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INVITATION TO BID

Construction of Waste Transfer Stations in Hatay

ITB No.: UNDP-TUR-ITB(MC2)-2019/01

Project: Turkey Resilience Project in Response to the Syria Crisis; Municipal Service Delivery

Country: Turkey

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SECTION 1. LETTER OF INVITATION

The United Nations Development Programme (UNDP) hereby invites you to submit a Bid to this Invitation to Bid (ITB) for the above-referenced subject.

This ITB includes the following documents and the General Terms and Conditions of Contract which is inserted in the Bid Data Sheet:

- Section 1: This Letter of Invitation
- Section 2: Instruction to Bidders
- Section 3: Bid Data Sheet (BDS)
- Section 4: Evaluation Criteria
- Section 5: Schedule of Requirements and Technical Specifications
- Section 6: Returnable Bidding Forms
 - o Form A: Bid Submission Form
 - o Form B: Bidder Information Form
 - o Form C: Joint Venture/Consortium/Association Information Form
 - o Form D: Qualification Form
 - o Form E: Format of Technical Bid
 - o Form F: Price Schedule/Bill of Quantities
 - o Form G: Form of Bid Security

If you are interested in submitting a Bid in response to this ITB, please prepare your Bid in accordance with the requirements and procedure as set out in this ITB and submit it by the Deadline for Submission of Bids set out in Bid Data Sheet.

Please acknowledge receipt of this ITB by sending an email to tr.procurement@undp.org, indicating whether you intend to submit a Bid or otherwise. You may also utilize the "Accept Invitation" function in eTendering system, where applicable. This will enable you to receive amendments or updates to the ITB. Should you require further clarifications, kindly communicate with the contact person/s identified in the attached Data Sheet as the focal point for queries on this ITB.

UNDP looks forward to receiving your Bid and thank you in advance for your interest in UNDP procurement opportunities.

Issued by



Name: Ersin Dağdur
Title: Procurement Officer
Date: February 8, 2019

Approved by:



Name: Sukhrob Khojimatov
Title: Deputy Country Director
Date: February 8, 2019

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SECTION 2. INSTRUCTION TO BIDDERS

GENERAL PROVISIONS	
1. Introduction	<p>1.1 Bidders shall adhere to all the requirements of this ITB, including any amendments made in writing by UNDP. This ITB is conducted in accordance with the UNDP Programme and Operations Policies and Procedures (POPP) on Contracts and Procurement which can be accessed at https://popp.undp.org/SitePages/POPPBSUnit.aspx?TermID=254a9f96-b883-476a-8ef8-e81f93a2b38d</p> <p>1.2 Any Bid submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of the Bid by UNDP. UNDP is under no obligation to award a contract to any Bidder as a result of this ITB.</p> <p>1.3 UNDP reserves the right to cancel the procurement process at any stage without any liability of any kind for UNDP, upon notice to the bidders or publication of cancellation notice on UNDP website.</p> <p>1.4 As part of the bid, it is desired that the Bidder registers at the United Nations Global Marketplace (UNGM) website (www.ungm.org). The Bidder may still submit a bid even if not registered with the UNGM. However, if the Bidder is selected for contract award, the Bidder must register on the UNGM prior to contract signature.</p>
2. Fraud & Corruption, Gifts and Hospitality	<p>2.1 UNDP strictly enforces a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical or unprofessional practices, and obstruction of UNDP vendors and requires all bidders/vendors observe the highest standard of ethics during the procurement process and contract implementation. UNDP's Anti-Fraud Policy can be found at http://www.undp.org/content/undp/en/home/operations/accountability/audit/office_of_audit_andinvestigation.html#anti</p> <p>2.2 Bidders/vendors shall not offer gifts or hospitality of any kind to UNDP staff members including recreational trips to sporting or cultural events, theme parks or offers of holidays, transportation, or invitations to extravagant lunches or dinners.</p> <p>2.3 In pursuance of this policy, UNDP:</p> <p>(a) Shall reject a bid if it determines that the selected bidder has engaged in any corrupt or fraudulent practices in competing for the contract in question;</p> <p>(b) Shall declare a vendor ineligible, either indefinitely or for a stated period, to be awarded a contract if at any time it determines that the vendor has engaged in any corrupt or fraudulent practices in competing for, or in executing a UNDP contract.</p> <p>2.4 All Bidders must adhere to the UN Supplier Code of Conduct, which may be found at http://www.un.org/depts/ptd/pdf/conduct_english.pdf</p>
3. Eligibility	<p>3.1 A vendor should not be suspended, debarred, or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization. Vendors are therefore required to disclose to UNDP whether they are subject to any sanction or temporary suspension imposed by these organizations.</p> <p>3.2 It is the Bidder's responsibility to ensure that its employees, joint venture members, sub-contractors, service providers, suppliers and/or their employees meet the eligibility requirements as established by UNDP.</p>

4. Conflict of Interests	<p>4.1 Bidders must strictly avoid conflicts with other assignments or their own interests, and act without consideration for future work. Bidders found to have a conflict of interest shall be disqualified. Without limitation on the generality of the above, Bidders, and any of their affiliates, shall be considered to have a conflict of interest with one or more parties in this solicitation process, if they:</p> <ul style="list-style-type: none"> a) Are or have been associated in the past, with a firm or any of its affiliates which have been engaged by UNDP to provide services for the preparation of the design, specifications, Terms of Reference, cost analysis/estimation, and other documents to be used for the procurement of the goods and services in this selection process; b) Were involved in the preparation and/or design of the programme/project related to the goods and/or services requested under this ITB; or c) Are found to be in conflict for any other reason, as may be established by, or at the discretion of UNDP. <p>4.2 In the event of any uncertainty in the interpretation of a potential conflict of interest, Bidders must disclose to UNDP, and seek UNDP's confirmation on whether or not such conflict exists.</p> <p>4.3 Similarly, the Bidders must disclose in their Bid their knowledge of the following:</p> <ul style="list-style-type: none"> a) If the owners, part-owners, officers, directors, controlling shareholders, of the bidding entity or key personnel who are family members of UNDP staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving goods and/or services under this ITB; and b) All other circumstances that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices. <p>Failure to disclose such an information may result in the rejection of the Bid or Bids affected by the non-disclosure.</p> <p>4.4 The eligibility of Bidders that are wholly or partly owned by the Government shall be subject to UNDP's further evaluation and review of various factors such as being registered, operated and managed as an independent business entity, the extent of Government ownership/share, receipt of subsidies, mandate and access to information in relation to this ITB, among others. Conditions that may lead to undue advantage against other Bidders may result in the eventual rejection of the Bid.</p>
B. PREPARATION OF BIDS	
5. General Considerations	<p>5.1 In preparing the Bid, the Bidder is expected to examine the ITB in detail. Material deficiencies in providing the information requested in the ITB may result in rejection of the Bid.</p> <p>5.2 The Bidder will not be permitted to take advantage of any errors or omissions in the ITB. Should such errors or omissions be discovered, the Bidder must notify the UNDP accordingly.</p>
6. Cost of Preparation of Bid	<p>6.1 The Bidder shall bear all costs related to the preparation and/or submission of the Bid, regardless of whether its Bid is selected or not. UNDP shall not be responsible or liable for those costs, regardless of the conduct or outcome of the procurement process.</p>
7. Language	<p>7.1 The Bid, as well as any and all related correspondence exchanged by the Bidder and UNDP, shall be written in the language (s) specified in the BDS.</p>

8. Documents Comprising the Bid	<p>8.1 The Bid shall comprise of the following documents and related forms which details are provided in the BDS:</p> <ul style="list-style-type: none"> a) Documents Establishing the Eligibility and Qualifications of the Bidder; b) Technical Bid; c) Price Schedule; d) Bid Security, if required by BDS; e) Any attachments and/or appendices to the Bid.
9. Documents Establishing the Eligibility and Qualifications of the Bidder	<p>9.1 The Bidder shall furnish documentary evidence of its status as an eligible and qualified vendor, using the Forms provided under Section 6 and providing documents required in those forms. In order to award a contract to a Bidder, its qualifications must be documented to UNDP's satisfaction.</p>
10. Technical Bid Format and Content	<p>10.1 The Bidder is required to submit a Technical Bid using the Standard Forms and templates provided in Section 6 of the ITB.</p> <p>10.2 Samples of items, when required as per Section 5, shall be provided within the time specified and unless otherwise specified by the Purchaser, at no expense to the UNDP. If not destroyed by testing, samples will be returned at Bidder's request and expense, unless otherwise specified.</p> <p>10.3 When applicable and required as per Section 5, the Bidder shall describe the necessary training programme available for the maintenance and operation of the equipment offered as well as the cost to the UNDP. Unless otherwise specified, such training as well as training materials shall be provided in the language of the Bid as specified in the BDS.</p> <p>10.4 When applicable and required as per Section 5, the Bidder shall certify the availability of spare parts for a period of at least five (5) years from date of delivery, or as otherwise specified in this ITB.</p>
11. Price Schedule	<p>11.1 The Price Schedule shall be prepared using the Form provided in Section 6 of the ITB and taking into consideration the requirements in the ITB.</p> <p>11.2 Any requirement described in the Technical Bid but not priced in the Price Schedule, shall be assumed to be included in the prices of other activities or items, as well as in the final total price.</p>
12. Bid Security	<p>12.1 A Bid Security, if required by BDS, shall be provided in the amount and form indicated in the BDS. The Bid Security shall be valid for a minimum of thirty (30) days after the final date of validity of the Bid.</p> <p>12.2 The Bid Security shall be included along with the Bid. If Bid Security is required by the ITB but is not found in the Bid, the offer shall be rejected.</p> <p>12.3 If the Bid Security amount or its validity period is found to be less than what is required by UNDP, UNDP shall reject the Bid.</p> <p>12.4 In the event an electronic submission is allowed in the BDS, Bidders shall include a copy of the Bid Security in their bid and the original of the Bid Security must be sent via courier or hand delivery as per the instructions in BDS.</p> <p>12.5 The Bid Security may be forfeited by UNDP, and the Bid rejected, in the event of any, or combination, of the following conditions:</p> <ul style="list-style-type: none"> a) If the Bidder withdraws its offer during the period of the Bid Validity specified in the BDS, or; b) In the event the successful Bidder fails: <ul style="list-style-type: none"> i. to sign the Contract after UNDP has issued an award; or

	<p>ii. to furnish the Performance Security, insurances, or other documents that UNDP may require as a condition precedent to the effectivity of the contract that may be awarded to the Bidder.</p>
13. Currencies	<p>13.1 All prices shall be quoted in the currency or currencies indicated in the BDS. Where Bids are quoted in different currencies, for the purposes of comparison of all Bids:</p> <p>a) UNDP will convert the currency quoted in the Bid into the UNDP preferred currency, in accordance with the prevailing UN operational rate of exchange on the last day of submission of Bids; and</p> <p>b) In the event that UNDP selects a Bid for award that is quoted in a currency different from the preferred currency in the BDS, UNDP shall reserve the right to award the contract in the currency of UNDP's preference, using the conversion method specified above.</p>
14. Joint Venture, Consortium or Association	<p>14.1 If the Bidder is a group of legal entities that will form or have formed a Joint Venture (JV), Consortium or Association for the Bid, they shall confirm in their Bid that : (i) they have designated one party to act as a lead entity, duly vested with authority to legally bind the members of the JV, Consortium or Association jointly and severally, which shall be evidenced by a duly notarized Agreement among the legal entities, and submitted with the Bid; and (ii) if they are awarded the contract, the contract shall be entered into, by and between UNDP and the designated lead entity, who shall be acting for and on behalf of all the member entities comprising the joint venture.</p> <p>14.2 After the Deadline for Submission of Bid, the lead entity identified to represent the JV, Consortium or Association shall not be altered without the prior written consent of UNDP.</p> <p>14.3 The lead entity and the member entities of the JV, Consortium or Association shall abide by the provisions of Clause 9 herein in respect of submitting only one Bid.</p> <p>14.4 The description of the organization of the JV, Consortium or Association must clearly define the expected role of each of the entities in the joint venture in delivering the requirements of the ITB, both in the Bid and the JV, Consortium or Association Agreement. All entities that comprise the JV, Consortium or Association shall be subject to the eligibility and qualification assessment by UNDP.</p> <p>14.5 A JV, Consortium or Association in presenting its track record and experience should clearly differentiate between:</p> <p>a) Those that were undertaken together by the JV, Consortium or Association; and</p> <p>b) Those that were undertaken by the individual entities of the JV, Consortium or Association.</p> <p>14.6 Previous contracts completed by individual experts working privately but who are permanently or were temporarily associated with any of the member firms cannot be claimed as the experience of the JV, Consortium or Association or those of its members, but should only be claimed by the individual experts themselves in their presentation of their individual credentials</p> <p>14.7 JV, Consortium or Associations are encouraged for high value, multi-sectoral requirements when the spectrum of expertise and resources required may not be available within one firm.</p>
15. Only One Bid	<p>15.1 The Bidder (including the individual members of any Joint Venture) shall submit</p>

	<p>only one Bid, either in its own name or as part of a Joint Venture.</p> <p>15.2 Bids submitted by two (2) or more Bidders shall all be rejected if they are found to have any of the following:</p> <ul style="list-style-type: none"> a) they have at least one controlling partner, director or shareholder in common; or b) any one of them receive or have received any direct or indirect subsidy from the other/s; or c) they have the same legal representative for purposes of this ITB; or d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about, or influence on the Bid of another Bidder regarding this ITB process; e) they are subcontractors to each other's Bid, or a subcontractor to one Bid also submits another Bid under its name as lead Bidder; or some key personnel proposed to be in the team of one Bidder participates in more than one Bid received for this ITB process. This condition relating to the personnel, does not apply to subcontractors being included in more than one Bid.
16. Bid Validity Period	<p>16.1 Bids shall remain valid for the period specified in the BDS, commencing on the Deadline for Submission of Bids. A Bid valid for a shorter period may be rejected by UNDP and rendered non-responsive.</p> <p>16.2 During the Bid validity period, the Bidder shall maintain its original Bid without any change, including the availability of the Key Personnel, the proposed rates and the total price.</p>
17. Extension of Bid Validity Period	<p>17.1 In exceptional circumstances, prior to the expiration of the Bid validity period, UNDP may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing and shall be considered integral to the Bid.</p> <p>17.2 If the Bidder agrees to extend the validity of its Bid, it shall be done without any change to the original Bid.</p> <p>17.3 The Bidder has the right to refuse to extend the validity of its Bid, in which case, the Bid shall not be further evaluated.</p>
18. Clarification of Bid (from the Bidders)	<p>18.1 Bidders may request clarifications on any of the ITB documents no later than the date indicated in the BDS. Any request for clarification must be sent in writing in the manner indicated in the BDS. If inquiries are sent other than specified channel, even if they are sent to a UNDP staff member, UNDP shall have no obligation to respond or confirm that the query was officially received.</p> <p>18.2 UNDP will provide the responses to clarifications through the method specified in the BDS.</p> <p>18.3 UNDP shall endeavour to provide responses to clarifications in an expeditious manner, but any delay in such response shall not cause an obligation on the part of UNDP to extend the submission date of the Bids, unless UNDP deems that such an extension is justified and necessary.</p>
19. Amendment of Bids	<p>19.1 At any time prior to the deadline of Bid submission, UNDP may for any reason, such as in response to a clarification requested by a Bidder, modify the ITB in the form of an amendment to the ITB. Amendments will be made available to all prospective bidders.</p> <p>19.2 If the amendment is substantial, UNDP may extend the Deadline for submission of Bid to give the Bidders reasonable time to incorporate the amendment into their Bids.</p>

20. Alternative Bids	<p>20.1 Unless otherwise specified in the BDS, alternative Bids shall not be considered. If submission of alternative Bid is allowed by BDS, a Bidder may submit an alternative Bid, but only if it also submits a Bid conforming to the ITB requirements. Where the conditions for its acceptance are met, or justifications are clearly established, UNDP reserves the right to award a contract based on an alternative Bid.</p> <p>20.2 If multiple/alternative bids are being submitted, they must be clearly marked as "Main Bid" and "Alternative Bid"</p>
21. Pre-Bid Conference	<p>21.1 When appropriate, a pre-bid conference will be conducted at the date, time and location specified in the BDS. All Bidders are encouraged to attend. Non-attendance, however, shall not result in disqualification of an interested Bidder. Minutes of the Bidder's conference will be disseminated on the procurement website and shared by email or on the e-Tendering platform as specified in the BDS. No verbal statement made during the conference shall modify the terms and conditions of the ITB, unless specifically incorporated in the Minutes of the Bidder's Conference or issued/posted as an amendment to ITB.</p>
C. SUBMISSION AND OPENING OF BIDS	
22. Submission	<p>22.1 The Bidder shall submit a duly signed and complete Bid comprising the documents and forms in accordance with requirements in the BDS. The Price Schedule shall be submitted together with the Technical Bid. Bid can be delivered either personally, by courier, or by electronic method of transmission as specified in the BDS.</p> <p>22.2 The Bid shall be signed by the Bidder or person(s) duly authorized to commit the Bidder. The authorization shall be communicated through a document evidencing such authorization issued by the legal representative of the bidding entity, or a Power of Attorney, accompanying the Bid.</p> <p>22.3 Bidders must be aware that the mere act of submission of a Bid, in and of itself, implies that the Bidder fully accepts the UNDP General Contract Terms and Conditions.</p>
Hard copy (manual) submission	<p>22.4 Hard copy (manual) submission by courier or hand delivery allowed or specified in the BDS shall be governed as follows:</p> <p>a) The signed Bid shall be marked "Original", and its copies marked "Copy" as appropriate. The number of copies is indicated in the BDS. All copies shall be made from the signed original only. If there are discrepancies between the original and the copies, the original shall prevail.</p> <p>(b) The Technical Bid and Price Schedule must be sealed and submitted together in an envelope, which shall:</p> <ol style="list-style-type: none"> Bear the name of the Bidder; Be addressed to UNDP as specified in the BDS; and Bear a warning not to open before the time and date for Bid opening as specified in the BDS. <p>If the envelope with the Bid is not sealed and marked as required, UNDP shall assume no responsibility for the misplacement, loss, or premature opening of the Bid.</p>
Email and eTendering submissions	<p>22.5 Electronic submission through email or eTendering, if allowed as specified in the BDS, shall be governed as follows:</p> <p>a) Electronic files that form part of the Bid must be in accordance with the format and requirements indicated in BDS;</p>

	<p>b) Documents which are required to be in original form (e.g. Bid Security, etc.) must be sent via courier or hand delivered as per the instructions in BDS.</p> <p>22.6 Detailed instructions on how to submit, modify or cancel a bid in the eTendering system are provided in the eTendering system Bidder User Guide and Instructional videos available on this link: http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement-notice/resources/</p>
23. Deadline for Submission of Bids and Late Bids	<p>23.1 Complete Bids must be received by UNDP in the manner, and no later than the date and time, specified in the BDS. UNDP shall only recognise the actual date and time that the bid was received by UNDP</p> <p>23.2 UNDP shall not consider any Bid that is received after the deadline for the submission of Bids.</p>
24. Withdrawal, Substitution, and Modification of Bids	<p>24.1 A Bidder may withdraw, substitute or modify its Bid after it has been submitted at any time prior to the deadline for submission.</p> <p>24.2 Manual and Email submissions: A bidder may withdraw, substitute or modify its Bid by sending a written notice to UNDP, duly signed by an authorized representative, and shall include a copy of the authorization (or a Power of Attorney). The corresponding substitution or modification of the Bid, if any, must accompany the respective written notice. All notices must be submitted in the same manner as specified for submission of Bids, by clearly marking them as "WITHDRAWAL" "SUBSTITUTION," or "MODIFICATION"</p> <p>24.3 eTendering: A Bidder may withdraw, substitute or modify its Bid by Cancelling, Editing, and re-submitting the Bid directly in the system. It is the responsibility of the Bidder to properly follow the system instructions, duly edit and submit a substitution or modification of the Bid as needed. Detailed instructions on how to cancel or modify a Bid directly in the system are provided in the Bidder User Guide and Instructional videos.</p> <p>24.4 Bids requested to be withdrawn shall be returned unopened to the Bidders (only for manual submissions), except if the bid is withdrawn after the bid has been opened.</p>
25. Bid Opening	<p>25.1 UNDP will open the Bid in the presence of an ad-hoc committee formed by UNDP of at least two (2) members.</p> <p>25.2 The Bidders' names, modifications, withdrawals, the condition of the envelope labels/seals, the number of folders/files and all other such other details as UNDP may consider appropriate, will be announced at the opening. No Bid shall be rejected at the opening stage, except for late submissions, in which case, the Bid shall be returned unopened to the Bidders.</p> <p>25.3 In the case of e-Tendering submission, bidders will receive an automatic notification once the Bid is opened.</p>
D. EVALUATION OF BIDS	
26. Confidentiality	<p>26.1 Information relating to the examination, evaluation, and comparison of Bids, and the recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process, even after publication of the contract award.</p> <p>26.2 Any effort by a Bidder or anyone on behalf of the Bidder to influence UNDP in the examination, evaluation and comparison of the Bids or contract award decisions may, at UNDP's decision, result in the rejection of its Bid and may subsequently be subject to the application of prevailing UNDP's vendor</p>

	sanctions procedures.
27. Evaluation of Bids	<p>27.1 UNDP will conduct the evaluation solely on the basis of the Bids received.</p> <p>27.2 Evaluation of Bids shall be undertaken in the following steps:</p> <ul style="list-style-type: none"> a) Preliminary Examination including Eligibility b) Arithmetical check and ranking of bidders who passed preliminary examination by price. c) Qualification assessment (if pre-qualification was not done) a) Evaluation of Technical Bids b) Evaluation of prices <p>Detailed evaluation will be focussed on the 3 - 5 lowest priced bids. Further higher priced bids shall be added for evaluation if necessary</p>
28. Preliminary Examination	<p>28.1 UNDP shall examine the Bids to determine whether they are complete with respect to minimum documentary requirements, whether the documents have been properly signed, and whether the Bids are generally in order, among other indicators that may be used at this stage. UNDP reserves the right to reject any Bid at this stage.</p>
29. Evaluation of Eligibility and Qualification	<p>29.1 Eligibility and Qualification of the Bidder will be evaluated against the Minimum Eligibility/Qualification requirements specified in the Section 4 (Evaluation Criteria).</p> <p>29.2 In general terms, vendors that meet the following criteria may be considered qualified:</p> <ul style="list-style-type: none"> a) They are not included in the UN Security Council 1267/1989 Committee's list of terrorists and terrorist financiers, and in UNDP's ineligible vendors' list; b) They have a good financial standing and have access to adequate financial resources to perform the contract and all existing commercial commitments, c) They have the necessary similar experience, technical expertise, production capacity, quality certifications, quality assurance procedures and other resources applicable to the supply of goods and/or services required; d) They are able to comply fully with the UNDP General Terms and Conditions of Contract; e) They do not have a consistent history of court/arbitral award decisions against the Bidder; and f) They have a record of timely and satisfactory performance with their clients.
30. Evaluation of Technical Bid and prices	<p>30.1 The evaluation team shall review and evaluate the Technical Bids on the basis of their responsiveness to the Schedule of Requirements and Technical Specifications and other documentation provided, applying the procedure indicated in the BDS and other ITB documents. When necessary, and if stated in the BDS, UNDP may invite technically responsive bidders for a presentation related to their technical Bids. The conditions for the presentation shall be provided in the bid document where required.</p>
31. Due diligence	<p>31.1 UNDP reserves the right to undertake a due diligence exercise, aimed at determining to its satisfaction, the validity of the information provided by the Bidder. Such exercise shall be fully documented and may include, but need not be limited to, all or any combination of the following:</p> <ul style="list-style-type: none"> a) Verification of accuracy, correctness and authenticity of information provided by the Bidder; b) Validation of extent of compliance to the ITB requirements and evaluation criteria based on what has so far been found by the evaluation team; c) Inquiry and reference checking with Government entities with jurisdiction on the Bidder, or with previous clients, or any other entity that may have

	<p>done business with the Bidder;</p> <p>d) Inquiry and reference checking with previous clients on the performance on on-going or completed contracts, including physical inspections of previous works, as deemed necessary;</p> <p>e) Physical inspection of the Bidder's offices, branches or other places where business transpires, with or without notice to the Bidder;</p> <p>f) Other means that UNDP may deem appropriate, at any stage within the selection process, prior to awarding the contract.</p>
32. Clarification of Bids	<p>32.1 To assist in the examination, evaluation and comparison of Bids, UNDP may, at its discretion, request any Bidder for a clarification of its Bid.</p> <p>32.2 UNDP's request for clarification and the response shall be in writing and no change in the prices or substance of the Bid shall be sought, offered, or permitted, except to provide clarification, and confirm the correction of any arithmetic errors discovered by UNDP in the evaluation of the Bids, in accordance with the ITB.</p> <p>32.3 Any unsolicited clarification submitted by a Bidder in respect to its Bid, which is not a response to a request by UNDP, shall not be considered during the review and evaluation of the Bids.</p>
33. Responsiveness of Bid	<p>33.1 UNDP's determination of a Bid's responsiveness will be based on the contents of the bid itself. A substantially responsive Bid is one that conforms to all the terms, conditions, specifications and other requirements of the ITB without material deviation, reservation, or omission.</p> <p>33.2 If a bid is not substantially responsive, it shall be rejected by UNDP and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.</p>
34. Nonconformities, Repairable Errors and Omissions	<p>34.1 Provided that a Bid is substantially responsive, UNDP may waive any non-conformities or omissions in the Bid that, in the opinion of UNDP, do not constitute a material deviation.</p> <p>34.2 UNDP may request the Bidder to submit the necessary information or documentation, within a reasonable period, to rectify nonmaterial nonconformities or omissions in the Bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.</p> <p>34.3 For the bids that have passed the preliminary examination, UNDP shall check and correct arithmetical errors as follows:</p> <p>a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of UNDP there is an obvious misplacement of the decimal point in the unit price; in which case, the line item total as quoted shall govern and the unit price shall be corrected;</p> <p>b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail, and the total shall be corrected; and</p> <p>c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail.</p> <p>34.4 If the Bidder does not accept the correction of errors made by UNDP, its Bid shall be rejected.</p>

E. AWARD OF CONTRACT	
35. Right to Accept, Reject, Any or All Bids	35.1 UNDP reserves the right to accept or reject any bid, to render any or all of the bids as non-responsive, and to reject all Bids at any time prior to award of contract, without incurring any liability, or obligation to inform the affected Bidder(s) of the grounds for UNDP's action. UNDP shall not be obliged to award the contract to the lowest priced offer.
36. Award Criteria	36.1 Prior to expiration of the period of Bid validity, UNDP shall award the contract to the qualified and eligible Bidder that is found to be responsive to the requirements of the Schedule of Requirements and Technical Specification and has offered the lowest price.
37. Debriefing	37.1 In the event that a Bidder is unsuccessful, the Bidder may request for a debriefing from UNDP. The purpose of the debriefing is to discuss the strengths and weaknesses of the Bidder's submission, in order to assist the Bidder in improving its future Bids for UNDP procurement opportunities. The content of other Bids and how they compare to the Bidder's submission shall not be discussed.
38. Right to Vary Requirements at the Time of Award	38.1 At the time of award of Contract, UNDP reserves the right to vary the quantity of goods and/or services, by up to a maximum twenty-five per cent (25%) of the total offer, without any change in the unit price or other terms and conditions.
39. Contract Signature	39.1 Within fifteen (15) days from the date of receipt of the award letter, the successful Bidder shall sign the Contract. Failure to do so may constitute sufficient grounds for the annulment of the award, and forfeiture of the Bid Security, if any, and on which event, UNDP may award the Contract to the Second highest rated or call for new Bids.
40. Contract Type and General Terms and Conditions	40.1 The types of Contract to be signed and the applicable UNDP Contract General Terms and Conditions, as specified in BDS, can be accessed at http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
41. Performance Security	41.1 A performance security, if required in the BDS, shall be provided in the amount specified in BDS and form available at https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Solicitation_Performance%20Guarantee%20Form.docx&action=default within a maximum of fifteen (15) days of the contract signature by both parties. Where a performance security is required, the receipt of the performance security by UNDP shall be a condition for rendering the contract effective.
42. Bank Guarantee for Advanced Payment	42.1 Except when the interests of UNDP so require, it is UNDP's standard practice to not make advance payment(s) (i.e., payments without having received any outputs). If an advance payment is allowed as per the BDS, and exceeds 20% of the total contract price, or USD 30,000, whichever is less, the Bidder shall submit a Bank Guarantee in the full amount of the advance payment in the form available at https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Contract%20Management%20Payment%20and%20Taxes_Advanced%20Payment%20Guarantee%20Form.docx&action=default
43. Liquidated Damages	43.1 If specified in the BDS, UNDP shall apply Liquidated Damages for the damages and/or risks caused to UNDP resulting from the Contractor's delays or breach of

	its obligations as per Contract.
44. Payment Provisions	<p>44.1 Payment will be made only upon UNDP's acceptance of the goods and/or services performed. The terms of payment shall be within thirty (30) days, after receipt of invoice and certification of acceptance of goods and/or services issued by the proper authority in UNDP with direct supervision of the Contractor. Payment will be affected by bank transfer in the currency of the contract.</p>
45. Vendor Protest	<p>45.1 UNDP's vendor protest procedure provides an opportunity for appeal to those persons or firms not awarded a contract through a competitive procurement process. In the event that a Bidder believes that it was not treated fairly, the following link provides further details regarding UNDP vendor protest procedures: http://www.undp.org/content/undp/en/home/procurement/business/protest-and-sanctions.html</p>
46. Other Provisions	<p>46.1 In the event that the Bidder offers a lower price to the host Government (e.g. General Services Administration (GSA) of the federal government of the United States of America) for similar goods and/or services, UNDP shall be entitled to the same lower price. The UNDP General Terms and Conditions shall have precedence.</p> <p>46.2 UNDP is entitled to receive the same pricing offered by the same Contractor in contracts with the United Nations and/or its Agencies. The UNDP General Terms and Conditions shall have precedence.</p> <p>46.3 The United Nations has established restrictions on employment of (former) UN staff who have been involved in the procurement process as per bulletin ST/SGB/2006/15 http://www.un.org/en/ga/search/view_doc.asp?symbol=ST/SGB/2006/15&referer</p>

SECTION 3. BID DATA SHEET

The following data for the civil works to be procured shall complement, supplement, or amend the provisions in the Invitation to Bid. In the case of a conflict between the Instructions to Bidders, the Bid Data Sheet, and other annexes or references attached to the Bid Data Sheet, the provisions in the Bid Data Sheet shall prevail.

BDS No.	Ref. to Section.2	Data	Specific Instructions / Requirements
1	7	Language of the Bid	English
2		Submitting Bids for Parts or sub-parts of the Schedule of Requirements (partial bids)	<p>The bidder may submit a bid for one lot, or both of the lots.</p> <p>The bidder must offer the whole of the works indicated for each lot. Bids for part of the works required by any lot will be rejected.</p> <p>Bidders who submit bids for both of the lots should fill out the price schedule form separately for each of these two lots.</p>
3	20	Alternative Bids	Shall not be considered
4	21	Pre-Bid conference	<p>Will be Conducted</p> <p>Time: 10:00 am (GMT +3, Local time-Turkey)</p> <p>Date: March 13, 2019</p> <p>Venue: Metropolitan Municipality of Hatay, Odabaşı Mahallesi, Atatürk Bulvarı No:150, Hatay Büyükşehir Belediyesi Ek Hizmet Binası, Antakya, Hatay Turkey</p> <p>Following the pre-bid conference, site visits will also be conducted with the participants of the pre-bid conference in order to examine the Site of Work and its surroundings. Bidders are strongly advised to participate the pre-bid conference and site visits to obtain information that may be necessary for preparing the bid. The costs of participation to pre-bid conference and site visit are at the bidder's own expense.</p> <p>For Lot 1, Kırıkhan; Site visit will be conducted at 3:30 Site, the coordinates of the construction site are N 36.461397, E 36.349314 (GoogleMaps).</p> <p>For Lot 2, Yayladağ; Site visit will be conducted at 1:30 pm, the coordinates of the construction site are N 35.908460, E 36.114382 (GoogleMaps).</p> <p>The UNDP focal point for the arrangement is:</p> <p>Ersin Dağdur</p> <p>Telephone: +90 312 4541100</p> <p>E-mail: ersin.dagdur@undp.org</p>
5	16	Bid Validity Period	90 days starting from the submission deadline

6	12	Bid Security	<p>For Lot 1; Required in the amount of USD 12,000</p> <p>For Lot 2; Required in the amount of USD 15,000</p> <p>Acceptable Forms of Bid Security</p> <ul style="list-style-type: none"> Bank Guarantee (See Section 6; Form G for template) <p>Bid Securities will be returned to all bidders upon signature of contract with the successful Bidder.</p> <p>The bidders applying both lots shall provide two separate bid security for each lot.</p>
7	42	Advanced Payment upon signing of contract	Not allowed.
8	43	Liquidated Damages	<p>Will be imposed as follows:</p> <p>Percentage of contract price per week of delay: 2 %</p> <p>Max. number of weeks of delay is 5, after which UNDP may terminate the contract.</p>
9	41	Performance Security	<p>The successful bidder will be asked to provide a performance security of 10% of the amount of the contract at the signing of the contract. This security must be provided no later than 15 days after the bidder receives the award letter by the UNDP. If the selected bidder fails to provide such a security within this period, the contract will be void and a new contract may be drawn up and sent to the tenderer which has submitted the next cheapest compliant tender.</p> <p>The Performance Security must be issued by an accredited bank, in the format included in Appendix I to UNDP General Conditions of Contract for Civil Works and must be valid up to twenty-eight days after issuance of the Certificate of Final Completion. The Performance Security will only be released upon the issuance of Certificate of Final Completion in accordance with the Clause 10 of the UNDP General Conditions of Contract for Civil Works.</p>
10	13	Currency of Bid	United States Dollar
11	18	Deadline for submitting requests for clarifications/ questions	10 days before the submission deadline
12	18	Contact Details for submitting clarifications/questions	<p>Focal Person in UNDP: Ersin Dagdur</p> <p>Address: Yıldız Kule, Yukarı Dikmen Mah. Turan Güneş Blv. No:106 06550, Çankaya/Ankara Turkey</p> <p>E-mail address: tr.procurement@undp.org</p>

13	18, 19 and 21	Manner of Disseminating Supplemental Information to the ITB and responses/clarifications to queries	Direct communication to prospective Proposers who have submitted their intention to submit a proposal, by email and Posting on the websites; www.tr.undp.org www.undp.org www.ungm.org www.devbusiness.com
14	23	Deadline for Physical Submission of Bids to UNDP Premises at 16 th floor of Yıldız Kule	April 1, 2019; 2:00 pm (GMT +3, Local time-Turkey)
15	22	Allowable Manner of Submitting Bids	Courier/Hand Delivery The bidders shall make all arrangements and controls to ensure that their bidders are physically delivered to UNDP, address of which is given in this ITB by the stated deadline. The bidders are free to make arrangements either for physical dispatch of their bids or through courier companies, at their own risk. UNDP shall not be responsible for any late physical delivery of the bids to UNDP due to potential delays in courier companies, working/non-working days, official holidays, strikes, etc. Physical dispatch of the bids to UNDP is possible as there is a security desk who will issue delivery receipts on a 24/7 basis. The bidders shall be acknowledged that the bids shall be submitted to the information desk of UNDP CO located at 16 th floor of the building, submission time to this desk will be considered in case of late delivery of the bids. The bidders shall be aware that there is a registration desk at the main gate of the building, that shall be considered for timely submission of the bids.
16	22	Number of copies of Bid	Original: 1 Copies: 1 Electronic Copy (CD or USB stick); including scanned copy of the original bid and priced BoQ in excel format
17	22	Bid Submission Address	United Nations Development Programme Turkey Resilience Project in Response to the Syria Crisis Yıldız Kule 16th Floor, Yukari Dikmen Mah. Turan Güneş Blv. No:106 06550, Çankaya/Ankara Turkey UNDP-TUR-ITB(MC2)-2019/01
18	22	Electronic submission (email or eTendering) requirements	Not applicable
19	25	Date, time and venue for the opening of bid	Date and Time: April 1, 2019; 3:00 pm (GMT +3, Local time-Turkey) Venue: United Nations Development Programme Turkey Resilience Project in Response to the Syria Crisis Yıldız Kule, Yukarı Dikmen Mah. Turan Güneş Blv. No:106 06550, Çankaya/Ankara

20	27, 36	Evaluation Method for the Award of Contract	Lowest priced technically responsive, eligible and qualified bid.
21		Expected date for commencement of Contract	May 6, 2019
22		Maximum expected duration of contract	150 days, starting from the date on which the Contractor will be given Access to the Site and receive a notice from the UNDP Engineer to commence the Works and ending on the date of substantial completion of Works stated in the Certificate of Substantial Completion. As stated in the General Conditions of Contract for Civil Works, clause 47.1; "Defects Liability Period" is 12 months calculated from the date of completion of the Works stated in the Certificate of Substantial Completion issued by the UNDP Engineer.
23	35	UNDP will award the contract to:	One bidder only for each lot, both of the lots may be awarded to one bidder. Contracts will be awarded lot by lot Each lot will form a separate contract and the works for different lots will be indivisible. If the bidder is awarded more than one lot, a single contract may be concluded covering all those lots.
24	40	Type of Contract	Contract for Civil Works http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
25	40	UNDP Contract Terms and Conditions that will apply	UNDP General Terms and Conditions for Works http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
26	44	Payment Provisions	Pricing Structure; The contract is based on unit price, and the final price of the Contract will be determined on the basis of actual quantities of work and materials utilized in the complete and satisfactory performance of the Works as certified by the Engineer and the unit prices contained in the Contractor's financial proposal. Such unit prices are fixed and are not subject to any variation whatsoever. Unless the technical specifications or the Bill of Quantities specifically and expressly state otherwise, only permanent works are to be measured and paid for by UNDP. Payment Terms; The Contractor shall submit monthly invoices (reflecting the monthly work performed and materials utilized every month for the work performed and materials utilized every month as accepted by UNDP through the "Monthly Progress Reports") and a final invoice within 30 days from the issuance of the Certificate of Substantial Completion by the Engineer. UNDP shall affect payment of the invoices after receipt of the certificate of payment issued by the Engineer, approving the amount contained in the invoice. The Engineer may make corrections to that amount, in which case UNDP may affect payment for the amount so corrected. The Engineer may also

			<p>withhold invoices if the work is not performed at any time in accordance with the terms of the Contract or if the necessary insurance policies or performance security are not valid and/or in order. The Engineer shall process the invoices submitted by the Contractor within 15 days of their receipt. Invoices will be paid within thirty (30) days of the date of their receipt and acceptance by UNDP.</p> <p>Currency of Payment;</p> <p>If the Contractor is registered and operating in Turkey, the payment shall be realized in Turkish Liras (TRY). Contract price will be converted from United States Dollar (USD) to Turkish Liras (TRY) by the UN operational rate of exchange¹ valid on the date of money transfer. Otherwise, the payments shall be affected in United States Dollar.</p>
27		Taxation	<p>UN and its subsidiary organs are exempt from all taxes. Therefore, bidders shall prepare their Bids excluding Value Added Tax (VAT). It is the Bidder's responsibility to learn from relevant authorities (Ministry of Finance) and/or to review/confirm published procedures and to consult with a certified financial consultant as needed to confirm the scope and procedures of VAT exemption application as per VAT Law, Ministry of Finance's General Communiqués. The Contractor to be selected shall not be entitled to receive any amount over its Bid price in relation to VAT, Special Consumption Tax and any other applicable taxes.</p>

¹ Available at the website: <https://treasury.un.org/operationalrates/OperationalRates.php#E>

SECTION 4. EVALUATION CRITERIA

Preliminary Examination Criteria

Bids will be examined to determine whether they are complete and submitted in accordance with ITB requirements as per below criteria on a Yes/No basis:

- Appropriate signatures
- Power of Attorney
- Minimum Bid documents provided
- Bid Validity
- Bid Security submitted as per ITB requirements with compliant validity period

Minimum Eligibility and Qualification Criteria

Eligibility and Qualification will be evaluated on a Pass/Fail basis.

If the Bid is submitted as a Joint Venture/Consortium/Association, each member should meet the minimum criteria, unless otherwise specified.

Subject	Criteria	Document Submission requirement
ELIGIBILITY		
Legal Status	Vendor is a legally registered entity.	Form B: Bidder Information Form
Eligibility	Vendor is not suspended, nor debarred, nor otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization in accordance with ITB clause 3.	Form A: Bid Submission Form
Conflict of Interest	No conflicts of interest in accordance with ITB clause 4.	Form A: Bid Submission Form
Bankruptcy	Has not declared bankruptcy, is not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against the vendor that could impair its operations in the foreseeable future.	Form A: Bid Submission Form
Certificates and Licenses	<ul style="list-style-type: none">▪ Power of Attorney▪ Official appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country	Form B: Bidder Information Form
QUALIFICATION		
History of Non-Performing Contracts²	Non-performance of a contract did not occur as a result of contractor default for the last 3 years. (reference period to be taken into account: from April 1, 2016 to April 1, 2019)	Form D: Qualification Form
Litigation History	No consistent history of court/arbitral award decisions against the Bidder for the last 3 years. (reference period to be taken into	Form D: Qualification

² Non-performance, as decided by UNDP, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

	account: from April 1, 2016 to April 1, 2019)	Form
Previous Experience	Minimum three years of relevant experience.	Form D: Qualification Form
	The Bidder must have successfully completed, as the prime contractor , minimum one civil works contract, and a minimum value of USD 500,000 over the last three years. (reference period to be taken into account: from April 1, 2016 to April 1, 2019) (For JV/Consortium/Association, all Parties cumulatively should meet requirement).	Form D: Qualification Form
Financial Standing	Minimum average annual turnover of USD 1,000,000 for the last 3 years. (2016, 2017, 2018) (The amount of business done in a year, income generated from on-going works and income generated from works undertaken shall be considered as part of the turnover) (For JV/Consortium/Association, all Parties cumulatively should meet requirement).	Form D: Qualification Form
	Bidder must demonstrate the current soundness of its financial standing and indicate its prospective long-term profitability. (For JV/Consortium/Association, all Parties cumulatively should meet requirement).	Form D: Qualification Form
Technical Evaluation	The technical bids shall be evaluated on a pass/fail basis for compliance or non-compliance with the technical specifications identified in the bid document.	Form E: Technical Bid Form
Financial Evaluation	Detailed analysis of the price schedule based on requirements listed in Section 5 and quoted for by the bidders in Form F. Price comparison shall be based on the total estimated price for all the quantities set out in the Bill of Quantities.	Form F: Price Schedule Form

SECTION 5A: SCHEDULE OF REQUIREMENTS AND TECHNICAL SPECIFICATIONS

The Works for “Construction of Waste Transfer Stations in Hatay” comprises two lots;

Lot 1; Construction of Waste Transfer Station in Kırıkhan/Hatay

Lot 2; Construction of Waste Transfer Station in Yayladağ/Hatay

Unless otherwise stipulated in the related sections of technical specifications, the following sections shall take precedence over one another in the following order in terms of technical specifications/requirements;

1) Section 5A.1 Statement of Works/Technical Specifications

2) Section 5A.3 Design Drawings

3) Section 5A.2 Specifications for Items/Pose Definitions

SECTION 5A.1 STATEMENT OF WORKS / TECHNICAL SPECIFICATIONS

1. GENERAL

1.1. INTRODUCTION AND BACKGROUND

UNDP Turkey has repositioned to contribute through four areas: 1) Inclusive and Democratic Governance (IDG); 2) Inclusive and Sustainable Growth (ISG); and 3) Climate Change and Environment (CCE); and 4) Syria Crisis and Resilience Response. In addition to these areas, UNDP Turkey is emphasizing the role of Strategic Partnerships that cut across the entire country programme regionally as well as globally.

UNDP supports the Government of Turkey through its Syria Crisis Response and Resilience Programme in Turkey to strengthen the resilience of refugees, host community members, local municipalities and relevant national institutions to cope with and recover from the impact. UNDP's resilience response strategy is to invest in existing national and local systems to ensure they can adequately serve both host and refugee communities.

As part of this programme, UNDP will implement the EU-UNDP Turkey Resilience Project (2018-2019) (hereinafter referred to as 'the Project'), funded by the EU Regional Trust Fund in response to the Syrian crisis (EUTF Fund). The Project consists of three main components: Component 1 on Employment Creation, Component 2 on Municipal Service Delivery and Component 3 on Adult Language Training. The overall budget for the Project is 50 million euros to be implemented in 2018-2019.

UNDP uses a resilience-based development approach which focuses on investing in existing national and local systems to ensure they can adequately serve both host and Syrian communities. One of the aimed outcomes of the resilience response is to strengthen infrastructure capacities of the Municipalities by construction solid waste transfer stations. Transfer stations may be erected in the central parts of cities in order to keep the transport of solid wastes economically and to avoid any heavy traffic on the transport route. In these stations, the solid wastes being collected with small volume vehicles shall be transferred to bigger vehicles and shall be transported to process and storage areas. The transfer process shall be realized by loading the waste on the waste collection trucks to bigger trucks of higher carrying capacity with aid of a bunker. The discharging/unloading places shall be constructed as closed area in order to avoid environmental pollution in terms of odor, dust, noise and appearance.

A solid waste transfer station is, in plain language, a facility which receives solid wastes from a community and where solid waste is collected and transferred to bigger vehicles in order to transport such solid waste to long distance solid waste storage facilities in a more efficient and economical way.

Transfer stations are generally used for following purposes:

- › The transport of solid waste to a long-distance sanitary landfill in an economical way,
- › Increase of the municipality's collecting efficiency,
- › Providing convenient waste disposal places for citizens,
- › Decrease of the heavy traffic in the sanitary landfill.



For Lot 1;

In the scope of this contract, a solid waste transfer station in **Kırıkhan** district of **Hatay** will be constructed. Station will be mainly composed of administrative/weigh building, waste loading bunker, waste spilling platform, ramps, intra-site roads and landscaping. System of transfer station will be "push pit", waste collection trucks dump their loads directly to a trailer. Station receives waste directly from urban waste collection system.

For Lot 2;

In the scope of this contract, a solid waste transfer station in **Yayladağ** district of **Hatay** will be constructed. Station will be mainly composed of administrative/weigh building, waste loading bunker, waste spilling platform, ramps, intra-site roads and landscaping. System of transfer station will be "push pit", waste collection trucks dump their loads directly to a trailer. Station receives waste directly from urban waste collection system.

1.2. DEFINITION AND SCOPE OF THE CONTRACT

1.2.1. Definition

This contract comprises;

For Lot 1; Construction of waste solid transfer station in Kırıkhan/Hatay.

For Lot 2; Construction of waste solid transfer station in Yayladağ/Hatay.

System of transfer station will be "push pit", waste collection trucks dump their loads directly to a trailer. Station receives waste directly from urban waste collection system.

1.2.2. Scope of Works

The works mainly consist of:

- Excavation and filling for all designed structures according to the site excavation plan,
- Demolition of existing waste transfer station on the Kırıkhan/Hatay site (For Lot 1).
- Construction of Solid Waste Transfer Station including structural, architectural, mechanical, electrical and landscape works detailed with drawings and technical specifications for the structures
- Providing all "as-built drawings" and all summary tables of laboratory results at the end of the Works, fully describing the finalized Permanent Works.
- Execution of any outstanding work and all such works of repair, amendment, reconstruction, rectification, and making good defects, imperfections, shrinkages or other faults required by Engineer during the Defects Liability Period for 12 months period.

The works shall be executed under this contract, as mentioned in detail, in the Technical Specifications and on Drawings, together with all related civil works. In all construction and manufacturing, the provisions of the Technical Specifications and Drawings shall be obeyed.

Before erection/installation for all materials, the contractor shall request prior approval from the Engineer. All measurements given on the drawings shall be checked on-site by the Contractor. The Contractor shall prepare the shop drawings accordingly and get the approval of the Engineer before starting the construction.

The Contractor shall be responsible for taking all the necessary health & safety measures according to the relevant legislations until the taking over of the works by the Employer.

The Contractor shall prepare shop drawings and as-built drawings for Engineer's approval, during the execution of the relevant stages of permanent works. The Employer and/or Engineer may request variations and/or additional works to be designed by the Contractor. The variations or new design works shall be carried out in accordance with the provisions of Technical Specifications and subject to Engineer's approval.

1.2.3. Construction Site

LOT 1;

Construction site is 9927,59 m² located within the borders of Kırıkhan, Hatay, and field coordinates are given below:

Kırıkhan Solid Waste Transfer Station Perimeter Fence Field Coordinates

ITRF 96 3 DEGREE			
POINT NAME	X	Y	Z
TC1	4038542.65	262511.10	111.64
TC2	4038534.51	262472.93	111.49
TC3	4038582.46	262461.94	115.80
TC4	4038596.24	262511.67	112.34
TC5	4038658.22	262500.39	112.28
TC6	4038662.04	262515.39	113.65
TC7	4038650.13	262516.99	113.57
TC8	4038650.62	262520.66	113.50
TC9	4038649.27	262520.84	113.48
TC10	4038629.39	262522.24	112.88
TC11	4038598.69	262525.17	112.58
TC12	4038546.11	262530.19	111.94

LOT 2;

Construction site is **8205.92 m²** located within the borders of Yayladağı, Hatay, and field coordinates are given below:

Yayladağı solid waste transfer station Allocated field coordinates

ED50 39-6			
POINT NAME	X	Y	Z
1	3977919.391	239572.012	824.07
2	3977920.574	239622.21	818.21
3	3977844.386	239658.518	824.37
4	3977798.863	239628.551	830.79
5	3977811.256	239554.553	834.99

1.3. SPECIFICATIONS AND STANDARDS

Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or

revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national or related to a particular country or region, other authoritative international standards that ensure substantially equal or higher quality than the specified standards and codes should be acceptable subject to the Engineer's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Engineer at least 7 days prior to the date when the Contractor desires Engineer's consent. In the event the Engineer determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

During the implementation and management of all issues of the Works; the standards, specifications and principles shall be adhered to in the management, design, construction, testing and acceptance and commissioning of all works.

1.3.1. Standards

The Contractor shall comply with the last updated editions of the following standards, in the order of precedence as listed, in the design, implementation, testing, acceptance and operation of all works within the scope of the tender. In circumstances for which there is no description in the following standards, it shall be permitted to use the last updated editions of other national and international standards on condition that the Engineer accepts.

- a. Turkish Standards (TS),
- b. European Norm (EN),
- c. International Standards Organization (ISO),

1.3.2. Legislation

The Contractor shall execute and complete the Works in strict accordance with applicable legislation of Turkey.

1.3.3. Specifications

The Contractor shall execute and complete the Works in strict accordance with the last updated editions of;

- Republic of Turkey Ministry of Environment and Urbanization "Construction Works, Civil, Mechanical Works and Electrical Works General Technical Specifications"³
- Republic of Turkey General Directorate of Highways "Highways Technical Specifications"
- Union of Chambers of Turkish Engineers and Architects, Chamber of Landscape Architects Publication; Technical Specifications for Landscape Works

³ Applicable communiques:

- "Communique related to Construction Works, Civil, Mechanical Works and Electrical Works General Technical Specifications" issued by Ministry of Public Works and Settlement, published in Official Gazette of Republic of Turkey no: 29459, dated 28 August 2015(complementary version) available at <http://www.resmigazete.gov.tr/eskiler/2007/06/20070630M1-1.htm>
- "Communique related to making amendmends on communique related to Construction Works, Civil, Mechanical Works and Electrical Works General Technical Specifications" issued by Ministry of Public Works and Settlement, published in Official Gazette of Republic of Turkey no: 27853, dated 21 February 2011 available at: <http://www.resmigazete.gov.tr/main.aspx?home=http://www.resmigazete.gov.tr/eskiler/2011/02/20110221.htm&main=http://www.resmigazete.gov.tr/eskiler/2011/02/20110221.htm>
- "Communique related to making amendmends on communique related to Construction Works, Civil, Mechanical Works and Electrical Works General Technical Specifications" issued by Ministry of Environment and Urbanisation, published in Official Gazette of Republic of Turkey no: 30352, dated 06 March 2018 available at: http://sgb.csb.gov.tr/mevzuat/dosyalar/r_20180306093845756_03c559f6-993f-40e1-9009-6701e836970d.pdf

1.4. SITE

Refer to provisions stipulated in Clauses 11, 32, 33, 37, 39, 41 and Sub-Clauses 6.2, 34.2 of the General Conditions of Contract.

1.4.1. Arrangement of the Site

The ground levels of the Site shall not be changed without the permission of the Engineer and no infrastructure, structure or tree shall be removed or permanent structure shall be built without the Engineer's prior approval.

The Contractor shall construct temporary parking areas, loading and unloading areas, open storage areas, approach and internal roads, temporary facilities to facilitate its methodology and order of construction of the Works.

1.4.2. Site Requirements

Provision of all the necessary utility requirements on site, such as electricity, water, gas, etc. during the execution of the works shall be under the responsibility of the Contractor.

Application to the relevant authorities for subscription to provide utility connections shall also be under the responsibility of the Contractor. All costs of the consumptions on site shall be covered by the Contractor.

Any temporary fencing used by the contractor to protect the works shall be appropriate for the task to keep the public from danger and protect the workers.

The Contractor shall erect such fencing as soon as he is given possession of the relevant portion of the Site. The Contractor shall regularly inspect and maintain all such fencing, any defects being made good without delay.

Access shall be provided in temporary site fencing as necessary for the use of the occupiers of adjacent properties.

Temporary site fencing shall remain in position until the Works are sufficiently completed to enable that portion of the Site to be brought into use without danger to the public.

1.4.2.1. Site Temporary Buildings

The Contractor shall provide offices, dining halls and accommodation places for his own personnel, Subcontractors and furnish and maintain these places.

1.4.2.2. Temporary Water Supply

The Contractor shall supply and distribute water both for the personnel and for the Works. All of the piping, storage and similar main and intermediate systems shall be established in accordance with drawings and specifications. In the event that the municipal water supply is not available in sufficient amounts or pressure, additional supplies shall be provided by the Contractor.

It is the responsibility of the Contractor to provide all necessary back-up, maintenance and repair works for the uninterrupted supply of water sufficient for construction of the Works.

1.4.2.3. Temporary Electricity Supply

Provision of all the necessary utility requirements on site, such as electricity and gas, etc. during the execution of the works shall be under the responsibility of the Contractor.

The Contractor shall be required to make all necessary arrangements with relevant local authorities and/or owners/occupiers of the properties in order to obtain the supply of necessary utilities and cover the expenses for supplying and consuming these services, where necessary.

The Contractor shall provide connection to the site from a suitable point.

The Contractor is obliged to take all precautions for the safety of employees and third parties both in the supply and distribution of the energy. It is the responsibility of the Contractor to provide all necessary back-up, maintenance and repair works for the uninterrupted performance of the temporary electrical supply.

The Contractor shall take necessary measures related to the unexpected cuts off of these services.

1.4.2.4. Temporary Sanitary Installation, Cleaning

The Contractor shall clean the site when necessary and in such a way as to preserve it in a hygienic state and shall comply with the relevant laws and instructions of the Engineer.

The Contractor shall establish temporary sanitary facility in the site in order to meet the requirements for the working personnel. For this purpose, the Contractor shall supply flushed W.C. in suitable places on the site. Domestic water connections of facilities shall be protected against frost. Sewerage drains shall be connected to the sewerage network as much as possible. In the event that this is not possible, connection shall be made to cesspools built in accordance with national specifications. Cesspools shall be drained at suitable intervals.

1.4.2.5. Employer's Equipment and Free-issue material

There is no Employer's Equipment available for the use of the Contractor in the execution of the Works.

Free-issue materials are not available on behalf of the Employer.

1.4.2.6. Temporary Project Sign Board

The Contractor shall at his own cost supply, erect and maintain 1 signboard (size 1.5 m x 2 m) at locations to be determined by the Engineer on which the names and information asked by the Engineer. The design of the sign board requires the prior approval of the Engineer and the Employer.

1.4.2.7. Plant and Temporary Works

The property of all structures, materials, vehicles, tools and equipment supplied and established by the Contractor for the performance of the Work belongs to the Contractor.

Temporary facilities shall be removed within the time and method to be decided by the Engineer after Substantial Completion and their places shall be cleared. Fences, billboards, etc. that have been removed temporarily shall be placed again.

1.4.2.8. Protection of Existing Structures and Utilities

The Contractor shall assume full responsibility for the protection of all buildings, structures, and roads existing in the area of the construction site, public or private, whether or not they are shown on the drawings. Any damage resulting from the Contractor's operations shall be repaired at his expense.

The Contractor shall take all necessary precautions to avoid causing any unwarranted damage to roads, lands, properties, trees and other features and, during the Contract, shall deal promptly with any complaints by owners or occupiers.

Where any portion of the Works is close to, across, or under any existing apparatus of Statutory Undertakers, the Municipality or other parties, the Contractor shall temporarily support and work round, under or adjacent to all apparatus in a manner designed to avoid damage, leakage or danger, and to ensure uninterrupted operation.

Should any leakage's or damage be discovered, the Contractor shall at once notify the Employer and the Statutory Undertaker, Municipality or owner concerned, as appropriate and the Contractor shall afford every facility for the repair or replacement of the apparatus affected.

Building interiors shall be adequately protected during the course of the works to ensure that they remain water-tight.

The Contractor shall adequately safeguard the buildings affected by the works against damage and theft.

All electrical installations shall comply with the relevant national regulations and shall be safe for the Contractor and members of the public. All Works shall be illuminated when daylight deems to be insufficient.

Before commencement of works nearby the existing structures preconstruction photos shall be taken.

1.5. CONTRACTOR'S KEY PERSONNEL

The Contractor shall employ following key personnel with qualifications listed below on site in line with Programme of Work.

Project Manager/Construction Manager: English speaking, minimum 5 years' experience in construction of any kind of structure and degree in civil engineering or architecture. Project Manager/Construction Manager shall be present on site on a full time basis for the period starting from the date on which the Contractor will be given Access to the Site and receive a notice from the UNDP Engineer to commence the Works and ending on the date of substantial completion of Works stated in the Certificate of Substantial Completion.

Electrical Engineer: Minimum 3 years' experience in construction of any kind of structure, and degree in electrical engineering.

Mechanical Engineer: Minimum 3 years' experience in construction of any kind of structure and degree in mechanical engineering.

Surveyor: Minimum 3 years' experience in construction of any kind of structure and degree in Survey Engineer (or equivalent) or minimum 5 years' experience in construction of any kind of structure and degree in Survey Technician.

1.6. PLANT

The contractor shall ensure availability of the followings on site in line with Programme of Work.

Equipment	Specifications (minimum)	Minimum number of Quantity
Excavator	90 hp	1
Truck	15 tons	2
Compressor	180 hp	1
Power Supply Generator	250 kVA	1
Crane	40 tons	1
Roller Compactor	n/a	1
Loader	n/a	1
Grader	n/a	1
Concrete Vibrators	n/a	4
Formwork	Plywood	500 m2
Scaffolding	Steel pipe	250 m3
Water Tank	10 tons	1
Panels for Power & Lighting	n/a	4

1.7. MATERIALS

1.7.1. Conditions for Materials and Equipment

Materials and equipment within the scope of the Work shall comply with the conditions stated in the Technical Specifications. Materials and equipment proposed to be used by the Contractor and which have not been specified shall only be incorporated in the Works after their equivalence with the Technical Specifications has been verified and approved by the Engineer.

Any material or equipment proposed by the Contractor for substitution from that specified shall be subject to prior approval of the Engineer.

1.7.2. Storage Facilities

The Contractor shall establish open and closed storage places in suitable and sufficient extent at his own expense for the storage of materials and equipment in the site. The Contractor is obliged to take all necessary protective precautions against damage, contamination inclement weather and theft.

1.7.3. Terms of Transportation

All of the materials and equipment shall be packaged in such a way to facilitate transporting in and out of the storage and to the Work Place and to be protected against damage.

Materials and equipment shall be loaded on vehicles in conformity with international transportation rules. During transportation, all necessary additional precautions shall be taken and adequate transportation insurance shall be provided at the sole responsibility and cost of the Contractor.

1.8. SETTING - OUT

All necessary application, measurement and instrumentation processes and equipment necessary for construction of the Works and for preservation of the environment in the vicinity of the Works are the responsibility of the Contractor at his own expense.

1.8.1. Application Works

The Contractor shall prepare application drawings showing the setting out of the structures on the site and based on the reference points and levels given in the Drawings and submit to the Engineer for approval. The accuracy of the setting out shall be the sole responsibility of the Contractor.

For application and measurement processes; the Contractor shall:

- Employ qualified and experienced land surveyors.
- Use modern type and high-quality topography devices suitable for the works.

1.9. ACCOMODATION FOR THE ENGINEER

Before commencing the Contract, the Contractor shall supply and erect on the site an office of a minimum 10 m2 room for the exclusive use of the Engineer at a location to be agreed with the Engineer. This office shall be provided for the total construction period.

The washroom shall be provided with a washbasin, hot and cold-water supplies and a flush operated WC connected to the existing sewer. The Contractor shall be responsible for the security of the Engineer's office and all equipment therein until the office is finally closed.

The Contractor shall maintain, light, heat/cooling and clean the office for the duration of the contract. The Contractor shall be responsible for the insurance of the office for the duration of the contract. The Contractor shall insure the office and the contents provided by him, against fire, burglary and other risks ordinarily insured against during the period of the Contract.

Material	Quantity
Working Table	1
Director Chair	2
Guest Chairs	5
Design Review Table	1

The electricity, water supply, and maintenance costs of this office shall be met by the Contractor(s) until substantial completion of the Works.

The Contractor shall ensure that all equipment is kept in good condition and shall repair or replace, as directed by the Engineer, any equipment that becomes unserviceable.

1.10. COORDINATION

The Contractor is responsible for ensuring all coordination necessary for the execution of the work in accordance with the quality, cost and timing objectives foreseen by the Employer at the beginning of the work.

The Contractor shall prepare a Critical Path Method (CPM) work schedule, inspect the schedules according to the project timeframe, check the integrity of the schedules between infrastructure, superstructure constructions, electrical and mechanical works, combine the schedules and submit to the Engineer for approval.

The Contractor shall be responsible for ensuring administrative and technical coordination with the Employer, the Engineer and other parties who might directly affect the works along with the following parties who might have indirect effect:

- a. Relevant official institutions and organizations,
- b. Other authorized persons, institutions and organizations

1.11. CONTROL AND EXAMINATION OF MATERIALS AND EQUIPMENT

If the Engineer requests, s/he sends his own members to the project offices, factories of the Contractor and to factories of its subcontractors for the technical control and examination of the material and equipment, production in factories and for their participation in the project works.

As a result of the control and counting of the material, replacement of materials, which are not in compliance with the quality identified in the specifications, are malfunctioned, deficient or sent by mistake, will be realized and delivered to the buyer within 14 days (this term will be determined mutually, when special manufacturing is necessary) and all expenditures made. Otherwise, the Employer will procure these, and collect all expenditures from the receivables or performance security in the Employer.

1.12. OBTAINING OF RELEVANT APPROVALS AND CERTIFICATES

The Contractor shall obtain all relevant approvals and certificates from local Authorities regarding construction and operation of the Plants in the site.

Permits, license and approval costs which are required by the Turkish laws/regulations will be determined by the relevant local authorities.

1.13. AS-BUILT DRAWINGS AND OPERATION & MAINTENANCE MANUALS

This part of the Specifications covers the "As-built Drawings" to be prepared by the Contractor including Operation and Maintenance Manuals of the Plant incorporated in the Permanent Works. Three complete draft sets of prints of Drawings showing all Works exactly as made shall be submitted to the Engineer for approval within one month following the substantial completion of the Works on site.

The Contractor shall record all information necessary for preparing as-built drawings during the execution of the Works on the Sites. Neatly marked-up drawings and other documents covering the Permanent Works as completed shall be available to the Engineer at any time during construction.

Marked-up drawings shall be kept up to date and submitted to the Engineer for approval, as the Works are completed.

The Contractor shall submit complete sets of instructions and manuals to Engineer for approval describing the installed Plant in order to facilitate operation and maintenance, together with the "As-built Drawings". The documents shall include but not be limited to:

- Layout drawings
- Schematic cabling diagrams
- Specific operation instructions
- Specific maintenance instructions
- Detailed record of all types of tests
- Ensuring all materials, as-built drawings, final finish schedules and plans, and all warranties, guarantees and certifications – that are contractually owed to contractor are collected from contractor's design team before final payments are made.

All information in these manuals shall apply specifically to the Plant and equipment being supplied, and they shall be free from irrelevant matters such as might be contained in the manufacturer's general literature.

The as-built documentation shall include all architectural and engineering disciplines including architectural/ structural, electrical and mechanical drawings, and operation and maintenance manuals. Final version of as-built drawings in two hard copies and one electronic (in Auto CAD and Microsoft Word, Excel, etc) copy of each document shall be provided together with the notice for substantial completion incorporating Engineers' comments and all the modifications/revisions effected during construction. Operation and maintenance manuals shall be provided in Turkish.

All material except drawings shall be A4 size. Drawings shall be on international A size sheets, and drawings shall be marked as "AS-BUILT".

1.14. IMPLEMENTING PARTNER AND FINAL BENEFICIARY

The Contractor shall establish coordination with implementing partner of the project, namely **ILLER BANK** and final beneficiary, namely Metropolitan Municipality of Hatay. If deemed necessary by Employer, the representatives of implementing partner and final beneficiary may participate meetings, tests on completion, acceptance and inspection of materials and equipment etc.

The representatives of the implementing partner and final beneficiary have right to access to site to monitor the progress of work, compliancy of the work to the requirements of the contract. The Contractor shall

ensure their access to site at any time requested by them. However, they have no legal power in terms of contract terms and conditions.

2. PROJECT CONTROL DOCUMENTS

2.1. PROJECT MANAGEMENT

2.1.1. Project Management Obligation

The Contractor shall be responsible for effectively managing his efforts in carrying out the requirements of this Contract.

The Contractor shall be responsible for the management, performance, monitoring and coordination of the whole project in order to fulfil all requirements of the Contract and those given in Technical Specifications.

The Contractor's management obligations shall include the efficient planning of work to be performed in cooperation with the Engineer and Employer along with their appointed representatives to ensure project progress visibility.

2.1.2. General Requirements

The Contractor shall establish a project organization in accordance with requirements included herein, having the necessary resources, qualification and experience to fulfil all the Contractor's obligations.

The Contractor shall unambiguously define the tasks, responsibilities and authorities of each individual role within the organization, at least at the management level.

The project organization shall have clear and well-defined command lines and channels for reporting, within and outside the project organization.

The Contractor shall describe which parts of the Contractor's organization are used for staffing the project, and how the project organization aligns with the Contractor's main organization.

The Contractor shall describe the support functions, which are available for the project organization in the Contractor's main organization and how such resources are put to the disposal of the project.

The Contractor shall describe the organizational interfaces towards any sub-contractor and supplier that shall be in or outside the project organization. Such interfaces shall provide a clear reference between the project management level within the Contractor's and the sub-contractor's/Supplier's organizations.

The Contractor shall appoint key staff members, and these shall to the highest possible extent remain unchanged by the Contractor for the entire project.

Any later changes in such appointments shall be informed to and approved by the Engineer and shall be argued by the Contractor in order for the Engineer to assess the reasons and likely impact of such change.

The Contractor shall, unless this is not within the power of the Contractor, ensure that existing staff remains until suitable and acceptable replacements have been found.

2.1.3. Programme of Work

The programme of work shall comprise following as minimum:

- The proposed location of office on the site, stations (steel/concrete structures), warehouses, accommodation, etc. (sketches to be attached as required).
- A brief outline for completing the works in accordance with the required method of construction and stated time of completion
- A critical milestone bar chart (schedule of execution) representing the construction programme and detailing relevant activities, dates, allocation of labour and plant resources, etc.
- If the tenderer plans to subcontract part of the works, he must provide the following details:
 - Details of work to be subcontracted,
 - Name and details of subcontractors,
 - Value of subcontracting,
 - Experience of subcontractor in similar work.

2.1.4. Project Manager Responsibilities

The Contractor shall define a project management team and shall appoint a Project Manager in charge of the entire project.

The Contractor shall allocate the necessary competence and authority to the Project Manager, entitling the Project Manager to make decisions related to all aspects of the day-to-day management of the project.

Any restriction in the Project Manager's rights in this respect shall be clearly identified and described. Such restriction shall not impose management difficulties upon the project.

All official communication between the Engineer/ the Employer and the Contractor shall be passed through the Contractor's Project Manager.

2.1.5. Engineer's Involvement

For the execution of this project, the Engineer reserves the right to be assisted by other agencies for technical, operational and contractual matters.

The Contractor shall establish a close coordination with the Engineer for the development of all planning activities related to the project, and shall forward relevant plans, procedures etc. for review and approval, prior to putting such plans or procedures into force.

Engineer's duties and responsibilities are defined within the UNDP General Conditions of Contract for Civil Works.

2.1.6. Project Plans

The Contractor shall prepare the following Project plans, which shall be reviewed and approved by the Engineer:

- a) Quality Control and Quality Assurance Plan
- b) Safety Management Plan

In co-ordination with the Engineer, the Contractor shall also unambiguously define which information is required from the Engineer and when during development and testing.

In addition, the Contractor shall prepare method statements for each activity. Any site activity (excavation, filling etc.) can be start after the approval of the method statements by the Engineer.

2.1.7. Reporting and Reports

The Contractor shall ensure that the Engineer and the Employer are kept informed about the status of all areas within the project, and as a whole ensure that the Engineer can maintain a complete and detailed knowledge of the project.

The Contractor shall provide progress reports to the Engineer describing, but not limited to, achievement, problems, risks and containing updated schedules, WBS, cost/schedule control reports, status of contract variation proposals, and other data which are required for the efficient management of the project.

The Contractor shall agree with the Employer dates for the submission of monthly Progress Reports. These reports shall normally be submitted no later than 7 working days after the completion of each month.

Such reports shall provide information on the status of the Contract, and/or on any matters that could interfere with the timely achievement of any aspect of the Contract and the steps proposed by the Contractor to remedy such matters. The progress report will have minimum the following contents:

- Project progress
- * Project management overview. Describes major results achieved, problems that have occurred, and corrective action that has been taken or is planned for solving the problems.
- * Technical status: Identifies detailed status, including requirements definition status, design and development progress, problems encountered, corrective actions taken, and a summary of outstanding and approved change items during the period.
- * Quality follow-up: Describes activities of the quality assurance program
- Project Schedules: Shows activities completed (e.g., milestones and deliveries), status of ongoing activities, schedule changes (if any). This section also identifies the outlook for the next three months with an assessment of the major activity completion dates.
- Action item status: Describes outstanding action items and action items that have been closed during the reporting period.

- Risk assessment: Presents the current critical paths, critical activities, and technical risk, including assessment, impact, and containment plans.

2.1.8. Meetings

2.1.8.1. Progress Meetings

Progress meetings will be held at the times indicated on the progress chart (at least every 1 months, unless agreed otherwise), and will take place at location, which shall be proposed by the Contractor and approved by the Engineer.

The following persons shall be present at progress meetings:

- The Contractor's representative (i.e. the project manager)
- The representatives of the Employer, the Engineer and the Implementing Partner.
- Any other persons whom the above representatives consider should be present in an assistant/consulting capacity.

The major items to be addressed in the progress meetings are those identified for the progress reports and any other items, which are deemed necessary by the Engineer, the Implementing Partner or the Contractor.

The Contractor shall prepare an agenda and forward it to the Engineer no later than 1 week prior to each meeting for review and approval.

The Contractor shall prepare and produce the minutes. Draft minutes will be ready at the end of meetings and reviews. Minutes signed by the Engineer and the Contractor shall be attached to the contract file and shall become binding for both parties. All of these proceedings pertaining to progress meetings shall be conducted by the Contractor under the orientation of the Engineer.

2.1.8.2. Weekly Site Meetings

Site Meetings (SMs) will be convened by the Contractor as mutually agreed between the Contractor and the Engineer, during the project to allow discussion on specific aspects of the execution, orientation, future arrangement and coordination of the works and also for briefing. SMs may be held to formalize important technical discussions, generally prior to the Progress Meetings and record information's and recommendations arising from these discussions. Decision shall be normally taken at the Progress Meeting.

SMs will be held at locations to be mutually agreed between the Contractor and the Engineer. The Contractor shall provide SMs with the papers documenting the technical items for discussion and recommendations.

The agenda of SMs shall be determined by the Engineer and the Contractor together. In addition to the Engineer, the Employer and the Contractor, SMs can be attended by supply companies, manufacturer companies, subcontractors and other institutions and organizations related to the works when necessary.

Meeting minutes shall be recorded by the Contractor, kept carefully and these shall be distributed as minutes of SMs to the Employer and the Engineer, participants and other persons, institutions and organizations to be found necessary by the Engineer. Minutes signed by the Engineer and the Contractor shall be attached to the contract file and shall become binding for both parties. Minutes shall be forwarded to the Employer for consideration at the next Progress Meeting. All of these proceedings pertaining to SMs shall be conducted by the Contractor under the orientation of the Engineer.

The Contractor is also responsible for organizing additional meetings upon the instruction of the Employer or the Engineer.

2.1.9. Sub- Contractor Involvement

Generally spoken it is the responsibility of the Contractor that all sub-contractors perform their part of the work in accordance with the rules laid down in the contract between the Employer and the Contractor.

This implies that the sub-contractors are subject to the same Project Management procedures and must follow the same standards as applied by the Contractor. The Engineer has the same rights against any sub-contractor as against the Contractor, but this will not free the Contractor for his responsibility for the work performed by the sub-contractors.

To finish the approval procedure for Sub-Contractors involved by the Contractor within the Project, the Contractor shall provide to the Engineer specified documents for each Sub-Contractor (means Sub-Contractor and Sub-Designer) as stated below.

Registration for chamber of commerce

Trade registry gazette

Criminal records of the responsible people of the Sub-contractor

Delivery statement of previous project accomplished by the sub-contractor

Authorized signatures list

Relevant quality certificates like ISO 9001

No bankruptcy statement given by the commercial record authorities

A summary of the status of Sub-contractor with monthly progress payments needs for hand over to keep overview.

Be aware that this matter is pre-condition of payment for works done by Sub-contractors.

The Engineer shall have the right to disapprove a proposed sub-contractor in case of objective evidence that the sub-contractor cannot comply with requirements within this contract, that be related to the delivery or the Project Management and Quality Assurance.

The Contractor shall keep a list of all sub-contractors and suppliers, which are used or are planned to be used within the project and shall forward such list to the Engineer every time it is updated.

The list shall include a precise identification of which parts or components the sub-contractor or supplier in question shall deliver to the Contractor.

The Contractor shall be fully responsible for the work performed by any sub-contractor as for the work performed by the Contractor himself.

2.2. SPECIFIC ON-SITE ACTIVITIES

2.2.1. Management and Planning

The Contractor shall have the full responsibility for the construction, installation and setting up the Works.

The planning of the construction, installation and setting up of the Works shall be developed in close cooperation with the Engineer.

The Contractor shall be responsible for the maintenance and operation of the system during its installation and setting up.

2.2.2. Installation Plan

At each site where installation is going to take place, the Contractor shall prepare an installation plan comprising:

- The Engineer's activities
- Sub-contractors involved
- Tasks to be performed and who is responsible for each task
- Timing of the tasks
- Documentation of installation (e.g. instructions, specifications and drawings)
- and other information important for the final installation.

The installation plan shall be approved by the Engineer in due time before the final installation

2.2.3. Installation

The Contractor shall, in due time before installation, submit instructions and specifications with detailed information concerning:

- interior
- installation
- cabling, routing, grounding, power, communication
- other topics important for the installation of the Works.

The installation shall take into consideration local legislation, rules and procedures to (i.e.) cabling, power connection and working conditions.

The Contractor shall produce, procure and supply all necessary equipment, tools, etc. consumable as well as non-consumable needed for the installation and setting-up.

2.2.4. Setting up

Setting up covers the activities after the physical installation to adjust and tailor system parameters, fine tuning, etc. to make the system 100% operational.

The Contractor shall specify which procedures will be used to set up the Works.

2.3. SAFETY

The Contractor is responsible for taking all necessary precautions in respect of Works, materials, machinery, equipment and current facilities, persons on site and neighbouring environment. All expenses including indemnities that might arise are the responsibility of the Contractor.

2.3.1. Safety of the Construction Site and Periphery

2.3.1.1. Safety Fence

Contractor shall determine the extent of site boundary fencing necessary to protect the site, works, materials, equipment and facilities against unauthorized access and for safety of the public, to control entries-exits and prevent the entrance of unauthorized persons.

There shall be sufficient number of security officers provided by the Contractor at entrance-exit gates and locations where deemed necessary. There shall be adequate night lighting for ensuring supervision of security officers throughout the fence.

2.3.1.2. Fire Protection

The Contractor is responsible for taking necessary precautions for the protection of Works, Temporary Works and any kind of property and person during performance. All of the precautions, including raising the awareness of personnel, and the proceedings to be implemented in the event of a fire shall be determined working closely with the Fire Department.

During the Work, the special additional precautions that might be needed in the following cases shall be taken and implemented:

- Storage of materials that might easily inflame,
- Collection, storage and disposing of inflammable wastes,
- Operations performed with electric-arc welding and oxy-acetylene cutting machines,

In case a fire breaks out, the Contractor shall supply and get ready following equipment:

- Dry chemical powder type fire extinguishers that can be installed to walls, carried manually with nitrogen pressurized in certain places
- Special extinguishing systems in sections where Fire Department can't enter or access easily

2.3.1.3. Warning Marks, Lighting

All of the open excavations, material piles, structures, facilities and equipment that might create hazard shall be surrounded by barricades with appropriate marks with the aim of protecting the employees and other people.

In the same manner, the roads and passages blocked due to Works shall be protected by barricades.

This kind of areas shall be marked with warning plates placed in appropriate distances and attract the attention of people. All of the barricades, obstacles and marks shall be illuminated from dusk to sunrise.

2.3.2. Safety at Work

It is the responsibility of the Contractor to take necessary precautions to prevent accidents that might cause damage to persons, materials, equipment and facilities during the work.

The Contractor shall assign a Safety Team under the leadership of an experienced Safety Manager for any kind of work on safety at work. The primary duties of this team shall include but not limited to:

- Training the employees in respect of actions and practices that shall cause accidents or damage, taking precautions in the site that shall at least meet the requirement of "TS 8983 General Safety Precautions that Should be Taken in Structures During Construction", Monitoring whether precautions and warning are obeyed or not,
- Taking additional precautions, warning orally, and giving punishment in the event that faults are detected.
- Stepping in and performing what should be done in the event of a harmful event.

The Contractor shall carry out the works in accordance with the Turkish Health and Safety regulations.

2.3.2.1. First Aid

Shall be arranged in accordance with the applicable Turkish Health and Safety Regulations.

2.3.2.2. Hazardous Substances

When the following are encountered, Works shall be ceased in the section where the event occurs:

- Buried known or unknown toxic substances,
- Unnaturally coloured ground water or soil,
- Asbestos,
- Volatile organic compounds measured with photo ionization detector,
- Chemical substances or oil products or other similar circumstances that are spilt and spread on the site.

Cleaning of the area in such a way not to damage employees and removal of the hazardous substance shall be performed by an expert team trained and equipped for this kind of works.

2.4. QUALITY CONTROL AND QUALITY ASSURANCE

2.4.1. Quality Responsibility

All of the Works shall be performed according to the most appropriate engineering practices and standards in respect of construction, material, equipment and workmanship.

It is the responsibility of the Contractor to control the quality of the work and to take samples and carry out necessary tests in respect of achieving conformity with specifications and approved materials at his own expense. A Quality Control and Quality Assurance Manager to be assigned by the Contractor shall be responsible for all phases of quality control and sustain an efficient communication with the Engineer.

2.4.2. Material Quality and Equivalent Materials

All of the materials and equipment supplied to be used permanently within the scope of the works shall comply with current standards and specifications. The products of other Manufacturers instead of determined materials and equipment shall be accepted on condition that their equivalency is approved by the Engineer. In such events, the Contractor shall submit to the Engineer all of the evidences of the equivalency of the new product.

2.4.3. Quality Control and Quality Assurance Plan

After signature of the Contract, the Contractor shall submit to the Engineer a detailed Quality Control and Quality Assurance Plan within 14 days for approval. The plan shall cover quality control and assurance of all phases of works on the site.

The plan shall include at least the following items and shall be supported by additional information that might be needed by the Engineer.

The Plan shall cover the quality assurance of all aspects of the Works, and contain, as a minimum, the following items:

- Organization chart for quality control and quality assurance
- List of Contractor's staff to be engaged in quality control and materials testing together with details of their relevant experience
- List of facilities which will be inspected and tested by the Contractor at stages during implementation of the Works as part of his quality control, together with inspection procedures and test types

- Certificates of materials
- Specifications of equipment and work
- Tests
- Relevant certificates on supplied materials
- Detailed checklist for all installations. The checklist shall be for the Contractor's own use, documenting the Contractor's own quality control of the installation.

The Plan may be supplemented with additional items from time to time as requested by the Engineer.

The approved Quality Plan shall be followed throughout the performance of the Contract, unless the Engineer to the contrary issues specific approvals or instructions. Any approval of the Engineer shall not relieve the Contractor of his obligation to ensure that the Works comply with the requirements of the Contract.

Quality assurance records, test certificates, reports and daily records of on-site testing and inspection shall be kept on site during the works, and the results shall be certified by the responsible member of the Contractor's staff.

Quality Control and Assurance Plan shall enter into force after the approval of the Engineer.

2.4.4. Tests Samples, Materials and Equipment

The Contractor shall supply all of the samples including storage, packaging and transportation related to quality control and tests. The materials represented by these samples shall not be manufactured without the approval of the Engineer, brought to work place or used in any work.

Approved material and equipment samples to be used on the site shall be kept carefully under they are permitted to be disposed by the Engineer.

2.4.5. Test Laboratory Services

Quality Control tests shall be done in the laboratory accredited by Republic of Turkey Ministry of Environment and Urbanization shall be used at the expense of the Contractor.

The Contractor shall ensure that the laboratory perform the desired material inspection, sample receiving and test processes as fast as possible and conclude them.

Test results shall be immediately submitted to Engineer. In the event of detection of disorders or deficiencies that might affect the Work, the Contractor shall take any kind of corrective precaution immediately.

The laboratory is not authorized to change, expand or invalidate the terms of the Contract.

2.4.6. Examinations and Manufacturer's Tests

The Contractor is responsible for ensuring that quality control and all relevant examinations and tests are carried out duly without taking into account whether they are on Site or in any other place and also for taking corrective precautions when necessary.

The Engineer can audit the work carried out in the Manufacturer Company's facilities and also the tests related to these works. The Contractor shall inform the Engineer on time so that this can be done as desired.

The manufactured items and materials that are delivered to the Site shall be examined by the Contractor on their arrival and any kind of fault shall be informed to the Engineer. The products with important faults shall be returned to the Manufacturer Company to be amended or replaced.

Examinations and tests carried out by the Engineer or on his behalf do not release the Contractor of his obligations related to quality control.

2.4.7. Construction Site Records and Tests Certificates

Quality Control records, test certificates, reports, daily construction site tests and examination records shall be kept on forms approved by the Engineer.

All of the test certificates and examination records shall be divided into their relevant departments and kept including those in the Manufacturer Company and other test institutions. The processes shall be under the responsibility of qualified personnel of the Contractor and moreover the Contractor shall establish a comprehensive archive and library related to quality control.

The Contractor shall prepare details lists including tests, approvals, orders and delivery information related to quality control and other materials and products depending on approval. These lists shall be submitted to Engineer as they are updated, however once in a month under any circumstance.

Test results shall be delivered to Engineer at the end of the test in respect of determining the necessary precautions, if any. Test certificates, on the other hand, shall be submitted to the Engineer

- When the tests of the Production Plant and Manufacturer Company are completed or not later than 7 days before the date on which products should be used in the Work under any circumstance,
- Within 7 days following the completion of the test for those conducted during or upon completion of the continuous work.

3. ENVIRONMENTAL MANAGEMENT

The Contractor shall comply with the provisions of the applicable Turkish legislation on environment protection that may affect the Project (the "Environmental Requirements"). In particular this shall include compliance with the following regulations (latest version of the below mentioned laws will be in placed):

Environment Law (no. 2872, date: 09.08.1983, published in the 11.08.1983 dated and 18132 y numbered Official Gazette, amended on 26.04.2006 no 5491),

Worker Health and Work Safety Act (published in the 11.01.1974 dated and 14765 numbered Official Gazette),

The Regulation for the Assessment and Control Air Pollution 2009

The regulation for the assessment and management of environmental noise (2008),

Water Pollution Control Regulation 2004

Solid Waste Control Regulation (published in the 14.03.1991 dated and 20814 numbered Official Gazette),

Hazardous Waste Control Regulation 2005

Cultural and Natural Assets Protection Law and relevant regulations

Waste Oil Control Regulation (21.01.2004 dated and 25353 numbered Official Gazette.)

Excavation Soil, Construction and Debris Waste Control Regulation (18.03.2004 dated and 25406 numbered Official Gazette)

Soil Pollution Control Regulation (31.05.2005 dated and 28831 numbered Official Gazette.)

The Contractor shall take all measures and precautions to avoid any nuisance or disturbance arising from the execution of Project Activities. This shall, wherever possible, be achieved by suppression of the nuisance at source rather than abatement of the nuisance once generated. The Contractor will also be required to compensate for any damage, loss, spoilage, or disturbance of the properties and health of the project affected people during construction. In conformance with the Contract Specifications of which these Environmental Provisions are a part, the Employer reserves the right to withhold payments and/or stop construction in the event of serious or repeated violations of the conditions stipulated herein.

The Contractor shall, at his own expense, obtain, retain in force and renew as necessary all Consents provided for by the Environmental Requirements of the Government of Turkey that are required to enable it to meet its obligations in designing and constructing the Project.

4. PARTICULAR TECHNICAL SPECIFICATIONS

Unless otherwise stated in particular technical specifications, the Contractor shall execute and complete the Works in strict accordance with the last updated editions of;

- Republic of Turkey Ministry of Environment and Urbanization "Construction Works, Civil, Mechanical Works and Electrical Works General Technical Specifications"
- Republic of Turkey General Directorate of Highways "Highways Technical Specifications"
- Union of Chambers of Turkish Engineers and Architects, Chamber of Landscape Architects Publication; Technical Specifications for Landscape Works

4.1. PARTICULAR TECHNICAL SPECIFICATIONS FOR CIVIL/STRUCTURAL WORKS

4.1.1. EARTHWORKS

General

This specification consists of; excavation for all structures, described in the excavation plans; backfill, compaction of backfill and transportation of excavated material under conditions written in this document and according to the drawings or with the directives of the Engineer.

All excavation, fill and soil bent works must comply with directions figured out in the drawings, slopes and elevations or the Engineer's directives shall be followed.

In case the amount of excavation exceeds the amount calculated from the Engineer approved excavation plan, the contractor is responsible fiscally. Addition to this the extra amount of excavation shall be filled according to the requirements with compacted soil, crushed stone or concrete with the directives of the Engineer, by the contractor without any additional payment.

Before starting the earthworks, contractor must study the layout plan, elevation plan, and topographic map of the area which is given by the Employer and complete all the controls. The contractor must prepare the excavation plans, sections, and calculations to be checked and investigated by the Engineer for all structures.

The contractor shall clean the area and the ground surface, trees and roots, before starting the earthworks. Cleaning includes all the organic wastes and other rubble to be removed out from the site. The brushwood and other plants to be removed from site area shall be cut at the ground level or below. This process shall be done by the Engineer's directives and the plants shall be cut carefully. The removal process includes trees having a diameter greater than 7.5 cm and the ones which have roots that tied to each other forming a wire shape. All the refuses, the organic and non-organic wastes shall be removed from the site by the Contractor.

Definitions

Appropriate materials are classified in TS 1500 as GW, GP, SW, GM, SP, SM, and SC

GW : Well graded gravels, sandy gravels with little or no fines.

GP : Poorly graded gravels, sandy gravels with little or no fines.

SW : Well graded sands, gravely sands with little or no fines.

GM : Silty gravels, silty sandy gravels

SP : Poorly graded sands, gravely sands with little or no fines.

SM : Silty sands

SC : Clayey sands

Inappropriate materials are classified in TS 1500 as PT, OH, ML and OL. If the materials listed in the above statement are encountered during excavation the Contractor has the responsibility to remove these materials.

PT : Peat and other highly soils.

OH : Organic clays of high plasticity

ML : Inorganic silts, silty or clayey fine sands with slight plasticity.

OL : Organic Silts and organic silty clays of low plasticity

Cohesionless materials are listed in TS 1500 as GW, GP, SW, and SP. Cohesive materials are listed as GC, SC, ML, and CH. The materials classified as GM and SM can only be defined as cohesionless materials in case their fine content contains no plasticity.

Compaction degree; required Modified Proctor Test compaction degree is expressed as the percentage of max dry density. (TS 1900)

Confined ground water table; is the permanent or temporary water table existing over the ground water table, isolated by an impermeable soil layer.

Accumulated water; the accumulated water exists between the foundation walls and compacted stabilized fill and can be seen in a suspended form in the relatively less permeable fine graded soil.

Materials

The selected fill material shall be used around the foundations under structures, excluding structural foundations. The above selected material must not contain roots or similar organic materials, waste, and rubble greater than 7.5 cm. It must be compactable. Contents of this material have gradation passing percentage %10 from sieve no 200 (0.075mm).

The capilar water barrier shall be constructed under the foundation slabs and shall be formed of crushed stone or natural gravel. Maximum size of the particle must not be greater than 4 cm and the total weight of passing percentage from sieve #4. shall not be greater than %2.

If there are local weak areas and voids under the foundations, with the order of the Engineer, these areas shall be filled with 200 dosage lean concrete or compacted stabilized fill material.

Excavation

The Contractor is required to expose the base of the excavation for foundations and to arrange for the Engineer to inspect it prior to covering it, with the first blinding layer of concrete. If the ground is not found to be satisfactory for the proper support of the foundation without unacceptable settlement, then the Engineer will instruct the Contractor to excavate down to a firmer strata and backfill with mass concrete or take other measures that are necessary to ensure an adequate foundation for the structure.

Areas outside of each building/structure shall be sloped to drain away from the building/structure, and shall be maintained free of trash and debris until provisional approval has been completed and the work has been accepted. In addition, the topsoil which is adversely affected and compacted due to the activities of construction equipment or which is contaminated by cement, lime, etc. shall be ploughed, cleaned and graded. The stockpiled topsoil shall be evenly spread over the ploughed, cleaned and graded surface.

If, at the bottom of the excavations, any pockets of soft material or loose stones or fissures are found, these shall be removed by hand and cavities will be filled in with suitable material.

Starting Foundation Excavation

Contractor shall make application of structures and check the correctness of the process.

Following the approval of the excavation plan by the Engineer, according to the excavation plan, first the top soil part shall be removed and stored in place within the site. Then those stored material shall be used for landscape purposes by the contractor. The foundation excavation shall be made according to the directives of the Engineer and related drawings with the earthwork and as in the specifications.

Methodology of Opening Foundations

Earthwork shall comply with the defined dimensions and elevations for the structure. The excavation area shall have the adequate distance from the walls and foundation piers that allows to establishment of the services and control, locate the establishment of forms and remove them. The only exception of this condition is the allowance of lean concrete and gravel-sand fill material casted directly, adjacent to the excavation surfaces. There shall not be any excavation under the defined levels. If the excavations made without the Engineer's instructions, the additional cost shall not be reflected to the Employer and the selected fill material shall be used for the compaction again and shall be filled. Areas outside of each building shall be sloped to drain away from the building and shall be maintained free of trash and debris until the work has been accepted. In addition, the topsoil which is adversely affected and compacted due to the activities of construction equipment or which is contaminated by cement, lime, etc. shall be ploughed, cleaned and graded.

The excavation slopes shall be protected against slope failures (i.e. with plastic sheets during the rainy periods) according to the instructions of the Engineer.

Appropriate Excavation Material

The appropriate excavated material shall be stored and used in the backfill in the project. If the amount of appropriate excavated material is greater than amount of backfill, the contractor shall transport this excessiveness

without bringing any additional cost to the Employer. In case there is an over excavation, the excavated fill material shall be taken away from site like other inappropriate materials in a same manner.

Last Leveling of Ground and protection of Base for Concrete

It is only allowed for a large size scale of excavation for foundations up to 20-30 cm over the designated base elevations. The last 20-30 cm of natural ground elevation shall be excavated under the control of the Engineer and care shall be taken to ground soil not to be disturbed. The surface of soil must be protected from getting wet and drying. Compacted and non-compacted surfaces under the foundation piers are subject to approval before concrete is casted. When the required level of elevation for foundation of structures is reached, 15 cm of lean concrete shall coat the level under the foundation base and overflows 15 cm from both sides, immediately.

Preparation of Foundation Soil

The last leveling operation is made and if required, soft parts of soil is excavated and filled with an appropriate material and prepared.

The elevation difference between two points on the foundation soil must not exceed 1.5 cm and this shall be controlled by a gauge rod of 5m length. Addition to these restrictions, the foundation elevation changes' must be in an interval of ± 2 cm tolerance according to the drawings.

The base of excavation area must be leveled in the above-mentioned statement. The locations that have an elevation difference greater than 2 cm shall be excavated and filled as mentioned in the related paragraphs. All these works shall be a part of the Contractor's responsibility without any additional cost impact.

The Engineer must be informed for checking the works done, and to approve them. If necessary for recording data, before the final excavation elevations are reached and starting of next process. Besides, Engineer has the authority to control the works done.

Removal of Soft Parts

Although the processes are followed there may be still soft parts or cracks found in the excavation base. These shall be excavated by hand and shall be filled with appropriate material by the Contractor.

Removal of Soft Parts under The Foundations:

To remove the soft parts under the foundations, 150 kg/m³ of lean concrete or compacted stabilized fill material shall be used as an appropriate material. The Engineer must approve the selected material. The concrete fill preparation, casting, compaction, curing and testing shall be made regarding the concrete specification and Engineers instructions.

Removal of Soft Parts under Non-Structural Sections:

The selected fill material shall be used as an appropriate fill material for the excavated soft parts under non-structural sections. The arrangement, location, compaction and testing procedure shall be done as described below.

Fill and Compaction:

Fill material shall be laid in the form of horizontal layers and the thickness of the material laid shall not exceed 20 cm in the loose state. Then it shall be compacted. Fill material shall not be laid in muddy surfaces in any conditions. The fill shall be straight and compacted in a stabilized way to avoid the formation of eccentric loading and shear forces in the places adjacent to structures. The sloped surfaces consist of barriers and terraces shall be constructed to prevent sliding of fill materials. During the process of backfill and construction of barriers, machines that may exert additional loads to structures shall not be used for compaction.

In accordance with the Engineer's approval, compaction operation shall be done with vibrated cylinders, cylinders with steel wheels or other machines certified for that type of operation. If required, material shall be moisturized to obtain desired compaction degree and also ventilated. All layers shall be compacted to a degree of not less than a maximum density ratio percentage as tabulated below:

Compacted Layer	Dry density ratio %	
	According to Modified Proctor Test	
	Cohesive Materials	Cohesionless Materials
Fills and backfills under the	90	95

structures, slabs of the buildings

Fills under walkways and open areas	85	90
Under building sidewalks	90	95
For top 30 cm		

Rearrangement of Foundation Excavation Bases

The approved foundation bases may be damaged due to the weather conditions, because of a contractor's interference or any unexpected situation. In this case before starting the construction, soil shall be controlled without any cost impact to the Employer. Underground installation compaction shall be made by hand.

Tests

There shall be no payment for sampling, testing and reporting the test results to contractor.

The laboratory tests concerning moisture density relationships shall be made according to the procedure regarding the compaction of fills mentioned in the above statements.

Preparing samples in accordance with the laboratory tests does not include any additional payment to contractor. Field tests are also carried out in accordance with TS1900 to check whether the compaction conditions are verified the tests made by contractor must be in an Engineer certified laboratory. The copy of test results following 24 hours after the tests were made shall be given to Engineer.

The fill and backfill not compacted as defined shall be excavated to the depth that Engineer decides and the degree of density conditions shall be provided with no additional cost to administration. These re-compacted locations are going to be checked whether the conditions are satisfied by the tests. Also these tests shall be out of payment procedure. The test type and frequency intervals are listed in the below table:

TEST FREQUENCY AND TYPE OF THE TEST

Test Type	Frequency
Field Moisture	1 test for each layer of material laid
Classification Gradation and Atterberg Limits	1 density test for each fill and once for compaction test
Field Moisture and Density (sand cone and water balloon method)	Once for each layer of material laid
TS 1900 Modified Proctor Test	if the material is homogenous, for each 200 m2 once (1) (Check the used material types) Density / Moisture

Support

There shall be no additional payment to contractor for support work items.

If required, protection by supports is an obligation for; safety of workers, adjacent fills and structures, installations, etc Support walls, plates and supports shall be dismantled without causing any collapse of soil in the working area.

The contractor shall be responsible for all type of accidents and damages to workers and structures, respectively that may be happened because of a collapse near the excavation area or any other reason that may cause collapsing of the soil. These types of damages must be prevented by providing adequate slopes along the surfaces of excavation or the sides of the excavation area must be supported by the contractor. Support procedure shall be done by taking care of soil's state of nature.

The method for strengthening the sides of the excavation area must be approved by the Engineer. But this approval does not abrogate the contractor's responsibility. If Engineer desires the supports remain unchanged in

their places for safety reasons at the stage of re-filling after foundation excavation or piping works, contractor shall not have any rights to request a payment for that application.

The re-arrangements or any changes in the support system made by the contractor or the Engineer's directives shall not have any cost impact to the Employer.

Dewatering

There shall be no additional payment for dewatering because these works are included in excavation item.

The excavation works shall be carried on with effective and continuous drainage. There shall not be any permission of water accumulation in the site for any reason. Until concrete and filling works are being completed water accumulated in the foundation or installation holes and surface run-offs shall be drained temporarily by pumping, drainage or other certified methods.

Drainage and dewatering in earthworks shall be carried out by the Contractor as part of the Contract. Excavations shall be performed so that the area of the site and the area immediately surrounding the site, which may affect operations at the site, will be continually and effectively drained. Water shall not be permitted to accumulate in the excavation.

Foundations for structures and utility trenches shall be kept free from standing and surface water at all times by pumping, draining or other approved methods until concreting and backfilling operations are completed. Where pumping is used, a back-up excavation, site drainage and sub grade protection plan shall be approved by the Supervisor prior to initiating construction. The plan shall include proposed measures to keep concrete curing water out of backfill and sub grade areas.

Removing Excavation Material

The excess of excavation material which the Engineer judged to transport from the site area shall be carried to an adequate area that is decided by the contractor, Engineer and local administration together. The permission for transporting materials from site to the selected area is under the contractor's responsibility. After all the excavation is completed all temporary storage and stack areas must be cleaned, drainage slopes are set, and the site is remained in a good view according to the local administration rules.

Transportation and unloading procedures shall be done without giving any disturbance to environment. The trucks shall be prepared covered to prevent rubble pouring, according to the traffic rules.

It may be not convenient to transport some of the trees in the site. In this case these shall be stacked in a suitable place that the Engineer shows.

Exported Compacted Stabilized Fill

Compacted stabilized fill is used between foundations. Fill material shall be in the form as defined in the capillary water paragraph or in the re-arrangement of bases and loading paragraph.

Borrow materials for the use of compacted stabilized fill requirements shall be selected whether the capillary barrier exists. Borrow material shall be obtained outside from the site from a specific location chosen by contractor and shall be approved by the Engineer. Obtaining compact stabilized fill material, transportation and similar costs are included in the related items.

Sieve Analysis of compacted stabilized fill:

Grain Size	Passing the Sieve (% Percentage)
75 mm	100
35.5 mm	85-100
10 mm	40-70
5 mm	25-45
600 micron	8-22
75 micron	0-5

Backfill

Backfill process shall not begin before; the approval of construction under the final level, control of underground installation systems and their testing, removing form, cleaning the area from wastes and rubbles.

The above-mentioned construction under the final leveling includes water insulation over the faces of exterior basement walls, protection walls but not limited with these.

Fill shall not be placed over the wetted surfaces of soil. Fill material shall be placed and compacted as described in the related paragraphs.

Laying fill materials and compaction shall not be applied with the heavy work machines to foundations and retaining walls at a distance smaller than the height between the foundation system structure and fill level. The compaction work between these distances shall be made with appropriate hand compactors of layers having a compacted thickness of not greater than 20 cm. Fill material shall be placed carefully without giving any harm to covers around pipes. To place the fill material around walls, 7 days must be passed over the construction time. Backfill shall be placed around the walls at equal amounts and level shall be raised up. Also, for the drainage of water, slope shall be given to the surfaces in an applicable ratio. Care must be taken to the locations under the building entrance, slabs and sidewalks. Compaction tests shall be made according to the tests paragraph.

Rock Excavation

If rock is encountered during excavation, no additional payment shall be done. In rock excavations appropriate machines shall be used but explosives are not permitted.

Protection of Existing Service Lines and Structures

Contractor is responsible from protection of existing service lines and structures against damaging. In case of any damage occurrence its rehabilitation is also under Contractor's guarantee.

Levelling

The areas outside the buildings/structures shall be leveled according to project parameters and drainage shall be maintained. Finally, after the last control the area shall be kept clean.

Addition to these, the upper soil layer may be compacted and dirtied by lime or cement because of the working machines. Then it must be cleaned and ventilated.

The stored vegetable soil shall be placed into the ventilated, cleaned and leveled layers.

Transportation of Earthworks

No additional or directly payment for transportation shall be made in any part of the work.

4.1.2. CONCRETE WORKS

Concrete

Concrete Works as specified hereunder shall include the supply of materials, mixing of concrete, formwork, reinforcement, placing, compaction and curing of concrete and site clearance after completion of works. In general, TS 1247 or DIN 1045 shall be respected when mixing, placing and curing concrete.

The prices entered in the price proposal shall fully include the value of works described shall cover the cost of all labour, subsidence, traveling, materials, admixtures, temporary works, yards and stockpiles, sampling and testing and any other expenses whatsoever together with all risks, liabilities and obligations set forth or implied in the Contract Documents.

Record of Concreting

The Contractor shall keep accurate and up to date records of concreting showing for each day when sections of the works were concreted:

- Date, time, weather and temperature;
- Results of all concrete tests including identification for which part of works the sampled material is representative;
- Class of concrete, volume of concrete placed and number of batches used for each location.

The laboratory where concrete test have to be carried out shall be approved by the Engineer and be accessible for him at any time.

Organization of Concrete Production at the Site

At the commencement of the Contract the Contractor shall submit for the approval of the Engineer a Method Statement detailing his proposals for the organization of concreting activities at the site. The concrete to be used for Works should be ready-mixed.

The Method Statement shall include the following items:

- Plant proposed including plant capacity and capability to continuous supply of concrete.
- Quality control procedures for concreting by the contractor.

- Transport and placing of concrete.
- Details of formwork including striking/removing times and procedure for temporary support of beams and slabs.
- Protection and curing.

Ready Mixed Concrete

Concrete obtained from a supplier of ready-mixed concrete may be used in the Works subject to the written approval of the Engineer. Such approval shall not be given until the Engineer is satisfied that the organization and control of the manufacture and delivery of all ready-mixed concrete is satisfactory. Ready mixed concrete shall comply with TS 206-1.

Placing and Compaction of Concrete

Preparatory Work:

The Engineer's approval in writing shall always be obtained before any concrete is placed in the Works. All constructional plant and materials required, or which may be required during the concreting work and for curing shall be on site and the Contractor shall be fully prepared for the work. The Engineer's approval to place concrete shall only be given after such preparations and other relevant requirements of the Technical Specifications have been carried out and complied with.

If necessary and/or directed by the Engineer, the Contractor shall cool any shuttering that has become overheated or exceptionally dry through prolonged exposure to the sun. The Contractor shall ensure that all shuttering retains a sufficient amount of humidity and has not become shrunk or warped. All soaking or spraying of shuttering shall be done with potable water.

When concreting in hot weather the requirements set out under the heading "Concreting in Hot Weather" shall be complied with. The Engineer may completely forbid the placing of concrete in any shuttering, which he believes has become too and/or dry and the condition of which could harm the quality and strength of concrete. No extra payment for cooling or soaking of shuttering shall be made. Pursuant to Section 2.3.6 all shuttering, area of deposition, reinforcement and exposed surfaces of adjoining concrete surface shall be thoroughly cleaned and free from dust, debris, oil any other substance that may be harmful to fresh concrete.

Depositing in Work:

The methods of conveying and depositing concrete shall be such as to prevent segregation of the materials and shall be approved by the Engineer before concreting begins. The placing and compaction of concrete shall be carried out under the direct supervision of a competent member of the Contractor's staff.

Concrete shall be placed directly in the Works as soon as possible without the need for re-handling and not more than 45 minutes after mixing and in any case, before the initial setting has taken place. If any delay has occurred after mixing and the concrete has begun to set, it shall not be used in the Works and shall be removed from the site. Unless otherwise agreed by the Engineer on the basis of satisfactory site trials concrete shall not be dropped into place from a height exceeding 1,5 meters.

Concreting of any section or unit shall be carried out in one continuous operation up to the construction joints. No interruption of the concreting shall be allowed without the approval of the Engineer. Where deposition of concrete has to be interrupted, precautions shall be taken to ensure satisfactory adhesion of later batches of concrete to that previously placed.

Where delays of more than one hour has occurred between concreting operations in one section or unit of work, concreting shall only be resumed when, in the opinion of the Engineer, the previously placed concrete has had ample time to harden and the resulting joint shall be treated as a Construction Joint within the meaning and description of Section 2.4.9. At all times when concrete is being placed, a competent steel fixer shall be in continuous attendance to adjust and correct the position of any reinforcement, which may become displaced.

Transportation of concrete directly over fixed reinforcement steel during concreting shall not be allowed unless proper provisions are made to avoid displacing or damage to the reinforcement.

Pouring in Layers:

Concrete shall be poured in approved quantities and horizontal layers of such depth as to permit thorough incorporation with the layers below by vibration, spading, ramming and working. If, for unforeseen reasons, it is necessary to stop concreting before completion of a section, then construction joints as specified shall be formed and further concreting shall be suspended for at least 24 hours.

Concreting in Hot Weather:

The Contractor's attention is drawn to TS 1248 or ACI 305 entitled "Hot Weather Concreting". The Contractor's methods shall comply with the recommendations in that document as modified and supplemented below.

The Contractor shall take great care during hot weather to prevent the cracking or crazing of concrete. The

Contractor shall arrange for concrete to be placed in the early morning or late evening as directed by the Engineer.

The Contractor shall pay particular attention to the requirements specified herein for curing. Formwork shall be shaded from direct exposure to the sun both prior to placing of the concrete and during its settings. The Contractor shall take appropriate measures to ensure that reinforcement in the section to be concreted is maintained at the lowest temperature practicable.

Concrete at placing shall have a temperature of not more than 32°C. If necessary the Contractor shall cool the aggregates and mixing water by methods approved by the Engineer.

Where necessary the Contractor shall design, install and operate a cooling system by which cooling water is pumped through a piping system in order to decrease the heat of hydration during concreting. The proposal for such a cooling system shall be submitted to the Engineer for his approval well in advance of the concreting operations.

The temperatures of ambient air, concrete at various levels and intervals not exceeding 5 meters and cooling water where applicable shall be measured by means of thermocouples and recorded.

Concreting in Cold Weather:

Cold weather is defined as the situation existing at the Works, where either or both of the following conditions existing:

- The air temperature at the time considered is below 2°C;
- The mean daily air temperature over three or more successive days has dropped below 5°C.

Under no circumstances may concrete be placed in contact with frozen ground or formwork, or in contact with ice, snow or frost on the ground or on formwork or reinforcement. Concrete shall not be made with frozen materials.

Concreting may proceed in cold weather provided special precautions are taken to ensure that the surface temperature of the concrete at the time of placing is not less than 5°C for a succeeding period of at least:

4 days when the cement used in the concrete is ordinary Portland cement;

2 days when the cement used in the concrete is rapid hardening Portland cement.

Such precautions may include the following:

- Warming the aggregates and heating the water, provided that the temperature of either does not exceed 60°C. Water and aggregates shall be mixed for a period sufficiently long for them to acquire a uniform temperature before cement is added.
- Completely surrounding the freshly placed concrete with a cover and heating the enclosed air, which shall be kept moist. Draughts of hot or dry air shall not be directed at surfaces.
- Insulating the formwork and finished concrete surfaces.
- Providing screens to protect the concrete from air currents.

The Contractor shall provide the Engineer with details of the precautions he proposes to take to protect the concrete from the effects of low temperatures and with details of the methods he proposes to use assess the correct timing at which such protection may be removed. No concreting shall be done in cold weather prior to the approval of the Engineer for the proposed measures.

Concreting in Unfavorable Weather:

Concreting shall not be permitted during heavy rain or snowfall, or when the air temperature falls below 2°C, or when the concrete temperature rises above 32°C. When the air temperature exceeds 25°C, concreting shall only be permitted after special precautions, approved by the Engineer, have been taken to prevent early setting of the concrete, such as lowering the temperature of the water to be used in the mix or by means of a cooling-system, keeping the aggregates and shutters continuously sprayed with water and erection of temporary sun shades over the working area. During concreting operations the temperature of the placed concrete shall be recorded.

Compaction of Concrete:

The Contractor shall regard the compacting of the concrete to be of fundamental importance for the objects which he shall produce. A watertight concrete of maximum density and strength must be obtained.

Concrete shall be thoroughly compacted during the operation of placing and shall be thoroughly worked around the reinforcement and embedded fixtures and into corners of the formwork and moulds.

Mechanical vibrators shall be of the immersion type with a frequency of not less than 8000 vibrations per minute and as approved by the Engineer. A sufficient number of vibrators shall be used to handle the maximum rate of concrete production with a 50% allowance for stand-by units during any period of concreting. All operators handling vibrators shall be trained in their operation.

Vibrators shall be inserted into the not compacted concrete vertically and at regular intervals. Where the not compacted concrete is in a layer above freshly compacted concrete the vibrator shall be allowed to penetrate

vertically for about 100 mm into the previous layer. Vibrators shall be withdrawn slowly from the mass of concrete so as to leave no voids. Internal type vibrators shall not be placed in the concrete in a random or haphazard manner nor shall concrete be moved from one part of the work to another by means of the vibrators. Vibration shall not be applied directly or through the reinforcement to sections or layers of concrete which have hardened to the degree that the concrete flow in the formwork over distances so great as to cause segregation.

Every care shall be taken to see that reinforcement and fittings attached to the shuttering are not disturbed, and that no damage is caused to concrete that has already set or to the internal face of the shuttering by using immersion type vibrators. In areas of congested reinforcement, it may be necessary to use small diameter pokers and the Contractor shall supply suitable sizes of pokers for each part of the work. Vibration of concrete by hammering the shuttering with hand tools is not permitted.

When placing concrete against horizontal or inclined elements of waterstops they shall be lifted and the concrete placed and compacted to a level slightly higher than the underside of the waterstop before releasing the waterstop to ensure complete compaction of the concrete around the waterstop.

The duration of vibration shall be limited to that required to produce satisfactory compaction without causing segregation. Vibration shall not be continued after water or excess grout has appeared on the surface.

Concrete shall not be disturbed after compaction and placing in its final position. Concrete that has partially set before final placing shall not be used and shall be removed from the site.

Placing Concrete on Previously Executed Work:

Where concrete is to be poured against or on top of previously executed work, the surface of the old concrete shall be thoroughly wire brushed, hacked and cleaned with water and air under pressure to expose the surface of the aggregate and to remove all laitance. Special care shall be taken to ensure that the new concrete is thoroughly compacted and rammed against the old.

Protection and Curing of Concrete:

Water used for curing shall comply with TS 1247 and TS 1248. Concrete shall be protected from damage by climatic conditions (direct sunlight, rain, snow or frost), running water or mechanical damage during curing. All methods to be used for curing and protection of freshly placed concrete shall be subject to the prior approval of the Engineer.

The maximum and minimum ambient temperatures and humidity shall be measured and recorded each day by the Contractor. The records shall be made available for the Engineer's inspection.

All exposed surfaces shall as finishing proceed be covered with a wet hessian sheet followed by a reflective polythene sheet. These shall be securely fastened around the edges and supported in order not to damage the finished concrete surface. As soon as practicable the hessian and polythene shall be lowered into close contact with the concrete and securely weighted or fastened down to prevent wind blowing underneath. The hessian sheet shall be maintained in a moist condition at all times and shall be inspected at intervals not exceeding 6 hours. Concrete shall be kept moist on exposed surfaces for a period of not less than 72 hours or as approved by the Engineer.

Alternative methods of protecting and curing concrete, such as ponding in which the water is to be maintained at least 50mm deep, may be approved by the Engineer. In any case liquid curing membranes shall not be used on exposed surfaces or where laitance is to be removed and aggregate exposed to provide satisfactory bond for placing further concrete or mortar screeds. Liquid curing membranes shall not be used where mortar, resin mortar, or joint sealant is to be applied.

Sufficient methods to afford full protection to a concrete pour shall be available at the place of work prior to the commencement of concreting.

During very hot weather conditions, the Contractor may be required to cool formwork containing concrete by spraying with water. This shall be carried out where directed notwithstanding and whatever other measures the Contractor may have employed for the curing of the concrete. All materials spray equipment and an ample supply of water for curing shall be ready on site before any concreting starts.

Faulty Work:

Any portion of the work which is honeycombed or otherwise inferior shall on the written instruction of the Engineer, be immediately cut out and reconstructed in an approved manner without extra charge. Plastering of defective work shall not be permitted. Any leaks or cracks shall be sealed by injection with a synthetic resin or other appropriate methods approved by the Engineer.

Blinding Concrete (Sub-base):

A blinding layer of minimum 150 mm lean concrete shall be placed under foundations where shown on the Drawings or ordered by the Engineer. The blinding layer shall be allowed to harden before the structural concrete for the ground slab is placed.

Blinding of trimmed surfaces in excavations and trenches includes placing, compaction and screening of surfaces as specified in the Technical Specifications.

Blinding shall be measured net by square meters, referring to minimum trench width as specified for earth works and to the size of structures as shown on approved Drawings.

Loads on Concrete Structures:

No external load of any kind shall be applied to any part of a concrete structure until the concrete has matured for at least 7 days and then only with the approval of the Engineer and after confirmation those 7 days specimen strengths as agreed by the Engineer have been met.

Field Concrete

Joint Sealants and Fillers

The Contractor shall provide Class 5 or Class 8 joint-sealant materials and fillers unless otherwise shown on the plans or approved and other sealant materials of the size, shape, and type shown on the plans in accordance with DMS-6310 (or equivalent), "Joint Sealants and Fillers.

Sawing Equipment

The Contractor shall provide power-driven concrete saws to saw the joints shown on the plans. Provide standby power-driven concrete saws during concrete sawing operations. Provide adequate illumination for nighttime sawing.

Grinding Equipment

When required, provide self-propelled powered grinding equipment that is specifically designed to smooth and texture concrete pavement using circular diamond blades. Provide equipment with automatic grade control capable of grinding at least a 90 cm width longitudinally in each pass without damaging the concrete.

Joints

The Contractor shall

- install joints as shown on the plans,
- clean and seal joints,
- repair excessive spalling of the joint saw groove using an approved method before installing the sealant
- seal all joints before opening the pavement to all traffic,
- When placing of concrete is stopped, install a rigid transverse bulkhead, accurately notched for the reinforcing steel and shaped accurately to the cross-section of the pavement

Placing and Removing Forms

The Contractor shall

- Use clean and oiled forms.
- Secure forms on a base or firm subgrade that is accurately graded and that provides stable support without deflection and movement by form riding equipment.
- Pin every form at least at the middle and near each end.
- Tightly join and key form sections together to prevent relative displacement

Spreading and Finishing

The Contractor shall

- Finish all concrete pavement with approved self-propelled equipment.
- Use power-driven spreaders, power-driven vibrators, power-driven strike-off, and screed, or approved alternate equipment.
- Use the transverse finishing equipment to compact and strike off the concrete to the required section and grade without surface voids. Use float equipment for final finishing.
- Use concrete with a consistency that allows completion of all finishing operations without addition of water to the surface.
- Use the minimal amount of water fog mist necessary to maintain a moist surface.
- Reduce fogging if float or straightedge operations result in excess slurry.

4.1.3. SHUTTERING AND CONCRETE FINISHES

General

Shuttering shall include all temporary moulds for forming the concrete together with all temporary constructions required to support such moulds.

Shuttering shall be of suitable design and adequate construction to carry the loads without excessive bulging, distortion or deflection. Shuttering shall be constructed so as to prevent loss of water or grout from the concrete. Special attention shall be measured to shuttering where poker or shutter vibrators are used to compact the

concrete.

Materials for Shuttering

Shuttering shall be made from good quality plywood, free from loose knots, shakes and warped surfaces. Plywood for shuttering shall not be less than 17,5 mm in thickness, and the plywood shall be resistant to deterioration by water, and shall be fixed and jointed in such a manner as to give a perfectly smooth and even finish to the concrete. Alternatively, with the approval of the Engineer, shuttering may be made from:

- metal with accurately aligned and close-fitting joints
- plywood or hardboard 5 mm in thickness supported by close boarded timber

Fixing of Shuttering

Shuttering shall be fixed to perfect line and level and be truly plane with no crevices at joints, and shall be securely braced, supported and wedged so as to retain its position without displacement or deflection during the placing and compaction of the concrete. All joints shall be either horizontal or vertical.

Coating to Prevent Adhesion

All shuttering in contact with concrete shall be treated with an approved mould oil or solution before usage to prevent the adhesion of the concrete. Such oil or solution shall be carefully applied in such a manner that there is no contamination of the reinforcement or previously placed concrete by the oil or solution. Any materials which shall adhere to or discolor the concrete shall not be used.

Cleaning and Re-Using of Shuttering

Before any concrete is placed, the shutters shall be properly cleaned and washed out with water and air under pressure to remove sawdust, shavings and all other foreign matter. All water shall then be drained and mopped out from the shutter.

In no case shall concrete be placed in shuttering before the shuttering has been approved by the Engineer. If shutters or moulds are to be re-used, all surfaces shall be cleaned and shall be completely free from remnants of concrete or mortar. If in the opinion of the Engineer, shutters or moulds are not acceptable for reuse, they shall be either properly repaired or substituted with new shutters or moulds which shall comply with the requirements of Section 2.5.3.

Removal of Shutters

Formwork shall be designed as to permit easy removal without resorting hammering or levering against the surface.

The period of time elapsing between the placing of the concrete and the striking of the formwork shall be as approved by the Engineer and shall be in any case not less than the period stated in TS 500 or DIN 1045. If not otherwise directed, the striking times for side formwork for slabs shall be 3 days.

At all times the Contractor shall delay the removal of the shutter if in the opinion of the Engineer the concrete contained therein has not attained sufficient hardness.

In cases of average temperatures being below 4°C, the period of removal shall be extended by the number of days the temperature has been lower than 4°C. The periods given in days are days of 24 hours duration.

Alternatively, the removal of shutters shall be determined by the demanded compressive strength of the concrete.

Finish to Concrete Surfaces

All surfaces shall be free from cracks, sand runs, honeycombing, porosity and grout/matrix loss.

Dimension and Surfaces of In-Situ Concrete

Workmanship in formwork and concreting shall be such that concrete shall normally require no making good, surfaces being perfectly compacted, smooth and with no irregularities. Concrete surfaces for the various finishes shall in any event never exceed the maximum permitted tolerances stated below:

- Line and level: ± 12 mm
- Dimension: ± 12

Remedial Treatment of Concrete Surfaces

Any remedial treatment to concrete surfaces shall be agreed with the Engineer following inspection immediately after the stripping of formwork and shall be carried out without delay.

Any concrete surface which is found to have been treated before inspection by the Engineer shall be rejected.

Any minor surface blemishes shall be repaired to the satisfaction of the Engineer immediately after completion of curing. Remedial measures may include, but shall not be limited to, the following:

- Holes left for formwork supports shall be thoroughly cleaned out to remove all loose material and the

sides shall be roughened, if necessary, to ensure a satisfactory bond. They shall then be filled with dry-pack mortar.

- Fins, pinhole bubbles, surface discoloration and minor defects may be rubbed down with sacking and cement immediately the formwork is removed.
- Abrupt and gradual irregularities may be rubbed down with carborundum and water after the concrete has been fully cured, where curing shall be applied in accordance with principles stipulated in the "Protection and Curing of Concrete" section
- Small defects and minor honeycombing shall be chipped out perpendicular to the face of the concrete to a depth of at least 25 mm and filled with dry-pack mortar.
- Fissures shall be repaired by using epoxy based materials or by using materials approved by the Engineer.

All other defects shall be regarded as too extensive to permit satisfactory repair and the concrete containing the defect shall be broken out and replaced.

4.1.4. STEEL REINFORCEMENT

Types, Quality and Storage

Steel reinforcement for concrete shall consist of steel bars or steel wire fabric. Steel bars shall consist of deformed bars of type ST III (S420a (with a characteristic tensile strength of 420 MPa)) as specified in TS 500 and TS 706 EN 12620 or DIN 488 T1 and DIN 488 T2. Steel wire fabric reinforcement shall be in accordance with TS 4559 or DIN 488 T4.

The Contractor shall submit reinforcement detail Drawings and calculations for approval of Engineer, if deemed necessary by the Engineer.

The Contractor shall prepare test specimens of steel reinforcement to be used in the Works. Test specimens shall be taken in the presence of the Engineer and shall be of a size sufficient to carry out the tests as described below. They shall be tested in an approved laboratory and the certified copies of the results of the tests shall be submitted to the Engineer. The specimens shall be tested for bending and tensile properties and the wire fabric also for weld shear strength. The methods and requirements for testing shall be carried out in accordance with TS 4559 and TS 802 or DIN 488 T3, 488 T5 and 488 T6. No steel reinforcement shall be used in the Works until the testing results have been approved by the Engineer. If ordered by the Engineer, test procedures shall be repeated at the Contractor's expense for any new supply of reinforcement during the course of the Works.

Storage of reinforcement shall be on racks or supports clear of the ground. Different types and sizes of reinforcement shall be kept separate.

The Contractor shall execute the reinforcement fixing in accordance with the Drawings and/or according to the requirements specified in TS 500 and DIN 1045.

Protection and Cleaning

Reinforcement shall be protected at all times from damage, and when placed in the structure shall be free from dirt, loose mill scale, rust scale, paint, oil or other foreign substance. All reinforcing steel shall be carefully cleaned of all set or partially set concrete, shutter oil or paint which may have been deposited during the construction of adjacent works.

Bending of Bars

Steel reinforcement shall be cut from straight bars free from kinks and bends or other damage and shall be bent cold by experienced competent workmen. Bars of diameter greater than 16 mm shall be bent in a bending machine designed for the purpose and approved by the Engineer. Any reinforcing bar that has already been bent shall not be re-bent at the place of the previous bend.

Cutting of Wire Fabrics

Wire fabric reinforcement shall be cut straight from the sheets. The use of off-cuts shall not be permitted.

Lapping of Bars and Wire Fabrics

Lapping bars and wire fabrics is permitted when necessary and approved by the Engineer. No welding of reinforcement shall be carried out unless authorized by the Engineer, welding and testing for reinforcement shall comply with the requirements specified in TS 500 or DIN 4099 T1.

Unless otherwise specified, lap length of bars shall be at least forty (40) times the diameter of the larger bar, and laps shall be positioned in a staggered pattern.

Laps on adjacent section of wire fabrics shall generally be carried out as follows:

- End to end by lapping the two pieces one full mesh (measured from the ends of the longitudinal wires)

in the other piece) and securing the two pieces together with wire ties placed at intervals of about 450 mm.

- Side by side by placing the two selva wires (the longitudinal wires at the edges of the fabric) one alongside and lapping the other, and by securing the two pieces together with wire ties placed at intervals of about 900 mm.

Fixing of Reinforcement

All reinforcement steel shall be accurately placed and fixed in position and retained in that position during the placing of the concrete.

Spacer blocks for holding the reinforcement from contact with the forms or adjacent reinforcement, shall be of dense pre-cast concrete blocks of approved shapes and dimensions. The blocks shall be fitted with a semi-circular hollowing and double bent poured-in binding wires. The water tightness of these blocks must be at least similar to the concrete into which they are concreted. The use of pebbles, pieces of broken stone or brick or other materials shall not be permitted. Steel shall be bound and tied in its correct position using steel wire. Apart from any other requirement, the reinforcement, the reinforcing steel shall be fixed in such a manner that it shall support its own weight and any loads which may be imposed upon it during construction without displacement, deflection, or movement of any kind.

In slabs provided with two or more layers of reinforcement the parallel layers of steel bars shall be supported in position by the use of steel chairs. Spacer blocks shall be placed at each chair to support the layers of reinforcement from the blinding concrete or shuttering.

The distance between any two parallel bars except at laps shall not be less than 5 mm greater than the nominal aggregate size.

All reinforcement exposed to the weather for long periods before concreting is commenced shall be covered with polythene blinding tape, cement grout or other materials to the surrounding concrete. Should in spite of these precautions rust staining occurs on any permanently visible surfaces, it shall be removed at once to the satisfaction of the Engineer.

Thickness of Cover

The thickness of cover for the reinforced concrete ground slab shall be 50 mm. For the beams and columns it shall be 25mm. For external works, water retaining structures and casting of concrete in/under water, it shall be 75 mm.

Tolerances

Tolerances in placing reinforcement shall be +/- 10 mm.

Approval before Concreting

All reinforcement, after having been fixed in position, shall be inspected and approved by the Engineer before any concrete is placed. Any concrete placed contrary to this requirement shall, if ordered by the Engineer, be removed together with the reinforcement and replaced by the Contractor at his own expense.

External treatment of walls towards ground

Drawings and general provisions of the Contract apply to this Section. Related sections of the relevant Turkish Standards may be applicable in place of the given codes, norms or standards after the Engineer's approval.

Product data for each type of product specified, including data substantiating that materials comply with requirements for each damp proofing material specified. Include recommended method of application, recommended primer, number of coats, coverage or thickness, and recommended protection course.

Comply with manufacturer's recommendations except where more stringent requirements are indicated and where Project conditions require extra precautions to ensure satisfactory performance of work for the materials specified in the item's definitions.

4.2. PARTICULAR TECHNICAL SPECIFICATIONS FOR ARCHITECTURAL WORKS

All goods and materials used in the Works shall comply with international standards (EN, BS or ISO) or those of the appropriate national standards where no other standard is given, for both manufacturing and testing. Where no comment is made against an item, the Contractor shall assume that these standards are to be complied with. All goods and materials to be provided by the Contractor and incorporated in the Works shall be new, unused, and of the most recent or current design and specification, and incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

The Contractor shall submit to the Engineer a list of his proposed suppliers and sources of materials required for the execution of the Works. Samples shall also be submitted at the request of the Engineer. The Contractor shall get written approval of the Engineer prior to use of the materials.

The materials subsequently supplied shall conform to the quality of samples which have been inspected by the Engineer.

Names of additional suppliers and sources may be submitted by the Contractor during the execution of the Contract, but no source of supply shall be changed without the Engineer's approval.

Materials and components shall be stored in such a manner as to preserve their quality and condition to the standards required by the Contract.

Materials and components shall be handled in such a manner as to avoid any damage or contamination, and in accordance with all applicable recommendations of the manufacturers.

Unless otherwise described in the Contract, the use, installation, application or fixing of materials and components shall be in accordance with all applicable recommendations of the manufacturers. Where appropriate, the Contractor shall make use of any technical advisory services offered by manufacturers.

Granular Sub-base Material

Granular sub-base material shall be natural sands, gravels, crushed rock, crushed slag, and crushed concrete or well burnt non-plastic shale of uniform grading. The material shall be capable of being compacted to achieve a well-knit dense layer and lie within the following grading limits unless stated elsewhere in the Contract. Stones larger than 100 mm shall be removed.

Sieve size	Percentage by mass passing	
	Type 1	Type 2
50 mm	100	100
37.5 mm	85 – 100	85 – 100
10 mm	40 – 70	45 – 100
5 mm	25 – 45	25 – 85
600µm	8 – 22	8 – 40
75µm	0 – 10	0 – 10

Natural sands and gravels shall only be permitted in Type 2 material.

Sub-base material shall be spread evenly in layers not more than 200 mm compacted thickness and compacted to obtain a well-bound surface finish, any loose areas or segregated areas being made good by addition of fines or by removing and replacing with fresh material as directed by the Engineer.

4.3. PARTICULAR TECHNICAL SPECIFICATIONS FOR MECHANICAL AND ELECTRICAL WORKS

The contractor shall be responsible from the materials and the installations until the substantial completion of the work. The contractor is also responsible from installing all the systems present at the building and other structures in an operative condition free of any deficiency and immediately repairing any failures free of cost for 12-month defect liability period, except for the usage faults. If the required repair works cannot be completed within one month, the parts that have not been repaired within this period shall be repaired by the Employer on behalf of the contractor and shall be deducted from the Performance Guarantee of the Contractor.

Eye examination

All materials to be used for mechanical installations shall be subject to eye examination by the Engineer to verify that the materials are not broken, rusted, cracked or old.

Functioning examination

All materials to be used for mechanical installations shall be subject to functioning examination through tests without any cost impact to the Employer.

Warranty period

All materials to be used for mechanical installations shall have two (2) years of commercial warranty from the manufacturers starting from substantial completion of works.

SECTION 5A.2 SPECIFICATIONS FOR ITEMS/POSE DEFINITIONS

The works described in this section include all the necessary materials and losses, loading, horizontal and vertical transportation, unloading, workmanship, **transportation of material to the site**, contractor's profit and general expenses for the successful completion of the specified items.

Whenever item/pose is related to an item/pose number from the official books⁴ published by Turkish public institutes, the definition in this specification shall prevail for any inconsistency. In case of vagueness/absence of an issue in the item definition in this specification, the official definition shall prevail for only the vagueness/absence.

The units of measurement used in the items/pose definitions are those of the International System of Units (SI). No other units may be used for measurements, pricing, detail drawings etc. (Any units not mentioned in the technical documentation must also be expressed in terms of the SI.) Abbreviations used are to be interpreted as follows:

mm	means	millimetre
m	means	metre
da	means	decare
mm ²	means	square millimetre
m ²	means	square metre
m ³	means	cubic metre
kg	means	kilogram
ton	means	tonne (1000 kg)
pcs	means	pieces
h	means	hour
L.s.	means	Lump sum
km	means	kilometre
l	means	litre
kVAR	means	kilovolt ampere reactive
%	means	per cent

Civil/Structural Works

Item no:	Item	Unit
Civ01	Excavation works	m³
Description/ Specifications	1 m3 of excavation (free, wide deep excavation and narrow deep excavation and trench excavation (for infrastructure) at all depths in accordance with the project) of any type of soil and rock (soft, hard, very hard, all types of rock excavation and clay excavation), in all depths and widths, by whatever means necessary, including machine aided or hand excavation, whether above or below water table level or flood table level and the like, including soil mixed with boulders or similar hard material of any size, and any kind and type of planking and strutting in all depths and widths, by whatever means necessary, and keeping the excavations in any depth and width free from underground, surface or running water in any amount, by whatever means necessary, including all the necessary materials and losses, transportation of all relevant materials to and/or from the site, loading, unloading, horizontal and vertical transportation, workmanship, contractor's profit and general expenses for the successful completion of the work, measured per m3 of excavation executed calculated according to the dimensions in the drawings. Dewatering of the excavation is included to the price.	
Related official pose/item number, book	N/A	

Item no:	Item	Unit
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⁴ Official books valid for those specifications are published by;

- Republic of Turkey Ministry of Environment and Urbanization
- Republic of Turkey General Directorate of Highways
- İller Bank, Turkey
- Republic of Turkey General Directorate of State Hydraulic Works
- Republic of Turkey General Directorate of Railways, Harbors, Airports

Civ02	Watering and compaction of any type of soil	m³
Description/ Specifications	<p>Watering and compaction of any type of soil in line with the principles of the related sections of the "Technical Specifications of Highway" published by Republic of Turkey General Directorate of Highways.</p> <p>Costs included in the unit price: Water supply by motor pump, supply of watering and compaction machines to the workplace, watering of any type of soil for filling flooded at any desired thickness depending on the compaction machines according to specifications until optimum humidity is achieved, compaction of material with appropriate compaction machines, any labor, material, machine, tool and equipment, contractor profit and overheads.</p> <p>Water supply to the workplace is included to the price.</p> <p>Measurement: The volume in cubic meters of the filling prepared by watering and compaction in accordance with the shop drawings approved by the Engineer.</p>	
Related official pose/item number, book	KGM/2205, "Her cins toprağın sulanması ve sıkıştırılması", Republic of Turkey General Directorate of Highways	

Item no:	Item	Unit
Civ03	Backfill with all in aggregate including transportation	m³
Description/ Specifications	<p>Backfill with all in aggregate such as sand, gravel or stabilized material.</p> <p>The price includes the transportation to the site from the quarry at any distance.</p>	
Related official pose/item number, book	15.153, "Tuvenan kum,çakıl veya stabilize ile dolgu yapma" Republic of Turkey General Directorate of Railways, Harbors, Airports	

Item no:	Item	Unit
Civ04	Formation of base layer ((with crushed and screened quarry stone (1 inch)) including transportation	m³
Description/ Specifications	<p>Technical Description: Foundation construction using 25 mm ("1") quarry stone, crushed by stone crusher and screened material in accordance with the principles and terms stated in the related sections of the "TECHNICAL SPECIFICATIONS OF HIGHWAY" PUBLISHED BY REPUBLIC OF TURKEY GENERAL DIRECTORATE OF HIGHWAYS. Costs included in the unit price: Extraction of stones from the mine, crushing to sizes appropriate for stone crusher, loading on to vehicles, unloading, feeding to stone crusher, grain size and characteristics research, crushing by stone crusher for achieving the grain size specified in the "TECHNICAL SPECIFICATIONS OF HIGHWAY" PUBLISHED BY REPUBLIC OF TURKEY GENERAL DIRECTORATE OF HIGHWAYS, screening, loading to vehicles, unloading and figuration, water supply by water pump, layering the foundation material by optimum water supply, compression, any labor, material, machine, tool and equipment, contractor profit and overheads.</p> <p>Measurement: The volume in cubic meter, compacted volume calculated on the area layered with specified thickness in drawing or shop drawing approved by the Engineer</p> <p>Price also includes; Transport between the mine and stone crusher, transport of material from the stone crusher to the site, water transport.</p>	
Related official pose/item number, book	KGM/6040, "Temel yapılması [kırılmış ve elenmiş ocak taşı ile (1")]", Republic of Turkey General Directorate of Highways	

Item no:	Item	Unit
Civ05	Plant-Mix Subbase production including transportation (with crushed and screened quarry stone)	m³
Description/ Specifications	<p>Technical Description: Plant-Mix Sub base construction, using crushed and screened quarry stones and layered by finisher according to the principles and terms of the related sections of the "TECHNICAL SPECIFICATIONS OF HIGHWAY" PUBLISHED BY REPUBLIC OF TURKEY GENERAL DIRECTORATE OF HIGHWAYS.</p>	

	<p>Costs included in the unit price:</p> <p>Supply, assembly and disassembly of any required machine an equipment, extraction of stones from the mine, crushing up to size suitable for stone crusher, loading to vehicles, transport between the mine and stone crusher, unloading, feeding to stone crusher, crushing and screening in stone crusher until achievement of grain size required by the administration or specified in the specification, regular screening and grain size adjustment, discharge of the stone crusher bottom, loading of crushed aggregate to vehicles, unloading to plant field and storage, loading from storage place to trucks, transport to field silo and unloading, rodding by hand, if necessary for achieving good flow of aggregate in the silo, transfer from silo to mixing plant, water supply by motor pump and filling the water tanks, feeding into mixer, mixing of aggregate and water, loading of mixed material to trucks, waiting at plant and weighing, research and technical supervision, weighing of material by automatic weigher with bill printer at a capacity required by the administration, waiting of trucks until their turn comes, discharge of material to finisher, flooring of material by finisher at referencing, axis, cross-section and elevation given by the administration, correction of faults manually, making, cleaning, adjusting, irrigating and compressing longitudinal and transverse joints, fine adjustment, irrigation of floored material, compression by vibrating and rubber-tired roller, any labor, material, machine, tool and equipment, contractor profit and overheads. Transport between the mine and stone crusher, transport of aggregate to plant field, transport of water to work place and transport of mixture to place of flooring.</p> <p>Measurement: Is the volume in cubic meter calculated in accordance with the shop drawing approved by the Engineer.</p> <p>Note:</p> <p>(1) As the contractor is obliged to make the production according to the mixture design approved by the Engineer, no changes shall be made in the unit price due to design changes.</p>
Related official pose/item number, book	KGM/6100/3-1, "Plent-miks alttemel yapılması (kırılmış ocak taşı ile)", Republic of Turkey General Directorate of Highways

Item no:	Item	Unit
Civ06	Supply of gravel and flooring, watering and compaction by machine including transportation	m³
Description/ Specifications	<p>Technical Description: Supply transportation from any distance of gravel, discharge on the field, flooring by motor grader, irrigation, compression of each layer separately by vibrating rubber-tired roller, labor, material and wastage, loading, vertical and horizontal transport, unloading, contractor profit and overheads.</p> <p>MEASUREMENT: Volume shall be calculated according to the dimensions in its project.</p>	
Related official pose/item number, book	Y.15.140/04, "Makine ile tuvenan kum çakıl temin edilerek, makine ile serme, sulama,sıkıştırma yapılması", Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ07	Laying the sub base and base material	m³
Description/ Specifications	<p>After B-15.044-In line with completion of the works of engineering structure and earth works on the way, they shall be placed on the motorized grader in accordance with the shapes, sizes and rims of the slopes, ditches, fillings and slopes of the fine leveling surface as described in section 9 of the Roads Technical Specifications attached to the contract, Leveling machines, as well as the price per kilometer of the way in which all kinds of workmanship, materials and expenses necessary for the finishing of the hand work as well as the fine leveling by hand are included, including the contractual profit and general expenses.</p> <p>Sand, gravel, clay, crushed stone, sand, stabilize and similar materials to be made.</p> <p>Unit Fees Included Costs:</p> <p>Any kind of and workmanship required for the construction of sand, gravel, clay, Materials,</p>	

	<p>machinery, tools and utilities, and contractor profits and overheads.</p> <p>Measure: The volume in cubic meter,calculated compacted volume of base and sub-base materials specified in drawings or shop drawings approved by the Engineer.</p>
Related official pose/item number, book	KGM/15.150/K , "Figüre (kum,çakıl,kil,k.taş,tüv.stabilize vb.malzemesi)",Republic of Turkey General Directorate of Highways

Item no:	Item	Unit
Civ08	Readymix concrete placement meeting the compressive strength requirements of C 16/20, including procurement, delivery, concrete pump and placement.	M3
Description/ Specifications	<p>Delivery and placement of readymix concrete procured from concrete batch plant (Batch plant shall meet the following requirements; minimum one loader, sufficient number of transmixers and concrete pumps, backup generator, weight type admixture feeders, 60 m³/h plant capacity, with air compressor, 4 aggregate bunkers, moisture sensors, conveyor belt-fed, fully automated from computer control cabinet, having a cement silo with minimum 50 tons of capacity, recycling system integrated. Batch plant shall have a laboratory capable of performing aggregate and concrete tests. All instruments of the batch plant shall be regularly calibrated and documented) composed of water, granulometric washed aggregate with artifical or natural sand designed as per the project requirements meeting the compressive strength of C 16/20 including cementitious materials and admixtures. Procurement, transmixer loading & unloading, vertical and horizontal transportation, placement, consolidation, curing, protection from cold and hot weather, providing mixing and curing / cleaning water are included. Quality control procedures of the concrete such as specimen preperation, testing and laboratory services are included. All equipment costs, batch plant expenses, laboratory expenses, advance payments, indirect costs, contrator costs and contractor profit are included.</p> <p>Means of Measurement: As per the dimensions defined in the project, 1 m³ of C 16/20 regular gray concrete.</p> <p>Remarks:</p> <p>1) Prequalification of the batch plant meeting the requirements of TSE and governing standards, either manufactured at or procured from, shall be submitted to the administation prior to the batch plant operations for approval. Batch plant can only be used after the approval of the prequalification documentation proving that the batch plant meets the requirements of TSE.</p> <p>2) Invoices including the compant information and project name have to be submitted as an attachment to the payment applications if the concrete is procured from a readymix plant.</p> <p>3) Admixtures used during the concrete production will be paid seperately.</p> <p>4) If a concrete pump is not used, the cost of the concrete pump shall be deducted from the analysis.</p>	
Related official pose/item number, book	Y.16.050/13, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ09	Concreting of C 30/37 compressive strength class concrete being manufactured at a concrete plant or purchased (including concrete transport)	m³
Description/ Specifications	<p>Technical Description: 1 m³ price of concrete with compressive strength C 30/37 being poured at site including: the supply of ready concrete manufactured at a complete concrete facility (minimum 60m3/h capacity, with four unit aggregate bunker compressor, computer controlled with control cabin, min. 50 ton capacity cement silo and conveyor system, recycling unit, laboratory for aggregate and concrete tests, generator, sufficient number of truck mixers and mobile concrete pumps and at least one loader, ingredient tank and ingredient tank bunker, humidity-meter and similar tools and equipment) compliant to the standards and the project,</p>	

	<p>manufactured with washed, screened granulometric sand-gravel and/or ballast, cement, water and ingredients if necessary at C 30 / 37 class or having same characteristics; execution of concrete quality controls, loading to truck mixers, transportation to the work place, pouring by concrete pump to the pouring place, placement, compression with vibrator, irrigation, protection from cold, heat and other external effects and maintenance, taking sufficient number of samples for necessary and adequate tests and execution such tests, any labor, tool and equipment and outages, laboratory expenses for the aforementioned, any vertical and horizontal transport in the work place, loadings and unloading, loading of any granulometric sand, gravel or ballast and cement which is a part of concrete from the place of production, supply or purchase, transport to the concrete facility, unloading from vehicles, stapling, placement into the concrete facility, supply and transport of water for irrigation in the concrete, supply of concrete facility and all other equipment and its amortization expenses, any other expenses, contractor profit and overhead costs</p> <p>MEASUREMENT: To calculated over the dimensions in the project.</p> <p>NOTE: 1) The facility which the concrete is manufactured at or purchased from shall have all certifications required by the TSE and legislation and such documents have to be submitted to the administration before starting the production. Provided that only after it has been identified that the submitted documents are compliant and the use is allowed, such concrete produced or purchased from such facility, with compliance certificate and bearing the conditions of the applicable legislation and market supply terms can be used. 2) If the concrete is supplied by purchase, one copy of the purchase invoices which shall show the name of the works shall be added to the payment documents. 3) The cost of ingredients to be added to the concrete shall be paid separately.</p>
Related official pose/item number, book	Y.16.050/16, "Beton santralinde üretilen veya satın alınan ve beton pompasıyla basılan, c 16/20 basınç dayanım sınıfında, gri renkte, normal hazır beton dökülmesi (beton nakli dahil)", Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Civ10	Concrete kerb construction including transport to workplace, loading and unloading, stapling and figuration costs of cement, sand and gravel	m
Description/ Specifications	Technical Description: 1 meter price of: kerb with 18x30 cm dimensions and with 3/5 cm slope on front upper side and made of 350 dose concrete depending on the project, including any material and wastage required for layering with 400 dose mortar over base layer made of 200 dose lean concrete, labor, transport to workplace, loading and unloading costs, contractor profit and overheads (including transport to workplace, loading and unloading, stapling and figuration costs of cement, sand and gravel).	
Related official pose/item number, book	17.141/İB, "Beton bordür yapılması", İller Bank	

Item no:	Item	Unit
Civ11	30 cm thick CMU wall construction with non-reinforced lightweight concrete blocks (With lightweight block adhesive) (2,50 N/mm² and 400 kg/m³)	m²
Description/ Specifications	<p>CMU wall construction by using non-reinforced lightweight concrete blocks and lightweight block adhesive as per the project details including procurement, delivery (Including loading and unloading), horizontal & vertical transportation, wastage, manpower and equipment costs, administrative costs and profit (As per 1 sq.m).</p> <p>Means of Measurement: As per the dimensions defined in the project without deducting areas less than 0,10 m².</p>	

Related official pose/item number, book	Y.18.110/01C13, "30 cm kalınlığındaki techizatsız gazbeton duvar blokları ile duvar yapılması (gazbeton tutkalı ile) (g2 sınıfı)(2,50 n/mm ² ve 400 kg/m ³)", Republic of Turkey Ministry of Environment and Urbanization
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Item no:	Item	Unit
Civ12	Hot-dip galvanized, corrugated / trapezoidal sheet and roof covering with epoxy paint made of 0.50 mm thickness on the existing roof covering on concrete slabs and/or steel structures	m²
Description/ Specifications	<p>Detection of 5x5 cm squares from the second-class pine timber from the existing reinforced concrete or equipped ready-mixed concrete slabs (light or normal aggregate) with the 6/8 screw and 12 plastic dowels from the second class pine timber. The material is laid in 0.50 mm thick galvanized corrugated sheet steel on top of the frame. to be fixed by screwing with at least 6.5 cm cap screwed screws using rubber washer and rubber seal, insulating the bottom of the chimney bottom and other plaster bottoms, formation of the spaces with mahya elements, loading at the construction site, horizontal and vertical transportation, unloading, all kinds of materials and loss, vehicle v 1 m² price of 0.50 mm hot dipped galvanized corrugated sheet and roof covering (the sheet shall meet the requirements of pose definition of 04.277/14) on the roof made of reinforced concrete or reinforced concrete slabs including equipment expenses, contractor general expenses and profit t:</p> <p>SIZE: It is calculated on the sloping surfaces. Greater than 0.25 m² gaps are deducted, if any The eaves are included in the measurement.</p>	
Related official pose/item number, book	18.252/ANL , "Beton plaklarla yapılmış mevcut çatı döşemesi üzerine 0.50 mm kalınlıkta sıcak daldırma galvanizli, oluklu/trapez sac ile çatı örtüsü yapılması", Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ13	Ø 200 mm nominal diameter, PVC-based corrugated drainage pipe and its placement	m
Description/ Specifications	<p>Technical Description: Ø 200 mm nominal diameter PVC-based corrugated drainage pipes are prepared for drainage and laying down, all kinds of materials and wastes, workmanship and equipment expenses, workplace loading, horizontal and vertical transportation, unloading, general contractor and profit Price of 1 m including:</p> <p>MEASURE: The area laid on the drainage pipe is calculated as m.</p> <p>NOTE: The excavation of the drainage pipe to be laid to the drainage base, the material or concrete layer to be laid on the base of the drainage, the filling and compression of the drainage with the appropriate size of material on the side and top is paid from its own pose.</p>	
Related official pose/item number, book	Y.18.460/24, "Ø200 mm spiral sarımlı pvc boru döşemesi (drenaj,y.suyu için)", Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ14	Two layers of dampproofing application of 3 and 4 mm thick elastometric polymer modified bitumen sheet (-20 degrees cold rolled) with mat reinforcement	m²
Description/ Specifications	<p>Surface to receive damp proofing shall be properly cleaned and dried prior to the application as per the approved shop drawings. Bitumen emulsified tack coat shall be applied as a ratio of minimum 0,400 kg per square meters. After the tack coat is sufficiently dried, first layer of 3 mm thick mat reinforced (-20 degrees cold rolled) polymer modified bitumen sheet roll shall be laid in place by applying heat via torch without burning the material. Each layer shall overlap 10 cm and completely adhered to the surface. Second layer of 4 mm thick mat reinforced (-20 degrees cold rolled) polymer modified bitumen sheet roll shall be laid in place at the same direction with the first layer by overlapping 10 cm. Procurement, vertical and horizontal transportation,</p>	

	scaffolding, wastage, workmanship, manpower & equipment costs, loading & unloading, administrative costs and contractor profit are included. Means of Measurement: As per the dampproofing area defined in the project, per sq. m Remarks: Necessary precautions shall be taken to protect the dampproofing material, cost shall included in the same item number.
Related official pose/item number, book	Y.18.461/009,"3 mm ve 4 mm kalınlıkta elastomer esaslı (-20 soğukta bükülmeli) polyester keçe taşıyıcılı polimer bitümlü örtüler ile iki kat su yalıtımı yapılması" Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Civ15	Laying of 150 gr/m² geotextile felt	m²
Description/ Specifications	In order to protect the insulation of the basement or terraces in accordance with the approved projects and details, it is necessary to lay the geotextile fleece on top of each other with a 10 cm overlay, loading, horizontal and vertical transportation, unloading, all kinds of materials and wastes, and the price of 1 m ² including profit: MEASUREMENT: The insulation surface is calculated in m ² .	
Related official pose/item number, book	Y.18.461/041, 150 gr/m ² ağırlıkta geotekstil keçe serilmesi, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ16	Supply and replacement of HDPE based drainage and protection sheet on waterproofing of basement curtains (200<pressure resistance<250 KN / m2)	m²
Description/ Specifications	According to the approved project and details of the basement curtains in accordance with the detail made on the waterproofing on the insulation of 4 pieces of insulation on the head of the front of the insulation pins, HDPE-based drainage and protection plate of the bubble by a minimum of 10 cm to the joints by fixing to the surface by means of pins, construction site, horizontal and vertical transportation, unloading, all kinds of materials and loss, labor equipment expenses, contractor general expenses and profits, 1 m2 price: MEASURE: The projected area is calculated as m2. NOTE: 1- This exposure is not used in horizontal application	
Related official pose/item number, book	Y.18.462/032, HDPE esaslı drenaj ve koruma levhası basınç dayanımı <250 KN/m2, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ17	5 cm thick surface roughness or rough channel extruded polystyrene plates (XPS-200 kPa compressive strength) with external thermal insulation on the outside walls and heat insulation plaster (Jacketing)	m²
Description/ Specifications	According to the project and details approved by the contractor, 5 cm thick, external polystyrene foam thermal insulation boards on the outer walls prepared for sheathing, are adhered to the wall with heat insulation sheet glue to be 4 kg. 1 layer of heat insulation plaster to be 3 kg consumed per m ² , placing the plaster net in such a way that at least 10 cm overlapped joints are placed on top of each other. horizontal and vertical transportation, unloading, all kinds of materials and damage, labor equipment, construction and expenses, 1 m ² price including: MEASUREMENT: All surfaces which are insulated according to the dimensions in the project are calculated. NOTE: 1) The thickness of the extruded polystyrene foam will be determined according to the heat calculation to be made.	

	2) The dubel to be used according to the material properties on the façade will be determined.
Related official pose/item number, book	Y.19.055/003, “5 cm kalınlıkta yüzeyi pürüzlü veya pürüzlü kanallı extrüde polistren levhalar (xps - 200 kpa basınç dayanımlı) ile dış duvarlarda dıştan ısı yalıtımı ve üzerine ısı yalıtım sıvası yapılması (mantolama)”, Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Civ18	Thermal insulation of 5 cm thick surface (XPS- 300 Kpa compressive strength) and horizontal (on ground floor (earth contact) floors or reverse terrace roofs)	m²
Description/ Specifications	<p>The price of laying of insulation plate on the ground, 5 cm thick XPS sheets without any gap between them, loading at the construction site, horizontal and vertical transport, unloading, all kinds of materials and loss, labor equipment and expenses, contractor overheads and gain according to the project and details approved by the employer.</p> <p>MEASUREMENT: All surfaces which are insulated according to the dimensions in the project are calculated.</p> <p>NOTE: 1) The thickness of the extruded polystyrene foam will be determined according to the heat calculation to be made.</p> <p>2) In the insulation of ground contact floors or reverse terrace roofs;</p> <p>a) The edge profile of the thermal insulation boards should be overlayed (with lamp).</p> <p>b) The compressive strength should be at least > 30 N / mm² (300 Kpa) in a 10% deformity.</p> <p>c) The rate of water absorption by diffusion should be less than 3% between 50 ° C and 1 °</p>	
Related official pose/item number, book	Y.19.057/003, 5 cm kalınlıkta yüzeyi düzgün levhalar (xps - 300 kpa basınç dayanımlı) ile yatayda (zemine oturan (toprak temaslı) döşemelerde veya ters teras çatılarda) ısı yalıtımı yapılması, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ19	Mesh reinforced elastometric resin based liquid applied dampproof plastic coating, 3 layers, 1,5 mm total thickness	m²
Description/ Specifications	<p>Dampproof coating of the surfaces prepared by the requirements defined in the project documents. Surfaces are to be properly cleaned of residues, dust, dirt or oily substances as per the manufacturer's recommendations. All repairs such as honeycombing and cracks are to be completed prior to the application. After the application surfaces are dried enough, elastometric resin based material is to be mixed with water as a ratio of ¼ and applied by using roller, brush or sprayed in the same direction as the first coat. Mesh reinforcement is to be applied as 75 gr/m² with minimum 10 cm overlaps. Second and third coats of the dampproof coating are to be applied without administrating water to the substance. Successive layers are to be applied straight to the previous layer and in accordance with the manufacturer's recommendations. Procurement, vertical and horizontal transportation, wastage, workmanship, manpower & equipment costs, loading & unloading and when necessary scaffolding are included.</p> <p>Means of Measurement : As per the dimensions defined in the project, including all surfaces subject to the dampproof treatment, per sq. m</p>	
Related official pose/item number, book	Y.19.085/024, Elastomerik reçine esaslı sıvı plastik kaplama malzemesi ile file takviyeli olarak, 3 kat halinde toplam 1,5 mm kalınlıkta su yalıtımı yapılması, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ20	Production of reinforced concrete plain surface form works with plywood	m²
Description/	Technical Description: 1 m ² unit price of production reinforced concrete plain surface form works	

Specifications	<p>made of 21 mm thickness plywood (filmed) artificial wood and inner surface lubricated according to the project and specification, including their disassembly, strengthening against the vibration required, material and their outages, vertical and horizontal transport at workplace, loading-unloading, labor, contractor profit and overhead costs.</p> <p>MEASUREMENT: The surfaces facing the form works shall be calculated from their project or by measuring at site. The surrounding form works of production holes which their gap volume has not been reduced shall be not taken into the measurement. No hole gap shall be extracted from the hole side at the form side.</p> <p>NOTE 1) The form works scaffolding shall be paid separately.</p> <p>2) The material extracted from the forms shall be the contractor's property.</p>
Related official pose/item number, book	Y.21.001/03, Plywood ile düz yüzeyli betonarme kalıbı yapılması, Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Civ21	Mold Scaffolding from steel pipe (between 0.00 – 4.00 m)	m³
Description/ Specifications	<p>Technical description: Construction and industrial manufacture of steel scaffolding, which is subject to the standard and approved project when it is required to be carried out by the standard and approved project, installation and dismantling of the scaffolding by taking necessary safety precautions, all kinds of materials and casualties, loading on construction site, horizontal and vertical transportation, , Vehicle and equipment expenses, contractor general expenses and profit, 1 m3 price:</p> <p>MEASURE:</p> <ol style="list-style-type: none"> 1) The gap between the face of the mold and the industrial production falling within the scope of this measure and the ground to which the scaffold is subjected is calculated. If the ceiling is inclined, the moderate altitude is the basis. 2) When applied to these exposed tunnels or galleries, the gap between the bottom surface of the gallery or tunnel arch and the floor where the screed is applied is calculated. 3) This pose is applied in water depot construction scaffoldings falling within the scope of this measure. In this case, the gap between the concrete water tank ceiling and the ground to which the scaffold is attached is calculated. 4) The scaffold width required for frames, beams and columns not to be built together with the floor is determined. <p>NOTE:</p> <ol style="list-style-type: none"> 1) The volume of steel pipes and timber used in scaffolding and casting, and the volume of construction elements (gusseler, beams, columns, curtains, water reservoirs and similar construction elements ..) in the space shall not be deducted from the scaffold cavity volume. 2) Length and other tunnel hikes for tunnels and galleries are also applied to these poses in a certain way. 3) In the buildings, triangular pier hollow spaces carrying concrete masonry, balconies, concrete, concrete retaining walls, curtains and similar molds are calculated. The triangular horizontal size can not be more than half of the mold height. 4) Concrete wall with a height of less than one meter. Inverted beam width is less than 0,50 m. Portafo and fringes are not provided with scaffolding for door window lentolas with an opening of 1.50 m. 5) Since the mold scaffolding will be installed for the reinforced concrete scaffoldings, concrete scaffolding and concrete screed which remain in the building, independent columns and similar productions are not allowed with mold scaffolding. 6) This price shall not be applied for construction scaffolding of construction or manufacture to be made with special sliding mold. 7) Contractor owns all the material of the scaffolding upon uninstallation. 	
Related official pose/item	Y.21.050/C11, Çelik borudan kalıp iskelesi yapılması (0,00-4,00m arası), Republic of Turkey Ministry of Environment and Urbanization	

number, book	
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Item no:	Item	Unit
Civ22	Mold Scaffolding from steel pipe (4.01 – 6.00 m)	m³
Description/ Specifications	<p>Technical description: Construction and industrial manufacture of steel scaffolding, which is subject to the standard and approved project when it is required to be carried out by the standard and approved project, installation and dismantling of the scaffolding by taking necessary safety precautions, all kinds of materials and casualties, loading on construction site, horizontal and vertical transportation, , Vehicle and equipment expenses, contractor general expenses and profit, 1 m3 price:</p> <p>MEASURE: 1) The gap between the face of the mold and the industrial production falling within the scope of this measure and the ground to which the scaffold is subjected is calculated. If the ceiling is inclined, the moderate altitude is the basis. 2) When applied to these exposed tunnels or galleries, the gap between the bottom surface of the gallery or tunnel arch and the floor where the screed is applied is calculated. 3) This pose is applied in water depot construction scaffoldings falling within the scope of this measure. In this case, the gap between the concrete water tank ceiling and the ground to which the scaffold is attached is calculated. 4) The scaffold width required for frames, beams and columns not to be built together with the floor is determined.</p> <p>NOTE:</p> <p>1) The volume of steel pipes and timber used in scaffolding and casting, and the volume of construction elements (gusseted, beams, columns, curtains, water reservoirs and similar construction elements ..) in the space shall not be deducted from the scaffold cavity volume.</p> <p>2) Length and other tunnel hikes for tunnels and galleries are also applied to these poses in a certain way.</p> <p>3) In the buildings, triangular pier hollow spaces carrying concrete masonry, balconies, concrete, concrete retaining walls, curtains and similar molds are calculated. The triangular horizontal size cannot be more than half of the mold height.</p> <p>4) Concrete wall with a height of less than one meter. Inverted beam width is less than 0,50 m. Portafo and fringes are not provided with scaffolding for door window lento as with an opening of 1.50 m.</p> <p>5) Since the mold scaffolding will be installed for the reinforced concrete scaffoldings, concrete scaffolding and concrete screed which remain in the building, independent columns and similar productions are not allowed with mold scaffolding.</p> <p>6) This price shall not be applied for construction scaffolding of construction or manufacture to be made with special sliding mold.</p> <p>7) Contractor owns all the material of the scaffolding upon uninstallation.</p>	
Related official pose/item number, book	Y.21.050/C12, Çelik borudan kalıp iskelesi yapılması (4,01-6,00 m arası), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ23	Mold Scaffolding from steel pipe (6,01-8,00m)	m³
Description/ Specifications	<p>Technical description:</p> <p>Construction and industrial manufacture of steel scaffolding, which is subject to the standard and approved project when it is required to be carried out by the standard and approved project, installation and dismantling of the scaffolding by taking necessary safety precautions, all kinds of materials and casualties, loading on construction site, horizontal and vertical transportation, , Vehicle and equipment expenses, contractor general expenses and profit, 1 m3 price:</p> <p>MEASURE:</p> <p>1) The gap between the face of the mold and the industrial production falling within the scope of this measure and the ground to which the scaffold is subjected is calculated. If the ceiling is inclined, the moderate altitude is the basis.</p>	

	<p>2) When applied to these exposed tunnels or galleries, the gap between the bottom surface of the gallery or tunnel arch and the floor where the screed is applied is calculated.</p> <p>3) This pose is applied in water depot construction scaffoldings falling within the scope of this measure. In this case, the gap between the concrete water tank ceiling and the ground to which the scaffold is attached is calculated.</p> <p>4) The scaffold width required for frames, beams and columns not to be built together with the floor is determined.</p> <p>NOTE:</p> <p>1) The volume of steel pipes and timber used in scaffolding and casting, and the volume of construction elements (gusseted, beams, columns, curtains, water reservoirs and similar construction elements.) in the space shall not be deducted from the scaffold cavity volume.</p> <p>2) Length and other tunnel hikes for tunnels and galleries are also applied to these poses in a certain way.</p> <p>3) In the buildings, triangular pier hollow spaces carrying concrete masonry, balconies, concrete, concrete retaining walls, curtains and similar molds are calculated. The triangular horizontal size cannot be more than half of the mold height.</p> <p>4) Concrete wall with a height of less than one meter. Inverted beam width is less than 0,50 m. Portafo and fringes are not provided with scaffolding for door window lento as with an opening of 1.50 m.</p> <p>5) Since the mold scaffolding will be installed for the reinforced concrete scaffoldings, concrete scaffolding and concrete screed which remain in the building, independent columns and similar productions are not allowed with mold scaffolding.</p> <p>6) This price shall not be applied for construction scaffolding of construction or manufacture to be made with special sliding mold.</p> <p>7) Contractor owns all the material of the scaffolding upon uninstallation.</p>
Related official pose/item number, book	Y.21.050/C13, Çelik borudan kalıp iskelesi yapılması (6,01-8,00m arası), Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Civ24	Assembly of prefabricated exterior scaffolding with full safety measures (0,00-51,50 m height)	m²
Description/ Specifications	<p>Aluminum, timber and steel scaffolding for exterior works in accordance with relevant health and safety regulations. Fixed scaffolding shall meet the requirements of the project, relevant material and design standards, composed of prefabricated members as minimum load class of 4. Assembly, disassembly, safety measures, material, wastage, horizontal and vertical transportation, loading, unloading, workmanship, equipment costs, administrative costs and contractor's profit are included.</p> <p>Means of Measurement : The height of the upmost top elevation is multiplied with the length of the scaffold, per sq. m.</p> <p>Remarks:</p> <p>1) Ceiling works requiring scaffolding to be used in a specific area will be paid seperately. Scaffolding for walls in such case will not be paid.</p> <p>2) Scaffolding costs will be paid only once for all works requiring scaffolding in a specific area.</p> <p>3) This item number is valid for wall construction over 3 meters and similar work items.</p> <p>4) Construction works not exceeding 3 meters will not receive scaffold payment.</p> <p>5) Safety precautions such as canvas or safety net of the scaffolding are mandatory when deemed necessary and will not be paid seperately.</p> <p>6) Scaffolding shall be inspected with the participation of the Engineer and the contractor and the condition of the scaffolding shall be recorded & signed for administration's review and approval. Scaffolding shop drawings and installation details shall be submitted as an attachment to the inspection report as soft copy (CD). Scaffolding payment is subject to the approval of these documentation.</p> <p>7) Contractor owns all the material of the scaffolding upon uninstallation.</p>	

Related official pose/item number, book	Y.21.051/C11, Ön yapımlı bileşenlerden oluşan tam güvenli, dış cephe iş iskelesi yapılması. (0,00-51,50 m arası), Republic of Turkey Ministry of Environment and Urbanization
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Item no:	Item	Unit
Civ25	Assembly of prefabricated ceiling scaffolding with full safety measures (0,00-21,50 m height).	m²
Description/ Specifications	<p>Aluminum, timber and steel ceiling scaffolding for exterior works in accordance with relevant health and safety regulations. Fixed ceiling scaffolding shall meet the requirements of the project, relevant material and design standards, composed of prefabricated members as minimum load class of 4. Assembly, disassembly, safety measures, material, wastage, horizontal and vertical transportation, loading, unloading, workmanship, equipment costs, administrative costs and contractor's profit are included.</p> <p>Means of Measurement : The height of the upmost top elevation minus 1,50 m is multiplied with the surface area of the scaffold, per cubic. M.</p> <p>Remarks:</p> <ol style="list-style-type: none"> 1) Ceiling works requiring scaffolding to be used in a specific area will be paid separately. Scaffolding for walls in such case will not be paid. 2) Scaffolding costs will be paid only once for all works requiring scaffolding in a specific area. 3) This item number is valid for ceiling construction over 3 meters and similar work items. 4) Construction works not exceeding 3 meters will not receive scaffold payment. 5) Safety precautions such as canvas or safety net of the scaffolding are mandatory when deemed necessary and will not be paid separately. 6) Scaffolding shall be inspected with the participation of the consultant inspector and the contractor and the condition of the scaffolding shall be recorded & signed for administration's review and approval. Scaffolding shop drawings and installation details shall be submitted as an attachment to the inspection report as soft copy (CD). Scaffolding payment is subject to the approval of these documentation. 7) Contractor owns all the material of the scaffolding upon uninstallation. 	
Related official pose/item number, book	Y.21.051/C13, Ön yapımlı bileşenlerden oluşan tam güvenli, tavanlar için iş iskelesi yapılması. (0,00-21,50 m arası), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ26	Ribbed wire mesh (1.50-3.00 kg/m²) Installation (including 3.00 kg / m²) including transportation	ton
Description/ Specifications	<p>Technical description: Mounting in accordance with the project of the steel masonry with the spot-welded joints of the stabs of the St IVb of 5,00 mm and bigger, and installation and support in accordance with the specifications and details, installation at the construction site, horizontal and vertical transportation, Price of 1 ton wire mesh including unloading, all kinds of materials and losses, labor, tools, equipment expenses, transportation from any distance, contractor general expenses and profits</p> <p>MEASURE:</p> <ol style="list-style-type: none"> 1) According to the reinforced concrete project, the calculated square of the steel mesh is multiplied by the unit weights in compliance with the standards and calculated as tons. 2) Steel and inserts not shown in the project are not included in the account. 3) Bonded, kg / m weight differences (relative to the table) are not included in the calculation as the support is included in the loss in the analysis 	
Related official pose/item number, book	Y.23.010, Nervürlü çelik hasırın yerine konulması 1,500-3,000 kg/m ² (3,000 kg/m ² dahil), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit								
Civ27	Cutting, bending and placement of Ø 8- Ø 12 mm deformed concrete steel bars	ton								
Description/ Specifications	<p>Technical Description: 1-ton unit price of deformed concrete steel bar including the cutting, bending and placement of such bars according to the application project, iron bonding wire and any material required for binding the bars and outages, loading, vertical and horizontal transport and unloading at workplace, labor, contractor profit and overhead costs.</p> <p>MEASUREMENT:</p> <p>1) The length of the iron including crotchets shall be measured according to the concrete application drawings.</p> <p>2) The weights of the steel bars shall be taken from the chart below.</p> <p>3) Steel bars and joints which are not shown in the project shall not be taken into the calculation</p> <p>4) The weights (m) in the chart are base for calculation. As bonding wires, steel parts used in the alignment of steel bars and outages are considered in the analysis, no additional payment shall be made</p> <p>Diameter (Ø)Unit weight</p> <table><tr><td>mm</td><td>Kg/m</td></tr><tr><td>8</td><td>0.395</td></tr><tr><td>10</td><td>0.617</td></tr><tr><td>12</td><td>0.888</td></tr></table>		mm	Kg/m	8	0.395	10	0.617	12	0.888
mm	Kg/m									
8	0.395									
10	0.617									
12	0.888									
Related official pose/item number, book	Y.23.014, Ø 8- Ø 12 mm nervürlü beton çelik çubuğu, çubukların kesilmesi, bükülmesi ve yerine konulması, Republic of Turkey Ministry of Environment and Urbanization									

Item no:	Item	Unit																		
Civ28	Cutting, bending and placement of Ø 14- Ø 28 mm deformed concrete steel bars	ton																		
Description/ Specifications	<p>Technical Description: 1-ton unit price of deformed concrete steel bar including the cutting, bending and placement of such bars according to the application project, iron bonding wire and any material required for binding the bars and outages, loading, vertical and horizontal transport and unloading at workplace, labor, contractor profit and overhead costs.</p> <p>MEASUREMENT:</p> <p>1) The length of the iron including crotchets shall be measured according to the concrete application drawings.</p> <p>2) The weights of the steel bars shall be taken from the chart below.</p> <p>3) Steel bars and joints which are not shown in the project shall not be taken into the calculation.</p> <p>4) The weights (m) in the chart are base for calculation. As bonding wires, steel parts used in the alignment of steel bars and outages are considered in the analysis, no additional payment shall be made.</p> <p>Diameter (Ø)Unit Weight</p> <table><tr><td>mm</td><td>Kg/m</td></tr><tr><td>14</td><td>1.208</td></tr><tr><td>16</td><td>1.578</td></tr><tr><td>18</td><td>1.998</td></tr><tr><td>20</td><td>2.466</td></tr><tr><td>22</td><td>2.984</td></tr><tr><td>24</td><td>3.551</td></tr><tr><td>26</td><td>4.168</td></tr><tr><td>28</td><td>4.834</td></tr></table>		mm	Kg/m	14	1.208	16	1.578	18	1.998	20	2.466	22	2.984	24	3.551	26	4.168	28	4.834
mm	Kg/m																			
14	1.208																			
16	1.578																			
18	1.998																			
20	2.466																			
22	2.984																			
24	3.551																			
26	4.168																			
28	4.834																			
Related official pose/item number, book	Y.23.015, Ø 14- Ø 28 mm nervürlü beton çelik çubuğu, çubukların kesilmesi, bükülmesi ve yerine konulması, Republic of Turkey Ministry of Environment and Urbanization																			

Item no:	Item	Unit
Civ29	Making and replacing various iron works from iron band,hollow section and steel profile	kg
Description/ Specifications	<p>Technical description: Iron rivets, bolts, welding and all kinds of materials for the construction of all kinds of stairs made of various steel bars, lathes and profile bars, balconies for bridge railing, window and garden railings, stairs made for roofing, septic tank and similar places, 1 kg price (excluding paint price), including, but not limited to, the following: loss and damage, workplace loading, horizontal and vertical handling, unloading, labor, general contractor expenses and profits</p> <p>MEASURE: It is weighed together with the production and, if necessary, the fixing material, before being painted and assembled.</p> <p>NOTE: However, administrations may ascertain the weight of the project relative to the weights of all profiles and nodal points on the scale of the project, if it is deemed necessary. As a result of this weighing; 7% weight surcharges will be paid in comparison with rulings, 7% dense weight will not be taken into consideration. If the weight of this weighing is less than the weight of the weighing, the weighing shall be based on acceptance of the manufacture made.</p>	
Related official pose/item number, book	Y.23.176, Lama ve profil demirlerden çeşitli demir işleri yapılması ve yerine konulması, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ30	PVC Doors, Windows and Frames	kg
Description/ Specifications	<p>Hard PVC frames are to be manufactured as per the approved project details and resistant to all weather conditions with smooth finish surfaces. Main profiles ('A' class wall thickness, exposed surfaces shall be 2,8 mm thick and concealed surfaces shall have 2,5 mm thick) shall have the necessary hollow system to provide the required sound and thermal insulation values and easily drainable. Metal profiles and main profiles are to be supported sufficiently (Frame, wing and mid support). Metal profiles are to be manufactured as hot dip galvanized and anti-rust applied from U shape or box profiles. Maximum thickness is 1,5 mm for frames and wings and 2 mm for mid supports (Unless the calculations indicate a thicker profile for wide frame and wing openings). Metal supported PVC profiles shall be assembled by using corner welds, screws, wing assemblies, secondary profiles and turned into windows, doors and similar end products. As per the manufacturer's recommendations, wings and frames are to be insulated by using two rows of EPDM rubber, neoprene or TPE gaskets. Glazing installation is to be performed with the help of the coupling slats and block settings. Glazing type is to be selected as per the manufacturer's recommendation. Each window wing frame is to be fixed to the window frame with minimum two hinges. Each door wing frame is to be fixed to the door frame with minimum three hinges. Hinges shall be designed not to hinder the wing movement and in sufficient strength. Plastic frame assembly shall be completed by 45 degree angle cuts and welding. Frame is to be fixed to the wooden or metallic blind frame.</p> <p>Types of wooden blind frame installation:</p> <p>a) Using locking blades; locking blades are screwed to the wooden blind frame on one side and on the window / door frame on the other side.</p> <p>b) Using steel wall plugs; After the window or door frame is in position, a hole is opened by penetrating the wooden blind frame under and wall plug is inserted and bolt / screw tightened.</p> <p>c) Steel installation screws; After the window or door frame is in position, a hole is opened by penetrating the wooden blind frame under and installation screws are tightened.</p> <p>Types of metallic blind frame installation:</p> <p>a) Using sheet metal screws; After the window or door frame is in position, a hole is opened by penetrating the blind frame under and wall plug is inserted and sheet metal screw tightened.</p> <p>b) Using locking profile pieces; Both pieces are fixed on the members and locked in position.</p> <p>Sound and water / air insulation is to be provided by the gaskets in between the wings and frames.</p>	

	<p>Procurement, vertical and horizontal transportation, wastage, workmanship, manpower & equipment costs, loading & unloading, administration costs and contractor's profit is included.</p> <p>Means of Measurement: As per the following:</p> <ol style="list-style-type: none"> 1) Only hard PVC profiles, EPDM, neoprene or TPE gaskets, silicone based sealants, installation or anchorage devices, locking profile pieces, connection pieces, internal profile supports are weighted together. 2) The management may decide the weight of the profiles by following the dimensions defined in the project and using the weights defined in the profile weight tables. In such cases, up to 7% of the value may be paid as additional. If the weighted profiles are lighter than the value calculated by using the data in the profile table, weight value will be considered when the product is accepted by the management. 3) Shop drawings shall have the unit weight of profiles and support members detailed. <p>As per the dimensions defined in the project, upon completion of the PVC profile installation as per 1 kilogram</p> <p>Remarks:</p> <ol style="list-style-type: none"> 1) Installation of any metallic support or connection members are included in the profile cost. 2) Plastic window / door frame hardware (Door / window hardware, hinges, locks, transom hinges & stoppers, pivotal hinges, slides, door broom seals, door handles, door closers and such) is not included in the weight. If the unit cost is available, payment of these members will be done by + 25% including contractor profit and administration expenses. 3) All main and secondary profiles are to be labeled properly in one meter intervals at the concealed location where unseen when the window is closed. Labeling information shall have the following: <ul style="list-style-type: none"> - Name of the manufacturer. - Product specification (Such as TS EN 12608-1). - Wall thickness class - Manufacture date for future reference
Related official pose/item number, book	Y.23.241, Plastik doğrama imalatı yapılması ve yerine konulması (sert pvc doğrama profillerinden her çeşit kapı, pencere, kaplama ve benzeri imalat), Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Civ31	Nodular cast iron grates for rain water drainage	kg
Description/ Specifications	<p>Procurement, delivery and installation of graphite cast iron storm water or drainage covers as per the approved project and technical requirements of 08.1559 / IB item number. Cast iron covers shall be painted with two coats of bitumen rubber based paint. Procurement and transportation to site, vertical and horizontal transportation, wastage, workmanship, manpower & equipment costs, loading & unloading, administrative costs and contractor profit are included.</p> <p>Means of Measurement: Per kilogram</p>	
Related official pose/item number, book	Y.23.255/İB-7, Kanalizasyon inşaatlarında sfero döküm baca kapağı yapılması, yerine konması, İller Bank	

Item no:	Item	Unit
Civ32	Supply and replacement of rigid PVC rain pipe with a diameter Ø 100 mm	m
Description/ Specifications	<p>Providing the pipe with PVC diameter from Ø100 mm, fixing the clamps to the wall, mounting of pipes in the elbows from the groove, completing the connection of the rain pipes to the wall by squeezing the clamps with galvanized nut, all kinds of connections, elbows and miscellaneous</p>	

	parts, materials and casualties 1 m price, including loading at the construction site, horizontal and vertical transport, unloading, contractor overhead and profit: SIZE: It is measured over the height of the inserted pipe axis and the curves are incremented by a multiple.
Related official pose/item number, book	24.061, Ø 100 mm çapında bir ucu muflu sert pvc yağmur borusu temini ve yerine tesbiti, Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Civ33	0.50 mm thick, hot-dip galvanized on the flat sheet made of seamless groove construction and installation (Sheet width 30 cm total)	m
Description/ Specifications	0.50 mm thick hot-dip galvanized steel sheet with seamless grooving machine to be ready for installation, installation of the grooves in the area to be installed, up to 50 cm intervals of groove clamps to be installed, adjusting the inclination of the grooves of the clamping of the clamps at least 20 cm width with the same characteristics as the groove appropriate to the detail of the belt, opening the holes for connection to the downpipes, cutting the corner joints and gluing them together, ensuring the sealing at all joints, loading at the site of construction, horizontal and vertical transport, unloading, all kinds of materials and damage, Price of contractor: 1 m price: SIZE: Measured over the length of the groove axis fitted in place	
Related official pose/item number, book	Y.24.065, 0.50 mm kalınlıkta, sıcak daldırma galvaniz üzeri boyalı düz sacdan eksiz oluk yapılması ve yerine montajı (Sac genişliği toplam 30 cm), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ34	Two layers of anticorrosive, two layers of synthetic paint on iron surfaces	m²
Description/ Specifications	Abrasive and wire brush cleaning of iron manufacturing surfaces, 0,100 kg 1st layer, 0,100 kg 2nd layer (each layer of different colors) anticorrosion application, 0,100 kg 1st layer, 0,100 kg 2nd layer paint with synthetic paint in desired color, all kinds 1 m2 price including material and casualty, labor, contractor general expenses and profit: MEASURE : a) Painted surfaces are measured in furniture. b) In doors and partitions; 1) For those with a wire frame; two sides are measured from plaster to plaster. 2. Case areas are included in the size of the two faces in the vertical plane from the case to the case. 3) In cases with casing and moldings, the frame is added to the casing from the sill to the size of the two sides. 4) In all dimensions, recesses, protrusions and glass gaps are not included. If there is a lath on the window, the measure is taken from here. c) In windows and windows; 1) In the window and sill windows; The windows in the vertical plane are measured on the plaster side of the plaster due to the plaster on the windows without wedge. Only one surface is taken into account, two surfaces are painted. If glass void is not removed, sills, casings and edges are also measured and added to the area. 2) Double windows are measured exactly, the wooden case between two windows is measured separately and the area is added. Both sides of each window is painted, one face is calculated. The glass gap is not removed. d) In the fence and railings, the projection area of a face in the vertical plane is measured. No clearance. e) Columns, roof trusses, beams, curves and similar iron-painted faces are measured.	
Related official pose/item number, book	Y.25.002/02, Demir yüzeylere iki kat antipas, iki kat sentetik boya yapılması, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ35	Application of two coats of water-based matte paint on the new plaster surfaces (interior)	m ²
Description/ Specifications	<p>Surface to be painted is to be grinded, smoothened and cleaned from foreign contaminants and dust. Tack coat is to be applied as 0,150 kg per square meter. First coat of the interior paint is to be applied as 0,100 kg per square meter, second coat of the interior paint is to be applied as 0.100 kg per square meter. Procurement, vertical and horizontal transportation, wastage, workmanship, manpower & equipment costs, loading & unloading are included.</p> <p>Means of Measurement: As per the dimensions defined in the project, including all surfaces subject to the interior paint by deducting empty areas, per sq. m</p> <p>Remarks: Area to be painted over 3 meters requires scaffolding, which will be included in the price. If stucco or plaster works already have scaffolding included, scaffolding will not be paid for interior paint.</p>	
Related official pose/item number, book	Y.25.003/15, Yeni sıva yüzeylere astar uygulanarak iki kat su bazlı mat boya yapılması (iç cephe), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ36	Water based exterior paint with silicone additives to be applied on concrete, plaster, stucco or existing paint with primer (Exterior surfaces)	m ²
Description/ Specifications	<p>Surface to be painted is to be grinded, smoothened and coarse areas & irregularities to be eliminated. Tack coat is to be applied as 0,150 kg per square meter. First coat of the exterior paint is to be applied as 0,180 kg per square meter, second coat of the exterior paint is to be applied as 0.120 kg per square meter. Procurement, vertical and horizontal transportation, wastage, workmanship, manpower & equipment costs, loading & unloading are included.</p> <p>Means of Measurement: As per the dimensions defined in the project, including all surfaces subject to the exterior paint by deducting empty areas, per sq. m</p> <p>Remarks: Area to be painted over 3 meters requires scaffolding, which will be included in the price. If stucco or plaster works already have scaffolding included, scaffolding will not be paid for interior paint.</p>	
Related official pose/item number, book	Y.25.004/04, Brüt beton, sıvalı veya eski boyalı yüzeylere, astar uygulanarak silikon esaslı su bazlı boya yapılması (dış cephe), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ37	First class, all type, color and texture, 40 x 40 cm ceramic tile and wall & floor tile with 3 mm joint installation (With tile adhesive)	m ²
Description/ Specifications	<p>Surface to receive tiles is to be cleaned of foreign contaminants such as dust, dirt or oil and dampened to receive cement based high performance skid resistant extended working time tile adhesive. Tile adhesive shall be spreaded by using tiling trowels. First class, all type, color and texture, 40 x 40 cm ceramic tile and wall & floor tile shall be installed straight and true to the slope with 3 mm joints. Joints shall be filled with cement based joint filler as the color specified. Tile surfaces shall be cleaned after joint treatment. Procurement, vertical and horizontal transportation, wastage, workmanship, manpower & equipment costs, loading & unloading are included.</p> <p>Means of Measurement: As per the dimensions defined in the project by considering the skirting boards.</p>	
Related official pose/item number, book	Y.26.005/403, 40 x 40 cm anma ebatlarında, her türlü desen ve yüzey özelliğinde, ı.kalite, renkli seramik yer karoları ile 3 mm derz aralıklı döşeme kaplaması yapılması (karo yapıştırıcısı ile), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ38	Made of marble aggregated concrete, ready made, equipped with flat sheet, window sill, parapet or a scoop (all kinds of surface treatment)	m ²
Description/ Specifications	Surface to receive the members shall be properly cleaned and dampened. Window sill, parapet or coping shall be prepared as one piece by using a mix design having 400 kg cementitious	

	material. Installation and preparation shall be done as per the technical specification. Procurement, vertical and horizontal transportation, wastage, workmanship, manpower & equipment costs, loading & unloading, administrative costs and contractor profit are included. Means of Measurement : As per the dimensions defined in the Project.
Related official pose/item number, book	Y.26.015/251, Mermer agregalı betondan yapılmış hazır teçizatlı düz levha ile denizlik parapet veya harpuşa yapılması (her türlü yüzey işlemli), Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Civ39	Covering with 8 cm height normal cement steam cured concrete paving stone (every size, color and pattern)	m²
Description/ Specifications	The price includes; Leveling of the base, laying 10 cm thickness sand, Covering with 8 cm height normal cement steam cured concrete paving stone in the desired slope and joint gap, sweeping after paving, loading at the construction site, horizontal and vertical transportation, unloading, all kinds of material and losses, Measurement: The area of the covered calculated in accordance with the shop drawings approved by the Engineer.	
Related official pose/item number, book	Y.26.017/032, 8 cm yüksekliğinde normal çimentolu buhar kürlü beton parke taşı ile döşeme kaplaması yapılması. (her ebat, renk ve desende), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ40	Paving 30 x 10 x (Project specific) cm, steam cured, regular cement concrete gutter stone (All colors)	m
Description/ Specifications	In accordance with the shop drawings approved by the Engineer and technical requirements, supply and paving of 30 x 10 x (Project specific) cm, steam cured, regular cement concrete gutter stone, filling joints between two gutter stone with 400 dosage cement mortar. Procurement, vertical and horizontal transportation, wastage, workmanship, manpower & equipment costs, loading & unloading, administrative costs and contractor profit are included. Means of Measurement: As per the dimensions defined in the Project.	
Related official pose/item number, book	Y.26.017/128, 30 X 10 X serbestboy cm boyutlarında normal çimentolu buhar kürlü beton oluk taşı döşenmesi (her renk), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ41	Plastering with 250/350 kg cement dose, coarse and fine mortar (exterior plastering)	m²
Description/ Specifications	Price of 1 m ² ; 2 cm average thickness of coarse plastering with mortar as mixture of 250 kg cement per 1 m ³ of coarse sand, 0,8 cm average thickness of fine plastering with mortar as mixture of 350 kg cement per 1 m ³ of fine sand, cleaning the wall surface, required amount of watering, all kinds of material and lost, labor, working tables, loading at the construction site, horizontal and vertical transport, unloading, including the overhead costs of the contractor. SIZE: All surfaces of plaster are calculated on the project.	
Related official pose/item number, book	Y.27.501/01 "250/350 kg çimento dozlu kaba ve ince harçla sıva yapılması (dış cephe sıvası)" Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ42	Plastering with 200/250 kg lime / cement mixture, coarse and fine mortar (interior wall plastering)	m²
Description/ Specifications	Price of 1 m ² ;	

	2 cm average thickness of coarse plastering with mortar as mixture of 200 kg cement and 0,128 ton bagged hydrated lime per 1 m3 of coarse sand, 0,8 cm average thickness of fine plastering with mortar as mixture of 250 kg cement and 0,076 ton bagged hydrated lime per 1 m3 of fine sand, cleaning the wall surface, required amount of watering, all kinds of material and lost, labor, working tables, loading at the construction site, horizontal and vertical transport, unloading, including the overhead costs of the contractor. Means of Measurement : As per the dimensions defined in the project.
Related official pose/item number, book	Y.27.501/02 "200/250 kg kireç/çimento karışımı kaba ve ince harçla sıva yapılması (iç cephe sıvası)" Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Civ43	200 kg cement dose levelling coat	m²
Description/ Specifications	The price of 1 m2; As per its Project, cleaning and washing of the surface, 3 cm average thickness screeded levelling with mortar as mixture of 200 kg cement per 1 cubic meter of coarse, watering as required, procurement, vertical and horizontal transportation, loss, workmanship, manpower & equipment costs, loading & unloading, administrative costs and contractor profit. Mixture shall be compacted with a screed during placement. Means of Measurement: As per the dimensions defined in the Project.	
Related official pose/item number, book	Y.27.581, "200 kg çimento dozlu tesviye tabakası yapılması", Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ44	Installation of double-glazed glass window unit with 4 + 4 mm thickness, 12 mm spacing to PVC and aluminum joinery profile	m²
Description/ Specifications	4 + 4 mm thick, double glazed window unit with 12 mm spacing, according to the size of the place where the installation will be installed, putting the wedges into the glass slot and placing the glass in the slot, the profile and the fit of the roving, the balance of the unit with the glazing wedges, the neutralization of the profiles to the joints (neutral) silicone shrinkage, construction site loading, horizontal vertical transport and unloading, all kinds of materials and damage, labor equipment expenses, contractor general expenses and profit MEASUREMENT: The areas in which the glass is installed are calculated according to the dimensions in the project. NOTE: Profile and rovings are paid at their chopping pose	
Related official pose/item number, book	Y.28.645/C02, "Pvc ve alüminyum doğramaya profil ile 4+4 mm kalınlıkta 12 mm ara boşluklu çift camlı pencere ünitesi takılması", Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ45	Formation of steam cured 500 Dose Precast Manhole base (h=0.6m, with rubber joints) with Ø 200 outlet (one out and one inlet)	piece
Description/ Specifications	Manufactured or purchased, making all kinds of experiments, steam cured manhole prefabricated base elements those of manhole, to be ready on the edge of the excavation pit, chimney excavation pit on the edge of whether leveling the base and improvement made, to be placed in accordance with the lowering of the project the foundation base, all kinds of necessary costs , and casualties, loading the workplace, horizontal and vertical transport, unloading, labor, including contractor's general expenses and profits, (steam cured precast manhole entering the manufacturing base element concrete, iron, cement, transportation to the sand and gravel to the construction site storage, installation of this transport, unloading and manufactured by stacking	

	the cost of steam cured manhole construction site as the transmission of the manhole prefabricated base element and installation of this transport, unloading and stacking price, are included.) h = 0.60 m. 500 high dose of steam cured manhole base element made of prefabricated manhole form; 1 piece's price: Measurement: According to the project, within the manufacturing registered parcel manholes, manhole prefabricated steam cured, the amount denominated in pieces of the base member.
Related official pose/item number, book	12.2190/1, "Buhar kürlü 500 dz.prefabrik taban elemanı ile parsel bacası teşkili (h=0.60 mt.,birleşim yerleri lastik contalı)", İller Bank

Item no:	Item	Unit
Civ46	Formation of steam Cured 500 Doses Precast Manhole Riser (h= 0.50 m, Joints with 600 Dose Mortar)	piece
Description/ Specifications	Made within the current conditions and principles or purchased, all kinds of experiments are performed, has been accepted by the bank, steam curing of the manhole prefabricated concrete cover, to be ready on the edge of the manhole excavation pit, manhole taken from the edge of the excavation pit, according to the project, to be placed on the manhole, all kinds of necessary expenses and casualties, loading the workplace, horizontal and vertical transport, unloading, labor, including contractor's general expenses and profits, (Manhole entering the manufacture of precast concrete lid, iron, cement, transportation to the sand and gravel to the construction site storage, installation of this transport, unloading and manufactured by stacking the cost of steam cured manhole construction site as the transmission of the precast concrete lid and installation of this transport, unloading and stacking price, are included.) 500 dose steam cured manhole made of prefabricated body elements constituting the manhole; 1 pieces price. Measurement: which is registered under the Project, within the manufacturing manhole, steam-cured manhole prefabricated body element has, in terms of the pieces' amount.	
Related official pose/item number, book	12.2190/2, "Buhar kürlü 500 dz.prefabrik gövde elemanı ile parsel bacası teşkili (h=0.50 mt.,birleşim yerleri 600 doz harçlı)", İller Bank	

Item no:	Item	Unit
Civ47	Formation of 500 dz. 1-meter diameter precast, and steam cured inspection manhole with rubber gasket and conical apparatus installation	piece
Description/ Specifications	Procurement or prouction of 1 to 1,2 meter internal diameter steam cured prefabricated inspection chimney with 0,13 meter wall thickness as per the standards defined under item number 08.1576/1 - 08.1576/2. All necessary tests shall be performed and the final produt shall be approved by the bank. Conical apparatus shall be readied next to the excavation pit and lowered. Rubber gaskets in accordance with TS 5434 shall be procured. Upon the completion of the inspeciton and laboratory tests, rubber gasket shall be installed by hand to the conical apparatus body ring as airtight. Both ends of the conical apparatus shall be tested for air thghtness. Procurement, vertical and horizontal transportation, wastage, workmanship, manpower & equipment costs, loading & unloading, administrative costs and contractor profit are included. Transportation, handling and storage costs of prefabricated inspection chamber such as sand, cement, aggregate to the construction yard or within the construction yard are included to the prices. Means of Measurement: As per the project requirements, per complete unit. Remarks: 1) Transportation and handling of the outsourced conical apparatus from the warehouse to the excavation pit shall be included to the price. 2) Maximum allowable working space to be paid is additional 2x0,50 meters to the chimney base dimensions. 3) Benching or sloping of the excavation pit is not included in this working space.	

	4) If the excavation of the pit is smaller in diameter mentioned in item 3, payment will be done as per the actual dimensions on site.
Related official pose/item number, book	12.2192/1, "1.00mt iç çapında buhar kürlü, lastik contalı, 500 dz.prefabrik muayene bacası konik elemanı ile baca teşkili", İller Bank

Item no:	Item	Unit
Civ48	Formation of steam cured, 500 dose precast manhole with structure height adjustment ring (h=specific to project, Joints with 600 Dose Mortar)	m
Description/ Specifications	<p>Made within the current conditions and principles or purchased, all kinds of experiments are performed, has been accepted by the bank, steam curing of the manhole prefabricated body height adjust elements, to be ready on the edge of the chimney excavation pit, chimney taken from the edge of excavation, according to the project, necessary for the placement on the body member, all expenses, and casualties, loading the workplace, horizontal and vertical transport, unloading, labor, including contractor's general expenses and profits, (steam cured within the manufacturing manhole prefabricated housing height adjustment element, cement, transportation to the sand and gravel to the construction site storage, installation of this transport, unloading and manufactured by stacking the cost of steam cured manhole prefabricated housing height adjustment element has; construction as the transmission and installation of transport, unloading and stacking price, are included.) 500 dose steam cured manhole made of prefabricated chimney constituting actuator body height; 1 meter price.</p> <p>Measurement: which is registered under the Project, within the manufacturing manhole, the manhole is the amount of steam cured prefabricated housing element has height adjustment meters.</p>	
Related official pose/item number, book	12.2190/4, "Buhar kürlü 500 dz.prefabrik gövde yüksekliği ayar elemanı ile parsel bacası teşkili (h=değişken. birleşim yerleri 600 doz harçlı.)", İller Bank	

Item no:	Item	Unit
Civ49	Supply and placing of BS 18 concrete (350 doses) precast concrete manhole cover with frame	piece
Description/ Specifications	<p>Made within the current conditions and principles or purchased, all kinds of experiments are performed, has been accepted by the Engineer, steam curing of the manhole prefabricated concrete cover, to be ready on the edge of the chimney excavation pit, chimney taken from the edge of the excavation pit, according to the project, to be placed on the manhole, all kinds of necessary expenses and casualties, loading the workplace, horizontal and vertical transport, unloading, labor, including contractor's general expenses and profits, (Parcel chimney entering the manufacture of precast concrete lid, iron, cement, transportation to the sand and gravel to the construction site storage, installation of this transport, unloading and manufactured by stacking the cost of steam cured manhole construction site as the transmission of the precast concrete lid and installation of this transport, unloading and stacking price, are included) BS 18 concrete (350 doses) been manufactured with, the manhole will be placed on the precast concrete manhole cover; 1 piece's price:</p> <p>Frame price is included.</p> <p>Measurement: It is manufactured according to the standards and technical specifications related to the project, and the manhole cover was placed over the precast concrete elements, in terms of the pieces' amount.</p>	
Related official pose/item number, book	12.2190/5, "Bs 18 betonu (350 dz.lu) ile imal edilmiş çerçevesiz prefabrik betonarme kapağın parsel bacası üzerine yerleştirilmesi (bahçedeki parsel bacaları için)", İller Bank	

Item no:	Item	Unit
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Civ50	Facade cladding with aluminium composite panel, mineral filled (without heat insulation)	m²
Description/ Specifications	According to the project 4 mm. Wall thickness Aluminum Composite Panel (0,50mm + 3mm + 0,50mm) Thickness of 0,50 mm (EN AW 3000 Series) between the aluminum sheets 3 mm thick mineral filled The visible outer side of aluminum sheets min. 28 microns thick PVDF painted aluminum sheets and interlining primer painted composite panel (Fire Grade: A2 S1 d0) plates, facade cladding, box profile of the main carrier system, anchoring the wall surface plumbing, anticorrosion painting against corrosion, 28 micron thickness Connection of PVDF painted aluminum plates to joint elements, sealing and sealing of the main carrier joint gaps with aluminum laths from the aluminum plates, all kinds of material, casualties, labor, equipment and expenses, manufacturing and / or transport of material to the workplace and vertical transport, unloading, installation, contractor and general expenses	
Related official pose/item number, book	P-002/A1, "Mineral dolgulu kompozit alüminyum levhalar ile cephe kaplaması yapılması (ısı yalıtımsız)", PTT General Directorate	

Item no:	Item	Unit
Civ51	Permanent Project Signboard with foot pedestal	piece
Description/ Specifications	Supply and installation of site signboard with foot pedestal in accordance with specifications and dimensions identified by the Design Drawing for permanent project site signboard. All kind of works related to the signboard are included to this price, including materials, workmanship, transportation for printing, painting, iron works, concrete foundation. The signboard will be placed to the point approved by the Engineer prior to completion of works.	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Civ52	Supply and installation of prefabricated container building	Lump-sum
Description/ Specifications	<p>The price is for supply and installation of prefabricated container building including all architectural, civil, mechanical and electrical works according to the shop drawings approved by the Engineer in accordance with the design drawings for prefabricated container building.</p> <p>Specifications: EXTERIOR WALLS: 50mm H=2640mm (Indoor height H=2360mm) EXTERIOR WALL SYSTEM: 50mm POLYURETHANE (38-40kg/m3) (fire rating B1) SANDWICH PANEL CLADDING (exterior surface of sheet metal thickness 0.50 mm (0.45 mm raw materials +0.02mm zinc + 0.03mm paint). Both sides of sandwich panel will be painted RAL 9002 INTERIOR WALL SYSTEM: 50mm (38-40kg/m3) (fire rating B1) (exterior surface of sheet metal thickness 0.50 mm (0.45 mm raw materials +0.02mm zinc + 0.03mm paint).Both sides of sandwich panel will be painted RAL 9002. Inner side will have rough surface. FRAME :3mm thickness sheet metal BASE: At the bottom, 0.50 mm thickness, galvanized corrugated steel sheet subframe CEILING: 0.50 mm thickness, galvanized corrugated steel sheet will be mounted on 40x60x2mm RHS structure. Rain water from the roof to be drained into free flowing. Ceilling finish will be 0.50 mm thickness sheet metal. INSULATION: 100mm 14 kg/m3 glass-wool (Insulation density should be selected according to mechanical calculating) PLUMBING, PIPES AND FITINGS: Clean water pipes and fittings (pprc) will be hard plastic material. DOORS AND WINDOWS DOOR FRAME: 1.20 mm Galvanized sheet metal which has electrostatic powder coated will be processed cold forming under pressure. Door will be american panel. EXTERIOR DOOR: White painted sheet metal door (one leaf)</p>	

	<p>WC DOORS: White PVC door (one leaf)</p> <p>All electrical works inside the container are included to this price (such as lighting sorties, commutator lighting sorties, parallel lighting sorties, power socket sorties, sockets with grounding plug) and shall be executed in line with the design drawings of the container building.</p> <ul style="list-style-type: none"> • All sockets shall have grounding connections. • Sockets shall be mounted 50cm high from the floor. • Electric panel boards entrance shall have automatic switch (w-otomat) • All used material should have TSE certificate • Lights shall be led and energy saving globe according to Necessary lighting violence • C type globe light should be used above the exterior door. • for wiring, 2x1,5 mm² NYM /2X2,5mm² NYM and 1,5mm² NYA shall be used for lighting installation • 3x2,5 mm² NYM wire shall be used for socket installation • 16x25mm² pvc cable duct shall be used for Inner installation line and wiring outlet <p>WINDOWS: According to the window dimensions of the project; PVC frame and 4+12+4mm glass unit will be used for all exterior windows. 4mm frosted glass will be used for wc window. Openable windows shall have bug screens.</p> <p>The mechanical works, such as half pedestal basin, faucet, mirror, whatnot, closet (and/or pan closet), bidet nozzle, sanitary installation, tap and waste water piping, is included to this price, and shall be executed in line with the following specifications;</p> <p><u>Approx. 45X55 cm half pedestal basin:</u></p> <p>With fixed soap dispenser, self-overflow, white colored, Washbasin assembly with wall plug and screw, should be in accordance with 305/2011 / EU Building Materials Directive, and have CE mark of conformity</p> <p><u>First class faucet:</u> TS EN 200 SIPHON TS-EN274-1-2-3</p> <p>Brass chrome plated, or plastic based (acetal copolymer), quality certified, with 15 mm tap and badge or battery certified according to TS-EN 274-1-2-3, in a type which can be removed and cleaned, with 6 cm odor fermentor, minimum 16cm extension part and rosette, brass chrome plated or hard plastic base, according to TS-EN 274-1-2-3 dismantled and cleaned, at least 80 ° C temperature and acid resistant, 32 mm. squeezed siphon and drain pipe connection adapter</p> <p><u>Mirror:</u> 40x60 cm</p> <p>The thickness of the glass is 5 mm. Wall connection screws shall be made of brass material and minimum 5-micron nickel plated or stainless steel. Assemble the mirror wall hanger on the wall with screws and dowels. The mirrors shall be supplied to the market with the CE mark of conformity in accordance with the 305/2011 / EU Building Materials Regulation.</p> <p><u>Whatnot 50x10 cm</u></p> <p>5 mm. thick, cleanly polished, painted with chamfered silver lining on the edges and back with a coat of synthetic oil paint on the back of gun and sachet; 4 pieces of stainless steel to the wall and the mirror to fit exactly in the mirror. ø 40 mm. and 4 mm. The thickness of the cork is duly placed in the chock or dubelle on the wall instead of the installation.</p> <p><u>Closet:</u></p> <p>65X35 cm</p> <p>Made of white colored glazed ceramic with a hard-plastic seat cover and a reservoir made of ceramic with a capacity of at least 13 lt; 15 lt capacity brass chrome plated and quality certificated, reservoirs and lathing taps, copper intermediate pipe, badges and chromed fixing screws and wedges.</p> <p>The price excludes the air conditioners.</p>
Related official pose/item number, book	Not applicable

Item no:	Item	Unit
Civ53	Traffic sign boards	piece
Description/	The sign boards shall be in compliance with the official "Technical Specifications of Highway".	

Specifications	<p>Drivers and application sheets and strips to protect pedestrians, interior signs 12 cm wide cut white striped drawing, external signs 12 cm wide white striped ribbon for continuously drawing and stop drawing lines is 30 cm white line Traffic sign board including all kinds of materials and workmanship for the adhesion of reflex materials by painting, writing and marking with all the standard traffic sign boards and galvanized profiles suitable for the highway specifications and mounting in place.</p> <p>The implementation of traffic signs and plates for the purpose of protecting drivers and pedestrians:</p> <p>For inner signalization, white dashed lines with width of 12 cm.</p> <p>For outer signalization, white continuous lines with width of 12 cm.</p> <p>For STOPPING LINES, white line with width of 30 cm.</p>
Related official pose/item number, book	Not applicable

Item no:	Item	Unit
Civ54	Panel Fence	m
Description/ Specifications	<p>Price includes supply and installation of panel fence, fence posts and installation accessories as per the below specifications, in accordance with the shop drawings approved by the Engineer and/or the design drawings.</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Each panel should be 150 cm height and 250 cm width • Fence wires should have clean surface • Fence wires should be hot-dip galvanized. • Galvanized rate: 40–60 gr/m² • High wire thickness minimum 4,5 mm • Short wire thickness :minimum 4,5 mm • Horizontal interocular distance: 50 mm • Vertical interocular distance: 150 mm • Panel fence should have minimum 4 plies to prevent twisting as shown in the detail drawings. • Panel fence should be painted electrostatic polyester paint. • 80–100 mikron paint thickness • RAL 6005 paint colour and % 90 Brightness intensity <p>Fence Post Specifications:</p> <ul style="list-style-type: none"> • 152 cm fence post height. • 50mm x 50mm fence post's rectangular hollow steel should be bended from 1.5 mm hot-dip galvanized sheet steel • Galvanize density 40–60 gr/m² • Post should have minimum 4 pieces of hole (diameter :12 mm) for clips mounting. • 6 mm thickness (120mm x 120 mm) Base steel sheet Post mounting to the concrete should have 120 mm x 120 mm and 6 mm (thickness) steel sheet base. • Steel sheet base should be hot-dip galvanized. It should drilled 15 mm diameters holes on it for screwdriving. • Fence post should be painted electrostatic polyester paint. • 80–100 mikron paint thickness • RAL 6005 paint colour and % 90 Brightness intensity <p>Fence accessory specifications:</p> <ul style="list-style-type: none"> • 12mm plastic dowel for fence post mounting on the concrete base • 12mm transformer screw for fence post mounting on the concrete base • Transformer screw should be hot-dip galvanized. • Galvanized rate : 40–60 gr/m² • Polyamide fastening type clips for fences mounting to the posts. • Polyamide tops for covering top of the fence posts. • Clips and tops colours should be same as fence and posts. 	

	<ul style="list-style-type: none"> Plastic accessories shall have UV protection. <p>Note : Construction of concrete perimeter walls and/or retaining walls which the fence will be built on is not included to the price. The quantity will be calculated as per the installed meters of the fence on the site. No payment will be made for loss.</p>
Related official pose/item number, book	Not applicable

Item no:	Item	Unit
Civ55	Sliding Entrance Gate (Panel fence)	Lump-sum
Description/ Specifications	<p>Price includes supply and installation of panel fence, fence posts and installation accessories as per the below specifications, in accordance with the shop drawings approved by the Engineer and/or the design drawings.</p> <p>The gate shall be made of same panels used for the fence .</p> <p><u>150x600 cm Panel Fence Entrance Gate Specifications:</u></p> <p>Main bearing Posts: (height: 200cm) Gate main posts should be constructed from 50x50x2mm RHS (as shown in landscaping design drawings)</p> <ul style="list-style-type: none"> -50mm x 50mm fence post's and connection rectangular hollow steel should be bended from 1.5 mm hot-dip galvanized sheet steel - Main Post should have same as specifications of fence posts. - 50x50x2mm RHS post should have steel sheet base for mounting on the concrete base. <p>Entrance Gate: Gate should be made from fence panel. Gate must have enough wheels to support the weight. 1200 cm (5mm steel) rail should be mounted on the concrete base. Panel fence, fence posts and accessories shall have the same specifications with the item Civ54, Panel Fence</p>	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Civ 56	Supply and planting of conifer trees	piece
Description/ Specifications	The price of supply and planting of 1 sapling with the specifications (Sizes, species) in accordance with landscape project; including sapling, transportation, preparation of sapling pits, workmanship, leveling and watering.	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Civ 57	Supply and planting of broad-leaved trees	piece
Description/ Specifications	The price of supply and planting of 1 sapling with the specifications (Sizes, species) in accordance with landscape project; including sapling, transportation, preparation of sapling pits, workmanship, leveling and watering.	
Related official pose/item number, book	Not applicable	

Civ 58	Supply and planting of bushes	piece
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Description/ Specifications	The price of supply and planting of 1 sapling with the specifications (Sizes, species) in accordance with landscape project; including sapling, transportation, preparation of sapling pits, workmanship, leveling and watering.
Related official pose/item number, book	Not applicable

Item no:	Item	Unit
Civ 59	Supply and laying of top soil	m³
Description/ Specifications	Supply and laying of top soil in 20 cm thickness. In the top soil, the stone, pebbles and lime particles and fuel leakage, tar, oils and greasy substances and rubble, plastics and dirty wastes, which exceed 50 mm in size, will not be present. Price also includes transportation. Measurement; The amount of top soil will be calculated by multiplying the leveled area and the thickness.	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Civ 60	Smoked color chamfered mirror (5mm thickness)	m²
Description/ Specifications	Supply and installation of smoked color chamfered mirror	
Related official pose/item number, book	MSB.812/A, Bizuteli füme renkli ayna (5 mm kalınlığında), Republic of Turkey Ministry of Defence	

Item no:	Item	Unit
Civ 61	Deceleration warning,stripe lines and pedestrian crossings, with 2 mm thick double component paint	m²
Description/ Specifications	The price of 2 mm thick double component painting in accordance with the design drawings.	
Related official pose/item number, book	KGM/60.206, 2 mm kalınlığında çift komponentli boya ile yaya geçitleri, yavaşlama uyarı ve şerit çizgilerinin çizilmesi, Republic of Turkey General Directorate of Highways	

Item no:	Item	Unit
Civ 62	Supply, installation and assembly of framing construction with any type of profiled steel, steel bars and sheets	ton
Description/ Specifications	Supply, installation and assembly of framing construction with any type of profiled steel, steel bars and sheets (framing construction, bridge beams using profiled steel, connections and similar construction)	
Related official pose/item number, book	Y.23.101, Her çeşit profil, çelik çubuk ve çelik saçlarla karkas, (çerçeve) inşaat yapılması, yerine tespiti, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ 63	Laying of Concrete border (chamfered, any colour) (50 x 20 x 10 cm)	m
Description/ Specifications	Laying of Concrete border (chamfered, any colour) (50 x 20 x 10 cm) in accordance with its project.	
Related official pose/item number, book	Y.26.017/065, 50x20x10 normal çimentolu beton bordür döşenmesi, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ 64	Laying of Concrete border (chamfered, any colour) (75 x 30 x 15 cm)	m
Description/ Specifications	Laying of Concrete border (chamfered, any colour) (75 x 30 x 15 cm) in accordance with its project.	
Related official pose/item number, book	Y.26.017/067, 50x20x10 normal çimentolu beton bordür döşenmesi, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Civ 65	Field concrete (concrete pavement)	m³
Description/ Specifications	<p>This price includes materials (concrete, formwork/metal side forms, joint sealants and fillers), equipment, labor, tools for;</p> <ul style="list-style-type: none"> • Concreting of C 30/37 compressive strength class concrete • Sawing • Grinding • Joints • Placing and removing forms • Spreading and Finishing <p>in accordance with "Field concrete expansion and Shrinkage Joint Plan". Mesh reinforcement is not included to this price and will be paid by the item Civ26.</p>	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Civ 66	Pipe bedding-padding (side fill) with 0-30 mm fine aggregate (crushed stone)	m³
Description/ Specifications	This price includes supply, transportation, laying and compaction of the aggregate in accordance with the shop drawings approved by the Engineer.	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Civ 67	Demolition works for concrete materials	m³
Description/ Specifications	<p>Demolishing and transporting of concrete from existing structures(i.e. retaining wall) on the site. The work includes excavation for existing foundations, cutting of steel bars and steel bunker, loading of concrete rubble, transporting to the dump site and up-loading concrete rubble. Any fee related to the dump site and transportation to the dump site shall be included to this price.</p> <p>Steel bunker will not be transported to the dump site.</p> <p>Explosives can not be used for demolition.</p> <p>Measurement; The quantity will be calculated in accordance with the measurements of dimensions on site by Engineer.</p>	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Civ 68	Demolition works for non-concrete materials /compacted soil	m³
Description/	Demolishing and transporting of non-concrete materials/compacted soil from existing structures	

Specifications	(i.e. ramp made of compacted soil) on the site. The work includes excavation of the compacted soil ramp loading of non-concrete rubble, transporting to the dump site and up-loading rubble. Any fee related to the dump site and transportation to the dump site shall be included to this price. Measurement; The quantity will be calculated as volume in accordance with the measurements of dimensions on site by Engineer.
Related official pose/item number, book	Not applicable

Item no:	Item	Unit
Civ 69	Demolition works for cobble stone pavement	m²
Description/ Specifications	Demolition of cobble stone and piling of cobble stone pavement. The work includes excavation of the cobble stone and sorting and piling up on the site. The cobble-stone, and steel bunker will not be transported to the dump site, they shall be sorted and piled up on the site. Measurement; The quantity will be calculated as area in accordance with the measurements of dimensions on site by Engineer.	
Related official pose/item number, book	Not applicable	

Mechanical Works

Item no:	Item	Unit
Mec01	Polyethylene pipe; outside diameter Ø40 mm, PE100 class, SDR 17, PN 10	m
Description/ Specifications	In accordance with TS EN 12201-2:2011+A1, supply and installation of polyethylene pipes, Outdoor installation of polyethylene pipe in channels including pipe installation materials Installation costs are included to the price.	
Related official pose/item number, book	204.812/B, "Dış çap ø40 mm pe100 sınıfı sdr 17 serisi pn 10 polietilen boru (bina dışında kanallar içinde döşenen polietilen boru montaj malzemesi bedeli dahil), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec02	Polyethylene pipe; outside diameter Ø50 mm, PE100 class, SDR 17, PN 10	m
Description/ Specifications	In accordance with TS EN 12201-2:2011+A1, supply and installation of polyethylene pipes, Outdoor installation of polyethylene pipe in channels including pipe installation materials Installation costs are included to the price.	
Related official pose/item number, book	204.813/B, "Dış çap ø50 mm pe100 sınıfı sdr 17 serisi pn 10 polietilen boru (bina dışında kanallar içinde döşenen polietilen boru montaj malzemesi bedeli dahil)", Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec03	Polyethylene pipe; outside diameter Ø63 mm, PE100 class, SDR 17, PN 10	m
Description/ Specifications	In accordance with TS EN 12201-2:2011+A1, supply and installation of polyethylene pipes, Outdoor installation of polyethylene pipe in channels including pipe installation materials Installation costs are included to the price.	
Related official pose/item number, book	204.814/B, Dış çap ø63 mm pe100 sınıfı sdr 17 serisi pn 10 polietilen boru (bina dışında kanallar içinde döşenen polietilen boru montaj malzemesi bedeli dahil), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
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Mec04	Laying HDPE based, corrugated sewer pipe with nominal diameter of Ø 100 mm	m
Description/ Specifications	<p>The price includes;</p> <ul style="list-style-type: none"> Supply of HDPE-based corrugated sewage pipes manufactured in compliance with Pr EN 13476-1; Handling, placing and laying of HDPE corrugated pipes into the ditches by workers in line with the specifications and related standards; Supply and installation of the rubber sealing in compliance with TS EN 681/1 and other related standards; Following the test and inspection of supplied rubber seals, connecting the pipe heads with pipe collars and seals; In line with the related standards, supply of all kind of fittings and miscellaneous materials for leak testing in line with the related standards; All kinds of materials and loss required by all kinds of fasteners and misfires, including all kinds of labor costs, equipment and equipment expenses, horizontal, vertical transport, loading, unloading, contractor profit and overhead expenses for installation of HDPE-based corrugated pipe; Loading, unloading and stacking of this carriage to the construction site from the factory; <p>All kind of tests and inspection of the corrugated pipes shall be completed prior to laying of pipes. SIZE: It is calculated as the meter over the actual length of the layed pipe.</p>	
Related official pose/item number, book	04.290/61, "Ø100 mm anma çaplı koruge kanlızasyon boruları (SN8)", Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec05	Laying HDPE based, corrugated sewer pipe with nominal diameter of Ø 200 mm	m
Description/ Specifications	<p>The price includes;</p> <ul style="list-style-type: none"> Supply of HDPE-based corrugated sewage pipes manufactured in compliance with Pr EN 13476-1; Handling, placing and laying of HDPE corrugated pipes into the ditches by workers in line with the specifications and related standards; Supply and installation of the rubber sealing in compliance with TS EN 681/1 and other related standards; Following the test and inspection of supplied rubber seals, connecting the pipe heads with pipe collars and seals; In line with the related standards, supply of all kind of fittings and miscellaneous materials for leak testing in line with the related standards; All kinds of materials and loss required by all kinds of fasteners and misfires, including all kinds of labor costs, equipment and equipment expenses, horizontal, vertical transport, loading, unloading, contractor profit and overhead expenses for installation of HDPE-based corrugated pipe; Loading, unloading and stacking of this carriage to the construction site from the factory; <p>All kind of tests and inspection of the corrugated pipes shall be completed prior to laying of pipes. SIZE: It is calculated as the meter over the actual length of the layed pipe.</p>	
Related official pose/item number, book	12.2202, Ø200 mm anma çaplı hdpe esaslı koruge kan.borusunun döşenmesi, İller Bank	

Item no:	Item	Unit
Mec06	Laying HDPE based, corrugated sewer pipe with nominal diameter of Ø 300 mm	m

Description/ Specifications	<p>The price includes;</p> <ul style="list-style-type: none"> Supply of HDPE-based corrugated sewage pipes manufactured in compliance with Pr EN 13476-1; Handling, placing and laying of HDPE corrugated pipes into the ditches by workers in line with the specifications and related standards; Supply and installation of the rubber sealing in compliance with TS EN 681/1 and other related standards; Following the test and inspection of supplied rubber seals, connecting the pipe heads with pipe collars and seals; In line with the related standards, supply of all kind of fittings and miscellaneous materials for leak testing in line with the related standards; All kinds of materials and loss required by all kinds of fasteners and misfires, including all kinds of labor costs, equipment and equipment expenses, horizontal, vertical transport, loading, unloading, contractor profit and overhead expenses for installation of HDPE-based corrugated pipe; Loading, unloading and stacking of this carriage to the construction site from the factory; <p>All kind of tests and inspection of the corrugated pipes shall be completed prior to laying of pipes.</p> <p>SIZE: It is calculated as the meter over the actual length of the layed pipe.</p>
Related official pose/item number, book	12.2203, Ø300 mm anma çaplı hdpe esaslı koruge kan.borusunun döşenmesi, İller Bank

Item no:	Item	Unit
Mec07	3.75m³ prismatic modular stainless-steel water tank including installation/montage material	piece
Description/ Specifications	<p>Supply and installation of modular water tank completely made of AISI 304 stainless-steel; All internal, external materials, tension rods, bolts, feet, manhole, vent and connection material shall be made of stainless material, stainless steel or brass material fixtures, strength calculations and projects approved by the administration, all parts cold forming in factory conditions is produced by bending or curling; In the manufacturing and installation place without requiring any welding process with silicone and epidium rubber gaskets combined with the bolts, the base material at the base of the tank to cut contact with the base material PVC or polyethylene diaphragm, Turkish Standards Certificate of Conformity with the supply of the modular water tank in the workplace and installation instead of connecting to the installation.</p> <p>Note: Stainless steel or chrome plated brass material fittings, stainless steel stand, level float, inlet and outlet ball valves, balloon blowing apparatus, discharge valve and pipe, level gauge, valves and drain cock, top and the bottom manhole maintenance cover, stair climbing ladder is included in the price.</p> <p>Installation (montage) is also included to the price.</p>	
Related official pose/item number, book	105.603, 3,75 m3 prizmatik modüler paslanmaz çelik su deposu, 105.603-M, Mont.3,75 m3 prizmatik modüler paslanmaz çelik su depose, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec08	Polypropylene clear water pipe; PN 20, 1/2", Ø 20/3.4 mm including installation/montage material	m
Description/ Specifications	<p>Supply and installation of clear water pipes and installation/montage materials/fittings; in compliance with TS EN ISO 15874-2, Type 3 polypropylene (PPR-C); the pipes shall be certified as potable water pipes by Turkish Ministry of Health.</p> <p>The price also includes cutting and welding by physiotherm welding machine (all kind of material and workmanship for welding are included to the price)</p> <p>The costs of installation and fitting materials are also included to the price.</p> <p>Installation/montage: Polypropylene pipes of BFT 204-3100, which are used in indoor installation,</p>	

	are made of physiothermic pipes or valves, fittings, faucets and so on. plastic and metal clamp, hanger, sleeve with fittings such as "T" crossbreeding, reduction, plug and inegal "T", etc., made of polypropylene PPR-C type 3, used as a side welded other side brass ball screw used in connections of materials such as the amount of polypropylene pipe
Related official pose/item number, book	204.3102, Pn 20 polipropilen 1/2" ø20/3,4 mm temiz su boruları, Republic of Turkey Ministry of Environment and Urbanization 204.3300, Bina içinde fizyoterm kaynak ve vidalı olarak döşenmiş polipropilen boru montaj malzemesi bedeli, Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Mec09	Polypropylene clear water pipe; PN 20, 3/4", Ø 25/4.2 mm including installation/montage material	m
Description/ Specifications	Supply and installation of clear water pipes and installation/montage materials/fittings; in compliance with TS EN ISO 15874-2, Type 3 polypropylene (PPR-C); the pipes shall be certified as potable water pipes by Turkish Ministry of Health. The price also includes cutting and welding by physiotherm welding machine (all kind of material and workmanship for welding are included to the price) The costs of installation and fitting materials are also included to the price. Installation/montage: Polypropylene pipes of BFT 204-3100, which are used in indoor installation, are made of physiothermic pipes or valves, fittings, faucets and so on. plastic and metal clamp, hanger, sleeve with fittings such as "T" crossbreeding, reduction, plug and inegal "T", etc., made of polypropylene PPR-C type 3, used as a side welded other side brass ball screw used in connections of materials such as the amount of polypropylene pipe	
Related official pose/item number, book	204.3103, Pn 20 polipropilen 3/4" ø25/4,2 mm temiz su boruları, Republic of Turkey Ministry of Environment and Urbanization 204.3300, Bina içinde fizyoterm kaynak ve vidalı olarak döşenmiş polipropilen boru montaj malzemesi bedeli, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec10	Polypropylene clear water pipe; PN 20, 1", Ø 32/5.4 mm including installation/montage material	m
Description/ Specifications	Supply and installation of clear water pipes and installation/montage materials/fittings; in compliance with TS EN ISO 15874-2, Type 3 polypropylene (PPR-C); the pipes shall be certified as potable water pipes by Turkish Ministry of Health. The price also includes cutting and welding by physiotherm welding machine (all kind of material and workmanship for welding are included to the price) The costs of installation and fitting materials are also included to the price. Installation/montage: Polypropylene pipes of BFT 204-3100, which are used in indoor installation, are made of physiothermic pipes or valves, fittings, faucets and so on. plastic and metal clamp, hanger, sleeve with fittings such as "T" crossbreeding, reduction, plug and inegal "T", etc., made of polypropylene PPR-C type 3, used as a side welded other side brass ball screw used in connections of materials such as the amount of polypropylene pipe	
Related official pose/item number, book	204.3104, Pn 20 polipropilen 1" ø32/5,4 mm temiz su boruları, Republic of Turkey Ministry of Environment and Urbanization 204.3300, Bina içinde fizyoterm kaynak ve vidalı olarak döşenmiş polipropilen boru montaj malzemesi bedeli, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec11	Polypropylene clear water pipe; PN 20, 1 1/4", Ø 40/6.7 mm including installation/montage material	m
Description/ Specifications	Supply and installation of clear water pipes and installation/montage materials/fittings; in compliance with TS EN ISO 15874-2, Type 3 polypropylene (PPR-C); the pipes shall be certified	

	<p>as potable water pipes by Turkish Ministry of Health.</p> <p>The price also includes cutting and welding by physiotherm welding machine (all kind of material and workmanship for welding are included to the price)</p> <p>The costs of installation and fitting materials are also included to the price.</p> <p>Installation/montage: Polypropylene pipes of BFT 204-3100, which are used in indoor installation, are made of physiothermic pipes or valves, fittings, faucets and so on. plastic and metal clamp, hanger, sleeve with fittings such as "T" crossbreeding, reduction, plug and inegal "T", etc., made of polypropylene PPR-C type 3, used as a side welded other side brass ball screw used in connections of materials such as the amount of polypropylene pipe</p>
Related official pose/item number, book	<p>204.3105, Pn 20 polipropilen 11/4" Ø40/6,7 mm temiz su boruları, Republic of Turkey Ministry of Environment and Urbanization</p> <p>204.3300, Bina içinde fizyoterm kaynak ve vidalı olarak döşenmiş polipropilen boru montaj malzemesi bedeli, Republic of Turkey Ministry of Environment and Urbanization</p>

Item no:	Item	Unit
Mec12	Polypropylene clear water pipe; PN 20, 2", Ø 63/10.5 mm including installation/montage material	m
Description/ Specifications	<p>Supply and installation of clear water pipes and installation/montage materials/fittings; in compliance with TS EN ISO 15874-2, Type 3 polypropylene (PPR-C); the pipes shall be certified as potable water pipes by Turkish Ministry of Health.</p> <p>The price also includes cutting and welding by physiotherm welding machine (all kind of material and workmanship for welding are included to the price)</p> <p>The costs of installation and fitting materials are also included to the price.</p> <p>Installation/montage: Polypropylene pipes of BFT 204-3100, which are used in indoor installation, are made of physiothermic pipes or valves, fittings, faucets and so on. plastic and metal clamp, hanger, sleeve with fittings such as "T" crossbreeding, reduction, plug and inegal "T", etc., made of polypropylene PPR-C type 3, used as a side welded other side brass ball screw used in connections of materials such as the amount of polypropylene pipe</p>	
Related official pose/item number, book	<p>204.3107, Pn 20 polipropilen 2" Ø63/10,5 mm temiz su boruları, Republic of Turkey Ministry of Environment and Urbanization</p> <p>204.3300, Bina içinde fizyoterm kaynak ve vidalı olarak döşenmiş polipropilen boru montaj malzemesi bedeli, Republic of Turkey Ministry of Environment and Urbanization</p>	

Item no:	Item	Unit
Mec13	(3/4") outside diameter: 27 Ø mm, 25 mm glass wound based aluminum folio coated prefabricated pipe insulation (TS EN 14303)	m
Description/ Specifications	<p>Shall be CE marked in compliance with Regulation (EU) No 305/2011.</p> <p>The price includes;</p> <ul style="list-style-type: none"> Red lead painting of the pipe to be insulated for preventing the pipe against corrosion Insulation of the pipe with glass wound based aluminum folio coated pipe insulation material selected in accordance with the outer diameter of the pipe, the insulation material shall be longitudinal, self-adhesive and overlapping. Insulation of horizontal joints with adhesive aluminum foil band without any leakage. <p>The price does not include red lead paint.</p>	
Related official pose/item number, book	<p>230.1210, (3/4") dış çap:27 Ø mm et:25 mm cam yünü esaslı alüminyum kaplı boru yalıtımı (TS EN 14303), Republic of Turkey Ministry of Environment and Urbanization</p>	

Item no:	Item	Unit
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Mec14	(11/4") outside diameter: 42 Ø mm, 40 mm glass wound based aluminum folio coated prefabricated pipe insulation (TS EN 14303)	m
Description/ Specifications	Shall be CE marked in compliance with Regulation (EU) No 305/2011. The price includes; <ul style="list-style-type: none"> • Red lead painting of the pipe to be insulated for preventing the pipe against corrosion • Insulation of the pipe with glass wound based aluminum folio coated pipe insulation material selected in accordance with the outer diameter of the pipe, the insulation material shall be longitudinal, self-adhesive and overlapping. • Insulation of horizontal joints with adhesive aluminum foil band without any leakage. The price does not include red lead paint.	
Book	230.1222, (11/4") dış çap:42 Ø mm et:40 mm cam yünü esaslı alüminyum kaplı boru yalıtımı (TS EN 14303), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec15	(2") outside diameter: 60 Ø mm, 60 mm glass wound based aluminum folio coated prefabricated pipe insulation (TS EN 14303)	m
Description/ Specifications	Shall be CE marked in compliance with Regulation (EU) No 305/2011. The price includes; <ul style="list-style-type: none"> •Red lead painting of the pipe to be insulated for preventing the pipe against corrosion •Insulation of the pipe with glass wound based aluminum folio coated pipe insulation material selected in accordance with the outer diameter of the pipe, the insulation material shall be longitudinal, self-adhesive and overlapping. •Insulation of horizontal joints with adhesive aluminum foil band without any leakage. The price does not include red lead paint.	
Related official pose/item number, book	230.1234, (2") dış çap:60 Ø mm et:60 mm cam yünü esaslı alüminyum kaplı boru yalıtımı (TS EN 14303), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec16	Rigid PVC plastic sewage pipe with muff, outer diameter: Ø 50-40/3.00 mm (B and BD type) including installation/montage material	m
Description/ Specifications	Supply of rigid PVC plastic waste water pipes in compliance with TS EN 1329-1 and installation with fitting muff Price also include all kinds of installation/montage materials.;	
Related official pose/item number, book	204.401, Sert pvc plastik pis su borusu dış çap Ø 50-40/3,0 mm (geçme veya yapıştırma muflu), Republic of Turkey Ministry of Environment and Urbanization 204.501, "B.f.t 204-400 pozundaki pis su borularının montajında kullanılan fittings ve tespit malzemesi ile conta karşılığı olarak montajlı boru tutarının pis su plastik boru montaj malzemesi bedeli" Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec17	Rigid PVC plastic sewage pipe with muff, outer diameter: Ø 75-70/3.00 mm (B and BD type) including installation/montage material	m
Description/ Specifications	Supply of rigid PVC plastic waste water pipes in compliance with TS EN 1329-1 and installation with fitting muff Price also include all kinds of installation/montage materials.;	
Related official pose/item	204.402, Sert pvc plastik pis su borusu dış çap Ø 75-70/3,0 mm (geçme veya yapıştırma muflu), Republic of Turkey Ministry of Environment and Urbanization	

number, book	204.501, "B.f.t 204-400 pozundaki pis su borularının montajında kullanılan fittings ve tespit malzemesi ile conta karşılığı olarak montajlı boru tutarının pis su plastik boru montaj malzemesi bedeli" Republic of Turkey Ministry of Environment and Urbanization
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Item no:	Item	Unit
Mec18	Rigid PVC plastic sewage pipe with muff, outer diameter: Ø 100-110/3.00 mm (B and BD type) including installation/montage material	m
Description/ Specifications	Supply of rigid PVC plastic waste water pipes in compliance with TS EN 1329-1 and installation with fitting muff Price also include all kinds of installation/montage materials,;	
Related official pose/item number, book	204.403, Sert pvc plastik pis su borusu dış çap Ø 100-110/3,0 mm (geçme veya yapıştırma muflu), Republic of Turkey Ministry of Environment and Urbanization 204.501, "B.f.t 204-400 pozundaki pis su borularının montajında kullanılan fittings ve tespit malzemesi ile conta karşılığı olarak montajlı boru tutarının pis su plastik boru montaj malzemesi bedeli" Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec19	Rigid plastic floor sink 10X10 cm	piece
Description/ Specifications	Supply and installation of rigid plastic floor sink 10X10 cm (Compliant with TS 327)	
Related official pose/item number, book	097.203, Yer süzgeci sert plastik 10x10 cm (ts-327'e göre), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec20	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 20 Ø mm, 3/4"	piece
Description/ Specifications	Compliant with TS 3148 and Pressure Equipment Directive, 97/23/EC. Supply and installation of full-bore screw type ball valve.	
Related official pose/item number, book	210.624, Pirinç, preste imal edilmiş teflon, (p. t. f. e.) contalı, 20 Ø mm, 3/4" tam geçişli, vidalı küresel vana (ts 3148), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec21	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 32 Ø mm, 1 1/4"	piece
Description/ Specifications	Compliant with TS 3148 and Pressure Equipment Directive, 97/23/EC. Supply and installation of full-bore screw type ball valve.	
Related official pose/item number, book	210.626, Pirinç, preste imal edilmiş teflon, (p. t. f. e.) contalı, 32 Ø mm, 1 1/4" tam geçişli, vidalı küresel vana (ts 3148), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec22	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 40 Ø mm, 1 1/2"	piece
Description/ Specifications	Compliant with TS 3148 and Pressure Equipment Directive, 97/23/EC. Supply and installation of full-bore screw type ball valve.	
Related official	210.627, Pirinç, preste imal edilmiş teflon, (p. t. f. e.) contalı, 32 Ø mm, 1 1/4" tam geçişli, vidalı	

pose/item number, book	küresel vana (ts 3148), Republic of Turkey Ministry of Environment and Urbanization
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Item no:	Item	Unit
Mec23	Strainer; PN 16 (for water and vapor, cast casing) Ø 50 and Ø 65 mm, with flange	piece
Description/ Specifications	Supply and installation of strainer to be installed to the liquid, vapor and gas lines. The strainer shall be TSE certified, have brass, bronze, cast iron or steel casing, have inner strainer made of brass or stainless steel, strainer shall be easily mountable for cleaning, flange or screw type. That the strainer will be selected by the Employer from the catalogue. Note: Filter sensitivity; Up to DN20, 0.5 mm or more Up to DN 50, 0.7 mm or more Up to DN 150, 1.2 mm or more	
Related official pose/item number, book	221.207, Pislik tutucu,pn 16,(buhar+su için,pik dök.)Ø 65 mm, flanşlı, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec24	Holding valve with flange, cast casing, Ø 50 mm or Ø 65 mm	piece
Description/ Specifications	Supply and installation of holding valve for hot and cold-water lines. Compliant with TS 549.	
Related official pose/item number, book	227.301, Geri tepme ventili, flanşlı döküm gövdeli ø 65 mm., Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec25	Cold water meter Ø 50 mm, with flange	piece
Description/ Specifications	Supply and installation of cold-water meter having CE conformity in line with the Directive 2004/22/EC of the European Parliament on measuring instruments.	
Related official pose/item number, book	103.106, Soğuk su sayacı ø 50 mm. flanşlı, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec26	Hydrophore,single pump, vertical shaft, frequency converter; Flow: 0-5 m3 / h Pressure: 40-60mss	piece
Description/ Specifications	Supply and installation of Hydrophore,single pump, vertical shaft, frequency converter; Flow: 0-5 m3 / h Pressure: 40-60mss	
Related official pose/item number, book	107.1102, Debi:0-5 m3/h, basınç:40-60mss, tek pompalı düşey milli frekans konvertörlü hidrofor, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec27	Collector pipe, cold and hot water, galvanized; 3" Ø 80 mm	m

Description/ Specifications	Supply and installation of galvanized collector pipe
Related official pose/item number, book	109.102, "Soğuk ve sıcak su kollektör borusu 3" 80Ø mm" Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Mec28	Collector mouth, Ø 50 mm	piece
Description/ Specifications	Supply and installation of collector mouth with galvanized collar	
Related official pose/item number, book	109.206, Kollektör ağızı Ø 50 mm, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec29	Supply and installation of wall split air conditioner, UNIT 9.000 Btu/h	piece
Description/ Specifications	<p>The airconditioner shall be compliant with TS 7936 EN 60335-2-40 and TS EN 14511-4, The nominal value is 8500 btu / hour cooling capacity and 9000 btu / hour heating capacity. Refrigerating (SEER) Seasonal Energy Class coefficient of at least 6.1, heating (SCOP), Seasonal Energy Class coefficient of at least 4.0 with inverter compressor, will work with R410A gas, CE Certificated cooling range -10 / + 43oC heating range -15 / + There will be 24 °C. 5 mt copper pipe, cabling and hand control device is included in the price. The drain line included in the price. The price is including shipping and installation.</p> <p>The price also include installation/montage and all required accessories, fittings and additional R410A gas.</p>	
Related official pose/item number, book	276.101, Duvar tipi split klima cihazı 8.500 btu/h, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec30	Weighbridge with automation system	Lump-sum
Description/ Specifications	<p>The price is for supply and installation of the weighbridge with automation system with all system components; including all accessories, cabling and fittings for installation.</p> <p>Specifications of the weighbridge;</p> <ul style="list-style-type: none"> • Shall be pit less/ ground mounted type electronic weighbridge (truck scale) with steel construction platform and "V" type beams. The system shall have entry and exit ramps. The platform shall be painted according to RAL colour options. • Shall have protective side barriers. • Shall have overweight protection up to min 25% of the nominal capacity. • Capacity: minimum 60 tonnes • Dimensions: 3 x 16 m • Number of load cells: minimum 8 • Shall be supplied with computer based digital weighing terminal. Terminal shall include LCD monitor, PC keypad, printer unit, min 6 digit digital weight indicator, weighing ticket unit licensed operating system and software for recording weigh processes of trucks. • Load cells protection class IP68 and IP69K • Load cells class: OIML C3 • Load cells shall have lightning protection. 	

	<ul style="list-style-type: none"> • Junction box housing shall be stainless steel • Junction box protection class: IP67 or IP68 • Shall be compatible with Directive 2009/23/EC(or equivalent) and OIML R76 (or equivalent) The initial calibration shall be realised by the manufacturer or authorised service provider and traceable calibration certificate shall be provided • Loading cells shall have proper mounting kits to prevent uneven weight distribution which may occur during truck passage <p>Specifications of automation system;</p> <ul style="list-style-type: none"> • System shall comprise the followings (as minimum): Unmanned weighbridge system software, Terminal for proximity card reader, LED/LCD display, Thermal printer Minimum 3 kW online UPS, Minimum 50 proximity cards, Minimum 2 traffic lights • System shall have the capability to upload the first weighing information and vehicle information to proximity cards. • Truck driver can operate the weighing system and get the weigh ticket without getting out of the truck. • For vehicles without proximity card, system can be operated manually. • The system shall be accessible for reports and operation from other PCs in the network. • For a defined duration, the system shall prevent repetitive weighing of vehicles. • Vehicles with fixed tare can be identifiable to the system. • System shall log user identity, date and time for every transaction. • More than one user account can be created and authorized for the system. • Capability to reports in Excel and/or Word format. • Software shall be compatible for different printer types. (i.e. dot matrix, laser, barcode)
Book	Special

Item no:	Item	Unit
Mec31	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 50 Ø mm, 2"	piece
Description/ Specifications	Compliant with TS 3148 and Pressure Equipment Directive, 97/23/EC. Supply and installation of full-bore screw type ball valve.	
Related official pose/item number, book	210.628, Pirinç, preste imal edilmiş teflon, (p. t. f. e.) contalı, 50 Ø mm, 2" tam geçişli, vidalı küresel vana (ts 3148), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Mec32	23 m³ cylindrical, bolted, modular galvanized water tank (bolted) including installation/montage	piece
Description/ Specifications	Supply and installation of 23 m3 cylindrical, bolted, modular galvanized water tank including installation/montage; Ø 3800 mm in diameter, 2000 mm in height. All installation and montage material are included to the price	
Related official pose/item number, book	105.1005, 23 m3 silindirik civatalı modüler galvanizli su deposu, 105.1005-M, Mont.23 m3 silindirik civatalı modüler galvanizli su deposu, Republic of Turkey Ministry of Environment and Urbanization	

ELECTRICAL WORKS

Item no:	Item	Unit
Ele01	MDP Main Distribution Panelboard	piece
Description/ Specifications	LV Main distribution board should be floor mounted type. The nominal frequency should be 50 Hz, nominal voltage should be 230/400 V AC. Cells shall be constituted with fabricated standard	

	<p>functional parts and fully accessible buildings shall be provided by revealing along with all the side panels, rear and front doors and removable roof panels.</p> <p>The terminals that can be used in panel input and output, according to the nominal current of the circuit elements mentioned in the biggest and the smallest standard gauge, would be appropriate to connect the wire or cable. Panels shall involve any kind of labeling and danger signs.</p> <p>Main distribution boards shall be manufactured according to Form2b.</p> <p><u>1. Mechanical Design:</u></p> <p>Panels shall be made of sheet steel. Covers of panels shall be grounded by means of flexible cable with cross section of 6 mm².</p> <p><u>2. Busbars:</u></p> <p>Grounding and neutral bus bars, such that by way of opening appropriate holes upon appropriate intervals on the bolt - nut connection, will be found in the cell that reserved for the cable wiring board. Grounding and neutral busbars shall be isolated from the main busbars of the panel.</p> <p><u>3. Corrosion Protection:</u></p> <p>All visible metal surfaces shall be cleaned before painting. Finally, it shall be covered with epoxy-polyester paint.</p> <p><u>4. Temperature Rise and Protection:</u></p> <p>In accordance with IEC 529 standards, low voltage panels should have a protection grade; While the door opened: IP44, While the door closed : IP65</p> <p>both in personnel and operational safety as well as facilities against to external influences (dust, moisture effects, etc.) for protection.</p> <p>The price includes supply and installation of the panel board including drilling necessary slots in line with its project, painting in required color against corrosion, miscellaneous accessories for connection of devices, and terminals.</p>
Related official pose/item number, book	701.201, Önden kapaklı saç pano (ts en 61439-1/2), Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Ele02	Surface Mounting Type Sheet Metal Panel, 0.30 m ²	piece
Description/ Specifications	<p>-Low voltage sub distribution panels should be wall mounted type. Sub distribution panels shall be formed from the cells with prefabricated standard functional component for the purpose of use in the form of on-board or recessed type within the wall of the buildings. Whole mounting plate including body, front cover, front surface plates and side covers shall be made from at least 1.5 mm metal sheet.</p> <p>-Tables will be assembled on the wall such that the height from ground of top input switch not to be exceed 180 cm height and each tables shall include prepared manufacturer's schemas provided by installation scales by the way of the projects. Tables will have a lockable front cover, all neutral wires used in the board shall be light blue and all grounded cables used in the board shall be bi-coloured of yellow/green.</p> <p><u>1. Mechanical Design:</u></p> <p>-The exterior design of the board shall be cell (closed) type and the material that have been used shall be sheet metal, the type of mounting shall be wall mounted or recessed type. All opening – closing switches and setting operations from front surface plates should be made. To reach each cell, the cell has been designed for individual lockable doors and sheet metal screw caps may be possible through.</p> <p>-Tables shall be made accordingly the input –output from bottom or top and/or busbars input-output. Yet access and joints to grounded busbars and neutral busbars shall be done easily in front at the same manner.</p> <p>-All the plastic components and parts that have been used for making tables will consist of flame resistant and self-damped materials according to IEC 695-2 standard.</p> <p>-Doors of panel shall be grounded by means of a jumper cable with 6mm² cross section.</p> <p><u>2. Corrosion Protection:</u></p>	

	<p>-All visible metal surfaces shall be cleaned by phosphatization treatment before staining as surface cleaning. Finally, it will be covered with approximately 50 µm epoxy-polyester staining in thickness.</p> <p>3. Temperature Rise and Protection:</p> <p>In accordance with IEC 529 standards, low voltage panels shall have a protection grade;</p> <p>-While the door opened: IP20</p> <p>-While the door closed : IP43</p> <p>Both in personnel and operational safety as well as facilities against to external influences (dust, moisture effects, etc.) for protection.</p> <p>The price includes supply and installation of the panel including all kind of materials, terminals.</p>
Related official pose/item number, book	704.103, Sıva üstü sac tablo 0,20 - 0,30m2'ye kadar (0,30 m2 dahil) (ts 3367 en 60439-1), Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Ele03	Selector Type Rotary Cam (Pako) Switch, 2x10 A	piece
Description/ Specifications	Sheet or plastic cover, with rotary hub, up to 5 positions, opening and closing of the contacts position dial and control lever or button including material and workmanship. Price also include installation of switches.	
Related official pose/item number, book	713.101, Seçici tip pako şalter 2*16 a. (tablo üzerine) (ts 4915 en 60669-1, ts en 60947-3), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele04	Rotary Cam (Pako) Switch, (0-1) 3x25 A	piece
Description/ Specifications	Only two-position pako switch shall be supplied with all materials and workmanship assembly.	
Related official pose/item number, book	713.304, 3x25 a kadar aç-kapa tip pako şalterler : (tablo üzerine) (ts 4915 en 60669-1, ts en 60947-3), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele05	Contactator, 3x16 A	piece
Description/ Specifications	AC3 class, mounted behind the table for frequent opening and closing type of table without protective relays supply and installation of dry-type three-phase contactors with control buttons, auxiliary contacts including all materials and workmanship.	
Related official pose/item number, book	718.102, Kuru tip koruyucusuz kontaktör 3*16 a., Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele06	Thermic Protective Contactator, 3x10 A	piece
Description/ Specifications	AC3 class, mounted behind the table for frequent opening and closing type, protective relay on the front of the table to be mounted separately supply and installation of dry-type three-phase contactors with control buttons, auxiliary contacts including all materials and workmanship.	
Related official pose/item number, book	718.201, Kuru tip termik koruyuculu kontaktör 3*10 a., Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele07	Time limit relay used for lighting control	piece
Description/ Specifications	Price includes supply and installation of digital time limit relay; <ul style="list-style-type: none"> • Designed for specified voltage limits, • Having test reports and CE conformity certificate in compliant with 2006/95/EC, 2004/10/EC, TS EN 60730-2-7, • Capable of controlling lighting for adjusted time interval, • Having output contacts, battery operated, • With operating manual, • All required materials for operation and tests prior to operation 	
Related official pose/item number, book	718.310, Aydınlatma kontrollünde kullanılan zaman rölesi, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele08	Residual current circuit breaker – up to 4x25A (30mA)	piece
Description/ Specifications	Price includes supply and installation of residual current circuit breaker, that shall; <ul style="list-style-type: none"> • Be capable of switch off in 10 - 30 ms, • Have differential coil operating at 220 V for monophasic circuit and at 380 V for triphase circuit. • Have test button for controlling if it is working. • be mountable on in-table transport rails, • be 30 m A for life protection, 300 m A for protection against fire. • Comply with CEE 27 and other related international standards. 	
Related official pose/item number, book	718.507, Kaçak akım koruma şalteri 4*25 a.e kadar(30ma), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele09	Residual current circuit breaker – up to 4x25A (300mA)	piece
Description/ Specifications	Price includes supply and installation of residual current circuit breaker, that shall; <ul style="list-style-type: none"> • Be capable of switch off in 10 - 30 ms, • Have differential coil operating at 220 V for monophasic circuit and at 380 V for triphase circuit. • Have test button for controlling if it is working. • be mountable on in-table transport rails, • be 30 m A for life protection, 300 m A for protection against fire. • Comply with CEE 27 and other related international standards. 	
Related official pose/item number, book	718.520, Kaçak akım koruma şalteri 4*25 a.e kadar(300ma), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele10	Residual current circuit breaker – up to 4x40A (300mA)	piece

Description/ Specifications	Price includes supply and installation of residual current circuit breaker, that shall; <ul style="list-style-type: none"> • Be capable of switch off in 10 - 30 ms, • Have differential coil operating at 220 V for monophase circuit and at 380 V for triphase circuit. • Have test button for controlling if it is working. • be mountable on in-table transport rails, • be 30 m A for life protection, 300 m A for protection against fire. Comply with CEE 27 and other related international standards.
Related official pose/item number, book	718.521, Kaçak akım koruma şalteri 4*40 a.e kadar(300ma), Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Ele11	Surge protector; B Class, 230V AC, 100kA panel type	piece
Description/ Specifications	Price includes supply and installation of surge protector, that shall be compliant with TS EN 61643-11 and CE conformity certificate.	
Related official pose/item number, book	718.563, B sınıfı, 230v ac, 100 ka (1 imp; 10/350µs), üç faz, nötr-toprak, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele12	Automatic-controlled central compensation battery, up to 525 V	kvar
Description/ Specifications	Supply and installation of triphase compensation battery in line with its project and TS EN61558-2-20, IEC 61000-2-2;	
Related official pose/item number, book	723.407, 525 v.a kadar otomatik kumandalı merkezi kompanzasyon bataryaları (30 kvar'a kadar), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele13	Miniature Circuit Breaker, 1x2A, 1x10A, 1x16A	piece
Description/ Specifications	Supply and installation of miniature circuit breaker; <ul style="list-style-type: none"> - MCBs shall comply to IEC 898:1995 standard. They shall be of the current limiting type having a sealed ambient temperature independent thermal magnetic tripping mechanism providing overload and short circuit protection. All MCBs shall be rail-mounted type. - The breaking capacity of MCBs shall be at least 6kA for branch circuits, 10kA for main circuits. - The MCB operating mechanism shall be mechanically trip free from the operating handle so as to prevent contacts from being held closed against short circuit and overload conditions. It shall be automatic resetting type. - The individual operating mechanism of each pole of a multi-pole MCB shall be directly linked within the MCB casing and shall not be operated with handles. - The operating handle shall be toggle type with possibility for mounting of padlocking facility. - Each pole shall be provided with bi-metallic thermal element for overload protection and magnetic element for short circuit protection. 	
Related official pose/item number, book	724.601, Anahtarlı otomatik sigorta 16 a. (6ka) (ts 5018-1 en 60898-1), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele14	Miniature Circuit Breaker, 3x25A	piece
Description/ Specifications	<p>Supply and installation of miniature circuit breaker;</p> <ul style="list-style-type: none"> - MCBs shall comply to IEC 898:1995 standard. They shall be of the current limiting type having a sealed ambient temperature independent thermal magnetic tripping mechanism providing overload and short circuit protection. All MCBs shall be rail-mounted type. - The breaking capacity of MCBs shall be at least 6kA for branch circuits, 10kA for main circuits. - The MCB operating mechanism shall be mechanically trip free from the operating handle to prevent contacts from being held closed against short circuit and overload conditions. It shall be automatic resetting type. - The individual operating mechanism of each pole of a multi-pole MCB shall be directly linked within the MCB casing and shall not be operated with handles. - The operating handle shall be toggle type with possibility for mounting of padlocking facility. - Each pole shall be provided with bi-metallic thermal element for overload protection and magnetic element for short circuit protection. 	
Related official pose/item number, book	724.606, Üç fazlı anahtarlı otomatik sigorta 25 a. (6ka) (ts 5018-1 en 60898-1), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele15	Miniature Circuit Breaker, 3x40A	piece
Description/ Specifications	<p>Supply and installation of miniature circuit breaker;</p> <ul style="list-style-type: none"> - MCBs shall comply to IEC 898:1995 standard. They shall be of the current limiting type having a sealed ambient temperature independent thermal magnetic tripping mechanism providing overload and short circuit protection. All MCBs shall be rail-mounted type. - The breaking capacity of MCBs shall be at least 6kA for branch circuits, 10kA for main circuits. - The MCB operating mechanism shall be mechanically trip free from the operating handle to prevent contacts from being held closed against short circuit and overload conditions. It shall be automatic resetting type. - The individual operating mechanism of each pole of a multi-pole MCB shall be directly linked within the MCB casing and shall not be operated with handles. - The operating handle shall be toggle type with possibility for mounting of padlocking facility. - Each pole shall be provided with bi-metallic thermal element for overload protection and magnetic element for short circuit protection. 	
Related official pose/item number, book	724.607, Üç fazlı anahtarlı otomatik sigorta 25 a. (6ka) (ts 5018-1 en 60898-1), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
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Ele16	Multimeter (TS4417)	piece
Description/ Specifications	Supply and installation of multimeter; <ul style="list-style-type: none"> - Measuring devices shall have physical measuring technique so there shall be no calibration need. - Device reset button and connection terminals shall be sealed separately. - Voltage input shall be 3x230/400 V. - Short circuit resistant of device shall be as 30 x In. - Operating voltage shall be 0,8-1,15 times of reference voltage. - Measuring device shall measure maximum demand and a padlock shall be mounted to demand reset button. - Device's indicators shall have background lighting. - Device's connector shall have 9,5 mm of diameter and there shall be two screws on each connector to fix the cable. - Working temperature of device shall be between –25 C and + 60 C. - Storage temperature of device shall be between–40 C and + 80 C. - Devices shall be isolated for dust and water leakage and shall provide IP51 protection class. 	
Related official pose/item number, book	725.312, Multimetre (ts 4417), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele17	Current transformer, CL:0,5 n<5 10VA 40/5A	piece
Description/ Specifications	Supply and installation of current transformer; <ul style="list-style-type: none"> - Measuring devices shall have physical measuring technique so there shall not be any calibration need. - Voltage input shall be 3x230/400 V. - Short circuit resistant of device shall be as 30 x In. - Working temperature of device shall be between –25 C and + 60 C. - Storage temperature of device shall be between–40 C and + 80 C. - Devices shall be isolated for dust and water leakage and shall provide IP51 protection class. - Current transformer primer nominal current shall be as it is indicated in project and secondary nominal current shall be 5A. - Transformer that are used for protection shall have minimum error class 3 and measuring transformers shall have error class 0,5. - Secondary circuit of current transformers shall definitely not be left open. There shall be not any equipment like fuse, circuit breaker etc. in secondary circuit. - All current transformers shall have suitable properties to be used in panels. - Current transformers shall have 1000V nominal voltage and 5-15 VA nominal power. 	
Related official pose/item number, book	725.401, Akım ölçü trafosu 100 - 500/5 a., Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele18	Signal Lamp	piece

Description/ Specifications	<p>Supply and installation of signal lamp;</p> <ul style="list-style-type: none"> - Indicating lamps shall operate in nominal 250V voltage. Lamps shall be mounted over panel as built-in manner. - Open circuit lamps shall be green color, closed circuit and error lamps shall be red color. - All indicating lamps shall be connected on fused circuits. A test circuit shall be established to test all lamps whether they work or not. - In each panel there shall be lamps if there is energy in panels.(for each R-S-T phases, different colors).
Related official pose/item number, book	725.904, İşaret lambası 250 v.a kadar, Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Ele19	3x25+ 16mm2 NYY Cable	m
Description/ Specifications	<p>Supply and laying of cable including all kind of materials;</p> <ul style="list-style-type: none"> -Cross section and minimum rated current carrying capacity of the LV power cables shall be as indicated on the drawings. The Contractor shall consider the manufacturer data and design conditions (ambient temperature etc.) to ensure accuracy. -The current carrying capacities and voltage drop of cables shall be in accordance with the latest edition of IEC. -All LV cables for normal power/control circuits within buildings shall have copper conductor with PE insulated. <p>PVC cables shall be of 450/750V grade complying with IEC, copper-core and PVC insulated.</p> <p>PE insulated cables shall be of 600/1000V grade complying with IEC.</p> <p>Single core cables shall only be used for final power circuits and control circuits, installed in conduits or PVC cable trunkings, unless otherwise specified.</p> <p>NYY type cables shall be used for site lighting and site electrical installations</p> <p>NHXMH type cables shall be used for lighting and socket circuits.</p> <p>N2XH type cables shall be used between main distribution panel and sub distribution panels.</p>	
Related official pose/item number, book	727.523, 1kv yeraltı kablosu ile kolon ve besleme hattı 3*25+16 mm2 nyy (ts iec 60502-1+a1), Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele20	4x6mm2 NYY Cable	m
Description/ Specifications	<p>Supply and laying of cable including all kind of materials;</p> <ul style="list-style-type: none"> -Cross section and minimum rated current carrying capacity of the LV power cables shall be as indicated on the drawings. The Contractor shall consider the manufacturer data and design conditions (ambient temperature etc.) to ensure accuracy. -The current carrying capacities and voltage drop of cables shall be in accordance with the latest edition of IEC. -All LV cables for normal power/control circuits within buildings shall have copper conductor with PE insulated. <p>PVC cables shall be of 450/750V grade complying with IEC, copper-core and PVC insulated.</p> <p>PE insulated cables shall be of 600/1000V grade complying with IEC.</p> <p>Single core cables shall only be used for final power circuits and control circuits, installed in conduits or PVC cable trunkings, unless otherwise specified.</p> <p>NYY type cables shall be used for site lighting and site electrical installations</p> <p>NHXMH type cables shall be used for lighting and socket circuits.</p> <p>N2XH type cables shall be used between main distribution panel and sub distribution panels.</p>	
Related official pose/item	727.526, 1kv yeraltı kablosu ile kolon ve besleme hattı 4*6 mm2 nyy (ts iec 60502-1+a1), Republic of Turkey Ministry of Environment and Urbanization	

number, book	
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Item no:	Item	Unit
Ele21	5x4mm2 N2XH Cable	m
Description/ Specifications	Supply and laying of cable including all kind of materials; -Cross section and minimum rated current carrying capacity of the LV power cables shall be as indicated on the drawings. The Contractor shall consider the manufacturer data and design conditions (ambient temperature etc.) to ensure accuracy. -The current carrying capacities and voltage drop of cables shall be in accordance with the latest edition of IEC. -All LV cables for normal power/control circuits within buildings shall have copper conductor with PE insulated. PVC cables shall be of 450/750V grade complying with IEC, copper-core and PVC insulated. PE insulated cables shall be of 600/1000V grade complying with IEC. Single core cables shall only be used for final power circuits and control circuits, installed in conduits or PVC cable trunkings, unless otherwise specified. NYY type cables shall be used for site lighting and site electrical installations NHXMH type cables shall be used for lighting and socket circuits. N2XH type cables shall be used between main distribution panel and sub distribution panels.	
Related official pose/item number, book	791.431/1, 5x4 mm2 1kv yer altı kabloları ile kolon ve besleme hattı tesisi, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele22	5x6mm2 N2XH Cable	m
Description/ Specifications	Supply and laying of cable including all kind of materials; -Cross section and minimum rated current carrying capacity of the LV power cables shall be as indicated on the drawings. The Contractor shall consider the manufacturer data and design conditions (ambient temperature etc.) to ensure accuracy. -The current carrying capacities and voltage drop of cables shall be in accordance with the latest edition of IEC. -All LV cables for normal power/control circuits within buildings shall have copper conductor with PE insulated. PVC cables shall be of 450/750V grade complying with IEC, copper-core and PVC insulated. PE insulated cables shall be of 600/1000V grade complying with IEC. Single core cables shall only be used for final power circuits and control circuits, installed in conduits or PVC cable trunkings, unless otherwise specified. NYY type cables shall be used for site lighting and site electrical installations NHXMH type cables shall be used for lighting and socket circuits. N2XH type cables shall be used between main distribution panel and sub distribution panels.	
Related official pose/item number, book	791.431/2, 5x6 mm2 1kv yer altı kabloları ile kolon ve besleme hattı tesisi, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele23	ΔL60 (6 m.) Active Lightning Arrestor	piece
Description/ Specifications	The Lightning Arrestors shall be capable of discharging Lightning and switching surges and temporary power frequency over voltages .The Surge Arrestor shall be capable of discharging over voltages occurring during switching of unloaded transformers and long lines.	

	The Arrestors shall be capable of withstanding Maximum Continuous Operating Voltages (M.C.O.V).
Related official pose/item number, book	980.214, Aktif yakalama ucu ortalama uyarım yolu l=60 mt (ts en 62305-1/2/3/4), Republic of Turkey Ministry of Environment and Urbanization

Item no:	Item	Unit
Ele24	Down-conductor, 50mm2 electrolytic copper conductor	m
Description/ Specifications	Supply and Installation of bare electrolytic copper conductor and roofs and conductors as specified in the specification, taking necessary measures to prevent corrosion in the connection points of the red tip or screwed tie rods, catch tip or earth electrode from the red casting or similar material; inspection terminal, including all materials and workmanship.	
Related official pose/item number, book	981.101, Çatı ihata ve indirme iletkeni 50 mm2 elektrolitik bakır iletken, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele25	30x3,5mm Galvanized Steel Band	m
Description/ Specifications	Conductor to building the building conductor installation, the outside of the building at least, 60 - 80 cm. opening the channel in all kinds of soil closure, rivet or welding electrodes to connect to any Material and workmanship included	
Related official pose/item number, book	982.102, Bina ihata iletkeni 30x3.5 mm galvanizli çelik lama , Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele26	Grounding rod, electrolytic copper	piece
Description/ Specifications	Supply and installation of grounding rod compliant with TS 435 / T1 standard, Diameter: ø 20 mm. Length: minimum 3.5 m including; Screwing a cone-shaped head, Bedding minimum 60 cm depth, connecting down-conductors and building conductors with silver welding or with a special red fixing clamp, all kinds of small materials,	
Related official pose/item number, book	983.102, Toprak elektrodu (çubuk), elektrolitik bakır, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
Ele27	Conductor protection pipe (3m)	piece
Description/ Specifications	Supply and installation of galvanized conductor protection pipe, 3 m, 20 mm	
Related official pose/item number, book	983.103, İletken koruyucu borusu, Republic of Turkey Ministry of Environment and Urbanization	

Item no:	Item	Unit
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Ele28	150W LED Street Lighting Fixture, IP65	piece
Description/ Specifications	Supply and installation of 150W LED Street Lighting Fixture ; The lamp shell is made of aluminum die-casting design, the appearance is simple and generous, strong impact resistance; According to the lighting characteristics of the road lighting design, the light is even and soft, no glare; The power supply driver and the light source circuit are connected by a plug-in and pull-out special connector, and the installation, maintenance and replacement are convenient and concise; Installation and disassembly need not open cover design, easy operation. Protection Class: IP66	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Ele29	150W LED Projector Lighting Fixture, IP65	piece
Description/ Specifications	Supply and installation of 150W LED Projector Lighting Fixture; Voltage Supply and Frequency: 100-240V-AC and 50-60 Hz frequency Source of Light: 30 pieces of high efficiency LED, RGB Armature 20° and 40° optical lens angle options must be available Minimum Lumen level: 1800Lm Maximum spends power: 150W The Maximum weight of the Armature: 6Kg Body: pouring Aluminum Optic Teeth: Tempered Glass Operating Temperature: -20° to 40° in between Protection Class: IP66 Certifications: UL/CuL, FCC Class A, CE, CB, CQC Armature Size: 275 x 353 x 91 mm (YxGxD) LED life, L50: Min. 50.000 hours (light level, 50 degrees at ambient temperature 50% drop time) Lumen standard measurement: Lumen measurements IES LM-79-08 Test procedures	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Ele30	Galvanized Steel Range Lighting Pole, h:7mt.	piece
Description/ Specifications	The total height of the lighting pole will be 7 meters including the console. The lighting pole shall have a cross section of 114mm diameter. On the body pipe, there will be a zero-detail fuse holder at 1000 mm above the ground. The fuse cover will be secured by a single Allen screw compression method. Silicone gasket shall be used on the inside surface of the fuse cover and shall be protected according to IP44 standards. The lighting pole will be hot dip galvanized and will be painted with electrostatic powder coating method. Paint Color: RAL7037 will be Graphite Gray. The lighting pole anchor shall be hot dipped galvanized except the parts entering the concrete.	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
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Ele31	HDPE 100 corrugated pipe	m
Description/ Specifications	Manufactured in accordance with EN 15632, central and remote heating, fluid carrier pipe Polybutylene (PB), which can be used in cooling systems, PEX-a, PPR, PE; outer casing made of polyolefin, cross-linked polyethylene, polyethylene or high density polyethylene (HDPE), class SDR 11, 6 bar pressure, up to 95 ° C operating temperature, pre-insulated flexible pipes in the workplace supply and installation	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Ele32	Polythene pipe Ø 32 mm	m
Description/ Specifications	Dimensions: 30cmx30cm Diffuser: Providing homogeneous light distribution, high light transmittance with a white opal diffuser. IP20 Housing: Electrostatic painted DKP steel sheet. Led: 50.000 hours lifetime, high efficiency, CRI mid power led. Driver: Constant current output high efficiency and pf>= 0,95 Lighting fixtures that will be used for emergency lighting shall be equipped with battery for 90 minutes minimum.	
Related official pose/item number, book	Not applicable	

Item no:	Item	Unit
Ele33	Grounding line , 16mm²	m
Description/ Specifications	Laying grounding line (Cu 1x16mm ²) including materials and workmanship	
Related official pose/item number, book	726.104, "Peşel,bergman,pvc boru içine döş.topraklama hattı 16 mm2", Republic of Turkey Ministry of Environment and Urbanization	

SECTION 5A.3DESIGN DRAWINGS

Lot 1; Construction of Waste Transfer Station in Kırıkhan Hatay

LANDSCAPE DRAWINGS		
No	Drawing No	Drawing Name
1	HTY-KRH-TRS-LNSCP-101	SURVEY MAP / ETÜT HARİTASI
2	HTY-KRH-TRS-LNSCP-102	GENERAL LAYOUT / GENEL YERLEŞİM
3	HTY-KRH-TRS-LNSCP-103	TRAFİK İŞARETLERİ PLANI /TRAFFIC SIGN BOARDS PLAN
4	HTY-KRH-TRS-LNSCP-104	STRUCTURAL LANDSCAPE PLAN / YAPISAL PEYZAJ PLANI
5	HTY-KRH-TRS-LNSCP-105	PLANTING LANDSCAPE PLAN / BİTKİSEL PEYZAJ PLANI
6	HTY-KRH-TRS-LNSCP-106	INFRASTRUCTURE APPLICATION PROJECT / ALTYAPI UYGULAMA PROJESİ

7	HTY-KRH-TRS-LNSCP-107	GENEL YERLEŞİM - HAFRİYAT VE KAZI-DOLGU / GENERAL LAYOUT - GRID OF EXCAVATIONS AND EMBANKMENTS
8	HTY-KRH-TRS-LNSCP-108	FIELD CONCRETE EXPANSION -SHRINKAGE JOINT PLAN / SAHA BETONU GENLEŞME-BÜZÜŞME DERZ PLANI
9	HTY-KRH-TRS-LNSCP-109	LANDSCAPE STRUCTURAL DETAILS / YAPISAL PEYZAJ DETAYLARI
10	HTY-KRH-TRS-LNSCP-110	INFRASTRUCTURE TYPE DETAILS / ALTYAPI TİP DETAYLARI
ARCHITECTURAL DRAWINGS		
No	Drawing No	Drawing Name
1	HTY-KRH-TRS-ARC-101	YÜKLEME / BOŞALTMA PLATFORMU / BUNKER OFİS BİNALARI / OFFICE BUILDINGS ATIKSU TANK / WASTEWATER COLLECTION TANK KULLANIM VE SULAMA TANKI / WATER IRRIGATION TANK KANTAR / WEIGHINGBRIDGE PLAN-KESİT-GÖRÜNÜŞ / PLAN-SECTIONS-ELEVATIONS
2	HTY-KRH-TRS-ARC-102	CEPHE SİSTEM KESİTLERİ - DETAYLAR / FACADE SYSTEMS SECTIONS - DETAILS
3	HTY-KRH-TRS-ARC-103	Permanent project site signboard
STRUCTURAL DRAWINGS		
No	Drawing No	Drawing Name
1	HTY-KRH-TRS-STR-101	YÜKLEME/BOŞALTMA PLATFORMU /BUNKER STATİK PROJESİ /STRUCTURAL DRAWING
2	HTY-KRH-TRS-STR-102	OFİS BİNALARI / OFFICE BUILDINGS STATİK PROJESİ /STRUCTURAL DRAWING
3	HTY-KRH-TRS-STR-103	60 TONLUK ZEMİN ÜSTÜ KANTAR / 60 TONNES ABOVE GRADE WEIGHBRIDGE STATİK PROJESİ /STRUCTURAL DRAWING
4	HTY-KRH-TRS-STR-104	ATIKSU TANK / WASTEWATER COLLECTION TANK STATİK PROJESİ /STRUCTURAL DRAWING
5	HTY-KRH-TRS-STR-105	KULLANIM VE SULAMA TANKI / WATER IRRIGATION TANK STATİK PROJESİ /STRUCTURAL DRAWING
6	HTY-KRH-TRS-STR-106	TEMEL KALIP PLANI /FOUNDATION FORMWORK PLAN
7	HTY-KRH-TRS-STR-107	ISTINAT DUVAR DETAYLARI / RETAINING WALL DETAILS
8	HTY-KRH-TRS-STR-108	PLATFORM PLAN / PLATFORM PLANI
9	HTY-KRH-TRS-SIR-109	RESULT OF SOIL INVESTIGATION REPORT IN ENGLISH
10	HTY-KRH-TRS-SIR-110	SOIL INVESTIGATION REPORT IN TURKISH
MECHANICAL DRAWINGS		
No	Drawing No	Drawing Name
1	HTY-KRH-TRS-MEK-101	INFRASTRUCTURE APPLICATION PROJECT / ALTYAPI UYGULAMA PROJESİ
2	HTY-KRH-TRS-MEK-102	OFİS BİNALARI MEKANİK PROJELERİ OFFICE BUILDINGS MECHANICAL APPLICATION PROJECT
3	HTY-KRH-TRS-MEK-103	OFİS BİNALARI İKLİMLENDİRME PROJESİ OFFICE BUILDINGS AIR-CONDITIONER PROJECT
ELECTRICAL DRAWINGS		

No	Drawing No	Drawing Name
1	HTY-KRH-TRS-ELK-101	LIGHTNING ROD PLAN / PARATONER PLANI
2	HTY-KRH-TRS-ELK-102	CABLE DUCT AND MANHOLE PLAN / KABLO KANALLARI VE MENHOL PLANI
3	HTY-KRH-TRS-ELK-103	ADMINISTRATIVE BUILDING ELECTRICAL APPLICATION PROJECT / İŞLETME BİNASI ELEKTRİK UYGULAMA PROJESİ
4	HTY-KRH-TRS-ELK-104	OUTDOOR LIGHTING POLE and VOLTAGE DROP CALCULATION / AYDINLATMA DİREĞİ PLANI VE GERİLİM DÜŞÜMÜ HESABI

Lot 2; Construction of Waste Transfer Station in Yayladağ Hatay

LANDSCAPE DRAWINGS		
No	Drawing No	Drawing Name
1	HTY-YDG-TRS-LNSCP-101	SURVEY MAP / ETÜT HARİTASI
2	HTY-YDG-TRS-LNSCP-102	GENERAL LAYOUT / GENEL YERLEŞİM
3	HTY-YDG-TRS-LNSCP-103	TRAFİK İŞARETLERİ PLANI /TRAFFIC SIGN BOARDS PLAN
4	HTY-YDG-TRS-LNSCP-104	STRUCTURAL LANDSCAPE PLAN / YAPISAL PEYZAJ PLANI
5	HTY-YDG-TRS-LNSCP-105	PLANTING LANDSCAPE PLAN / BİTKİSEL PEYZAJ PLANI
6	HTY-YDG-TRS-LNSCP-106	INFRASTRUCTURE APPLICATION PROJECT / ALTYAPI UYGULAMA PROJESİ
7	HTY-YDG-TRS-LNSCP-107	GENEL YERLEŞİM – HAFRİYAT VE KAZI-DOLGU / GENERAL LAYOUT – GRID OF EXCAVATIONS AND EMBANKMENTS
8	HTY-YDG-TRS-LNSCP-108	FIELD CONCRETE EXPANSION -SHRINKAGE JOINT PLAN / SAHA BETONU GENLEŞME-BÜZÜŞME DERZ PLANI
9	HTY-YDG-TRS-LNSCP-109	LANDSCAPE STRUCTURAL DETAILS / YAPISAL PEYZAJ DETAYLARI
10	HTY-YDG-TRS-LNSCP-110	INFRASTRUCTURE TYPE DETAILS / ALTYAPI TİP DETAYLARI
ARCHITECTURAL DRAWINGS		
No	Drawing No	Drawing Name
1	HTY-YDG-TRS-ARC-101	YÜKLEME / BOŞALTMA PLATFORMU / BUNKER OFİS BİNALARI / OFFICE BUILDINGS ATIKSU TANK / WASTEWATER COLLECTION TANK KULLANIM VE SULAMA TANKI / WATER IRRIGATION TANK KANTAR / WEIGHINGBRIDGE FOSEPTİK / CESSPOOL PLAN-KESİT-GÖRÜNÜŞ / PLAN-SECTIONS-ELEVATIONS
2	HTY-YDG-TRS-ARC-102	CEPHE SİSTEM KESİTLERİ – DETAYLAR / FACADE SYSTEMS SECTIONS – DETAILS
3	HTY-YDG-TRS-ARC-103	Permanent project site signboard
STRUCTURAL DRAWINGS		
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1	HTY-YDG-TRS-STR-101	YÜKLEME/BOŞALTMA PLATFORMU /BUNKER STATİK PROJESİ /STRUCTURAL DRAWING

2	HTY-YDG-TRS-STR-102	OFİS BİNALARI / OFFICE BUILDINGS STATİK PROJESİ /STRUCTURAL DRAWING
3	HTY-YDG-TRS-STR-103	60 TONLUK ZEMİN ÜSTÜ KANTAR / 60 TONNES ABOVE GRADE WEIGHBRIDGE STATİK PROJESİ /STRUCTURAL DRAWING
4	HTY-YDG-TRS-STR-104	ATIKSU TANK / WASTEWATER COLLECTION TANK STATİK PROJESİ /STRUCTURAL DRAWING
5	HTY-YDG-TRS-STR-105	FOSEPTİK / CESSPOOL STATİK PROJESİ /STRUCTURAL DRAWING
6	HTY-YDG-TRS-STR-106	KULLANIM VE SULAMA TANKI / WATER IRRIGATION TANK STATİK PROJESİ /STRUCTURAL DRAWING
7	HTY-YDG-TRS-STR-107	TEMEL KALIP PLANI /FOUNDATION FORMWORK PLAN
8	HTY-YDG-TRS-STR-108	PLATFORM PLAN / PLATFORM PLANI
9	HTY-YDG-TRS-STR-109	ISTINAT DUVAR DETAYLARI / RETAINING WALL DETAILS
10	HTY-YDG-TRS-STL-101	BUNKER ÇELİK STRÜKTÜR UYGULAMA PROJESİ / STEEL STRUCTURE APPLICATION PROJECT
11	HTY-YDG-TRS-SIR-101	RESULT OF SOIL INVESTIGATION REPORT IN ENGLISH
12	HTY-YDG-TRS-SIR-102	SOIL INVESTIGATION REPORT IN TURKISH
MECHANICAL DRAWINGS		
No	Drawing No	Drawing Name
1	HTY-YDG-TRS-MEK-101	INFRASTRUCTURE APPLICATION PROJECT / ALTYAPI UYGULAMA PROJESİ
2	HTY-YDG-TRS-MEK-102	OFİS BİNALARI MEKANİK PROJELERİ OFFICE BUILDINGS MECHANICAL APPLICATION PROJECT
3	HTY-YDG-TRS-MEK-103	OFİS BİNALARI İKLİMLENDİRME PROJESİ OFFICE BUILDINGS AIR-CONDITIONER PROJECT
ELECTRICAL DRAWINGS		
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2	HTY-YDG-TRS-ELK-102	CABLE DUCT AND MANHOLE PLAN / KABLO KANALLARI VE MENHOL PLANI
3	HTY-YDG-TRS-ELK-103	ADMINISTRATIVE BUILDING ELECTRICAL APPLICATION PROJECT / İŞLETME BİNASI ELEKTRİK UYGULAMA PROJESİ
4	HTY-YDG-TRS-ELK-104	OUTDOOR LIGHTING POLE and VOLTAGE DROP CALCULATION / AYDINLATMA DİREĞİ PLANI VE GERİLİM DÜŞÜMÜ HESABI

SECTION 5B: OTHER RELATED REQUIREMENTS

Further to the SECTION 5A: SCHEDULE OF REQUIREMENTS AND TECHNICAL SPECIFICATIONS/BILL OF QUANTITIES, Bidders are requested to take note of the following additional requirements, conditions, and related services pertaining to the fulfilment of the requirements:

Commencement of work	The Contractor shall commence work within 7 days from the date on which he shall have been given access to the Site and received the notice to commence from the Engineer
Time limit for submission of Programme of Work (Clause 13 of UNDP General Conditions of Contract for Civil Works)	The Contractor shall submit to the Engineer the Programme of Work in 7 days from the contract signature date.
Price and Payment Terms	The contract is based on unit price, and the final price of the Contract will be determined on the basis of actual quantities of work and materials utilized in the complete and satisfactory performance of the Works as certified by the Engineer and the unit prices contained in the Contractor's financial proposal. Such unit prices are fixed and are not subject to any variation whatsoever.
Currency of Payment	United States Dollar If the Contractor is registered and operating in Turkey, the payment shall be realized in Turkish Liras (TRY). Contract price will be converted from United States Dollar (USD) to Turkish Liras (TRY) by the UN operational rate of exchange ⁵ valid on the date of money transfer. Otherwise, the payments shall be affected in United States Dollar.
Interim Payment	The Contractor shall submit an invoice for the work performed and materials utilized every month .
Insurance of work	For all risks stipulated by Clause 21 of UNDP General Conditions of Contract for Civil Works for the 110 % of the total estimated price of the Contract.
Minimum amount of liability insurance (Clause 23 of UNDP General Conditions of Contract for Civil Works)	15 % of the total estimated price of the Contract
Engineer	Engineer's name and communication details will be notified in writing to the Contractor by the contract signature.

⁵ Available at the website: <https://treasury.un.org/operationalrates/OperationalRates.php#E>

SECTION 6: RETURNABLE BIDDING FORMS / CHECKLIST

This form serves as a checklist for preparation of your Bid. Please complete the Returnable Bidding Forms in accordance with the instructions in the forms and return them as part of your Bid submission. No alteration to format of forms shall be permitted and no substitution shall be accepted.

Before submitting your Bid, please ensure compliance with the Bid Submission instructions of the BDS 22.

Technical Bid:

Have you duly completed all the Returnable Bidding Forms?	
▪ Form A: Bid Submission Form	<input type="checkbox"/>
▪ Form B: Bidder Information Form	<input type="checkbox"/>
▪ Form C: Joint Venture/Consortium/ Association Information Form	<input type="checkbox"/>
▪ Form D: Qualification Form	<input type="checkbox"/>
▪ Form E: Format of Technical Bid/Bill of Quantities	<input type="checkbox"/>
▪ Form G: Form of Bid Security	
Have you provided the required documents to establish compliance with the evaluation criteria in Section 4?	<input type="checkbox"/>

Price Schedule:

▪ Form E: Price Schedule Form	<input type="checkbox"/>
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Form A: Bid Submission Form

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

We, the undersigned, offer to complete civil works [Insert Title of lots] in accordance with your Invitation to Bid No. UNDP-TUR(MC2)-2019/01 and our Bid. We hereby submit our Bid, which includes this Technical Bid and Price Schedule.

Our attached Price Schedule is for the sum of [Insert amount in words and figures and indicate currency] [for LOT 1; Construction of Waste Transfer Station in Kırıkhan/Hatay]

Our attached Price Schedule is for the sum of [Insert amount in words and figures and indicate currency] [for LOT 2; Construction of Waste Transfer Station in Yayladağ/Hatay]

We hereby declare that our firm, its affiliates or subsidiaries or employees, including any JV/Consortium /Association members or subcontractors or suppliers for any part of the contract:

- a) is not under procurement prohibition by the United Nations, including but not limited to prohibitions derived from the Compendium of United Nations Security Council Sanctions Lists;
- b) have not been suspended, debarred, sanctioned or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization;
- c) have no conflict of interest in accordance with Instruction to Bidders Clause 4;
- d) do not employ, or anticipate employing, any person(s) who is, or has been a UN staff member within the last year, if said UN staff member has or had prior professional dealings with our firm in his/her capacity as UN staff member within the last three years of service with the UN (in accordance with UN post-employment restrictions published in ST/SGB/2006/15);
- e) have not declared bankruptcy, are not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against them that could impair their operations in the foreseeable future;
- f) undertake not to engage in proscribed practices, including but not limited to corruption, fraud, coercion, collusion, obstruction, or any other unethical practice, with the UN or any other party, and to conduct business in a manner that averts any financial, operational, reputational or other undue risk to the UN and we embrace the principles of the United Nations Supplier Code of Conduct and adhere to the principles of the United Nations Global Compact.

We declare that all the information and statements made in this Bid are true and we accept that any misinterpretation or misrepresentation contained in this Bid may lead to our disqualification and/or sanctioning by the UNDP.

We offer to complete works in conformity with the Bidding documents, including the UNDP General Conditions of Contract and in accordance with the Schedule of Requirements and Technical Specifications.

Our Bid shall be valid and remain binding upon us for the period specified in the Bid Data Sheet.

We understand and recognize that you are not bound to accept any Bid you receive.

I, the undersigned, certify that I am duly authorized by [Insert Name of Bidder] to sign this Bid and bind it should UNDP accept this Bid.

Name: _____

Title: _____

Date: _____

Signature: _____

Form B: Bidder Information Form

Legal name of Bidder	[Complete]
Legal address	[Complete]
Year of registration	[Complete]
Bidder's Authorized Representative Information	Name and Title: [Complete] Telephone numbers: [Complete] Email: [Complete]
Are you a UNGM registered vendor?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, [insert UGNM vendor number]
Are you a UNDP vendor?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, [insert UNDP vendor number]
Countries of operation	[Complete]
No. of full-time employees	[Complete]
Quality Assurance Certification (e.g. ISO 9000 or Equivalent) <i>(If yes, provide a Copy of the valid Certificate):</i>	[Complete]
Does your Company hold any accreditation such as ISO 14001 or ISO 14064 or equivalent related to the environment? <i>(If yes, provide a Copy of the valid Certificate):</i>	[Complete]
Does your Company have a written Statement of its Environmental Policy? <i>(If yes, provide a Copy)</i>	[Complete]
Does your organization demonstrate significant commitment to sustainability through some other means, for example internal company policy documents on women empowerment, renewable energies or membership of trade institutions promoting such issues	[Complete]
Is your company a member of the UN Global Compact	[Complete]
Contact person that UNDP may contact for requests for clarifications during Bid evaluation	Name and Title: [Complete] Telephone numbers: [Complete] Email: [Complete]
Please attach the following documents:	<ul style="list-style-type: none"> Company Profile, which should <u>not</u> exceed fifteen (15) pages, Certificate of Incorporation/ Business Registration

	<ul style="list-style-type: none"> ▪ Tax Registration/Payment Certificate issued by the Internal Revenue Authority evidencing that the Bidder is updated with its tax payment obligations, or Certificate of Tax exemption, if any such privilege is enjoyed by the Bidder ▪ Trade name registration papers, if applicable ▪ Power of Attorney. ▪ Official Letter of Appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country
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Form C: Joint Venture/Consortium/Association Information Form

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

To be completed and returned with your Bid if the Bid is submitted as a Joint Venture/Consortium/Association.

No	Name of Partner and contact information (address, telephone numbers, fax numbers, e-mail address)	Proposed proportion of responsibilities (in %) and type of goods and/or services to be performed
1	[Complete]	[Complete]
2	[Complete]	[Complete]
3	[Complete]	[Complete]

Name of leading partner (with authority to bind the JV, Consortium, Association during the ITB process and, in the event a Contract is awarded, during contract execution)	[Complete]
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We have attached a copy of the duly notarized JV/Consortium/Association agreement, which details the likely legal structure of and the confirmation of joint and severable liability of the members of the said joint venture.

We hereby confirm that if the contract is awarded, all parties of the Joint Venture/Consortium/Association shall be jointly and severally liable to UNDP for the fulfillment of the provisions of the Contract.

Name of partner: _____ Name of partner: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

Name of partner: _____ Name of partner: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

Form D: Eligibility and Qualification Form

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

History of Non- Performing Contracts

<input type="checkbox"/> Non-performing contracts did not occur during the last 3 years. (reference period to be taken into account: from April 1, 2016 to April 1, 2019)			
<input type="checkbox"/> Contract(s) not performed in the last 3 years. (reference period to be taken into account: from April 1, 2016 to April 1, 2019)			
Year	Non- performed portion of contract	Contract Identification	Total Contract Amount (current value in US\$)
		Name of Client: Address of Client: Reason(s) for non-performance:	

Litigation History (including pending litigation)

<input type="checkbox"/> No litigation history for the last 3 years. (reference period to be taken into account: from April 1, 2016 to April 1, 2019)			
<input type="checkbox"/> Litigation History as indicated below			
Year of dispute	Amount in dispute (in US\$)	Contract Identification	Total Contract Amount (current value in US\$)
		Name of Client: Address of Client: Matter in dispute: Party who initiated the dispute: Status of dispute: Party awarded if resolved:	

Previous Relevant Experience

Please list only previous similar assignments successfully completed in the **last 3 years**. (reference period to be taken into account: from April 1, 2016 to April 1, 2019)

List only those assignments for which the Bidder was legally contracted or sub-contracted by the Client as a company or was one of the Consortium/JV partners. Assignments completed by the Bidder's individual experts working privately or through other firms cannot be claimed as the relevant experience of the Bidder, or that of the Bidder's partners or sub-consultants, but can be claimed by the Experts themselves in their CVs. **The Bidder shall provide proof documents for the claimed experience by presenting copies of relevant documents and references with the Bid.**

Project name & Country of Assignment	Client & Reference Contact Details	Contract Value (in USD equivalent*)	Period of activity and status	Types of activities undertaken

- Bidders shall convert the currency quoted in the "Certificate of Completion" into USD, in accordance with the prevailing UN operational rate of exchange on the contract date stated by "Certificate of Completion". UN operational rate of exchange are available at the following website: <https://treasury.un.org/operationalrates/OperationalRates.php#E>

Bidders may also attach their own Project Data Sheets with more details for assignments above.

☐ Attached are the Statements of Satisfactory Performance / Work Completion Certificates from the Top 3 (three) Clients or more.

Financial Standing

Annual Turnover for the last 3 years (in US\$ equivalent ⁶)	Year 2016	USD	
	Year 2017	USD	
	Year 2018	USD	
Latest Credit Rating (if any), indicate the source			
Financial information (in US\$ equivalent ⁷)	Historic information for the last 3 years		
	2016	2017	2018
	Information from Balance Sheet		
Total Assets (TA)			
Total Liabilities (TL)			
Current Assets (CA)			
Current Liabilities (CL)			
	Information from Income Statement		
Total / Gross Revenue (TR)			
Profits Before Taxes (PBT)			
Net Profit			
Current Ratio			

☐ Attached are copies of the audited financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following condition:

- Must reflect the financial situation of the Bidder or party to a JV, and not sister or parent companies;
- Historic financial statements must be audited by a certified public accountant;

⁶ Bidders shall convert the currency into USD by using the UN operational rate of exchange which was effective for December of each corresponding year. UN operational rate of exchange are available at the following website: <https://treasury.un.org/operationalrates/OperationalRates.php#E>

⁷ Bidders shall convert the currency into USD by using the UN operational rate of exchange which was effective for December of each corresponding year. UN operational rate of exchange are available at the following website: <https://treasury.un.org/operationalrates/OperationalRates.php#E>

- c) Historic financial statements must correspond to accounting periods already completed and audited. No statements for partial periods shall be accepted.

Form E: Format of Technical Bid

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		
Lot No/Title	[Insert Lot Number and Title]		

Bidders who submit bids for both of the lots should submit technical bid separately for each lot.

The Bidder's Bid should be organized to follow this format of the Technical Bid. Where the bidder is presented with a requirement or asked to use a specific approach, the bidder must not only state its acceptance, but also describe how it intends to comply with the requirements. **Where a descriptive response is requested, failure to provide the same will be viewed as non-responsive.**

SECTION 1: Bidder's qualification, capacity and expertise

- 1.1 General organizational capability which is likely to affect implementation: management structure, financial stability and project financing capacity, project management controls, extent to which any work would be subcontracted (if so, provide details).
- 1.2 Relevance of specialized knowledge and experience on similar engagements done in the region/country.
- 1.3 Quality assurance procedures and risk mitigation measures.
- 1.4 Organization's commitment to sustainability.

SECTION 2: Method Statement

This section should demonstrate the Bidder's responsiveness to the specification by identifying the specific components proposed, addressing the requirements, as specified, point by point; providing a detailed description of the essential performance characteristics proposed; and demonstrating how the proposed bid meets or exceeds the requirements/specifications. All important aspects should be addressed in sufficient detail.

- 2.1 A detailed description of how the Bidder will complete civil works, keeping in mind the appropriateness to local conditions and project environment.
- 2.2 Explain whether any work would be subcontracted, to whom, how much percentage of the requirements, the rationale for such, and the roles of the proposed sub-contractors and how everyone will function as a team.
- 2.3 The bid shall also include details of the Bidder's internal technical and quality assurance review mechanisms.
- 2.4 Implementation plan including a Gantt Chart or Project Schedule indicating the detailed sequence of activities that will be undertaken and their corresponding timing.
- 2.5 Demonstrate how you plan to integrate sustainability measures in the execution of the contract. (e.g. Environmental Management)

SECTION 3: Management Structure and Key Personnel

- 3.1 Describe the overall management approach toward planning and implementing the project. Include an organization chart for the management of the project describing the relationship of key positions and designations.

- 3.2 Provide CVs for key personnel required by technical specifications using the format below. CVs should demonstrate qualifications in areas relevant to the scope of works. **(The bidders who submit bids for both of the lots shall propose different personnel as the Project Manager/Construction Manager for each lot. The bidders who submit bids for both of the lots may propose the same personnels for both lots as Mechanical Engineer, Electrical Engineer and Surveyor.)**

Format for CV of Proposed Key Personnel

Name of Personnel	[Insert]
Position for this assignment	[Insert]
Nationality	[Insert]
Language proficiency	[Insert]
Education/ Qualifications	<p><i>[Summarize college/university and other specialized education of personnel member, giving names of schools, dates attended, and degrees/qualifications obtained.]</i></p> <p>[Insert]</p>
Professional certifications	<p><i>[Provide details of professional certifications relevant to the scope of goods and/or services]</i></p> <ul style="list-style-type: none"> ▪ Name of institution: [Insert] ▪ Date of certification: [Insert]
Employment Record/ Experience	<p><i>[List all positions held by personnel (starting with present position, list in reverse order), giving dates, names of employing organization, title of position held and location of employment. For experience in last five years, detail the type of activities performed, degree of responsibilities, location of assignments and any other information or professional experience considered pertinent for this assignment.]</i></p> <p>[Insert]</p>
References	<p><i>[Provide names, addresses, phone and email contact information for two (2) references]</i></p> <p>Reference 1: [Insert]</p> <p>Reference 2: [Insert]</p>

I, the undersigned, certify that to the best of my knowledge and belief, the data provided above correctly describes my qualifications, my experiences, and other relevant information about myself.

Signature of Personnel

Date (Day/Month/Year)

FORM F: Price Schedule Form/Bill of Quantities

Lot 1; Construction of Waste Transfer Station in Kırıkhan Hatay

(Bidders who submit bids for both of the lots should submit Price Schedule Form/Bill of Quantities separately for each lot.)

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

This Bill of Quantities is an itemized breakdown of the works to be carried out, indicating a quantity for each item and the corresponding unit price. The quantities set out in this Bill of Quantities are estimated quantities.

The amounts due shall be determined through the measurement of the actual quantities of the works executed and by applying the unit rates to the quantities actually executed for the respective items.

The prices inserted in the Bill of Quantities are to be the full inclusive values of the works described under the items, including all costs and expenses which may be required in and for the construction of the works described together with any temporary works and installations which may be necessary, and all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based. It will be assumed that establishment charges, profit and allowances for all obligations are spread evenly over all the unit rates.

No specific payment will be made against transportation of materials to the site.

Unless the technical specifications or the Bill of Quantities specifically and expressly state otherwise, only permanent works are to be measured and paid for by UNDP.

No allowance will be made for loss of materials or volume thereof during installation, transport or compaction.

UN and its subsidiary organs are exempt from all taxes. Therefore, the prices shall exclude Value Added Tax (VAT).

The Contractor to be selected shall not be entitled to receive any amount over the prices in relation to VAT, Special Consumption Tax and any other applicable taxes.

In the bill of quantities, rates and prices shall be entered by the Contractor in the appropriate columns in USD. In the Unit Price column in the Bill of Quantities Unit Rates shall include the overheads. "Overheads" shall be deemed to cover:

- i. Profit
- ii. Head Office charges
- iii. Site Supervision and Site Staff costs and expenses
- iv. Transport of labour and travelling allowances
- v. Use of protective clothing or equipment
- vi. Any statutory or incidental charges levied on the employment of labour
- vii. Overtime, unless specifically ordered or subsequently sanctioned in writing by the Engineer
- viii. Time lost due to inclement weather
- ix. Insurances of whatsoever nature
- x. Holiday and sickness pay or benefits
- xi. Use, repair and sharpening of small tools
- xii. All non-mechanically operated equipment, erected scaffolding, staging and trestles, protective clothing, artificial lighting, storage facilities and the like that may be in general use on the site
- xiii. All other liabilities and obligations whatsoever

The units of measurement used in the annexed technical documentation are those of the International System of Units (SI). No other units may be used for measurements, pricing, detail drawings etc. (Any units not mentioned in the technical documentation must also be expressed in terms of the SI.) Abbreviations used in the bill of quantities are to be interpreted as follows:

mm	means	millimetre
m	means	metre
da	means	decare
mm ²	means	square millimetre

m ²	means	square metre
m ³	means	cubic metre
kg	means	kilogram
ton	means	tonne (1000 kg)
pcs	means	pieces
h	means	hour
L.s.	means	Lump sum
km	means	kilometre
l	means	litre
kVAR	means	kilovolt ampere reactive
%	means	per cent

Currency of the Bid: United States Dollar, USD

Price Schedule for Lot 1

Item #	Description	Total Price (USD)
1	Civil Works	
2	Mechanical Works	
3	Electrical Works	
Total estimated price (item 1 +item 2 +item 3) (USD)		

Excel format of Bill of Quantities shall also be provided with the Bid. In case of any discrepancy between the excel format and the following formats, the prices given in the below format shall prevail.

BILL OF QUANTITIES FOR CIVIL WORKS, LOT 1;

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Civ01	Excavation works	m ³	4400.00		
Civ02	Watering and compaction of any type of soil	m ³	6,270.00		
Civ03	Backfill with all in aggregate including transportation	m ³	6,270.00		
Civ04	Formation of base layer ((with crushed and screened quarry stone (1 inch)) including transportation	m ³	850.00		
Civ05	Plant-Mix Subbase production including transportation (with crushed and screened quarry stone)	m ³	850.00		
Civ06	Supply of gravel and flooring, watering and compaction by machine including transportation	m ³	517.00		
Civ07	Laying the sub base and base material	m ³	1,700.00		
Civ08	Readymix concrete placement meeting the compressive strength requirements of C 16/20, including procurement, delivery, concrete pump and placement.	m ³	385.00		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Civ09	Concreting of C 30/37 compressive strength class concrete being manufactured at a concrete plant or purchased (including concrete transport)	m ³	1726.00		
Civ10	Concrete kerb construction including transport to workplace, loading and unloading, stapling and figuration costs of cement, sand and gravel	m	448.50		
Civ11	30 cm thick CMU wall construction with non-reinforced lightweight concrete blocks (With lightweight block adhesive) (2,50 N/mm ² and 400 kg/m ³)	m ²	61.00		
Civ12	Hot-dip galvanized, corrugated / trapezoidal sheet and roof covering with epoxy paint made of 0.50 mm thickness on the existing roof covering on concrete slabs and/or steel structures	m ²	272.50		
Civ13	Ø 200 mm nominal diameter, PVC-based corrugated drainage pipe and its placement	m	350.00		
Civ14	Two layers of dampproofing application of 3 and 4 mm thick elastometric polymer modified bitumen sheet (-20 degrees cold rolled) with mat reinforcement	m ²	175.00		
Civ15	Laying of 150 gr/m2 geotextile felt	m ²	410.00		
Civ16	Supply and replacement of HDPE based drainage and protection sheet on waterproofing of basement curtains (200 dpressure resistance <250 KN / m ²)	m ²	234.00		
Civ17	5 cm thick surface roughness or rough channel extruded polystyrene plates (XPS - 200 kPa compressive strength) with external thermal insulation on the outside walls and heat insulation plaster (jacketing)	m ²	76.00		
Civ18	Thermal insulation of 5 cm thick surface (XPS - 300 Kpa compressive strength) and horizontal (on ground floor (earth contact) floors or reverse terrace roofs)	m ²	24.25		
Civ19	Mesh reinforced elastometric resin based liquid applied dampproof plastic coating, 3 layers, 1,5 mm total thickness	m ²	343.00		
Civ20	Production of reinforced concrete plain surface form works with plywood	m ²	4,185.00		
Civ21	Mold Scaffolding from steel pipe (between 0.00 – 4.00 m)	m ³	1,070.00		
Civ22	Mold Scaffolding from steel pipe (4.01 – 6.00 m)	m ³	1,205.00		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Civ23	Mold Scaffolding from steel pipe (6,01-8,00m)	m ³	5,081.00		
Civ24	Assembly of prefabricated exterior scaffolding with full safety measures (0,00-51,50 m height)	m ²	596.00		
Civ25	Assembly of prefabricated ceiling scaffolding with full safety measures (0,00-21,50 m height).	m ²	735.00		
Civ26	Ribbed wire mesh (1.5-3.00 kg/m2) Installation (including 3.00 kg / m2) including transportation	Ton	26.75		
Civ27	Cutting, bending and placement of Ø 8- Ø 12 mm deformed concrete steel bars	Ton	48.50		
Civ28	Cutting, bending and placement of Ø 14- Ø 28 mm deformed concrete steel bars	Ton	121.20		
Civ29	Making and replacing various iron works from iron band,hollow section and steel profile	kg	8,750.00		
Civ30	PVC Doors, Windows and Frames	kg	100.00		
Civ31	Nodular cast iron grates for rain water drainage	kg	1,650.00		
Civ32	Supply and replacement of rigid PVC rain pipe with a diameter Ø 100 mm	m	7.00		
Civ33	0.50 mm thick, hot-dip galvanized on the flat sheet made of seamless groove construction and installation (Sheet width 30 cm total)	m	11.50		
Civ34	Two layers of anticorrosive, two layers of synthetic paint on iron surfaces	m ²	343.00		
Civ35	Application of two coats of water-based matte paint on the new plaster surfaces (interior)	m ²	185.00		
Civ36	Water based exterior paint with silicone additives to be applied on concrete, plaster, stucco or existing paint with primer (Exterior surfaces)	m ²	104.00		
Civ37	First class, all type, color and texture, 40 x 40 cm ceramic tile and wall & floor tile with 3 mm joint installation (With tile adhesive)	m ²	44.50		
Civ38	Made of marble aggregated concrete, ready made, equipped with flat sheet, window sill, parapet or a scoop (all kinds of surface treatment)	m ²	1.50		
Civ39	Covering with 8 cm height normal cement steam cured concrete paving stone (every size, color and pattern)	m ²	878.50		
Civ40	Paving 30 x 10 x (Project specific) cm, steam cured, regular cement concrete gutter stone (All colors)	m	276.00		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Civ41	Plastering with 250/350 kg cement dosage, coarse and fine mortar (exterior plastering)	m ²	52.00		
Civ42	Plastering with 200/250 kg lime / cement mixture, coarse and fine mortar (interior wall plastering)	m ²	169.00		
Civ43	200 kg cement dose levelling coat	m ²	41.00		
Civ44	Installation of double-glazed glass window unit with 4 + 4 mm thickness, 12 mm spacing to PVC and aluminum joinery profile	m ²	2.25		
Civ45	Formation of steam cured 500 Dose Precast Manhole base (h=0.6m, with rubber joints) with Ø 200 outlet (one out and one inlet)	piece	6.00		
Civ46	Formation of steam Cured 500 Doses Precast Manhole Riser (h= 0.50 m, Joints with 600 Dose Mortar)	piece	2.00		
Civ47	Formation of 500 dz. 1-meter diameter prefabricated and steam cured inspection manhole with rubber gasket and conical apparatus installation	piece	6.00		
Civ48	Formation of steam cured, 500 dose precast manhole with structure height adjustment ring (h=specific to project, Joints with 600 Dose Mortar)	m	6.00		
Civ49	Supply and placing of BS 18 concrete (350 doses) precast concrete manhole cover with frame	piece	6.00		
Civ50	Facade cladding with aluminium composite panel, mineral filled (without heat insulation)	m ²	68.00		
Civ51	Permanent Project Signboard with foot pedestal	Lump sum	1.00		
Civ52	Supply and installation of prefabricated container buildings	Lump sum	1.00		
Civ53	Traffic sign boards	piece	4.00		
Civ54	Panel Fence	m	374.00		
Civ55	Sliding Entrance Gate (Panel fence)	Lump sum	1.00		
Civ56	Supply and planting of conifer trees	piece	20		
Civ57	Supply and planting of broad-leaved trees	piece	25		
Civ58	Supply and planting of bushes	piece	130		
Civ59	Supply and laying of top soil	m ³	95		
Civ60	Smoked color chamfered mirror (5mm thickness)	m ²	5.68		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Civ61	Deceleration warning,stripe lines and pedestrian crossings, with 2 mm thick double component paint	m ²	75.00		
Civ65	Field concrete (concrete pavement)	m ³	771.00		
Civ66	Pipe bedding-padding (side fill) with 0-30 mm fine aggregate (crushed stone)	m ³	255.00		
Civ67	Demolition works for concrete materials	m ³	110.00		
Civ68	Demolition works for non-concrete materials /compacted soil	m ³	3,500.00		
Civ69	Demolition works for cobble stone pavement	m ²	1,700.00		
Total for Civil Works, Lot 1					

BILL OF QUANTITIES FOR MECHANICAL WORKS, LOT 1;

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Mec01	Polyethylene pipe; outside diameter Ø40 mm, PE100 class, SDR 17, PN 10	m	160.00		
Mec02	Polyethylene pipe; outside diameter Ø50 mm, PE100 class, SDR 17, PN 10	m	110		
Mec03	Polyethylene pipe; outside diameter Ø63 mm, PE100 class, SDR 17, PN 10	m	15		
Mec04	Laying HDPE based, corrugated sewer pipe with nominal diameter of Ø 150 mm	m	40		
Mec05	Laying HDPE based, corrugated sewer pipe with nominal diameter of Ø 200 mm	m	120		
Mec06	Laying HDPE based, corrugated sewer pipe with nominal diameter of Ø 300 mm	m	80		
Mec07	3.75m3 prismatic modular stainless-steel water tank including installation/montage material	pieces	1		
Mec08	Polypropylene clear water pipe; PN 20, 1/2", Ø 20/3.4 mm including installation/montage material	m	6		
Mec09	Polypropylene clear water pipe; PN 20, 3/4", Ø 25/4.2 mm including installation/montage material	m	26		
Mec10	Polypropylene clear water pipe; PN 20, 1", Ø 32/5.4 mm including installation/montage material	m	8		
Mec11	Polypropylene clear water pipe; PN 20, 1 1/4", Ø 40/6.7 mm including installation/montage material	m	6		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Mec12	Polypropylene clear water pipe; PN 20, 2", Ø 63/10.5 mm including installation/montage material	m	10		
Mec13	(3/4") outside diameter: 27 Ø mm, 25 mm glass wound based aluminum folio coated prefabricated pipe insulation (TS EN 14303)	m	8.5		
Mec14	(1 1/4") outside diameter: 42 Ø mm, 40 mm glass wound based aluminum folio coated prefabricated pipe insulation (TS EN 14303)	m	14		
Mec15	(2") outside diameter: 60 Ø mm, 60 mm glass wound based aluminum folio coated prefabricated pipe insulation (TS EN 14303)	m	11		
Mec16	Rigid PVC plastic sewage pipe with muff, outer diameter: Ø 50-40/3.00 mm (B and BD type) including installation/montage material	m	3		
Mec17	Rigid PVC plastic sewage pipe with muff, outer diameter: Ø 75-70/3.00 mm (B and BD type) including installation/montage material	m	6		
Mec18	Rigid PVC plastic sewage pipe with muff, outer diameter: Ø 100-110/3.00 mm (B and BD type) including installation/montage material	m	4		
Mec19	Rigid plastic floor sink 10X10 cm	pieces	3		
Mec20	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 20 Ø mm, 3/4"	pieces	4		
Mec21	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 32 Ø mm, 1 1/4"	pieces	9		
Mec22	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 40 Ø mm, 1 1/2"	pieces	6		
Mec23	Strainer; PN 16 (for water and vapor, cast casing) Ø 50 mm or Ø 65 mm, with flange	pieces	1		
Mec24	Holding valve with flange, cast casing, Ø 50 mm or Ø 65 mm	pieces	3		
Mec25	Cold water meter Ø 50 mm, with flange	pieces	1		
Mec26	Hydrophore, single pump, vertical shaft, frequency converter; Flow: 0-5 m ³ / h Pressure: 40-60mss	pieces	1		
Mec27	Collector pipe, cold and hot water, galvanized; 3" Ø 80 mm	m	1		
Mec28	Collector mouth, Ø 50 mm	pieces	4		
Mec29	Supply and installation of wall split air conditioner, UNIT 9.000 Btu/h	pieces	4		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Mec30	Weighbridge with automation system	Lump-sum	1		
Total for Mechanical Works, Lot 1					

BILL OF QUANTITIES FOR ELECTRICAL WORKS, LOT 1;

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Ele01	MDP Main Distribution Panelboard	piece	2		
Ele02	Surface Mounting Type Sheet Metal Panel, 0.30 m2	piece	4		
Ele03	Selector Type Rotary Cam (Pako) Switch, 2x10 A	piece	1		
Ele04	Rotary Cam (Pako) Switch, (0-1) 3x25 A	piece	2		
Ele05	Contactor, 3x16 A	piece	1		
Ele06	Thermic Protective Contactor, 3x10 A	piece	2		
Ele07	Time limit relay used for lighting control	piece	1		
Ele08	Residual current circuit breaker – up to 4x25A (30mA)	piece	2		
Ele09	Residual current circuit breaker – up to 4x25A (300mA)	piece	5		
Ele10	Residual current circuit breaker – up to 4x40A (300mA)	piece	1		
Ele11	Surge protector; B Class, 230V AC, 100kA panel type	piece	1		
Ele12	Automatic-controlled central compensation battery, up to 525 V	kVar	12.5		
Ele13	Miniature Circuit Breaker, 1x2A, 1x10A, 1x16A	piece	32		
Ele14	Miniature Circuit Breaker, 3x25A	piece	13		
Ele15	Miniature Circuit Breaker, 3x40A	piece	1		
Ele16	Multimeter (TS4417)	piece	1		
Ele17	Current transformer, CL:0,5 n<5 10VA 40/5A	piece	3		
Ele18	Signal Lamp	piece	15		
Ele19	3x25+16mm2 NYY Cable	m	200.00		
Ele20	4x6mm2 NYY Cable	m	290.00		
Ele21	5x4mm2 N2XH Cable	m	95.00		
Ele22	5x6mm2 N2XH Cable	m	90.00		
Ele23	ΔL60 (6 m.) Active Lightning Arrestor	piece	1		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Ele24	Down-conductor, 50mm ² electrolytic copper conductor	m	100.00		
Ele25	30x3,5mm Galvanized Steel Band	m	40.00		
Ele26	Grounding rod, electrolytic copper	piece	7		
Ele27	Conductor protection pipe (3m)	piece	1		
Ele28	150W LED Street Lighting Fixture, IP65	piece	13		
Ele29	150W LED Projector Lighting Fixture, IP65	piece	2		
Ele30	Galvanized Steel Range Lighting Pole, h:7mt.	piece	15		
Ele31	HDPE 100 corrugated pipe	m	160.00		
Ele32	Polythene pipe Ø 32 mm	m	290.00		
Ele33	Grounding line, 16mm ²	m	290.00		
Total for Electrical Works					

Name of Bidder: _____

Authorised signature: _____

Name of authorised signatory: _____

Functional Title: _____

FORM F: Price Schedule Form/Bill of Quantities

Lot 2; Construction of Waste Transfer Station in Yayladağ Hatay

(Bidders who submit bids for both of the lots should submit Price Schedule Form/Bill of Quantities separately for each lot.)

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

This Bill of Quantities is an itemized breakdown of the works to be carried out, indicating a quantity for each item and the corresponding unit price. The quantities set out in this Bill of Quantities are estimated quantities.

The amounts due shall be determined through the measurement of the actual quantities of the works executed and by applying the unit rates to the quantities actually executed for the respective items.

The prices inserted in the Bill of Quantities are to be the full inclusive values of the works described under the items, including all costs and expenses which may be required in and for the construction of the works described together with any temporary works and installations which may be necessary, and all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based. It will be assumed that establishment charges, profit and allowances for all obligations are spread evenly over all the unit rates.

No specific payment will be made against transportation of materials to the site.

Unless the technical specifications or the Bill of Quantities specifically and expressly state otherwise, only permanent works are to be measured and paid for by UNDP.

No allowance will be made for loss of materials or volume thereof during installation, transport or compaction.

UN and its subsidiary organs are exempt from all taxes. Therefore, the prices shall exclude Value Added Tax (VAT).

The Contractor to be selected shall not be entitled to receive any amount over the prices in relation to VAT, Special Consumption Tax and any other applicable taxes.

In the bill of quantities, rates and prices shall be entered by the Contractor in the appropriate columns in USD. In the Unit Price column in the Bill of Quantities Unit Rates shall include the overheads. "Overheads" shall be deemed to cover:

- i. Profit
- ii. Head Office charges
- iii. Site Supervision and Site Staff costs and expenses
- iv. Transport of labour and travelling allowances
- v. Use of protective clothing or equipment
- vi. Any statutory or incidental charges levied on the employment of labour
- vii. Overtime, unless specifically ordered or subsequently sanctioned in writing by the Engineer
- viii. Time lost due to inclement weather
- ix. Insurances of whatsoever nature
- x. Holiday and sickness pay or benefits
- xi. Use, repair and sharpening of small tools
- xii. All non-mechanically operated equipment, erected scaffolding, staging and trestles, protective clothing, artificial lighting, storage facilities and the like that may be in general use on the site
- xiii. All other liabilities and obligations whatsoever

The units of measurement used in the annexed technical documentation are those of the International System of Units (SI). No other units may be used for measurements, pricing, detail drawings etc. (Any units not mentioned in the technical documentation must also be expressed in terms of the SI.) Abbreviations used in the bill of quantities are to be interpreted as follows:

mm	means	millimetre
m	means	metre
da	means	decare
mm ²	means	square millimetre

m ²	means	square metre
m ³	means	cubic metre
kg	means	kilogram
ton	means	tonne (1000 kg)
pcs	means	pieces
h	means	hour
L.s.	means	Lump sum
km	means	kilometre
l	means	litre
kVAR	means	kilovolt ampere reactive
%	means	per cent

Currency of the Bid: United States Dollar, USD

Price Schedule for Lot 2

Item #	Description	Total Price (USD)
1	Civil Works	
2	Mechanical Works	
3	Electrical Works	
Total estimated price (item 1 +item 2 +item 3) (USD)		

Excel format of Bill of Quantities shall also be provided with the Bid. In case of any discrepancy between the excel format and the following formats, the prices given in the below format shall prevail.

BILL OF QUANTITIES FOR CIVIL WORKS, LOT 2;

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Civ01	Excavation works	m ³	12,400.00		
Civ02	Watering and compaction of any type of soil	m ³	3,300.00		
Civ03	Backfill with all in aggregate including transportation	m ³	3,300.00		
Civ04	Formation of base layer ((with crushed and screened quarry stone (1 inch)) including transportation	m ³	855.00		
Civ05	Plant-Mix Subbase production including transportation (with crushed and screened quarry stone)	m ³	1,710.00		
Civ06	Supply of gravel and flooring, watering and compaction by machine including transportation	m ³	907.60		
Civ07	Laying the sub base and base material	m ³	1,710.00		
Civ08	Readymix concrete placement meeting the compressive strength requirements of C 16/20, including procurement, delivery, concrete pump and placement.	m ³	425.00		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Civ09	Concreting of C 30/37 compressive strength class concrete being manufactured at a concrete plant or purchased (including concrete transport)	m ³	1,620.00		
Civ11	30 cm thick CMU wall construction with non-reinforced lightweight concrete blocks (With lightweight block adhesive) (2,50 N/mm ² and 400 kg/m ³)	m ²	39.00		
Civ12	Hot-dip galvanized, corrugated / trapezoidal sheet and roof covering with epoxy paint made of 0.50 mm thickness on the existing roof covering on concrete slabs and/or steel structures	m ²	685.00		
Civ13	Ø 200 mm nominal diameter, PVC-based corrugated drainage pipe and its placement	m	350.00		
Civ14	Two layers of dampproofing application of 3 and 4 mm thick elastometric polymer modified bitumen sheet (-20 degrees cold rolled) with mat reinforcement	m ²	241.00		
Civ15	Laying of 150 gr/m ² geotextile felt	m ²	550.00		
Civ16	Supply and replacement of HDPE based drainage and protection sheet on waterproofing of basement curtains (200 dpressure resistance <250 KN / m ²)	m ²	264.00		
Civ17	5 cm thick surface roughness or rough channel extruded polystyrene plates (XPS - 200 kPa compressive strength) with external thermal insulation on the outside walls and heat insulation plaster (mantolama)	m ²	76.00		
Civ18	Thermal insulation of 5 cm thick surface (XPS - 300 Kpa compressive strength) and horizontal (on ground floor (earth contact) floors or reverse terrace roofs)	m ²	24.50		
Civ19	Mesh reinforced elastometric resin based liquid applied dampproof plastic coating, 3 layers, 1,5 mm total thickness	m ²	466.00		
Civ20	Production of reinforced concrete plain surface form works with plywood	m ²	4,650.00		
Civ21	Mold Scaffolding from steel pipe (between 0.00 – 4.00 m)	m ³	1,640.00		
Civ22	Mold Scaffolding from steel pipe (4.01 – 6.00 m)	m ³	2,965.00		
Civ23	Mold Scaffolding from steel pipe (6,01-8,00m)	m ³	3,244.00		
Civ24	Assembly of prefabricated exterior scaffolding with full safety measures (0,00-51,50 m height)	m ²	795.00		
Civ25	Assembly of prefabricated ceiling scaffolding with full safety measures (0,00-21,50 m height).	m ²	1,990.00		
Civ26	Ribbed wire mesh (1.50-3.00 kg/m ²) Installation (including 3.00 kg / m ²) including transportation	Ton	30.00		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Civ27	Cutting, bending and placement of Ø 8- Ø 12 mm deformed concrete steel bars	Ton	48.50		
Civ28	Cutting, bending and placement of Ø 14- Ø 28 mm deformed concrete steel bars	Ton	95.70		
Civ29	Making and replacing various iron works from iron band,hollow section and steel profile	kg	16,150.00		
Civ30	PVC Doors, Windows and Frames	kg	91.00		
Civ31	Nodular cast iron grates for rain water drainage	kg	1,810.00		
Civ32	Supply and replacement of rigid PVC rain pipe with a diameter Ø 100 mm	m	6.60		
Civ33	0.50 mm thick, hot-dip galvanized on the flat sheet made of seamless groove construction and installation (Sheet width 30 cm total)	m	21.00		
Civ34	Two layers of anticorrosive, two layers of synthetic paint on iron surfaces	m ²	1,375.00		
Civ35	Application of two coats of water-based matte paint on the new plaster surfaces (interior)	m ²	76.00		
Civ36	Water based exterior paint with silicone additives to be applied on concrete, plaster, stucco or existing paint with primer (Exterior surfaces)	m ²	65.50		
Civ37	First class, all type, color and texture, 40 x 40 cm ceramic tile and wall & floor tile with 3 mm joint installation (With tile adhesive)	m ²	27.00		
Civ38	Made of marble aggregated concrete, ready made, equipped with flat sheet, window sill, parapet or a scoop (all kinds of surface treatment)	m ²	1.95		
Civ39	Covering with 8 cm height normal cement steam cured concrete paving stone (every size, color and pattern)	m ²	424.00		
Civ40	Paving 30 x 10 x (Project specific) cm, steam cured, regular cement concrete gutter stone (All colors)	m	410.00		
Civ41	Plastering with 250/350 kg cement dosage, coarse and fine mortar (exterior plastering)	m ²	11.00		
Civ42	Plastering with 200/250 kg lime / cement mixture, coarse and fine mortar (interior wall plastering)	m ²	76.00		
Civ43	200 kg cement dose levelling coat	m ²	25.00		
Civ44	Installation of double-glazed glass window unit with 4 + 4 mm thickness, 12 mm spacing to PVC and aluminum joinery profile	m ²	0.40		
Civ45	Formation of steam cured 500 Dose Precast Manhole base (h=0.6m, with rubber joints) with Ø 200 outlet (one out and one inlet)	piece	10.00		
Civ46	Formation of steam Cured 500 Doses Precast Manhole Riser (h= 0.50 m, Joints with 600 Dose Mortar)	piece	2.00		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Civ47	Formation of 500 dz. 1-meter diameter prefabricated and steam cured inspection manhole with rubber gasket and conical apparatus installation	piece	10.00		
Civ48	Formation of steam cured, 500 dose precast manhole with structure height adjustment ring (h=specific to project, Joints with 600 Dose Mortar)	meter	2.78		
Civ49	Supply and placing of BS 18 concrete (350 doses) precast concrete manhole cover with frame	piece	10.00		
Civ50	Facade cladding with aluminium composite panel, mineral filled (without heat insulation)	m ²	113.00		
Civ51	Permanent Project Signboard with foot pedestal	piece	1.00		
Civ52	Supply and installation of prefabricated container buildings	Lump sum	1.00		
Civ53	Traffic sign boards	piece	6.00		
Civ54	Panel Fence	m	428.00		
Civ55	Sliding Entrance Gate (Panel fence)	Lump sum	1.00		
Civ56	Supply and planting of conifer trees	piece	40		
Civ57	Supply and planting of broad-leaved trees	piece	45		
Civ58	Supply and planting of bushes	piece	300		
Civ59	Supply and laying of top soil	m ³	393.00		
Civ60	Smoked color chamfered mirror (5mm thickness)	m ²	16.68		
Civ61	Deceleration warning,stripe lines and pedestrian crossings, with 2 mm thick double component paint	m ²	80.00		
Civ62	Supply, installation and assembly of framing construction with any type of profiled steel, steel bars and sheets	ton	32.75		
Civ63	Laying of Concrete border (chamfered, any colour) (50 x 20 x 10 cm)	m	229.00		
Civ64	Laying of Concrete border (chamfered, any colour) (75 x 30 x 15 cm)	m	498.00		
Civ65	Field concrete (concrete pavement)	m ³	879.00		
Civ66	Pipe bedding-padding (side fill) with 0-30 mm fine aggregate (crushed stone)	m ³	250.00		
Total for Civil Works Lot 2					

BILL OF QUANTITIES FOR MECHANICAL WORKS, LOT 2;

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Mec01	Polyethylene pipe; outside diameter Ø40 mm, PE100 class, SDR 17, PN 10	m	122.00		
Mec02	Polyethylene pipe; outside diameter Ø50 mm, PE100 class, SDR 17, PN 10	m	148		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Mec03	Polyethylene pipe; outside diameter Ø63 mm, PE100 class, SDR 17, PN 10	m	108		
Mec04	Laying HDPE based, corrugated sewer pipe with nominal diameter of Ø 150 mm	m	24		
Mec05	Laying HDPE based, corrugated sewer pipe with nominal diameter of Ø 200 mm	m	144		
Mec06	Laying HDPE based, corrugated sewer pipe with nominal diameter of Ø 300 mm	m	158		
Mec08	Polypropylene clear water pipe; PN 20, 1/2", Ø 20/3.4 mm including installation/montage material	m	6		
Mec09	Polypropylene clear water pipe; PN 20, 3/4", Ø 25/4.2 mm including installation/montage material	m	26		
Mec10	Polypropylene clear water pipe; PN 20, 1", Ø 32/5.4 mm including installation/montage material	m	8		
Mec11	Polypropylene clear water pipe; PN 20, 1 1/4", Ø 40/6.7 mm including installation/montage material	m	6		
Mec12	Polypropylene clear water pipe; PN 20, 2", Ø 63/10.5 mm including installation/montage material	m	10		
Mec13	(3/4") outside diameter: 27 Ø mm, 25 mm glass wound based aluminum folio coated prefabricated pipe insulation (TS EN 14303)	m	8.5		
Mec14	(1 1/4") outside diameter: 42 Ø mm, 40 mm glass wound based aluminum folio coated prefabricated pipe insulation (TS EN 14303)	m	13.8		
Mec15	(2") outside diameter: 60 Ø mm, 60 mm glass wound based aluminum folio coated prefabricated pipe insulation (TS EN 14303)	m	10.5		
Mec16	Rigid PVC plastic sewage pipe with muff, outer diameter: Ø 50-40/3.00 mm (B and BD type) including installation/montage material	m	3		
Mec17	Rigid PVC plastic sewage pipe with muff, outer diameter: Ø 75-70/3.00 mm (B and BD type) including installation/montage material	m	6		
Mec18	Rigid PVC plastic sewage pipe with muff, outer diameter: Ø 100-110/3.00 mm (B and BD type) including installation/montage material	m	4		
Mec19	Rigid plastic floor sink 10X10 cm	pieces	3		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Mec20	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 20 Ø mm, 3/4"	pieces	4		
Mec21	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 32 Ø mm, 1 1/4"	pieces	7		
Mec22	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 40 Ø mm, 1 1/2"	pieces	22		
Mec23	Strainer; PN 16 (for water and vapor, cast casing) Ø 50 mm or Ø 65 mm, with flange	pieces	1		
Mec24	Holding valve with flange, cast casing, Ø 50 mm or Ø 65 mm	pieces	3		
Mec25	Cold water meter Ø 50 mm, with flange	pieces	1		
Mec26	Hydrophore, single pump, vertical shaft, frequency converter; Flow: 0-5 m ³ / h Pressure: 40-60mss	pieces	1		
Mec27	Collector pipe, cold and hot water, galvanized; 3" Ø 80 mm	m	1		
Mec28	Collector mouth, Ø 50 mm	pieces	4		
Mec29	Supply and installation of wall split air conditioner, UNIT 9.000 Btu/h	pieces	4		
Mec30	Weighbridge with automation system	Lump-sum	1		
Mec31	Full bore, screw type ball valve; brass, press-made, teflon (PTFE) gasket, 50 Ø mm, 2"	piece	6		
Mec32	23 m ³ cylindrical, bolted, modular galvanized water tank (bolted) including installation/montage	piece	1		
Total for Mechanical Works, Lot 2					

BILL OF QUANTITIES FOR ELECTRICAL WORKS, LOT 2;

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Ele01	MDP Main Distribution Panelboard	piece	2.00		
Ele02	Surface Mounting Type Sheet Metal Panel, 0.30 m ²	piece	2		
Ele03	Selector Type Rotary Cam (Pako) Switch, 2x10 A	piece	1		
Ele04	Rotary Cam (Pako) Switch, (0-1) 3x25 A	piece	2		
Ele05	Contactor, 3x16 A	piece	1		
Ele06	Thermic Protective Contactor, 3x10 A	piece	2		
Ele07	Time limit relay used for lighting control	piece	1		

Pose/ Item No	Pose/Item Definition	Unit	Quantity	Unit Price (USD)	Price (USD)
Ele09	Residual current circuit breaker – up to 4x25A (300mA)	piece	5		
Ele10	Residual current circuit breaker – up to 4x40A (300mA)	piece	1		
Ele11	Surge protector; B Class, 230V AC, 100kA panel type	piece	1		
Ele12	Automatic-controlled central compensation battery, up to 525 V	kVar	12.5		
Ele13	Miniature Circuit Breaker, 1x2A, 1x10A, 1x16A	piece	15		
Ele14	Miniature Circuit Breaker, 3x25A	piece	11		
Ele15	Miniature Circuit Breaker, 3x40A	piece	1		
Ele16	Multimeter (TS4417)	piece	1		
Ele17	Current transformer, CL:0,5 n<5 10VA 40/5A	piece	1		
Ele18	Signal Lamp	piece	9		
Ele19	3x25+16mm ² NYY Cable	m	200		
Ele20	4x6mm ² NYY Cable	m	370		
Ele21	5x4mm ² N2XH Cable	m	105		
Ele22	5x6mm ² N2XH Cable	m	50		
Ele23	ΔL60 (6 m.) Active Lightning Arrestor	piece	1		
Ele24	Down-conductor, 50mm ² electrolytic copper conductor	m	100		
Ele25	30x3,5mm Galvanized Steel Band	m	50		
Ele26	Grounding rod, electrolytic copper	piece	8		
Ele27	Conductor protection pipe (3m)	piece	1		
Ele28	150W LED Street Lighting Fixture, IP65	piece	13		
Ele29	150W LED Projector Lighting Fixture, IP65	piece	2		
Ele30	Galvanized Steel Range Lighting Pole, h:7mt.	piece	15		
Ele31	HDPE 100 corrugated pipe	m	70		
Ele32	Polythene pipe Ø 32 mm	m	370		
Ele33	Grounding line, 16mm ²	m	374		
Total for Electrical Works, Lot 2					

Name of Bidder: _____

Authorised signature: _____

Name of authorised signatory: _____

Functional Title: _____

FORM G: Form of Bid Security

Bid Security must be issued using the official letterhead of the Issuing Bank.

Except for indicated fields, no changes may be made on this template.

(Bidders who submit bids for both of the lots should submit Bid Security Forms separately for each lot.)

To: UNDP
[Insert contact information as provided in Data Sheet]

WHEREAS [Name and address of Bidder] (hereinafter called "the Bidder") has submitted a Bid to UNDP dated [Click here to enter a date](#). To complete the works stipulated in the ITB with reference UNDP-TUR-ITB(MC2)-2019/01 with the title "Construction of Waste Transfer Stations in Hatay; [Please insert the name of the lot]" (hereinafter called "the Bid"):

AND WHEREAS it has been stipulated by you that the Bidder shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security if the Bidder:

- a) Fails to sign the Contract after UNDP has awarded it;
- b) Withdraws its Bid after the date of the opening of the Bids;
- c) Fails to comply with UNDP's variation of requirement, as per ITB instructions; or
- d) Fails to furnish Performance Security, insurances, or other documents that UNDP may require as a condition to rendering the contract effective.

AND WHEREAS we have agreed to give the Bidder such Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Bidder, up to a total of *[amount of guarantee] [in words and numbers]*, such sum being payable in the types and proportions of currencies in which the Price Bid is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of *[amount of guarantee as aforesaid]* without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

This guarantee shall be valid up to 30 days after the final date of validity of bids,

SIGNATURE AND SEAL OF THE GUARANTOR BANK

Signature: _____

Name: _____

Title: _____

Date: _____

Name of Bank _____

Address _____

[Stamp with official stamp of the Bank]