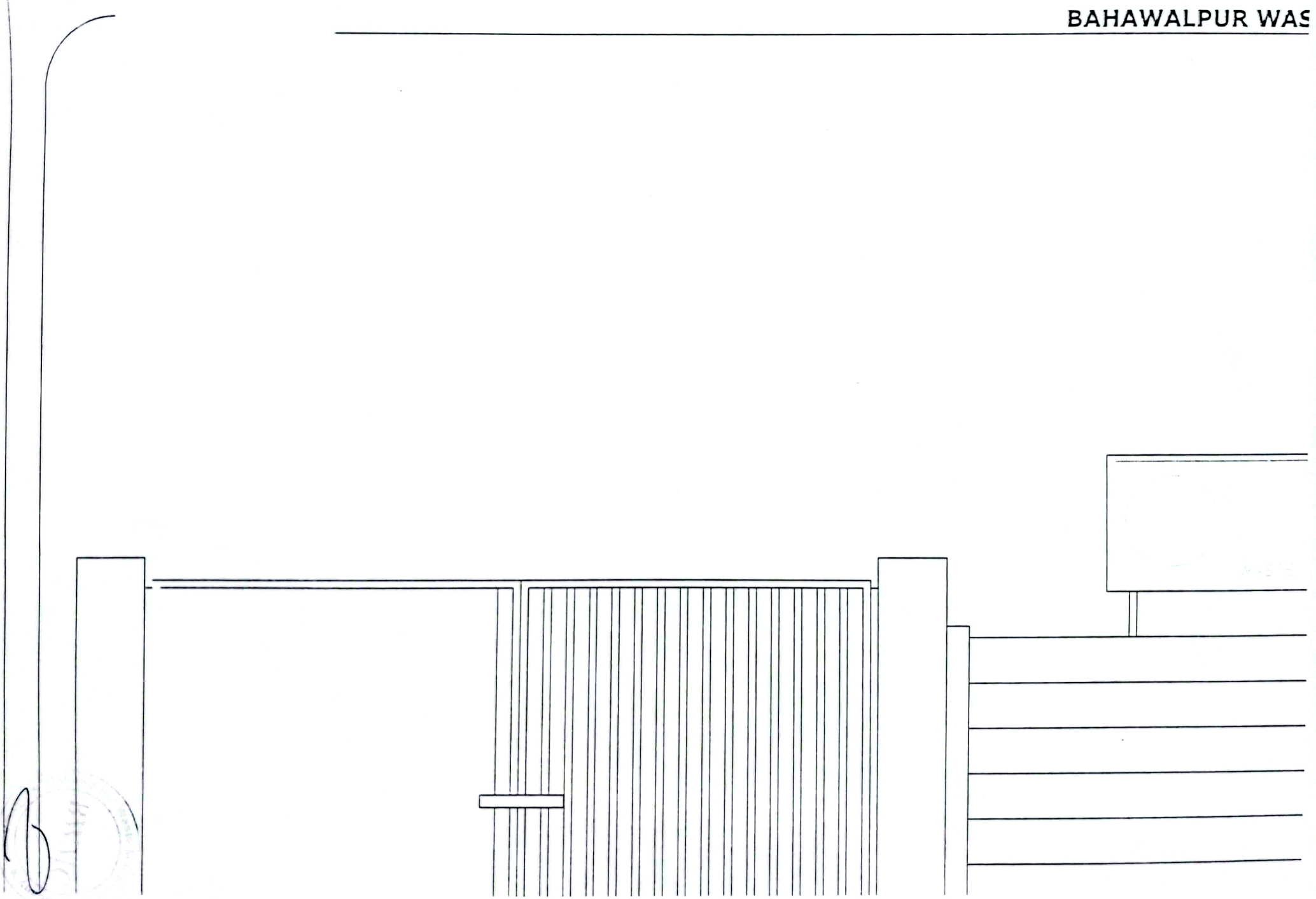
Sr. 02 Reference to 05 clause of the RFP Requirement of the HR.	The client will pay only for registered HR with IRIS system, in case of any replacement for any Worker / Driver /Supervisor etc. the contractor will inform the client in written form at least 3 days before) unregistered HR's claim will not be considered for payment

	IRIS based Issues • Before mobilization the contractor will register all the supervisory and workers staff on the IRIS dashboard • Contractor will pay the IRIS dashboard usage payment and will also buy the IRIS devices • In case of medical issues or any eye issues the contractor will submit the disability certificate or any medical certificate from the concerned doctor Following are the technical possible issues that usually can be occurred during the attendance **Contractor must be careful and payment will be deducted about possible technical issues like;** o **Hardware Malfunctions**: Devices not recognizing IRIS, Mobile Phones and other hardware issues o **Connectivity Problems**: Issues with syncing data to central servers. o **Environmental Factors**: Poor lighting or dirt affecting recognition accuracy. **User Error**: Incorrect usage by staff leading to failed logins.
Sr. 03 Reference to **3.3.2 Bulk Waste (BW)** of RFP	Identification and lifting of the bulk waste will be treated by the prior approval by the client.
Sr. 04 Drivers	All required drivers must have valid license of required category



BAHAWALPUR WAS

PLAN



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DUMP TRUCK 5M3

Sr.	Item	Description
TRUCK CHASSIS:		
1	Origin	Origin Europe/USA/Japan Assembled in Pakistan
2	Type	RHD, 4x2
3	GVW	8900 ~ 9000 kg
4	Engine	**Type:** 4 stroke-cycle, water cooled direct injection diesel engine with turbocharger & intercooler. **Power:** 135 ~ 145 PS **Torque:** 35 ~ 45 kgf.m **Displacement:** 3900 ~ 4100 cc
	Emission Standard	**Euro-II** minimum
5	Clutch	300 mm, Hydraulic control, diaphragm spring, single dry plate.
6	Transmission	5 ~ 6 Forward & 1 Reverse OD transmission
7	Axle	**Front:** Reverse Elliot "I" beam. **Rear:** Full floating type.
8	Brakes	**Service:** Hydraulic with vacuum servo assistance, dual circuit. **Exhaust:** Vacuum operated, butterfly valve type. **Parking:** Internal expanding type on propeller shaft at rear of transmission.
9	Dimensions	**Wheelbase:** 3800 ~ 3900 mm **Width:** 1950 ~ 2000 mm **Length:** 6700 ~ 6750 mm **Height:** 2200 ~ 2250 mm **Ground Clearance:** 200 ~ 220 mm
10	Electrical	**Batteries:** 2 x 12 V, 65 AH. **Alternator:** 24 V, 50 Amp
11	Steering	Ball-nut type with integral type hydraulic power booster. Telescopic and tilt steering column with steering lock.
12	Suspension (Front & Rear)	Semi-elliptic, laminated leaf springs, hydraulic double acting telescopic type shock absorbers on front & rear axles.
13	Wheels & Tires	**Tire Size:** 7.50-16-14 PR **Nos. of Tires:** 7 including spare wheel.
14	Fuel Tank Capacity	100 liters

SUPERSTRUCTURE

Dump Truck 5 M3 Capacity with following specifications:

Description	Minimum Requirement
CONSTRUCTION	Mild Steel body constructed from following thickness sheets with appropriate type of strengthen. Tail gate to open automatically for dumping. Body Sides: 4 mm Body Floor: 5 mm Body Front: 5 mm Tail Gate: 4 mm Sub & Lift Frame: 8 mm
Volume	5 M3
Hydraulic Pump	50 ~ 55 rev. Piston type. Max. Continues pressure 350 bars. Type close couple with PTO. (Origin Europe/USA/Japan/Turkey/China orequivalent).
PTO	PTO will be according to the chaassis. Europe/USA/Japan/Turkey/China or equivalent).
Lifting Scissor	Tentuski type locally manufactured.
Lifting capacity	4 Tons
Hydraulic Cylinder	Under Body Type imported Honed tubes and chromed Rod., Locallyassembled.
Operative Control	Solenoid control valve operated from cabin Europe/USA/Japan/Turkey/China or equivalent).
Oil Reservoir	With level & temperature gauge Tank Capacity 50 Liters
Filters	On line return filter Breather cap with strainer (Origin Europe/USA/Japan/Turkey/China or equivalent).
Paint	The internal and external surface will be painted free from Rust andOil Residue. One coats of anti-rust primer base two coats of final paint done with synthetic Enamel. Color of Paint and the Branding / Marking will be done as per customer choice.

DUMP TRUCK 10M3 CAPACITY

Sr.	Item	Description
TRUCK CHASSIS:		
1	Origin	Origin Europe/USA/Japan Assembled in Pakistan
2	Type	RHD, 4x2
3	GVW	18000 kg Minimum
4	Engine	**Type:** 4 stroke Water cooled direct injection turbo charged with intercooler, diesel engine – Common rail. **HP:** 235 ~ 240 PS **Torque:** 72~74 kgf.m **Displacement:** 7500 ~ 7700 cc
5	Emission Standard	**Euro-II Minimum**
6	Clutch	Size 380 mm. Hydraulic, Coil spring type, single dry plate with air pressure assistance.
7	Transmission	6 Forward & 1 Reverse.
8	Axle	**Front:** Reverse Elliot "I" beam. **Rear:** Full floating type.
9	Brakes	**Service:** Air over hydraulic with dual circuit. **Parking:** Internal expanding on propeller shaft. **Auxiliary:** Exhaust Brake.
10	Dimensions	**Wheelbase:** 4600 ~ 4650 mm **Overall Width:** 2450 ~ 2500 mm **Overall Length:** 8000 ~ 8050 mm **Overall Height:** 2650 ~ 2700 mm **Road Clearance:** 250 ~ 270 mm
11	Electrical	**Batteries:** 2 x 12 V
12	Suspension (Front & Rear)	**Front:** Semi-elliptic leaf springs with shock absorbers. **Rear:** Semi-elliptic main and auxiliary leaf springs
13	Wheels & Tires	**Size:** 10.00 ~ 11.00 R20 **Nos. of Tires:** 7 including spare wheel.
14	Fuel Tank Capacity	400 liters

Description	Minimum Requirement
Volume	10 M3
CONSTRUCTION	Mild Steel body constructed from following thickness sheets with appropriate type of strengthen. Tail gate to open automatically for dumping and locked during travelling. Body Sides: 4.00 mm Body Floor: 8.00 mm Body Front: 4.00 mm Tail Gate: 4.00 mm Sub & Lift Frame: 10.00 mm Reinforcement Channels: 4.00 mm The material of body shall be JIS SS 400 grade steel
PTO	PTO will be according to the chassis. OriginEurope/USA/Japan/Turkey/China or equivalent
Pump Type	Rotary Piston Type with close couple arrangement. OriginEurope/USA/Japan/Turkey/China or equivalent
Pump Flow	60 cc/rev.
Max. continues Pressure	300 bars
Lifting Scissor	Tentuski type scissor locally manufactured.
Lifting capacity	8 ~ 10 Ton
Hydraulic Cylinder	Under Body Hydraulic Cylinder Made from Honed Pipe & Chromed Rod with suitable size locally assembled.
Operating Control	Joy stick type, operating from inside cabin, pneumatically operated, with auto PTO OFF when closing. Origin Europe/USA/Japan/Turkey/China or equivalent
Mechanical Breaking	Mechanical breaking arrangements to avoid pressure when fulldumping to avoid free falling of body during closing for safe operations.
Oil Reservoir	With level & temperature gauge Tank Capacity 60 Liters
Filters	On line return filterSuction Filter Breather cap Origin Europe/USA/Japan/Turkey/China or equivalent
Painting	The internal and external surface will be painted free from Rustand Oil Residue. One coats of anti-rust primer base two coats of final paint done with synthetic Enamel. Color of Paint and the Branding / Marking will be done as per customer choice.

SPECIFICATIONS OF 0.8 M^3 CONTAINER (OPEN TYPE) WITHOUT TOP LID

The Specifications are given below: -

Capacity	0.8 M3
Material	Galvanized Iron Sheet
Shape	Rectangular
Sheet Thickness	2 mm GI Sheet
Wheels	4 Nos. Wheel of Teflon material with one locking wheel
Overall Height	1200 mm (approx.)
Overall Width	1200 mm (approx.)
Overall Length	800 mm (approx.)
Bearing	NTN, SKF, FAG or Equivalent
Supporting Plates	4 mm
Emptying Method	Lifting by rear end loading Garbage Compactors.

CONTAINER 5M3 (OPEN TYPE)
FOR ARM ROLL TRUCK 5M3

Arm Roll Container 5 m^3

The 5 m^3 Container is manufactured from JIS SS400 grade steel and compatiblewith Arm Roll vehicle having following features: -

i.	Body Size	5 M^3
ii.	Body Type	Open type with full opening of back door, to allow easy dumping
iii.	Body Construction	All welded mild steel construction to match with Arm Roll Vehicle.
	a. Floor	Floor Fabricated with 4 mm thick MS sheet, reinforced by channels.
	b. Sidewalls	Side walls fabricated from 3 mm thick MS Sheet, reinforced by channels.
	c. Back Door	Back Door fabricated from 3 mm thick MS Sheet, reinforced by channels.
	d. Front	Front side fabricated from 3 mm thick MS Sheet, reinforced by channels.
iv.	Lifting Hook	Made from 50 mm dia, high carbon steel bar welded with brackets of 12 mm thick MS Plate.
v.	Hook Plate	Made from M S 10 mm thick.
vi.	Lifting Locks	The container is to be equipped with Locks.
vii.	Main Frame	C Channel made from 6 mm thick
viii.	Support Channel	50 x 100 x 50 mm (3 mm thick)
ix.	Wheels	Support caste steel wheels at rear end, dia 150 mm
x.	Support Leg	Box Fabricated from 4 mm thick M S sheet.
xi.	Paint	The internal and external surface will be painted free from Rust and Oil Residue. One coats of anti- rust primer base two coats of final paint done with synthetic Enamel. Color of Paint and the Branding / Marking will be done as per customer choice.

TRACTOR LOADER WITH DIGGING TEATH

SPECIFICATIONS OF COMMPERCIAL TYPE FRONT END LOADER

bucket located at the end of two long arms with strength and safety. The Commercial Loader is hydraulically powered which provides the necessary power to lift the load.

Bucket Type	Closed Earth Self Leveling Bucket with Digging Teeth
Bucket Volume	0.6 cubic meter
Bucket Size	5.5'
Lifting Time	8-12 sec
Max. Lifting Weight	1000 KG
Operation	Hydraulic-Extra Pump PTO Drive Shaft-9 Plunger
Lifting Height at Pivot Point	11.5 ft
Lift Ram	2 Cylinders
Bucket Ram	2 Cylinders
Control	80 ltr 2 Spool Valve, 210 bar - Imported
Weight	Fixed, Size: L: 34" W: 32" H: 34"
Oil Tank	80 Liter with Oil Filter & Oil Level Gauge

SPECIFICATIONS OF TRACTOR (85 HP) 4WD

PERFORMANCE

Maximum engine power @ 2,200 rpm	85 (B.S) hp*
Maximum torque@1,600 rpm	300 Nm
Maximum PTO power at rated engine speed	70hp**

* Certified to BS AU 141a

** Manufacturer's estimate

ENGINE

Make / Type	Diesel / 4.41
No. of cylinders	4
Injection	Direct
Bore	101 mm
Stroke	127.0 mm
Capacity	4.1t
Aspiration	natural
Compression rato	15.3:1
Starting aid	Thermostart
Throttle control	hand & foot
Cooling	Water
Air cleaner type	Oil bath
Air pre-cleaner	Over bonnet,
Fuel filter	Dual, high capacity with sendimentor
Exhaust	Vertical, muffler under bonnet
Oil Cooler	Water Cooled

ELECTRICS

Voltage	12 V, negative earth
Battery	118 Ah
Alternator / Starter	45 A / 2.8 kw

CLUTCH

Type	Dual
Diameter	305mm x 254 mm
Lining material	Ceramotallic

TRANSMISSION

Type	Sliding Spur
Number of gears	8 forward, 2 reverse

Road speed at 2,200 engine rpm with 18.4 / 15 - 30 rear tyres

Gear		Speed (km/hr)
Forward 1	(First low)	2.9
Forward 2		4.2
Forward 3		5.8
Forward 4		7.8
Forward 5	(First high)	11.6
Forward 6		17.0
Forward 7		23.13
Forward 8		31.0
Reverse 1	(Low)	4.0
Reverse 2	(High)	15.7

POWER TAKE OFF

Type	Live
Engine speed @ 540 PTO rpm	1,789 rpm
Shaft diameter	35 mm
No. of splines	6

HYDRAULICS

Functions	Draft control, Position control, Response control, Constant Pumping
Pump Type	4 Piston, Ferguson
Maximum oil flow	16.7 l/ min
Maximum pressure	21MPa (205 bars) at normal operating temperature
Max. lift capacity at lower links horizontal	2,145 kgs
Lower Links	Cat. 1 & 2 with interchangeable balls

FRONT AXLE

Type	Parallel drive
Engagement	Mechanical

STEERING

Steering	Hydrostatic

REAR AXLE AND BRAKES

Axle Type	Straddle with epicyclic reduction unit
Brake Type	Oil immersed, multi-disc
Brake Pedal	Pendant
Braking area	1,774 sq.cm
Brakes Actuation	Hydraulic
Parking brake	Hand lever operated

INSTRUMENTATION

Gauges	Tachometer, Hourmeter, Fuel level, Battery Condition & Water temperature
Warning lights	Direction indicators, Electric charge, Head light main beam, Low engine oil pressure, 4WD indication light & Auxiliary socket

TYRES

Front	12.4 / 11-24 (12 PR)
Rear	18.4 / 15-30 (8PR)

TRACK ADJUSTMENT

Front	1,378 - 1,944 mm
Rear	1,423 - 2,134 mm

WEIGHTS AND DIMENSIONS (*)

(With 12.4/11-24 Front & 18.4/15-30 rear with full fuel, oil & water)

Weight	
Gross Weight (Approx.)	2,760 kg
Dimensions	
Overall length	3,810 mm
Overall width (min.)	1,871 mm
Wheel base	2,350 mm
Height	
Over exhaust	2,485 mm
Over steering wheel	1,781 mm
Turning Circle	
Without brakes	8,518 mm
Ground Clearance Under gear box	501 mm
Under 4WD front axle	395 mm

CAPACITIES

Fuel tank	108.0 l
Engine sump	7.5 l
Cooling system	15.2 l
Hydraulic system	47.4 l
Power steering reservoir	2.0 l
Oil bath air-cleaner	0.7 l
Brake Oil	0.25 l
4WD front axle differential	5.6 l
Hub each side	1.0 l

STANDARD EQUIPMENT

Weight frame without weights, Standard tool box with set of tools, Top link, Top link end Cat I & II balls, Check chains, stabliser chain, Spring suspension seat, Flat top fenders & Operator's and service manual.

OPTIONAL EQUIPMENT

Front end weights, Swinging drawbar, Sun Canopy, Pintle hook and 9 Hole drawbar.

OPERATOR AREA

Seat	Cushioned
Fenders	Flat top
Tool	Standard

SPECIFICATIONS OF TRACTOR TOWED MECHANICAL SWEEPER

1	SWEEPING WIDTH	2250-2350mm
2	SWEEPING SPEED	1/10 km/hr
3	LENGTH	3800 -4200mm
4	WIDTH	1750 MM
5	FRONT BRUSH Ø	750 MM
6	REAR BRUSH Ø	780 MM
7	HOPPER CAPACITY	1600 Liter
8	WEIGHT	1550 kg
9	WATER TANK	500 Liter
10	WATER SPRAY NOZZLES	8 Nos.
11	OPERATED BY	Hydraulic Pump through PTO to be fitted with Tractor.
12	PTO RPM	540
13	POWER REQUIREMENT	33 kw
14	HYDRAULIC TANK CAPACITY	40 Liter
15	TANK FITTINGS	Breather cap with strainer, level & temperature gauge
16	FILTERS	Hydraulic Filters on Suction & Return.
17	TIRE SIZE	6.00-9-10 PR

GARBAGE COMPACTOR 7-8M3

Sr.	Item	Description
TRUCK CHASSIS:		
1	Origin	Origin Europe/USA/Japan Assembled in Pakistan
2	Type	RHD, 4x2
3	GVW	8900 ~ 9000 kg
4	Engine	**Type:** 4 stroke-cycle, water cooled direct injection diesel engine with turbocharger & intercooler. **Power:** 130 ~ 145 PS **Torque:** 35 ~ 45 kgf.m **Displacement:** 3900 ~ 4100 cc
	Emission Standard	**Euro-II** minimum
5	Clutch	300 mm, Hydraulic control, diaphragm spring, single dry plate.
6	Transmission	5 ~ 6 Forward & 1 Reverse OD transmission
7	Axle	**Front:** Reverse Elliot "I" beam. **Rear:** Full floating type.
8	Brakes	**Service:** Hydraulic with vacuum servo assistance, dual circuit. **Exhaust:** Vacuum operated, butterfly valve type. **Parking:** Internal expanding type on propeller shaft at rear of transmission.
9	Dimensions	**Wheelbase:** 3800 ~ 3900 mm **Width:** 1950 ~ 2050 mm **Length:** 6700 ~ 6750 mm **Height:** 2200 ~ 2250 mm **Ground Clearance:** 210 ~ 220 mm
10	Electrical	**Batteries:** 2 x 12 V, 65 AH. **Alternator:** 24 V, 50 Amp
11	Steering	Ball-nut type with integral type hydraulic power booster. Telescopic and tilt steering column with steering lock.
12	Suspension (Front & Rear)	Semi-elliptic, laminated leaf springs, hydraulic double acting telescopic type shock absorbers on front & rear axles.
13	Wheels & Tires	**Tire Size:** 7.50-16-14 PR **Nos. of Tires:** 7 including spare wheel.
14	Fuel Tank Capacity	100 liters

Sr.	Item	Specification
1	**Superstructure**	The Compactor will be of Pack Plate Type Compactor with a minimum Compaction ratio of 1.35 ~ 1.5. The hopper loading height shall be 900-1250 mm (approx.) which depends on height of chassis.
		The body design will be of independent construction and mounted to meet the Health and Safety of the working personnel. The superstructure's assembly will be according to the truck's superstructure installation directives. The superstructure will be mounted with rigid connection, and flexible connection to provide the required elasticity.
		The design will keep in view load distribution for better performance of the vehicle. The internal and external surface will be painted free from Rust and Oil Residue. Paint and the Branding / Marking will be done as per customer choice. The garbage compactor equipment should conform to following specifications:
2	**Body of the Garbage compactor truck**	
	Capacity	7-8 M3 Excluding Hopper Body Material JIS SS 400 grade mild steel or equivalent Mild Steel grade
	Body Floor	4 mm
	Body Roof	2.5 mm
	Body Side Plate	3 mm
		Stiffeners to be provided and these will be full-seam welded on the body if required.
3	**Ejection Plate**	A hydraulic operated ejection plate of JIS SS 400 grade mild steel or equivalent Mild Steel grade having thickness of 4 mm will be provided. The plate will work through double acting cylinder with scissor ejection to allow the panel to advance forward as garbage is packed against it.
4	**Hopper**	Capacity 0.8 m3. The hopper capacity will be compatible with Mini Tipper/Tipper Rickshaw.
	Material	JIS SS 400 grade mild steel or equivalent Mild Steel grade
	Side Plate	4 mm plate with reinforcing channels
	Floor Plate	5 mm plate covered with 2.5 mm plate (Dual cover Structure if required)
	Press Plate	6 mm
		Press plate will be able to collect loose garbage inside the body via a sweeper shovel being pushed into the body by two double acting jacks.
5	**Bin Lifter**	Lifting capacity at least 500 ~ 600 kg capable to lift 0.8 m^3 Garbage container.

6	**Safety Bars Locking & Sealing**	2 Nos. Safety Bars under the hopper for maintenance. Hydraulic locking by means of two hydraulic tailgate lifting cylinders which also prevent the leakage of the wastewater.
7	**Control Valves**	Solenoid valve with safety relief valve for operation from hopper side for press & pack cylinders and on driver side of chassis for Dumping/Ejection Operation. (Origin Europe/USA/Japan/Turkey or equivalent)
9	**PTO**	2 Gear type operated through Electro-vacuum actuator from Cab. This will be close coupled with Hydraulic Pump. (Origin Europe/USA/Japan/Turkey or equivalent)
10	**Hydraulic Pump**	Pump will be close-coupled with PTO 50 ~ 52 cc / rev. Piston type. The operating pressure will be minimum 150 ~ 180 bars and Max. Pressure 300 ~ 350 bars. (Origin Europe/USA/Japan/Turkey or equivalent)
11	**Hydraulic Cylinders Double Acting Type**	There will be 8 units of hydraulic double acting cylinders; 4 Nos for Press & Pack plate, 2 Nos for hopper lift and 2 Nos for Bin lift with honed tube and chrome plated rod as per applicable Standards. The dimensions of cylinders will be designed to accomplish the stipulated cycle times and compaction ratio.
12	**Hydraulic Oil Tank**	Hydraulic Tank Capacity min. 75 liters, equipped with line return filter, suction filter, level & temperature gauge & breather cap. The return filter, suction filter and breather cap (Origin Europe/USA/Japan/Turkey or equivalent).
13	**Hydraulic Hoses**	All high pressure hydraulic oil hoses will be double braided according to SAE and shall have a burst pressure rating 2 times the working pressure. The hoses in motion are covered and Protected by steel wire.
14	**Operation**	Auto Cycle with manual option will be provided. The system will be equipped with emergency stop for safety. The operational control will be placed on driver side with proper weather protection. Following options will be available:
	Auto Continuous	With this option the hopper operation will continuously operate until stopped
	Manual	With this operation each action can be done separately by push buttons.
	Manual override	Manual override will be provided in each valve for operation.
		The system enables start, stop, 1 cycle, continuous cycles. And rescue activities. Tailgate and ejector controls will be in front side of the body (push buttons).
		All devices for loading control will be mounted on tailgate right side, and all will be manually controlled for safety purposes. Compaction will be controlled electrically via push buttons, and manually whenever required. An emergency stop button will be provided on each side of the truck on the control panel.
15	**Ejection / Hopper Lift Operation**	Solenoid operational Control be placed on driver side of body.

16	**Water Tank**	One tank of minimum 100 liters capacity under the hopper and other tank of minimum 70 liters capacity under the floor with discharge facility complete in all respects.
17	**Mudguards**	Two steel mudguards with rubber flaps at rear ends.
18	**Foot board**	Two foldable type rear footboards for crew to stand.
19	**Handles**	One handle at each side 3/4" pipe handle for the crews to grasp.
20	**Frame Compactor**	Sub frame will be integral part of the container floor reducing total body weight.
		Oil tank will be built into the compactor container for modern look and reduced build length.
		Container and compacting parts will be made of high-grade steel for intensive use.
		Hopper construction will be made from hard steel wear plates with high strength and high hardness JIS SS 400 grade mild steel or equivalent Mild Steel grade that is already mentioned above. The ejector plate slides will be special heavy-duty sliding blocks for smooth operation and low maintenance cost.
		Water tight sealing will be provided between body and tailgate.
		Drain valves will be available for convenient emptying of waste liquids from the body and the hopper.
		The following items will also be provided in the vehicle.
		Integrated sewage tank
		Rear lights mounted on body
		Automatic release/engage tailgate lock.
		Both sides emergency shut-off switches,
21	**Garbage Compactor Exterior**	Color of truck: As approved by the customer.
		Labelling as per approval of the customer.
22	**Paint of Equipment**	The internal and external surface will be painted free from Rust and Oil Residue. One coats of anti-rust primer base two coats of final paint done with synthetic Enamel. Color of Paint and the Branding / Marking will be done as per customer choice.
23	**Lights**	
		One (1) standard revolving beacon on middle of cab roof yellow,
		One (1) standard revolving beacon on roof back side of vehicle; yellow

HAND CART CONVENTIONAL

The pan will be made of MS sheet of 16 SWG with MS frame of 1.25"x1.25"x1/8" angle iron on all 4 sides of the pan.
2 Nos. 15" diameter MS double ring wheels with steel hub and suitable bearings, having strong collars at the periphery to house the 8-ply rubber ring with ribbed wearing surface complete in all respect. The rubber ring will be robust, strong with long wearing period. The wheels will be provided with robust and strong MS spokes welded with outer periphery ring of the wheels and the hub and will not break or yield during the design life of the cart. The MS hub will be made of suitable thickness to house the bearing and strong enough to bear the stresses produced during hauling of the cart on undulated paved or non-paved surfaces.
MS axel made of 30" long 1.0" dia. MS bar provided with bearings and split pins on both sides to eliminate the chances of disengagement of wheels from the axel.
Made of MS pipe 16 SWG thickness, 24 inches long 1.5" diameter welded with the hand cart substructure frame.
All structure of the hand cart including the handle and pan will be coated in suitable color as approved by the department.

SPECIFICATION

Name	[redacted] Road Washer	
Engine Type (Heavy Duty)	163ml 4 Stroke (200cc) Water Cooling System	
Engine Oil Capacity	1.5 Ltr	
Transmission	4~5 Forward + 1 Reverse	
Chassis	Steel structure welding chassis, phosphate anti rust treatment	
Front Suspension	Heavy duty front double shocks observer	
Rear Suspension	Heavy duty Leaf Spring & rear shocks observer	
Brake (front / Rear)	Front Mechanical / Rear Hydraulic with Hand Brake	
Wheel / Tyre Size	1 Front & Rear Double Tyre, 12"	
Lights & Signals	Headlight + turn signal indicators + brake light + reversing light + reverse horn	
Ignition	CDI	
Battery	12V	
Seating Capacity	1+1+1, Foam Seats, Water proof leather	
Dimensions (L X W X H)	3360 X 1410 X 1730 MM	
Wheel Track	1220 MM	
Wheel Base	2270 MM	
Turning Circle	731 CM	
Water Tank	Sheet: S.S Nonmagnet Food grade tank, rust proof	
	Capacity: 1500 + - 50 Ltr	
Washer Engine Type	Air Cooled, 4 Stroke, OHV, Single Cylinder	
Washer Engine Power	5.1 kw / 7.0 Hp	
Washer Engine Fuel Capacity	3.6 L	
Pump Pressure (kg. cm3)	21-35	0-10
Suction (L/Min)	14	20
R.P.M	500	1200
Power	Motor	1.2 Hp
	Engine	3.5~4 Hp
Flushing Mode	Rear Flushing with noztes & Handheld Flushing Gun	
Handheld Flushing Pipe (L)	100' Feet	
Color	Fuel Tank with side covers: Red	
	Box: Customized	

Technical Specifications of Mini Dumper 1 Cubic meter

Sr.	Parameter	Description
1.	Capacity	1 Cubic Meter
2.	Body Sides	2mm MS sheets. With stiffener for additional strength without increasing the weight of the body. Round profile near the floor joint to avoid Corrosion and to assist the emptying of the container.
3.	Body Floor	2.5mm MS sheet. Single piece floor for added corrosion protection and built in Cab protector.
4.	Floor Stiffeners	3.0 mm thick "U" profile throughout the length of the floor for strengthening the floor at lifting points.
5.	Sub Frame	Rectangular Pipes 1.5X 3 x inch 5mm, suitably mounted on the pickup chassis. The Frame is mounted on the same cargo deck brackets originally installed by chassis manufacturer, to maintain strength of the chassis. Sub frame attached to the chassis with High Tensile strength Nuts and Bolts along with Canvas Rubber Padding.
6.	Tipping Angle	80-90 Degrees. Allows complete emptying of the container.
7.	Tipping Height	Tipping Height of the body allows the waste to be emptied into a standard Compactor hopper
8.	Paint	All Steel part surfaces free from Rust and Oil Residue. Two coats of Zinc Based Epoxy Primer and two coat of final paint done with 2 components Poly-Urethane based Paints.
9.	Leave Spring	7 Nos on each rear side
	Hydraulic System	
1.	Hydraulic Power Pack	Hydraulic Pump 2.0cc/Rev to 3.0 cc/ rev DC Motor 1.2kw, to 1.5 kW Tank Capacity 7 to 10 Liter tank with top & side cover Europe, UK, USA, Turkish or Japanese origin
2.	Pressures	100-220 bar
3.	Hydraulic Hoses	Double Braided ISO 100 R2 type hydraulic hoses with burst pressure twice as much as the working pressure.
4.	**Hydraulic Flow Line**	Pressure flow line should be of metal pipes of smaller dia.
	Hydraulic Cylinders	
1.	Lifting Cylinders	2 Nos Double Acting Hydraulic Cylinders made from Imported Hard Chromed Rods and Honed Tubes of Europe, UK, USA or Japanese origin. Imported Hydraulic Seals for efficient and long life of the cylinders. Special Viper seals for dusty local conditions. All Hydraulic Cylinders are equipped with hose burst protection; by the means of Pilot operated check valves.
2	Lifting Capacity	Waste carrying capacity i.e. 400 – 500 kg Lifting capacity should be 1.5 times of waste carrying capacity.
3.	Stabilizing Cylinders/ outriggers	2 Nos Double Acting Hydraulic Cylinders should work simaltiously made from Imported Hard Chromed Rods and Honed Tubes of Europe, UK, USA, Turkish or Japanese origin. Imported Hydraulic Seals for efficient and long life of the cylinders. Special Viper seals for dusty local conditions.

4.	Electrical System	12Volt Electrical System. Weather Proof Control Panel with high quality imported switches. Single / double action tipping operation. Operated from driver side outside the cabin.
	Accessories	
1.	Mudguards	Two strong MS mudguards that can carry the weight of helper worker (it may use as paidaan) with rubber flaps at the rear end. Reflective strips on the rear end of the mudguards.
2.	Rotating Beacon	One Rotating Beacon Light on the Cabin.
3.	Working Light	One working light for night time operations.
4.	Grill for Rear Lights	For Protecting the Rear Lights.
5.	Safeguard (Bumpers)	Safeguard should be installed at front of vehicle
6.	Fuel Tank	Fuel tank should be covers with sheet.

Technical Specifications of Tipping Trolleys

Sr. No.	Description	
1	Capacity	8-10 Tons
2	Vessel Size	Length: 12ft, width 6ft, height 2.5ft
3	Chassis frame	10□x3□ channel type (lower frame)
4	Floor	4mm
5	Sides	3.25mm
6	Cross Members	Channel 3□x1.5□(12 nos.)
7	Side Supports	Steel box4□x1.5□(6 nos. each side)
8	Axle	6□x 3/8□(round pipe, imported)
9	Hubs	Brand new steel casting.
10	Bearings	Two new bearings with grease pack (each side)
11	Rims Tires	9.00x20(4nr) Ceat/MRF/General
12	Tipping Angle	55 degree
13	Paint	Suitable enamel paint in any desire shade
14	Hydraulic System	
	Hydraulic Cylinder	Imported Honed Tube
	Shafts	Imported induction hard Chrome Plated
	Seal Kit	Imported
	Quick Couplers:	Quick de-attachable hydraulic couplers to de-attach the Tractor & Trolley without wastage of hydraulic oil
	Hydraulic Hose	½" BSP, Double wire braid hose with Imported end fittings Working Pressure 300 bar

SPECIFICATIONS

1. MINIMUM SPECIFICATIONS OF WEIGHBRIDGE EQUIPMENT AND INSTALLATION

1. Commission and installation of complete weighbridge on designated site
2. Pitless weighbridge platform size 30'x10'
3. Weighbridge consists of Nos. 04 modules size of each 15'x5'
4. Weighbridge capacity 60 Metric Tons.
5. Main girders Nos. 07, 'H' Beam Size 8"x8"x30 feet
6. Main girders Nos. 01, 'H' Beam Size10"x10"x30 feet
7. MS plate 12mm thick plane
8. Load cell plates Nos. 06, size 12"x10" and Nos. 06 size 8"x8"
9. Channel Nos. 02, size 8"x2 ½" x30feet
10. All the accessories for fitting /installation of steel structure nuts/bolt etc. atsite
11. Load cells Nos. 06, capacity of each 40 tons
12. Weighing indicator Nos.01
13. Junction box Nos. 01 with variation card
14. 01x complete computer (Core i5) set 13th generation including 19 inches LED, LaserJet printer (official not grey) with 4x toner cartridge, receipt printer (Thermal printer with 100 roles), original licensed windows (OS), keyboard and mouse.
15. IP camera Nos. 03, 4MP each
16. Ramp No. 02, 20 feet on both side of weighbridges (R.C.C), 01 feet thickness, Nos.06 Load cell columns size 3'x3' depth 4', floor underneath the platform (R.C.C), Drain for flooding water. as per client approved design
17. Weighing software development and installation with data integrators, datamust be pushed over internet to database server installed at Head Office
18. Weighbridge backup equipment. 03 load cells, 01 indicators and 01 junctionbox, the contractor will maintain backup equipment.
19. Complete job as per client requirement
20. Angle iron frame size 3 inch, around the weighbridge
21. Nut & Bolt double check nuts with washers
22. Industrial epoxy paint at complete structure of weighbridge
23. Earthing (Grounding) of weighbridge
24. All necessary accessories will be included
25. Minimum 03 years' warranty and support, extendable for another 03 yearswith the mutual consent of both parties.

2. MINIMUM SPECIFICATIONS OF RFID SYSTEM, CCTV EQUIPMENT AND INSTALLATION

1. Commission and installation of complete RFID system on designated site
2. IP67 2x RFID integrated reader, long range at least 15 meters with RJ 45port, must have Ethernet and serial port connectivity. Frequency 886MHz
3. 1x LG-2000 Vehicle Tag Register Scanner
4. 1x POE switch with 16 ports NETGEAR / any similar brand, POE powermust be enough/compatible to attached equipment working
5. LAN cable outdoor waterproof STP/UTP, PVC Duct, Cable Ties, IP65 housing, rack switch cabinets dual section, RJ 45 Connectors as per actual
6. 1x Boom barrier / Lady Barrier
7. 2x traffic signal lights (Green and Red)

8. RFID system will be operated on free frequency, must not be conflicted with relevant authority i.e. Frequency Allocation Board (FAB)/PTA etc.
9. 01x complete computer (Core i5) set 12th generation including 19 inches LED, 16GB RAM, 500SSD, 1TB HDD, original licensed windows (OS), keyboard and mouse.
10. Rack switch cabinets with dual section
11. The contractor will maintain backup equipment to meet emergency repair work
12. 200x RFID tags compatible with proposed RFID system
13. Complete installation of CCTV, 08x 4MP IP Cameras over POE, 1x NVR - Hikvision 08 Channels, 1TB Hard Disk, smart 32 inches LED for display, CCTV can be accessible in remote control room may be situated in Head office/other offices
14. All necessary accessories will be included, and fitting installations will be completed as part of the job. RFID System (complete trunk key solution with software and data integrator, data must be pushed over internet to databaseserver installed at Head Office) and backup of data will be on site.
15. Minimum 03 years warranty and support, extendable for another 03 years with the mutual consent of both parties.

3. MINIMUN SPECIFICATIONS OF INTERNET SERVICES AND ELECTRIC POWER SUPPLY EQUIPMENT AND INSTALLATION

1. Internet of 06Mbps CIR (Committed information rate) bandwidth on site ORif CIR is not available then 25Mbps shared bandwidth required.
2. Internet device EVO 100GB data for internet backup, must operate on site
3. 01x 3KVA UPS with 02x 100Amp dry batteries
4. 01x 10KVA Generator, fuel arrangements, generator maintenance
5. 01x 3KVA AVR (Automatic Voltage regulator)
6. Surge protectors for the safeguard of equipment
7. 01x AC, 1.5 tons cooling capacity
8. All equipment must be grounded/Earthling
9. Minimum 03 years warrant and support, extendable for another 03 yearswith the mutual consent of both parties.

Contractor must be careful about the VTCS based issues

- **Data Mismatches**: Inaccuracies in trip counts because of RFIDs Tags, sensors malfunctioning
- **Integration Problems**: Issues with syncing data with other systems.
- **Sensor Failures**: Malfunctions in trip counting sensors and RFID Tags , frequency issues
- **User Training**: Inadequate training leading to misuse or errors in data entry.

Mr. Muhammad Ayaz Kalyar
BoD Member
(Convener / Chairman)

Chief Financial Officer, BWMC
(Member)

Manager Procurement, BWMC
(Member)

Manager Operations, BWMC
(Member)

Manager MIS, BWMC
(Member)