Project Number: 53107-001 Loan Number: {PRFXXXX} August 2019

Republic of Uzbekistan: Project Readiness Financing for Urban Services Project

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### Project Administration Manual for Project Readiness Financing: Purpose and Process

The project administration manual (PAM) for the project readiness financing (PRF) is an abridged version of the regular PAM of the Asian Development Bank (ADB) and describes the essential administrative and management requirements to implement the PRF following the policies and procedures of the government and ADB. The PAM should include references to all available templates and instructions either by linking to relevant URLs or directly incorporating them in the PAM.

The Agency "Kommunkhizmat" (Communal Services Agency) as executing agency, and Tashkent Province Suvokova (TPS), as implementing agency are wholly responsible for the implementation of the first ensuing project- Tashkent Province Sewerage Improvement Project under the ADB-financed PRF projects, as agreed jointly between the borrower and ADB, and following the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation, including compliance by CSA and TPS of their obligations and responsibilities for PRF project implementation following ADB's policies and procedures. The PAM will be revised to include the executing agencies and implementing agencies of other ensuing projects identified as per project concepts.

In the event of any discrepancy or contradiction between the PAM and the loan agreement, the provisions of the PRF loan agreement will prevail.

After ADB's approval of the PRF proposal, changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in this PAM.

### ABBREVIATIONS

ADB	_	Asian Development Bank
COBP	—	country operations business plan
CPS	_	country partnership strategy
DED	—	detailed engineering design
EPCM	—	engineering, procurement, and construction management
GIS	_	geographical information system
ICT	—	information and communication technology
IUDP	—	Integrated Urban Development Project
O&M	—	operation and maintenance
PCU	—	project coordination unit
PMCCB	—	project management, coordination and capacity building
PPP	—	public-private partnership
PRF	—	project readiness financing
TOR	_	terms of reference
TPSIP	—	Tashkent Province Sewerage Improvement Project
WSSDP	_	Water Supply and Sanitation Development Program

### I. IMPLEMENTATION PLAN

### A. Overall Implementation Plan

1. Table 1 presents the overall implementation plan for the Project Readiness Financing (PRF) and records key implementation activities, including project management activities (on quarterly basis). It will be updated annually and submitted to Asian Development Bank with updated contract and disbursement projections.

Activities		ance ions	PRF \ (20	7ear 1 19)	Pf	RF Yea	r 2 (20	20)	PF	RF Yea	r 3 (202	21)	PF	RF Yea	r 4 (202	22)	PI	RF Yea	r 5 (202	23)		Year 6 )24)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
A. Implementation																						
Consultant selection under PRF																						
Package 1 – EPCM (Part 1)																						
Advertisement																						
Selection																						
Contract Award																						
Project 1: TPSIP																						
DED (including Design- Build)																						
Bidding Documents																						
Contractors Selection																						
Project 2: UWSSDP																						
DED (including Design- Build)																						
Bidding Documents																						
Contractors Selection																						
Project 3: IUDP																						
DED (including Design- Build)																						
Bidding Documents																						
Contractors Selection																						
Package 2 – PMCCB																						
Advertisement																						
Selection																						
Contract Award																						

1

Activities		ance ions		Year 1 19)	PI	RF Yea	r 2 (20	20)	PF	RF Yea	r 3 (202	21)	Pf	RF Yea	r 4 (202	22)	PI	RF Yea	ur 5 (202	23)		Year 6 24)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Project 1: TPSIP																						
Project Management, Capacity Building and Pilot PPP Initiative																						
Project 2: WSSDP																						
Policy component and Investment component																						
Project 3: IUDP																						
Establishment of new PCU																						
Project Management, Capacity Building and Pilot PPP Initiative																						
Package 3 – Individual Consultants																						
Advertisement																						
Selection																						
Contract Award																						
Delivery of Due Diligence Reports																						
B. Management Activities																						
PRF negotiations																						
ADB management approval																						
PRF Signing																						
PRF Effectiveness																						
Submission of quarterly progress reports																						
Submission of annual progress reports																						
Submission of APFS																						
Ensuing loan approval																						

ADB=Asian Development Bank; APFS=audited project financial statement; DED=detailed engineering design; EPCM=engineering, procurement, and construction management; IUDP=Integrated Urban Development Project; PCU=project coordination unit; PMCCB=project management, coordination and capacity building; PPP=public-private partnership; PRF=project readiness financing; Q=quarter; TPSIP=Tashkent Province Sewerage Improvement Project; WSSDP=Water Supply and Sanitation Development Program. Source: Asian Development Bank.

### II. PROJECT MANAGEMENT ARRANGEMENTS

### A. Project Implementation Organizations: Roles and Responsibilities<sup>1</sup>

Executing Agency – Agency " <i>Kommunkhizmat</i> " (CSA) and Project Coordination Unit (PCU)	AAA AA A A	_ '
Implementing Agency and Sub-borrower –TPS	A A A	- 3
Asian Development Bank	A A	Provide guidance to CSA and TPS on implementation issues and project design. Conduct periodic review of the projects.

ADB=Asian Development Bank; CSA=Communal Services Agency; PCU=project coordination unit; PRF=project readiness financing; TPS=Tashkent Provincial Suvokova.

<sup>&</sup>lt;sup>1</sup> It is anticipated that TPS will be the Implementing Agency for (i) Tashkent Province Sewerage Improvement Project and (ii) Water Supply and Sanitation Development Program and that additional implementation agencies will be required for other ensuing projects. Such additional implementation agencies will be brought into the PRF structure once they have been identified for specific ensuing projects. It is currently anticipated that only \$5.50 million of the proceeds of the Loan will be required for (i) Tashkent Province Sewerage Improvement Project and (ii) Water Supply and Sanitation Development Program."

### B. Key Persons Involved in Implementation

### Executing Agency

Agency "Kommunkhizmat" (CSA)

Officer's Name: Mr. Zamzamboy Tadjibaev Position: Director General Telephone No. +998 71 2340220 Facsimile: 998 71 2340559 Office address: 1 Niyozbek Yuli St., 100035, Tashkent Republic of Uzbekistan

### Asian Development Bank

Urban Development and Water Division Central and West Asia Department Staff Name: Yong Ye Position: Director, CWUW Telephone No.: +63 2 632 6346 E-mail address: yyong@adb.org

Staff Name: Jung Ho Kim Position: Senior Urban Development Specialist Telephone No.: +63 2 632 6821 E-mail address: jhkim@adb.org

### **COSTS AND FINANCING** III.

### **Key Assumptions** Α.

- 2. The following key assumptions underpin the cost estimates and financing plan:
  - (i) Exchange rate: SUM8,535.74 = \$1.00 (as of 21 June 2019)
  - Price contingencies based on expected cumulative inflation over the (ii) implementation period are as follows:

Table 3: Escalation Rates for Price Contingency Calculation											
Item	2019	2020	2021	2022	2023	Average					
Foreign rate of price inflation	1.5%	1.5%	1.6%	1.6%	1.6%	1.6%					
Domestic rate of price inflation	16.0%	14.0%	9.3%	8.1%	7.7%	11.0%					

## Table 2: Eccelation Pates for Price Contingency Calculation

Source: Asian Development Bank.

### В. Allocation and Withdrawal of Loan Proceeds

	ALLOCATIO	ON AND WITHDRAWAL OF I	OAN PROCEEDS
Number	ltem	Total Amount Allocated for ADB Financing (Dollar) Category	Basis for Withdrawal from the Loan Account
1	Consulting Services	13,600,000	100% of total expenditure claimed*
2	Interest Charges	710,000	100% of amounts due
3	Unallocated	690,000	
	TOTAL	15,000,000	

\* Exclusive of taxes and duties imposed within the territory of the Borrower. Source: Asian Development Bank.

### C. Detailed Cost Estimates by Expenditure Category and Financier

### Table 4: Detailed Cost Estimates by Expenditure Category and Financier (\$ million)

		AD	)B Loan	Govern	ment	Total (	Cost
	Item	Amount	% of Cost Category	Amount	% of Cost Category	Amount	Taxes and duties
Α.	Investment Costs						
	EPCM <sup>a</sup>	9.3	89.29%	1.12	10.71%	10.44	1.12
	PMCCB <sup>b</sup>	3.6	89.29%	0.43	10.71%	4.03	0.43
	Individual consultants and audit fees <sup>c</sup>	0.68	83.33%	0.14	16.67%	0.82	0.14
	Subtotal (A)	13.60	88.97%	1.69	11.03%	15.29	1.69
в.	Contingencies	0.69	83.33%	0.14	16.67%	0.83	0.14
	Subtotal (B)	0.69	83.33%	0.14	16.67%	0.83	0.14
C.	Financial charges During Implementation	0.71	100.00%			0.71	0.00
	Total Project Cost (A+B+C)	15.00	89.16%	1.82	10.84%	16.83	1.82
	% Total Project Cost		89.16%		10.84%		

<sup>a</sup> EPCM = engineering, procurement, and construction management

<sup>b</sup> PMCCB = project management, coordination and capacity building

<sup>c</sup> Individual specialists to update safeguard due diligence reports and audit fees for project financial statements

Notes: Numbers may not sum precisely because of rounding.

The government countribution, among others, are in the form of taxes and duties as in-kind contribution and exemption (and external audit fees for the audited entity financial statement)

Source: Asian Development Bank estimates.

### D. **Detailed Cost Estimates by Year**

		(\$ mil	llion)	-				
ltem			Total Cost	2019	2020	2021	2022	2023
A. Cons	ulta	nt costs						
	1.	EPCM (firms) <sup>a</sup>	10.5	2.1	2.1	2.1	2.1	2.1
	2.	PMCCB (firms) <sup>b</sup>	4.0	1.2	0.6	0.6	0.6	1.1
	3.	Individual Consultants and audit fees <sup>c</sup>	0.8	0.2	0.2	0.2	0.2	0.0
		Subtotal (A)	15.3	3.6	2.9	2.8	2.8	3.2
		Total Base Cost (A)	15.3	3.6	2.9	2.8	2.8	3.2
B. Conti	nge	ncies	0.8	0.1	0.2	0.3	0.3	0.0
C. Finan	ncial	Charges During Implementation	0.7	0.0	0.1	0.1	0.2	0.3
		Total Project Cost (A+B+C)	16.8	3.6	3.2	3.3	3.3	3.4
		% Total Project Cost	100%	22%	19%	19%	20%	20%

# Table 5: Detailed Cost Estimates by Year

<sup>a</sup> EPCM = engineering, procurement, and construction management

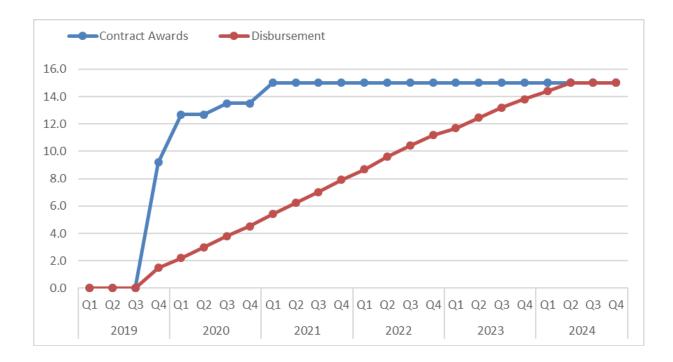
<sup>b</sup> PMCCB = project management, coordination and capacity building

<sup>c</sup> Individual specialists to update safeguard due diligence reports and audit fees for project financial statements

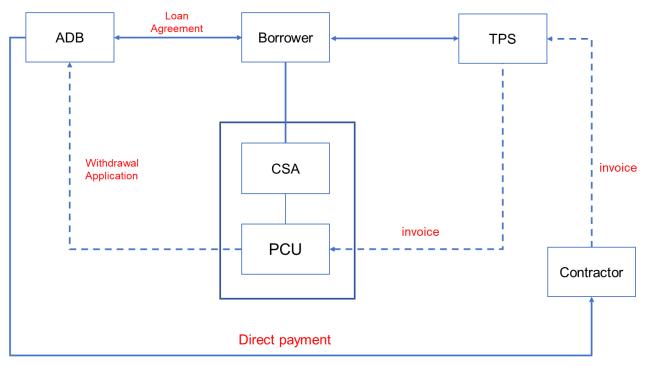
Note: Numbers may not sum precisely because of rounding. Source: Asian Development Bank estimates.

	Contra	act Award	s (in US\$	million)			Disburse	ments (in	US\$ millio	n)
Year	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2019	0.00	0.00	0.00	9.20	9.20	0.00	0.00	0.00	1.48	1.48
2020	3.50	0.00	0.80	0.00	4.30	0.71	0.81	0.81	0.71	3.04
2021	1.50	0.00	0.00	0.00	1.50	0.90	0.81	0.80	0.90	3.41
2022	0.00	0.00	0.00	0.00	0.00	0.76	0.90	0.84	0.76	3.26
2023	0.00	0.00	0.00	0.00	0.00	0.50	0.76	0.76	0.59	2.61
2024	0.00	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	1.20
Total Cont	ract Awar	ds			15.00	Total Dis	bursemen	ts		15.00

### E. Contract and Disbursement S-Curve



## F. Funds Flow Diagram



- − − − → document flow
  - fund flow

### IV. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

3. The financial management of other executing agencies, implementing agencies, and relevant agencies of ensuing projects, identified as per project concepts, will be assessed once each ensuing project is identified and included as part of the country operations business plan (COBP). If the overall financial capacity is rated substantial or high by the assessment, appropriate mitigation measures will be proposed and facilitated before such ensuing projects are implemented.

For the executing agency and implementing agency of the first ensuing project, the 4. Tashkent Province Sewerage Improvement Project, a financial management assessment (FMA) was conducted to ensure that these agencies have the appropriate financial management systems in place to manage the proposed project's financial resources during implementation.<sup>2</sup> The FMA was undertaken in two stages. First at the country level to understand Uzbekistan's financial accountability systems, governance policies and accounting and auditing policies and procedures. The second stage assessed the financial management capability and adequacy at the project level mainly focusing the financial management capacity and adequacy of the Communal Services Agency (CSA) who is the executing agency of the project and manage project financial transactions and financial reporting. The CSA is the government agency tasked with the overall responsibility for managing water utility services nationwide and the implementation of project. Tashkent Province Suvokova (TPS) is the implementing agency responsible for physical implementation, such as working with contractors and service providers, and to verify whether the services are delivered. TPS does not involve in managing the fund, financial transactions, and financial reporting.

5. The FMA was conducted in May 2019. The overall pre-mitigation financial management risk of CSA and TPS is substantial. The financial management assessment was conducted to evaluate the capacity of CSA and TPS in areas of fund-flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and auditing arrangements. Under this PRF, only CSA is involved in financial transactions and reporting; and TPS is only involved in supervising consulting services. The assessment considered CSA as an EA and TPS as an IA. CSA and its Project Coordination Unit's (PCU) financial management system is adequate to (i) record required financial transactions, and (ii) provide financial statements and monitoring reports during PRF implementation. The PCU staff are familiar with ADB disbursement procedures and financial management requirements while there are some internal control weaknesses to be strengthened.

Risks	Action / Step	Responsible Agency	Target Date / Timeline
Control risk due to inadequate review of payments, financial transactions, and financial reports by a qualified accounting or finance staff	<ul> <li>(i) assign Chief Accountant or appoint Finance person in CSA to oversee PCU's finance and accounting function,</li> <li>(ii) to review and sign bank reconciliation report prepared by PCU monthly, and</li> <li>(iii) and to review financial reporting quarterly before going to Director General of CSA and MOF</li> </ul>	CSA	Within 3 months after effectiveness

<sup>&</sup>lt;sup>2</sup> ADB. 2005. *Financial Management and Analysis of Projects, Manila.* 

Control risk due to infrequent review by internal audit team	Control and Revision unit of MOF include ADB-funded project in its audit plan annually.	MOF	After effectiveness
Control risk due to nonperforming bank reconciliation	PCU perform bank reconciliation monthly between bank statements and general ledger for ADB-funded project	PCU, CSA	within 3 months after effectiveness
Incompleteness of financial transactions due to no recording accounting transactions	<ul> <li>(a) CSA need to capture direct payment in the accounting system and regular reconcile data sourced from their accounting software and ADB LFIs.</li> <li>(b) use 1C accounting for the project</li> </ul>	CSA	within 3 months after effectiveness

### B. Disbursement

6. CSA will disburse the PRF loan proceeds following the ADB *Loan Disbursement Handbook* (2017, as amended from time to time), and detailed arrangements agreed between the government and ADB. Online training for project staff on disbursement policies and procedures is available.<sup>3</sup> Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

7. The direct payment procedure will apply.

8. The PCU will be responsible for preparing contract awards and disbursement projections, requesting budgetary allocations for counterpart funds, collecting supporting documents and preparing all withdrawal applications for submission to ADB.

9. Before submitting the first withdrawal application, the government should submit to ADB sufficient evidence of the authority of the person{s} who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is stipulated in ADB *Loan Disbursement Handbook*. The borrower should ensure sufficient category and contract balances before requesting disbursements. Use of ADB's Client Portal for Disbursements system is encouraged for submission of withdrawal applications to ADB.<sup>4</sup>

10. No further disbursements will be made from the PRF account upon refinancing under an ensuing or ongoing loan. The PRF loan amount and accrued financing charges are paid out under the PRF cost category of the ensuing or ongoing loan that will refinance the PRF loan. Provided the following costs are eligible expenditures, the ensuing or ongoing loan will finance (i) costs incurred under PRF that have not yet been paid from the PRF account by the refinancing date, (ii) costs for activities initiated under PRF and continuing beyond the refinancing date, and (iii) costs incurred during PRF implementation but ineligible under PRF.

### C. Accounting

11. CSA will maintain separate PRF project accounts and records by funding source for all expenditures incurred on the PRF project. CSA will prepare project financial statements in accordance with cash basis International Public Sector Accounting Standards.

<sup>&</sup>lt;sup>3</sup> Disbursement eLearning. <u>http://wpqr4.adb.org/disbursement\_elearning</u>

<sup>&</sup>lt;sup>4</sup> ADB's Client Portal for Disbursements system facilitates online submission of withdrawal applications to ADB, resulting in faster disbursement. The forms to be completed by the borrower are available at ADB. <u>Guide to the Client</u> <u>Portal for Disbursements</u>.

### D. Auditing and Public Disclosure

12. CSA will cause the detailed project financial statements to be audited in accordance with International Standards on Auditing and the government's audit requirements, by an independent auditor acceptable to ADB. The audited project financial statements (APFS) together with the auditor's opinion will be presented in English language to ADB within six (6) months from the end of the fiscal year.

13. TPS will submit the audited entity financial statements together with the auditor's report and management letter, in English, to ADB within one month after approval by the relevant authority.

14. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether the proceeds of the loan were used only for the purposes of the project; and (iii) whether the borrower or executing agency was in compliance with the financial covenants contained in the legal agreements (where applicable).

15. Compliance with financial reporting and auditing requirements will be monitored by review missions and normal program supervision and followed up regularly with all concerned, including the external auditor.

16. ADB has made the government, CSA and implementing agencies aware of ADB's approach to delayed submission and the requirements for satisfactory and acceptable quality of the audited project financial statements and audited entity financial statements, respectively.<sup>5</sup> ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower) or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that its policies and procedures were followed when the share of ADB's financing was used.

17. ADB's Access to Information Policy will guide the public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements. After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on its website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.<sup>6</sup>

<sup>&</sup>lt;sup>5</sup> ADB's approach and procedures regarding delayed submission of audited project financial statements:

<sup>(</sup>i) When ADB does not receive the audited project financial statements by the due date, ADB will write to the executing agency to inform it that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.

<sup>(</sup>ii) When ADB does not receive the audited project financial statements within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will inform the executing agency (a) of ADB's actions and (b) that the loan may be suspended if the audit documents are not received within the next 6 months.

<sup>(</sup>iii) When ADB does not receive the audited project financial statements within 12 months after the due date, ADB may suspend the loan.

<sup>&</sup>lt;sup>6</sup> Such information generally falls under public communications policy exceptions to disclosure (ADB.2019. Access to Information Policy. Manila.

### V. PROCUREMENT AND CONSULTING SERVICES

### A. Advance Contracting

18. All advance contracting will follow the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended fro time to time). its associated staff instructions. The issuance of consulting service recruitment notices or invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. ADB has advised the CSA and TPS that approval of advance contracting does not commit ADB to finance the PRF project.

19. To expedite the consultant recruitment process, the government has requested assistance from ADB in selecting the consultants. Once proposal evaluations are completed by ADB, the government will negotiate with these consultants and sign the contracts accordingly.

### B. Procurement of Consulting Services

20. ADB will conduct proposal evaluations and select consultants in close coordination with the government. The IAs will negotiate with the selected consultants and sign the contracts. Consulting firms and individual consultants will be recruited for each ensuing project following ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). Technical firms will be recruited to undertake the Engineering, Procurement, and Construction Management (EPCM) in two parts: (i) DED and procurement document preparation, and procurement support activities; and (ii) construction supervision and contract management; tendered as a single contract. Output-based contracts will be considered for EPCM and Project Management, Coordination and Capacity Building (PMCCB) consulting packages to reduce administrative burden and improve the economy, efficiency, and value for money. The terms of reference for consulting services for the first ensuing project Tashkent Province Sewerage Improvement Project are detailed in Section D.

21. For the first ensuing project Tashkent Province Sewerage Improvement Project, 80 person-months of international and 160 person-months of national consulting services are required for Part 1 contract of the EPCM to undertake (i) 60 person-months of international and 165 person-months of national consulting services and request for Part 1 activities consist of detailed engineering designs (DED), and procurement document preparation, and procurement support activities; and 240 person-months of international and 1,120 person-months of national consulting services are required for Part 2 contract of the (ii) construction supervision and contract management, both parts tendered as a single contract.<sup>7</sup> The PMCCB consultants (52 personmonths of international consultants inputs and 166 person-months national) will facilitate institutional capacity building efforts for (i) improvements of business models, corporate development, and project management and coordination capacity; (ii) PPP initiative; and (iii) public awareness consultations. All consultants will be selected in accordance with ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). Consulting firms will be engaged using the guality- and cost-based selection method with a standard guality-cost ratio of 90:10. Lump-sum

<sup>&</sup>lt;sup>7</sup> The Engineering, Procurement, and Construction Management (EPCM) contracts for the ensuing projects will be divided in two separate parts. Part 1 will cover detailed engineering design, procurement documents, and other project preparation activities, financed by the project readiness financing. Part 2 will cover construction supervision and contract management and will be financed by the ensuing project(s). Part 2 may be awarded to the same consultant of Part 1, through contract variation method, subject to satisfactory performance of the Part 1 contract and the effectiveness of the ensuing loans.

or output-based contracts will be considered for the proposed consulting services to reduce administrative burden and improve the economy, efficiency, and value for money.

22. The experts and person-months required for the consulting packages of the other ensuing loans are yet to be determined in consultation with the government. The PAM and procurement plan will be updated as soon as detailed information for these packages becomes available.

### C. Procurement Plan

Bas	lic Data
Project Name: Project Readiness Financing for Urbar	n Services Projects
Project Number: 53107-001	Approval Number:
Country: Uzbekistan	Executing         Agency "Kommunhizmat" (CSA)           Agency:         Agency
Project Procurement Classification: Category B	Implementing Agency:
Project Procurement Risk: Low	Tashkent Province State Unitary Enterprise "Suvokova"
Project Financing Amount: US\$ 16,800,000	Project Closing Date: 30 October 2024
ADB Financing: US\$ 15,000,000	
Cofinancing (ADB Administered):	
Non-ADB Financing: US\$ 1,800,000	
Date of First Procurement Plan:	Date of this Procurement Plan: 30 July 2019
Procurement Plan Duration (in months): 18	Advance Contracting: Yes e-GP: No

## PROCUREMENT PLAN

### A. Methods, Review and Procurement Plan

Except as the Asian Development Bank (ADB) may otherwise agree, the following methods shall apply to procurement of goods, works, and consulting services.

Consulting Services				
Method	Comments			
Quality- and Cost-Based Selection for Consulting Firm	Quality-cost Ratio (90:10) Advance contracting			
Least-cost selection for Consulting Firm	Audit			
Competitive for Individual Consultant	Individual consultant selection; Advance contracting			

### B. Lists of Active Procurement Packages (Contracts)

The following table lists goods, works, and consulting services contracts for which the procurement activity is either ongoing or expected to commence within the procurement plan duration.

Goods and Works							
Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
None							

Consultin	Consulting Services						
Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter/year)	Comments
1	Engineering, Procurement and	4,000,000.00	QCBS	Prior	FTP	Q2 / 2019	Type: Firm Assignment: International Quality-Cost Ratio: 90:10

	Construction Management						Comments: Construction management part will be financed by the ensuing loan
2	Project management, coordination and capacity building	1,000,000.00	QCBS	Prior	STP	Q3 / 2019	Type: Firm Assignment: International Quality-Cost Ratio: 90:10
3	Due diligence	300,000.00	Competitive	Prior		Q3 / 2019	Type: Individual and firm (audit) Assignment: International and national Comments: Multiple contracts - financial / economic, social (involuntary resettlement), social (poverty and gender), and environmental
4	Engineering, Procurement and Construction Management	3,000,000.00	QCBS	Prior	FTP	Q2 / 2020	Type: Firm Assignment: International Quality-Cost Ratio: 90:10 Comments: Construction management part will be financed by the ensuing loan
5	Project management, coordination and capacity building	2,000,000.00	QCBS	Prior	FTP	Q3 / 2020	Type: Firm Assignment: International Quality-Cost Ratio: 90:10
6	Due diligence	250,000.00	Competitive	Prior		Q3 / 2021	Type: Individual and firm (audit) Assignment: International and national Comments: Multiple contracts - financial / economic, social (involuntary resettlement), social (poverty and gender), and environmental
7	Engineering, Procurement and Construction Management	3,000,000.00	QCBS	Prior	FTP	Q2 / 2021	Type: Firm Assignment: International Quality-Cost Ratio: 90:10 Comments: Construction management part will be financed by the ensuing loan
8	Project management, coordination and capacity building	1,000,000.00	QCBS	Prior	STP	Q3 / 2021	Type: Firm Assignment: International Quality-Cost Ratio: 90:10
9	Due diligence	250,000.00	Competitive	Prior		Q2 / 2020	Type: Individual and firm (audit) Assignment: International and national Comments: Multiple contracts - financial / economic, social (involuntary resettlement), social (poverty and gender), and environmental

Notes:

Package 1 to 3 will be for Tashkent Province Sewerage Improvement Project; Package 4 to 6 will be for Water Supply and Sanitation Development Program; and Package 7 to 9 will be for Integrated Urban Development Project. The two other ensuing projects (Water Supply and Sanitation Development Program and Integrated Urban Development Project) may be changed or replaced as described in para 2 of Schedule 1 of the Loan Agreement as of 30 July 2019.

## D. Indicative Consultant's Terms of Reference<sup>8</sup>

23. A summary of the main outputs expected from the consulting packages under PRF for the first ensuing project Tashkent Province Sewerage Improvement Project is shown below and details are provided in Appendix 1. The actual detailed TOR for procurement will be prepared upon the completion of the feasibility study.

## 1. Engineering, Procurement, and Construction Management (EPCM)

24. The EPCM assignment comprises two parts, (i) detailed engineering design (DED) and procurement document preparation and procurement support; and (ii) construction supervision and contract management.

# a. Part 1: DED and Procurement Document Preparation and Procurement Support

25. Based on the available (if the following documents are not available prior to the commencement of this assignment the Consultant is required to develop and prepare) preliminary surveys, reports and data, safeguard documents [i.e., the land acquisition and resettlement plan [(LARP)], the initial environmental examination [(IEE)], social and gender development plan, conduct detailed surveys and confirm that the data is correct in accordance with the specified parameters/standards and best international practices, and update or prepare them if required, to meet the project outputs as stated above, acceptable to Asian Development Bank (ADB) in a manner of complying with requirements under the latest policies and procedures of ADB, prior to implementation of civil works contracts.

26. Based on the confirmed data and technical requirements, prepare the detailed engineering design, drawings, engineers estimate and bill of quantities (BOQs) for the required Works and Goods under the project. Determine the type and size of contracts and procurement methods based on the circumstances, engineering design, and various elements of Goods, Works, and services required. For the rehabilitation and upgrading of the five existing wastewater treatment works in Chirchik, Yangiyul, Almalyk, Angren, and Bekabod cities and the construction of one new wastewater treatment works in Chinaz urban center, prepare procurement documents for civil works contracts or design-build contracts. In case where design-build procurement documents are used, these must include site plans, layout drawings, conceptual designs, preliminary BOQ, and a comprehensive detailed technical requirement for rehabilitation and upgrading of the five existing wastewater treatment works.

27. Prepare procurement documents and assist in procurement under the ensuing project until contract awards.

### b. Part 2: Construction Management

- 28. The main objectives are:
  - a. Through detailed resident supervision, ensure that high quality construction is achieved on time and within budget, and that all work is carried out in full compliance with the approved engineering designs, technical specifications, agreed work schedule, and within the terms and conditions of all other contract documents and exhibiting sound engineering practices;

<sup>&</sup>lt;sup>8</sup> CSA reserves the right to revise the terms of reference.

- b. Demonstrate the efficacy of contract administration and supervision as an independent third party consultant;
- c. Ensure that the ongoing construction duly meet environment and social safeguards requirements as defined in ADB's Safeguard Policy Statement (2009); and
- d. Promote technology transfer and support the introduction of modern Contract Administration practices within CSA, TPS and the PCU.

### 2. Project Management, Coordination and Capacity Building (PMCCB)

29. The project must recruit the PMCCB consultant to support the government's desire to plan and implement the project in the cites of Chirchik, Yangiyul, Akhangaran, Almalyk, Angren, and Bekabob and the urban center of Chinaz District, all located in Tashkent Province, Uzbekistan. The consultant will support the Tashkent Provincial Suvokova (IA) and PCU located in Tashkent City and will be responsible for the timely and ongoing cost-effective implementation and completion of the Project. The Consultant will also assist and improve where necessary the project management capability of the IA and PCU. Detailed tasks, responsibilities and scope of services that are described in the following sections.

### 3. Individual Consultants

30. Individual experts will be recruited to support various project due diligence activities such as finance, social, gender, and environmental safeguards in accordance with ADB guidelines during the project pre-construction and construction periods, Consulting firm for audit will be recruited. The following is a general description for the consulting services to be procured. Actual detailed terms of reference will be developed during the preparation stage of each ensuing project.

### 4. Audit firm for project financial statements

- 31. The auditor will conduct an audit of PRF project, and submit the following to CSA:
  - (i) audit report,
  - (ii) annual audited project financial statements (APFS), and
  - (iii) management letter
- 32. Detailed auditor's terms of reference will be provided when required.

### VI. SAFEGUARDS

33. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth in Appendix 5 of the Safeguard Policy Statement.

### VII. PERFORMANCE MONITORING<sup>9</sup>

### A. Monitoring

34. **Project readiness and monitoring of the financial project performance.** CSA will monitor PRF project performance semiannually and provide consolidated reports to ADB. These reports will include: (i) each activity's progress measured against the implementation schedule, (ii) key implementation issues and solutions, (iii) an updated procurement plan, and (iv) an updated implementation plan for the next 12 months. To ensure PRF projects continue to be both viable and financially sustainable the CSA will periodically review project financial statements and the associated annually prepared auditor's report. In the event that an ensuing loan is not approved, CSA will submit a PRF project completion report to ADB within 6 months of the physical completion of the PRF project.<sup>10</sup>

35. **Compliance monitoring**. Loan covenants on policy and regulations, legal, financial, and environmental will be monitored regularly from various reports (semi-annual reports) and discussions with stakeholders during review missions. Project performance with regard to the following activities will be included in the monitoring report:

- (i) Strengthening of suvokovas' financial management capacity;
- Water supply sanitation (WSS) sector policy, affordability analysis and progress on budget allocations for potential direct and cross-subsidies necessary for access to services by vulnerable groups;
- (iii) Suvokova services standards, including a gender-friendly policy;
- (iv) Consultations and agreements with local stakeholders on the detailed engineering design (inclusive design);
- (v) WSS services accessibility; and
- (vi) WSS level of services.

### B. Reporting

- 36. CSA will provide ADB with
  - (i) semiannual progress reports on the PRF project in a format consistent with ADB's project performance reporting system;
  - (ii) consolidated annual reports, including (a) key implementation issues and solutions, (b) an updated procurement plan, and (c) an updated implementation plan for the next 12 months;<sup>11</sup> and
  - (iii) PRF project accounts, TPS audited financial statements, and associated auditor's report.

<sup>&</sup>lt;sup>9</sup> This section preliminarily discusses the first ensuing project, the section will be updated to include arrangements for the other ensuing projects.

<sup>&</sup>lt;sup>10</sup> ADB. 2018. <u>Project Completion Report for Sovereign Operations</u>. *Project Administration Instructions*. PAI 6.07A. Manila.

<sup>&</sup>lt;sup>11</sup> The regional departments will present the performance of the completed PRF in the project completion report of the ensuing loan.

37. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy (1998, as amended to date) relating to the PRF project following ADB's Integrity Principles and Guidelines.<sup>12</sup> All contracts financed by ADB will include provisions specifying ADB's right to audit and examine the records and accounts of the executing agency and all PRF project contractors, suppliers, consultants, and other service providers. This includes the examination of project outputs, assets, and all other information that may be considered relevant for audit or inspection by ADB regardless of project completion, termination, or cancellation. Firms or individuals on ADB's anticorruption debarment list are ineligible to participate in activities that are financed, supported, or administered by ADB; and may not be awarded any contracts under the PRF project.<sup>13</sup>

38. To support these efforts, ADB included relevant provisions in the loan agreement and the procurement documents for the PRF project. A project risk assessment will be prepared by the due diligence and climate resilience consultants and highlight the governance risks. Specific mitigation measures will be implemented under the PRF project to mitigate these risks, as recommended by ADB's Second Governance and Anticorruption Action Plan.<sup>14</sup> Notably, the Due Diligence consultant team under PRF will put in place integrity guidelines that will apply to all parties involved in the project, which is based on ADB's anticorruption guidelines and any anticorruption laws and regulations that pertain to the project. These guidelines will be developed by a recognized integrity professional, independent of the consultant team, and will clearly establish the anticorruption roles and responsibilities of staff of the executing agencies and the implementing agencies, as well as contracted operating companies and contracted consultants. These guidelines will address the following matters related to: (i) staff hiring; and (ii) staff relations; handling of gifts and favors; procurement practices; and contract development processes.

## IX. ACCOUNTABILITY MECHANISM

39. People who are, or may in the future be, adversely affected by the PRF project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted PRF projects can voice and seek a resolution for their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.<sup>15</sup>

## X. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

40. All revisions and updates during course of implementation should be retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.

<sup>&</sup>lt;sup>12</sup> ADB. 2015. *Integrity Principles and Guidelines (2015)*. Manila.

<sup>&</sup>lt;sup>13</sup> ADB. <u>Anticorruption and Integrity</u>.

<sup>&</sup>lt;sup>14</sup> ADB. 2006. <u>Second Governance and Anticorruption Action Plan (GACAP II)</u>. Manila; ADB. 2008. <u>Guidelines for Implementing ADB's Second Governance and Anticorruption Action Plan (GACAP II)</u>. Manila; and ADB. 2008. <u>Sourcebook: Diagnostics to Assist Preparation of Governance Risk Assessments</u>. Manila (draft).

<sup>&</sup>lt;sup>15</sup> ADB. <u>Accountability Mechanism</u>.

### DETAILED TERMS OF REFERENCE (Tashkent Province Sewerage Improvement Project)

### A. Engineering, Procurement, and Construction Management (EPCM) Services

### 1. Scope of EPCM Services

1. The Subproject is expected to be effective in Q2 2020 and completed by Q4 2025. The Consultant is expected to commence in Q2 2020.

2. The Consultant (firm) shall provide, for the duration of the assignment, a team of international and national experts who are highly specialized in engineering design of wastewater treatment and sewage collection works and with solid experience in the field of construction supervision having performed at least two similar assignments in the last five years for urban wastewater projects, prepared detailed engineering design (DED) and procrurement documents as per ADB standard procurement documents, evaluation of bids as per ADB guidelines, supervised the construction of works and rendered related services under the contract as described herein.

3. The Consultant, in close coordination with Tashkent Province Suvokova (TPS), project coordination unit (PCU), and the Project Management Coordination and Capacity Building (PMCCB) consultant, will perform the following tasks:

# a. Part 1.a Design-Build Method (for all sewage collection and related works):

4. **Detailed Surveys, Detailed Engineering Design, Technical Drawings, BOQs and Procurement Documents**: The Consultant will review and validate on the ground, the already available data and amend if required. If the data are not readily available prior to the commencement of this assignment, the Consultant is required to develop and prepare them). Based on the finalized data, conduct DED, including the preparation of design reports, design calculations, design drawings and BOQs for all the works and goods packages provided in the procurement plan. The Consultant will bear the professional liability for the accuracy of all the designs, drawings, reports and BOQs. The consultant's tasks, including ground validation, shall include, but not be limited to:

- a. Review, conduct and ensure that all the survey data are correct and amend if required, and that they meet the best international practices.
- b. Prepare detailed engineering designs that meet all the standards and best international practices. The detailed engineering designs should be prepared using an integrated urban planning approach.
- c. Finalize detailed engineering designs and technical specifications, detailed cost estimates based on agreed project documents, feasibility studies, due diligence reports, preliminary designs and procurement plans. Ensure that designs meet the standard or approved design criteria and meet the future needs.
- d. Develop/prepare draft documents for the packages based on ADB standard bidding documents for works, goods and plant, as per requirement of the procurement plan.
- e. The procurement documents shall include detailed design drawings, technical specifications and BOQs & engineer's estimates.

# b. Part 1b. Design-Build Method (for all rehabilitation, upgrading and new construction of wastewater treatment works):<sup>16</sup>

5. Detailed Surveys, Performance Specifications, Engineering Concept Designs, Preliminary BOQs and Design-Build procurement Documents: The Consultant will review and validate on the ground, the already available data and amend if required. If the data are not readily available prior to the commencement of this assignment, the Consultant is required to develop and prepare them). Based on the finalized data, prepare engineering concept design, including the preparation of design reports, design calculations, concept design drawings and preliminary BOQs for all the rehabilitation, upgrading and construction of wastewater treatment works provided in the procurement plan, specifically for the wastewater treatment plants (WWTPs) in Chirchik, Yangiyul, Almalyk, Angren, Bekabod and Chinaz. The Consultant will bear the professional liability for the accuracy of all the concept designs, employer's requirements, and preliminary BOQs. The Design-Build procurement document, shall include, but not be limited to, the following:

- a. A project overview;
- b. Scope of services required, including identification of elements requiring contractor design;
- c. The form of procurement document;
- d. Format required for the contract sum analysis;
- e. Procedures that will be adopted upon award of the contract;
- f. Project briefs and site information;
- g. A set of fully developed performance specifications (include detailed specifications for all construction materials, mechanical and electrical equipment, electrical works, instruments, and machines);
- h. A set of engineering concept design drawings;
- i. Detailed requirements for site works, temporary works, permanent works, technical design services, construction management services, site safety and environmental compliance, and employment of skilled labors;
- j. Programme and delivery process (including phasing);
- k. ADB standard form of contract for design-build turn key contract for wastewater treatment works;
- I. Procedures for inspection, testing, commissioning and handover;
- m. Works start-up, commissioning, operations and maintenance (O&M) training, and hand-over plans;
- Responsibility for statutory approvals (such as planning permission and building regulations approvals) and information about any existing approvals or consultations;
- o. Design liability;
- p. Requirements for warranties;
- q. Professional indemnity and other insurance requirements;
- r. Allocation of risk;
- s. Requirements for samples and items for comment or approval;
- t. Procurement pricing document (or form for contract sum analysis);
- u. Pre-construction Information;
- v. CSA and TPS policies (such as social, environmental safeguards policies);
- w. Collaborative practices;
- x. Employer's information requirements for building information modelling;

<sup>&</sup>lt;sup>16</sup> Design-build with optional operation method will be used for all wastewater treatment works to be procured.

- y. Request for details of named or nominated sub-contractors; and
- z. Targets for post-occupancy evaluation.

6. **Procurement Support:** The Consultant shall provide necessary support to the TPS and PCU in all aspects of the procurement process for all works of the project in accordance with the ADB procurement guidelines, regulations and the government procurement rules and regulations. The support shall include the following:

- a. Support for the preparation of invitation for bids, pre-bid meetings and site visits for interested bidders, preparation of responses to bidders' clarification questions and addendums to bidding documents;
- b. Support for organizing the bid opening, the evaluation of bids, and preparation of technical and financial bid evaluation reports in accordance with the ADB's standard bid evaluation form and the government standards and procedures for submission for review by concerned agencies, including CSA and ADB; and
- c. Assisting the TPS and PCU in contract award, contract negotiation, preparation and finalization of contract submission for review by concerned agencies, including the TPS and the ADB, through signing of the contracts.

### 2. Part 2.

7. **Construction Management Services:** The Consultant while supervising construction of works will make all necessary arrangements for quality control and implementation of the works and goods contracts. The task of the Consultant will include but not be limited to:

- a. All contracts will be carried out on the ADB standard contract for works and goods and plants. The consultant will administer both the goods' and the civil works' contracts, make decisions as the supervision consultant, be responsible for quality assurance, provide general guidance and furnish timely responses to the contractors in all matters relating to the civil works, and ensure that all clauses of the contract agreement between the civil works contractors and TPS are respected. For the design-build contract(s), the consultant shall act as the independent engineer or adviser of the TPS from procurement to completion of such design-build contract(s). The role of independent engineer or advisor is as defined in standard design-build FIDIC<sup>17</sup> contract document.
- b. Give notice to contractor to commence works;
- c. Ensure the submission and advise TPS and PCU on the adequacy of the contractors' insurance policies, performance guarantees, and advance payment guarantees;
- d. Provide advance advice to TPS and PCU concerning the schedule of handing over sites, and possible delays due to lack of possession with a view to assure that the contractors are given Possession of Site in accordance with the agreed work programs;
- e. Liaise with project management, coordination and capacity building (PMCCB) consultant, TPS, PCU, district authorities, and other concerned parties, as required, to ensure that the site is made available to the contractor and that any issues related to land acquisition are resolved in ways that minimize delay for the contract.

- f. Assess the adequacy of the contractors' inputs in material, labor, construction methods, and safety measures. Monitor the progress of subproject construction against the contractual construction schedules. Ensure that the Contractor submits regular updated work plans, that take account of time elapsed and work completed, and provide a realistic timetable for completing the works within the specified contract period. If the Contract is clearly going to over-run, take the actions specified in the Conditions of Contract.
- g. Ensure the receipt of, and maintain as permanent records of, all warranties required under terms and conditions of the Contract Agreement for materials, including their source and equipment accepted and incorporated in the Subproject;
- h. Without relieving the Contractors of their obligations under the Contract, check and approve the contractors' Working Drawings, Method Statements and Temporary Works proposals;
- i. Carry out any subsequent design changes, and expeditiously issue supplementary drawings, site instructions, variation orders and day work orders to avoid delay to the works, and to ensure that the works are executed in accordance with Contract;
- j. Ensure that the Contractors have all necessary data for setting out and check the Contractors' setting out including staking the right-of-way limits, centerline, and grade and confirm permanent monuments in the construction areas where applicable;
- k. Inspect quarries and borrow pits, and crushing plants, and order tests of materials, ensure adherence to specifications, and approve the sources of materials;
- I. Check that the lines, levels and layout of the construction conform with those specified in the contract;
- m. Develop and implement a quality monitoring plan, including MIS and android based system for monitoring of project, physical progress, reporting and dashboard for the TPS and PCU (and other concerned government agencies, offices and departments when necessary).
- n. Develop and implement a quality monitoring plan to ensure the works comply with the specifications in the contract documents regarding materials used, technical requirements, and economic life of assets. Ensure that project components are tested as required by the conditions of contract and specifications.
- o. Ensure quality of the works during construction, and continuously inspect the soils and materials; construction operations and the works with regard to workmanship and compliance with the specifications; and carry out independent testing in the field and/or in the "Engineer/Project Manager" laboratory, and approve or disapprove and certify the works that conform with the specifications, and maintain permanent records of results of all the tests made;
- p. Give notice to Contractors of any defects and deficiencies, and issue instructions for the removal and substitution of the improper works, where provided under the contract. If required, order suspension of the work(s) and/or recommend to TPS and PCU other recourse available under the Contract;
- q. Monitor and appraise progress of the works, and maintain a day by day project diary which shall record all events pertaining to the administration of the contract, requests from and orders given to the Contractors, and any other information which may later be of assistance in resolving queries which may arise concerning execution of the works;
- r. Check the Contractor's periodic statement of the estimated value of work completed and certify that these statements clearly and accurately describe the value of work executed on the value of the quantities of the items in the "Bill of Quantities";

- s. Verify the interim certificates to TPS and PCU for payment to Contractors based on "Measured Work Items", with regard to any contractual provisions for advance payment, variation of price, and exchange rate fluctuation etc. Certify the completion of the Activities/Works or parts thereof, and process final payments to Contractors;
- t. Assist with interpretation of Contract Documents, explain and or reconcile any ambiguities and or discrepancies in the Contract Documents, and apply various provisions of the contract documents; and provide TPS and PCU all relevant documentation needed for settling disputes (if any) with the Contractors, and make recommendations to TPS and PCU for resolving the Contractors' escalation claims, contract time extensions, variation orders, subletting, additional cost, rate and price fixing etc.
- u. Advise TPS and PCU on the need for effective liaison with local authorities, police, landowners, utility owners, the public and other organizations affected by the Works, to minimize or avoid unnecessary delays or disputes;
- v. Jointly inspect with TPS and PCU the completed civil works, and assist in formal taking over and review, and approve or prepare "as built" drawings and plans (as the case may be), and provide report(s) testifying to the satisfactory completion of the contracts;
- w. Plan and review the final commissioning tests being conducted upon completion of each construction package, including network and pumping stations, and approve acceptance of performance in accordance with the targets set in the procurement documents; approve the content of the O&M manuals and advise the TPS and PCU on delivery of certificate of performance.
- x. Inspect the completed works periodically during the defect notification period within the terms covering the Consultant's Agreement, prepare lists of deficiencies (if any), and carry out supervision of the remedial works, and issue the Defects Liability certificates after the rectification of notified defects by the Contractors;
- y. Establish a comprehensive system of maintaining site records including site correspondence, inspection records, test data, site diaries, records of meetings, financial records, progress records etc.
- z. Provide any other specialist services requested by TPS, PCU and PMCCB consultant under conditions to be mutually agreed, and ensure that the construction methods as proposed by the contractor for carrying out the works are satisfactory; inspection of contractor's construction equipment; and safety of the works, property, personnel, and public; the schedule of mitigation measures for adverse environmental impacts; and support the PMCCB consultants, TPS and PCU to implement the resettlement plan, including public consultation, verification of the resettlement compensation payment, and preparation of monitoring report.

### 8. **Project Management**

- a. Assist PMCCB consultant, TPS, and PCU in preparing monthly and quarterly monitoring reports for submission to various authorities, including ADB at their request.
- b. Coordinate with contractors, PMCCB consultant and local authorities on clearing roadblocks and obtaining clearances during construction and commissioning.
- c. Advise on actions to be taken towards non-performing contractors.
- d. A Part 2 of the assignment under a separate contract is conditioned by a satisfactory implementation and successful completion of Part 1. If confirmed, such

contract may be a separate time-based contract, potentially considering using the Single Source Selection method to recruit the same firm of Part 1.

9. **Mandatory Staffing requirement for Part 1.** As a mandatory requirement, the consulting team shall include 20 experts described and summarized in Table 1 below, including the minimum person-month allocations for each. Consulting firms will propose the actual time allocation and the potential addition of team members. The actual time allocation will depend on the particular methodology and approach being proposed. The required qualifications and experience of the mandatory experts and the key tasks they are to undertake are shown in Table 2. The non-key positions including the qualifications and experience requirements are in Table 3.

S/No Experts		Positions	Minimum Input (Person-Months)			
Α.	International Experts					
1	Senior Civil Engineer (WSS) as Team Leader	1	12			
2	Senior Procurement and Contracts Specialist	1	6			
3	Senior Civil Engineer (wastewater treatment)	1	8			
4	Senior Civil Engineer (sewerage and drainage)	1	10			
5	Climate Change Adaptation Specialist	1	8			
6	Senior Hydraulic Engineer	1	6			
7	Urban Economist	1	4			
8	Financial Management Specialist	1	6			
Sub-Total 8						
B.	National Experts					
1	Senior Civil Engineer (WSS) as Deputy Team Leader	1	12			
2	Senior Civil Engineer (wastewater treatment)	1	12			
3	Design Engineers (Electromechanical)	2	10			
4	Design Engineers (Structure)	2	12			
5	Design Engineers (Sewerage and drainage)	2	12			
6	Solid Waste Engineer	1	3			
7	Procurement and Contracts Specialists	2	12			
8	Financial Management Specialist	11	6			
9	Environmental Engineer	1	6			
10	Senior Hydraulic Engineer	11	6			
11	Resettlement Expert	11	8			
12	Social Development and Gender Expert	1	6			
	Sub-Total	16	105			
	Grand Total 24 165					

### Table 1: Summary of Mandatory Staffing Requirement

S/No	Title	Experience, Qualification & Responsibilities			
	International Experts				
1	Senior Civil Engineer (WSS) as Team Leader 12-person-months	Experience:	Preferably 20 years of international experience as Civil Engineer specialized in Wastewater and 15 years as Team Leader on major water supply and sanitation projects. The candidate must have demonstrated ability to lead teams composed of international and national consultants and create a strong working relationship with the Client. He/she must have completed at least 3 wastewater projects with minimum treatment capacity of 100,000 m3/d. Excellent communication (written and oral) skills in English and strong inter-personal skills will be considered an asset.		
		Qualification:	Bachelor's degree in Civil Engineering or equivalent (internationally recognized professional qualification)– preferably Masters in Civil Engineering.		
		Responsibilities:	<ul> <li>He/she will have overall responsibility for the organization, conduct and delivery of consultancy services and reporting to the Client. Team Leader will head the Consultants' team and will work directly to manage the project and will maintain liaison with the Client TPS and PCU. Guide the Deputy Team Leader on overall managing the project and supervision activities.</li> <li>Responsibilities as a Team Leader will include, b is not limited to the following: <ul> <li>Assist the TPS and PCU in Project implementation.</li> <li>Assume full responsibility for the consulting team and performance of services under the consulting team undertakes the design activity in timely manner and comprehensive review of the designs and specifications.</li> <li>Ensure that the consulting team undertakes comprehensive construction supervision and contract administration of the on-going civil works.</li> <li>Oversee the consultant activities ensuring compliance to details provided in the construction drawings and strict adherence to technical specifications.</li> <li>Ensure preparation of detailed and quantitative progress reports to support the</li> </ul> </li> </ul>		

S/No Title	Experience, Qualification & Responsibilities
	contractor's requests for progress
	<ul><li>payments.</li><li>Keep the Employer informed of technical</li></ul>
	<ul> <li>Keep the Employer informed of technical issues and progress of all works both by</li> </ul>
	informal and formal meetings and
	correspondence and assist in any project
	issue which the Employer may require.
	<ul> <li>Ensure implementation of environment and social safeguards requirements.</li> </ul>
	Review and check all technical
	specifications and coordinate the
	preparation of bidding documents for the
	procurement for the construction of all project components based on preliminary
	engineering designs, due-diligence
	reports, assessments, surveys,
	procurement plans and other relevant documents.
	<ul> <li>Provide the necessary inputs for the</li> </ul>
	elaboration of the guide drawings to be
	included in the bidding documents as well
	as for the preparation of the detailed cost estimates.
	Review and check all bills of quantities to
	be included in the bidding documents
	based on the engineering designs.
	<ul> <li>In collaboration with the procurement specialists make sure that the bidding</li> </ul>
	documents are prepared in accordance
	with ADB procurement guidelines and
	<ul><li>standard bidding documents.</li><li>Prepare a list and specification of tools,</li></ul>
	equipment, and materials for maintenance
	and repair kits to be included in the bill of
	quantities.
	<ul> <li>Provide timely inputs during the construction of all civil works: elaborate a</li> </ul>
	methodology to be followed by the
	construction supervisors to secure
	appropriate monitoring of the constructions of all the civil work components;
	<ul> <li>Provide inputs for the preparation of on-</li> </ul>
	the-job training in O&M of all the
	components; review the training schedules
	prepared by the Contractor and propose amendments as appropriate; supervise the
	implementation of the training sessions.
	Elaborate a set of performance parameters
	to be used for monitoring the performance
	<ul><li>of the all components.</li><li>Managing other tasks covering review</li></ul>
	and/or oversee financial and economic
	analysis related matters (e.g., preparation
	of project costing and financing plan,

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>project financial analysis and financial sustainability assessment; and oversee the work of economists to ensure findings are incorporated in the documents submitted).</li> <li>Be responsible for the quality, quantity, and timely submission of all deliverables under the Consultant's service contract.</li> </ul>
2	Senior Procurement and Contracts Specialist 6-person-months	Experience:	Preferably 12 years international experience as a Procurement and Contract Specialist in a senior position on major civil works projects based on FIDIC form of contract and MDBs. Proven credentials in procurement management and contract administration, evaluating contractor's claims and dispute resolution.
		Qualification:	Bachelor's degree with a major in Civil Engineering, law, contracts, purchasing, management or equivalent – preferably Master's degree in Civil Engineering, law, contracts / procurement, management or equivalent.
		Responsibilities:	<ul> <li>He/she will be mainly responsible for assistance in procurement management and contract administration of works and goods contracts.</li> <li>Review and finalize all the bidding documents prepared by the procurement specialists for the procurement of goods and works and make sure that such documents are in accordance with ADB Procurement Guidelines (April 2015 and as updated from time to time);</li> <li>Assist the TPS and PCU to carry out annual review of the Procurement Plan;</li> <li>Review and finalize all bid documents for procurement of works and goods prepared by Consultants, particularly in relation to International Competitive Bidding procedures and to the conditions of contract and provide relevant advice as needed;</li> <li>Assist the TPS and PCU procurement specialist and the bid evaluation committee in the tendering process for the procurement of works and goods; assist for; (a) the preparation and publication of invitations to bid, (b) answers to bidders' queries, (c) evaluation reports;</li> <li>Assist in organizing, bidder site visits, if applicable;</li> <li>Work together with the TPS and PCU procurement specialists to coordinate the</li> </ul>

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>processes of obtaining no-objection from the ADB, during the bid evaluation and for bid evaluation reports;</li> <li>Work together with the TPS and PCU project director for the preparation of the necessary documentation for contract signing and consultant and contractor mobilization;</li> <li>Provide inputs to periodical and annual reports as required.</li> <li>Experience and knowledge of ADB's procurement procedures is essential. He/she will be responsible for assisting the client, Chief Resident Engineer and Resident Engineers in all the activities pertaining to contract management of civil works and goods contracts, early warning of key contractual actions, schedule and document contract management meetings and evaluating/resolving contractor's claims and contractual disputes.</li> <li>Taking timely contractual actions related to cost, time and quality controls and closure of the contracts, and in case of dispute its referral to the adjudication and arbitration.</li> </ul>
3	Senior Civil Engineer (wastewater treatment) 8-person-months	Experience:	Preferably 15 years' experience in designing of wastewater treatment plants and 5 years of design experience in designing of urban wastewater infrastructure or related structures including networks and treatments facilities in Asia. He/she must complete at least 2 wastewater treatment plants detailed design assignment with capacity not less than 50,000 m3/d. Expertise in wastewater treatment technology will be preferred.
		Qualification:	Bachelor in Civil Engineering/Environmental Engineering or equivalent, preferably Masters in Environmental Engineering / Civil Engineering or equivalent
		Responsibilities:	<ul> <li>He/she will be responsible and contribute to the designs of wastewater treatment facilities and related structures.</li> <li>Review the feasibility studies prepared at TRTA stage for the subproject, suggest any changes if required;</li> <li>Review, validate, amend any changes to the subproject components (e.g., wastewater treatment plants, transmission mains and primary and secondary sewers, discharge outfalls, etc.);</li> <li>Review, validate and finalize layout designs of all treatment plants and facilities;</li> </ul>

S/No	Title	Experience, Qualit	fication & Responsibilities
			<ul> <li>Reviewing existing studies, documents and other information available; regarding in wastewater treatment options;</li> <li>Assessing the existing wastewater systems; and the projected quantity and quality of effluent from households, commercial and industries;</li> <li>Review the selection of wastewater treatment technology options and preferred options for selected project areas for domestic, commercial and industries, and including: (a) design criteria for centralized systems (WWTP and sewers), and de-sludging; (b) design criteria for decentralized systems (septic tanks), and de-sludging; conduct analysis using BioWin 5.3 software or equivalent;</li> <li>Detailed design for sludge disposal site and for maximizing opportunities for sludge after-use;</li> <li>Review and check detailed cost estimates and specifications for proposed civil works and equipment;</li> <li>Evaluate O&amp;M options and recommend a preferred option for implementing the proposed improvements to the wastewater system;</li> <li>Participation in the proposed Community Consultation Plan and consulting with any Stakeholder Committees that may be established during the subproject implementation; and</li> <li>Lead the preparation of detailed engineering design drawings including technical specifications and cost estimates of the finalized wastewater treatment components.</li> </ul>
4	Senior Civil Engineer (sewerage and drainage) 10-person-months	Experience /Qualification Responsibilities:	He/she will have a post-graduate degree in Hydraulic or Civil Engineering with specialization in designing of urban sewerage and drainage systems with over 15 years of experience in planning and designing these activities, and a minimum of 10 years proven work experience and skill in similar position in developing countries, and expertise i n urban drainage and sewage collection. He/she will also work closely and oversee the work of the national technical team. Expertise in Micro Tunneling for Sewer Infrastructure will also be preferred. He/she will be responsible to the Team Leader and work closely with the other members of consulting team and implement the following principle tasks:

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>Project management and monitoring arrangements for design and implementation of the subproject;</li> <li>Identify problems and opportunities for the provision, operation and management of a sustainable wastewater system in selected project areas;</li> <li>Reviewing existing studies, documents and other information available; regarding in sanitation system options in the project area;</li> <li>Reviewing existing studies, documents and other information available; regarding in sanitation system options in the project area;</li> <li>Assessing the existing current sanitation systems; and the projected quantity and quality of effluent from households, commercial and industries;</li> <li>Review, validate and finalize hydraulic modeling of wastewater systems in the project area;</li> <li>Provide innovations through detailed design;</li> <li>Review detailed cost estimates and specifications for proposed wastewater collection system;</li> <li>Evaluate operation and maintenance (O&amp;M) options and recommend a preferred option for implementing the proposed improvements to the wastewater collection system;</li> <li>Participation in the proposed Community Consultation Plan and consulting with any Stakeholder Committees that may be established during the subproject implementation; and</li> <li>Lead the preparation of detailed engineering design drawings including technical specifications and cost estimates of the finalized wastewater collection components (collectors, networks, trunk sewers, discharge outfalls, etc.).</li> </ul>
5	Climate Change Adaptation Specialist 8 person-months	Experience:	Preferably 10 years' experience involved in planning and design of climate resilient infrastructure projects, preferably in sewerage and drainage, and will have a preferably 5 years proven work experience and skill in similar position in developing countries.
		Qualification:	Bachelor in Civil Engineering/Environmental Engineering/Climate Science, or related degrees, preferably Masters in Environmental Engineering / Urban Engineering or equivalent

S/No	Title	Experience, Quali	fication & Responsibilities
		Responsibilities:	He/she will be responsible and contribute to,
		-	but not limited to, the following:
			• Assist the team leader in incorporating
			climate resilience into detailed designs of
			subproject, particularly (but not limited to)
			wastewater treatment, sludge disposal,
			sewerage and drainage components such
			as location of intakes and outfalls, width of
			drains, sludge disposal, etc.;
			Incorporate climate resilience into
			specification for construction work working
			<ul><li>with engineer team;</li><li>Assist the TPS and PCU in the selection of</li></ul>
			eligible subprojects using subproject
			selection criteria;
			<ul> <li>Review recommendations of TA works,</li> </ul>
			and work closely with wastewater and
			drainage engineers and other experts on
			team including hydraulic engineers, etc. to
			incorporate adaptation into both physical
			and non-physical design components; and
			<ul> <li>Work closely with the engineers to identify,</li> </ul>
			quantify, and clearly report the incremental
			costs of climate adaptation in the project
			design.
6	Senior Hydraulic	Experience:	He/she will be an experienced engineer with
	Engineer		qualifications and specialization in hydraulic
	6 person-months		modeling with preferably 15 years of
			experience in designing and implementing
			drainage and sewerage projects. Experiences in working on donor-funded projects will be
			in working on donor-runded projects will be
			highly desirable
		Qualification:	highly desirable. A graduate in municipal/civil engineering, with
		Qualification:	A graduate in municipal/civil engineering, with
		Qualification:	A graduate in municipal/civil engineering, with at least 15 years working experience in the
		Qualification: Responsibilities:	A graduate in municipal/civil engineering, with
			A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects. He/she will assist the team leader in preparing
			A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects. He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate
			A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects. He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her
			A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects. He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:
			A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects. He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following: • Conducting hydraulic modeling and
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and</li> </ul>
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas using</li> </ul>
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas using MIKE software or equivalent;</li> </ul>
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas using MIKE software or equivalent;</li> <li>Work closely with the wastewater</li> </ul>
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas using MIKE software or equivalent;</li> <li>Work closely with the wastewater collection engineers and the climate</li> </ul>
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas using MIKE software or equivalent;</li> <li>Work closely with the wastewater collection engineers and the climate change specialist of the team to examine</li> </ul>
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas using MIKE software or equivalent;</li> <li>Work closely with the wastewater collection engineers and the climate change specialist of the team to examine and incorporate climate resilience into</li> </ul>
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas using MIKE software or equivalent;</li> <li>Work closely with the wastewater collection engineers and the climate change specialist of the team to examine</li> </ul>
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas using MIKE software or equivalent;</li> <li>Work closely with the wastewater collection engineers and the climate change specialist of the team to examine and incorporate climate resilience into drainage and sewerage components;</li> </ul>
			<ul> <li>A graduate in municipal/civil engineering, with at least 15 years working experience in the drainage and sewerage aspects.</li> <li>He/she will assist the team leader in preparing hydraulic modeling study, detailed designs and bidding documents incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas using MIKE software or equivalent;</li> <li>Work closely with the wastewater collection engineers and the climate change specialist of the team to examine and incorporate climate resilience into drainage and sewerage components;</li> <li>Calculate the incremental costs of climate</li> </ul>

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>networks, outfalls, etc. to ensure linkage to safe drainage and sewers;</li> <li>Assist in the detailed engineering designs, including specifications, drawings, and detailed cost estimates for wastewater collection components; and</li> <li>Any other responsibilities related to hydraulic aspects and as assigned by Team Leader.</li> </ul>
7	Urban Economist 4 person-months	Experience /Qualification	He/she will have post-graduate degree in urban economics, or related degree with over 15 years of experience, of which preferably 10 years involved in economic development planning for infrastructure projects, particularly in wastewater infrastructure investments, and will have a preferably 5 years proven work experience and skill in similar position in developing countries. He/she will also supervise the national urban economist on the team.
		Responsibilities:	<ul> <li>Duties of the Urban Economist will include, but not limited to, the following:</li> <li>Assist the team leader in incorporating the economic potential and environment into the project design, particularly to advise on sectors of water supply and sanitation;</li> <li>Assist in the design of the economic corridor and location of industry;</li> <li>Identify infrastructure that will help the urban economies in the selected city regions;</li> <li>Assist the TPS and PCU in the selection of eligible subprojects using subproject selection criteria;</li> <li>Review recommendations of technical design, and work closely with economists, engineers and other experts on team including urban planner, etc., to incorporate adaptation into the economic situation in the country; and</li> <li>Work closely with the national economist to identify, quantify, and clearly report the economic adaptation required in the project design.</li> </ul>
8	Financial Management Specialist 6 person-months	Experience /Qualification	He/she should be professionally qualified accountant (CA, CPA or its equivalent) with a minimum of 10 years post-qualified experience in project financial management and financial analysis respectively. He/she will also supervise the national financial specialist.
		Responsibilities:	<ul> <li>Duties of the Financial Management Specialist will include, but not limited to, the following:</li> <li>Assist the team leader in the conduct of financial management assessment and</li> </ul>

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>arrangements of the executing agency and implementing agency, based on the guidelines for the financial management and analysis of projects, <i>ADB</i><sup>18</sup>;</li> <li>Prepare project cost estimates and financing plan; and</li> <li>Conduct financial analysis and financial sustainability assessment, including financial cost-benefit analysis of project investment costs.</li> </ul>
	National Experts	·	
1	Senior Civil Engineer (WSS) as Deputy Team Leader 12 person-months	Experience:	Preferably 15 years of national experience as Civil Engineer specialized in wastewater and 10 years as team leader/deputy team Leader/project manager on major national water supply and sanitation projects. The candidate must have demonstrated ability to lead teams composed of international and national consultants and create a strong working relationship with the Client. Excellent communication (written and oral) skills in Russian (Uzbek) and English and strong inter- personal skills will be considered an asset.
		Qualification:	Bachelor's degree in Civil Engineering - preferably Masters in Civil Engineering / Transportation Engineering / Environmental Engineering / Construction Management / Project Management or equivalent.
		Responsibilities:	<ul> <li>Responsibilities of the Deputy Team Leader will include, but are not limited to the following:</li> <li>Act as the Team Leader during the absence of Team Leader;</li> <li>Responsible for ensuring that the consulting team prepare all the designs and specifications and carries out all required tasks under the service contract of the Consultant;</li> <li>Responsible for overseeing the consultants' team activities ensuring all schedules and milestones are achieved;</li> <li>Responsible for overseeing quality control methodology put in place, confirming its adequacy and ensuring that its employment is satisfactorily carried out;</li> <li>Render necessary advice and assist the client in reviewing all deliverables;</li> <li>Be responsible for the timely submission of all consultant's deliverables under the contract;</li> <li>Assist the TPS and PCU in resolving any contractual issues;</li> </ul>

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>Assist the Team Leader in conduction meetings, workshops, and preparing minutes, responses, and queries to TPS, PCU and/ or other Government Authorities; and</li> <li>Coordinate with all concerned Employer's organizations on project issues.</li> </ul>
2	Senior Civil Engineer (wastewater treatment) 12 person-months	Experience:	Preferably 12 years as Designer /Design Engineer for major water and wastewater projects with proven experience in urban development water and sanitation infrastructure design.
		Qualification:	Bachelor Degree in Civil Engineering, preferably M.Sc. in Environmental Engineering / Sanitation Engineering / Hydrological Engineering or equivalent.
			<ul> <li>He/she will must work together with the international senior civil engineer and other members of consulting team and implement the following principle tasks:</li> <li>Reviewing existing studies, documents and other information available; regarding in wastewater treatment options;</li> <li>Assessing the existing wastewater systems; and the projected quantity and quality of effluent from households, commercial and industries;</li> <li>Review the selection of wastewater treatment technology options and preferred options for selected project areas for domestic, commercial and industries, and including: (a) design criteria for centralized systems (WWTP and sewers), and de-sludging; (b) design criteria for decentralized systems (septic tanks), and de-sludging; conduct analysis using BioWin 5.3 software or equivalent;</li> <li>Detailed design for sludge disposal site and for maximizing opportunities for sludge after-use;</li> <li>Review and check detailed cost estimates and specifications for proposed civil works and equipment;</li> <li>Evaluate O&amp;M options and recommend a preferred option for implementing the proposed improvements to the wastewater system;</li> <li>Participation in the proposed Community Consultation Plan and consulting with any Stakeholder Committees that may be established during the subproject implementation; and</li> <li>Preparation of detailed engineering design drawings including technical specifications</li> </ul>

S/No	Title	Experience, Quali	fication & Responsibilities
		••••••••••••••••••••••••••••••••••••••	and cost estimates of the finalized
			wastewater treatment components.
3	Design Engineers (Electromechanical) 10 person-months (5 person-months each)	Qualification:	<ul> <li>Preferably 12 years as Designer / Design Engineer for equipment of water, wastewater and solid waste projects with proven experience in urban development water and sanitation infrastructure design.</li> <li>Bachelor Degree in Mechanical Engineering / Electrical Engineering / Mechatronics Engineering, preferably M.Sc. or equivalent.</li> <li>He/she will be responsible for preparing specifications of the equipment for the project.</li> <li>He/she will be responsible for prepare, review and validate layout and quantities of electrical and mechanical components of the proposed works;</li> <li>Provide inputs in preparation of detailed engineering specification, drawing, and tender documents including engineering estimates of the finalized electrical and</li> </ul>
			mechanical components.
4	Design Engineer (Structure) 12 person-months (6 person-months each)	Experience: Qualification: Responsibilities:	<ul> <li>Preferably 12 years' experience as Designer and/or Design reviewer of Structures with proven credentials in Water Supply and sanitation and urban infrastructure designs and structures.</li> <li>Bachelor in Civil Engineering / Structural Engineering / Highway Engineering or equivalent, preferably Masters in Structural Engineering or equivalent</li> <li>He/she will be responsible for Design and Design Review of structural elements of all the design components and water and sanitation Design hasis.</li> <li>He/she will be responsible for designing especially on cost effective basis the structural elements and foundations of water supply and sanitation infrastructures, including detailed structural drawings and specifications.</li> <li>Assist the wastewater engineers and others in preparing detailed engineering design, structural drawing, and tender documents including engineering estimates of the finalized components.</li> </ul>
5	Design Engineers (Sewerage and Drainage) 12 person-months (6 person-months	Experience:	Preferably 10 years as Designer/Design Engineer for drainage related equipment of water and wastewater with proven experience in urban development water and sanitation infrastructure design.
	each)	Qualification:	He/she will be an experienced engineer with graduate degree in civil engineering and with

S/No	Title	Experience, Quali	fication & Responsibilities
<u>- 3/NO</u>		Responsibilities:	<ul> <li>qualification &amp; Responsibilities</li> <li>qualifications and specialization in drainage and sewerage infrastructure development with preferably 10 years of experience in designing and implementing drainage and sewerage projects. Experiences in working on donor- funded projects will be highly desirable.</li> <li>Preparing detailed designs, specifications, and calculations, incorporating climate resilience into designs under the project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic calculations, reviewing hydraulic model results and technical analysis of drainage and sewerage networks;</li> <li>Work closely with the climate change specialist of the team to examine and incorporate climate resilience into drainage and sewerage components;</li> <li>Calculate the incremental costs of climate adaptation into the subproject;</li> <li>Assist environmental engineer in identifying places for public toilet, wash station, transfer station and sludge disposal to ensure linkage to safe drainage;</li> <li>Preparing detailed engineering designs, including specifications, drawings, and detailed cost estimates for wastewater collection components;</li> <li>Assist in preparation of bidding documents and bill of quantities and</li> </ul>
			<ul> <li>Any other responsibilities assigned by Team Leader or requested by team members.</li> </ul>
6	Solid Waste Management (SWM) Expert 3 person-months	Experience:	Preferably 12 years' experience in solid waste management planning and designing. Preferably having designed landfills sites, secondary and primary transfer equipment/vehicles design/specification and transfer stations expertise
		Qualification:	Bachelor in Civil Engineering / Environmental Engineering / Waste management or related subject or equivalent, preferably Masters in Civil Engineering / Waste management or related subject or equivalent.
		Responsibilities:	<ul> <li>He/she will be responsible for works related to sludge collection and disposal and will be assisting in designing of solid waste management components of the subproject on cost effective basis including detailed engineering designs:</li> <li>Prepare detailed engineering design, drawings and engineers' estimates including all civil, mechanical and electrical</li> </ul>

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>work of landfill sites and other treatment options, if any, for sludge and garbage transfer station or any other treatment option proposed; and</li> <li>Assist other team members in the preparation of final detailed engineering designs, technical specifications, and cost estimates for solid waste handling components.</li> </ul>
7	Procurement and Contract Specialists 12 person-months (6 person-months	Experience:	Preferably 12 years' experience as a Procurement and Contract Specialist on major civil works and goods. Proven credentials in procurement management and knowledge of ADB or other MDBs will be an added
	each)	Qualification:	advantage. Bachelor's degree with a major in Civil Engineering, law, contracts, purchasing, management or equivalent – preferably Master's degree in Civil Engineering, law, contracts / procurement, management or equivalent.
			<ul> <li>He/she will be responsible for assistance in procurement and contracts management of works and goods contracts.</li> <li>Prepare all the bidding documents in close coordination with the TPS and PCU procurement specialists for the procurement of goods and works and make sure that such documents are in accordance with ADB Procurement Guidelines (April 2015 and as updated from time to time);</li> <li>Prepare the procurement plan, procurement documents/tendering and bidding documents for procurement of subproject (goods and civil work both) related to all sector (water, wastewater, solid waste, urban roads and equipment;</li> <li>Assist the TPS and PCU to carry out annual review of the Procurement Plan;</li> <li>Assist the TPS and PCU procurement of works and goods; assist for; (a) the preparation and publication of invitations to bid, (b) answers to bidders' queries, (c) evaluation reports;</li> <li>Assist in organizing, bidder site visits, if applicable;</li> <li>Work together with the TPS and PCU procurement specialists to coordinate the procurement specia</li></ul>

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>the ADB, during the bid evaluation and for bid evaluation reports;</li> <li>Work together with the TPS and PCU project director for the preparation of the necessary documentation for contract signing and consultant and contractor mobilization;</li> <li>Provide inputs to periodical and annual reports as required.</li> <li>Ensure contract administration of the works and goods contracts, taking timely contractual actions related to cost, time and quality controls in accordance with the provisions of the contract agreement, closure of contracts, evaluating claims and in case of disputes, its referral to dispute resolution including Dispute Review Boards and/or arbitration</li> <li>Early warning of key contractor's claims and evaluating/resolving contractor's claims and contractual disputes</li> <li>Experience and knowledge of ADB's procurement and disbursement procedures is required.</li> <li>Assist TPS and PCU in procurement and contracts.</li> </ul>
8	Financial Management Specialist 6 person-months	Experience / Qualification: Responsibilities:	Graduate in economics or similar / relevant discipline with at least 12 years of relevant working experience. He/she will be responsible to the Team Leader and assist other consultants in the consultant team for implementing the following principle tasks: (i) Generally assisting in preparing the proposed Economic and Planning Study of project components, specifically support the International Specialists in preparing the proposed Economic and Planning Study of the project components; (ii) Advising the Team Leader on the institutional arrangements to secure implementation of the project components; (iii) Working closely with TPS and PCU to identify mechanisms to maximize income from public utility operations and preparing and implementing an innovative approach to the participation of the private sector; (iv) Liaising with the key stakeholders including the port users to ensure the proposed institutional arrangements, land management aspects and the financial arrangements will be supported; and (v)

S/No	Title	Experience, Quali	fication & Responsibilities
			Develop and deliver relevant practitioner (on the job) training inputs in consultation with the Capacity Building Specialist/Training Coordinator.
9	Environmental Engineer 6 person-months	Experience /Qualification: Responsibilities:	<ul> <li>An Environmental Engineer having post- graduate degree in Civil/Environmental Engineering with over 15 years of experience and having 10 years practical experience in planning and designing urban infrastructure with 5 years of practical experience in dealing with sanitation and solid waste management.</li> <li>He/she will be responsible of the following: <ul> <li>Assist Team Leader in selection of sanitation and solid waste management options following national environmental requirements and develop design criteria;</li> <li>Develop improved mechanism and introduce the same to collect, segregate and disposal of solid waste and sludge generated from wastewater treatment facilities;</li> <li>Explore and identify alternative sanitation options including decentralized systems compatible with local capacity;</li> <li>Identify and assist (working with drainage engineers) in the appropriate location, design, construction and management of transfer stations, pit latrines, public toilet, and wash stations;</li> <li>Conduct survey to identify existing equipment and machineries of target project sites for handling solid waste, determine need for such equipment, prepare procurement plan and assist TPS and PCU for timely procurement and distribution among project sites;</li> <li>Design decentralized sanitation systems and solid waste recycle plants;</li> <li>Any other responsibilities assigned to him/her by Team Leader.</li> </ul> </li> </ul>
10	Senior Hydraulic Engineer 6 person-months	Experience /Qualification:	He/she will be an experienced engineer with qualifications and specialization in hydraulic modeling and in drainage and sewerage infrastructure development with at least 15 years of experience in designing and implementing drainage and sewerage projects, with a postgraduate degree in flood or civil engineering. Experiences in working on donor-funded projects is highly desirable.
		Responsibilities:	He/she will provide inputs in preparing detailed designs and bidding documents incorporating climate resilience into designs under the

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>project. His/her tasks include, but not limited to, the following:</li> <li>Conducting hydraulic modeling and technical analysis of drainage and sewerage in the subproject areas;</li> <li>Work closely with the wastewater collection engineers and the climate change specialist of the team to examine and incorporate climate resilience into drainage and sewerage components;</li> <li>Calculate the incremental costs of climate adaptation into the subproject;</li> <li>Assist environmental engineer in identifying locations for collectors, networks, outfalls, etc. to ensure linkage to safe drainage and sewers;</li> <li>Assist in the detailed engineering designs, including specifications, drawings, and detailed cost estimates for wastewater collection components; and</li> <li>Any other responsibilities related to hydraulic aspects and as assigned by Team Leader.</li> </ul>
11	Resettlement Expert 8 person-months	Experience /Qualification: Responsibilities:	He/she should have at least 10 years of experience in social safeguards work or social and community development, and a post- graduate degree in social science, anthropology or related fields, with previous experience in donor-funded projects. He/she will be responsible of the following:
			<ul> <li>Prepare resettlement plans (LARPs) for projects with land acquisition and involuntary resettlement based on detailed designs in accordance with the Resettlement Framework guided by ADB's Safeguards Policy Statement (2009).</li> <li>Work closely with design engineers in preparing LARPs.</li> <li>Undertake necessary census and socioeconomic surveys and data collection, conduct meaningful consultations with project-affected people for drafting the social safeguard documents</li> <li>Submit LARPs to EA/IA and ADB for review and clearance prior to bidding.</li> <li>Develop new and/or update existing RPs for sub-projects during detailed design stage;</li> <li>Prepare a new for subprojects under the project with detailed census surveys of affected persons using existing RPs as a guide for developing new RPs;</li> </ul>

S/No Title	Experience, Qualification & Responsibilities
	<ul> <li>Establish dialogue with the affected communities and ensure that their concerns and suggestions are incorporated and implemented in the project;</li> </ul>
	<ul> <li>Submit all draft RPs to ADB for review and clearance before contract award;</li> <li>Work closely with the PCU resettlement officer to implement the RPs. For RP implementation, the consultant will be specifically responsible for implementation of proposed compensation, rehabilitation, and income restoration measures,</li> </ul>
	<ul> <li>consultations with Affected Persons (APs) during rehabilitation activities, and assisting in grievance redress;</li> <li>Coordinate valuation of land by the valuation committees with close consultation with APs at Local Land Registry Office level to finalize the</li> </ul>
	<ul> <li>compensation packages;</li> <li>Guide PIU resettlement officers in providing ID cards to affected persons;</li> <li>Ensure smooth provision of entitlements under each RP to affected persons;</li> <li>Provide required training (in-house and on-</li> </ul>
	<ul> <li>the-job) to the enumerators and surveyors to carry out the census survey and work closely with the TPS and PCU resettlement officer to involve them in the project planning from the initial period;</li> <li>Ensure compliance with all Government mules and service and service the PD is</li> </ul>
	<ul> <li>rules and regulations and ensure the RP is following ADB's latest related rules and policies;</li> <li>Lead community consultation during design phase of components and as part of the preparation of the RP;</li> </ul>
	<ul> <li>Coordinate monitoring of RP implementation including reporting;</li> <li>Assist the international Resettlement Specialist in resettlement training programs and workshops for the staff of the PIU and Contractors and in accordance</li> </ul>
	<ul> <li>to the Capacity Building Program;</li> <li>Prepare monthly resettlement monitoring reports in collaboration with TPS and PCU and submit to TPS and PCU;</li> <li>Facilitate in responding to any public</li> </ul>
	<ul> <li>grievances and keep the record of all the grievance; and</li> <li>Any other task assigned by the Team Leader in relevance to effective project</li> </ul>

S/No	Title	Experience, Qualification & Responsibilities		
			implementation; and any other responsibilities assigned by Team Leader.	
12	Social Development Gender Expert 6 person-months	Experience /Qualification	Graduate in sociology, social anthropology or similar / relevant discipline with at least 10 years of relevant working experience. The specialist should have at least 10 years of relevant experience in design of resettlement plans (RP) and framework and experience in implementing resettlement plans as part of donor supported projects, preferably with the ADB. The specialist should be well conversant with laws relating to land acquisition, state procedures in implementation of resettlement packages and ADB procedures.	
		Responsibilities:	<ul> <li>Responsibilities will include but not limited to the following:</li> <li>Social Development <ul> <li>Undertake necessary census and socioeconomic surveys and data collection, conduct meaningful consultations with project-affected people for drafting the social safeguard documents.</li> <li>Update social economic survey and data collection.</li> <li>Submit all social gender reports to ADB for review and clearance before contract award; and</li> <li>Work closely with the PMCPM, Team Leader as well as with PIU to implement the safeguards.</li> </ul> </li> </ul>	
			<ul> <li>Gender</li> <li>The consultant will assist the TPS and PCU in identifying scope for gender mainstreaming and assist in implementation and monitoring of Gender Action Plan.</li> <li>Develop a new gender action plan (GAP), social poverty reduction and sector strategy, C&amp;P plan, and other social development documents prepared during the project preparatory technical assistance.</li> <li>Orient TPS and PCU in assuring clear understanding of project schedule and respective roles and responsibilities in GAP implementation and other social development activities.</li> <li>Establish an effective monitoring and reporting system based on sex- disaggregated data collected during public consultation and obtained from implementation team, and concerned district branches, contractors and other parties, including trainers who will provide</li> </ul>	

S/No	Title	Experience, Qualification & Responsibilities
		<ul> <li>community hygiene promotion and sanitation awareness trainings.</li> <li>Carry out the gender analysis of subprojects and ensure project are gender sensitive and addresses gender concern and needs of women.</li> <li>Training of TPS and PCU staff and other Consultants deputed staff on gender areas on continues basis and prepare training and communication material in local language;</li> <li>Implement the GAP with support of TPS and PCU.</li> <li>Ensure that the GAP report is included in the quarterly reports to TPS and PCU and ADB.</li> <li>Integrate gender elements in institutional strengthening of TPS including gender responsive HR policy, compliance core labor standards training, career development.</li> </ul>

## Table 3: Non-key Staff Qualifications, Experience and Key Tasks

S/No	Title	Experience, Qualification & Responsibilities		
	Inte	rnational or National Experts to be proposed by the firm		
1	SCADA Expert 4 person-months	Experience:	Preferably 12 years overall experience with 5 years as a SCADA design and operational expert	
		Qualification:	Bachelor in Engineering or relevant subject or equivalent.	
		Responsibilities:	He/she will be responsible for designing, management and implementation of the SCADA system. This will include all support including procurement, calibration, and integration and operationalizing the system.	
2	Architect/Graphic Designer & 3D Modeler 6 person-months	Experience:	Preferably 12 years work experience in building design and 5 years' working experience in similar urban sector development projects in countries with similar geographic conditions. ADB or other international donor-funded project implementation experience is desirable.	
		Qualification:	Bachelor's degree in Architecture Engineering / Architecture–or equivalent.	
		Responsibilities:	<ul> <li>Detailed design of building works</li> <li>Assist/prepare technical specifications and coordinate preparation of tender documents for the procurement for the construction of all building component based on preliminary engineering designs, due-diligence reports,</li> </ul>	

S/No	Title	Expe	rience, Qualification & Responsibilities
			<ul> <li>assessments, surveys, procurement plans and other relevant documents.</li> <li>Provide the necessary inputs for the elaboration of the guide drawings to be included in the tender documents as well as for the preparation of the detailed cost estimates.</li> <li>Prepare bills of quantities to be included in tender documents based on the engineering designs.</li> <li>Prepare a list and specification of tools, equipment, and materials for maintenance and repair, kits to be included in the bill of quantities.</li> <li>Elaborate a set of performance parameters to be used for monitoring the performance of the all building components.</li> </ul>
3	Assistant Design Engineers Water Supply, Sanitation and	Experience:	Preferably 5 years as Designer /Design Engineer for major water and wastewater projects with proven experience in urban development water and sanitation infrastructure design.
	Drainage 24 person-months each (4 Nos.)	Qualification:	Bachelor Degree in Civil Engineering, preferably M.Sc. in structure Engineering / Water Engineering / Hydrological Engineering or equivalent.
		Responsibilities:	<ul> <li>He/she will work directly with design engineer for designing of the water and waste water infrastructure subprojects under the project.</li> <li>He/she will be responsible for review and checking project works (e.g., wastewater treatment plants, transmission mains, main and secondary sewers, disposal stations, etc.);</li> <li>Review the feasibility studies and masterplans being prepared for the project at the PPTA stage, suggest changes if required;</li> <li>Provide inputs to the preparation of detailed engineering design, drawing, and tender documents including engineering estimates of the finalized components.</li> <li>Carry out any other tasks as directed by Team Leader.</li> </ul>
4	Material Engineer 6 person-months each (2 Nos.)	Experience:	10 years as Material Engineer on five infrastructure projects preferably with experience of Asphalt concrete mix design, concrete mix design, water supply and sanitation materials etc.
		Qualification:	Bachelor's degree in Civil Engineering, geology or equivalent preferably Masters in Engineering Geology or equivalent
		Responsibilities:	He/she will assist the Team Leader (Part 1) and CRE (Part 2) and will be responsible for quality of materials used in works and goods by performing field and laboratory tests and certifying their acceptance based on recommended specifications for the material, will also identify the sources of material and query sites.

S/No	Title	Expe	rience, Qualification & Responsibilities
			<ul> <li>Main responsibilities of the position are for Part 2 that will include but not be limited to the following:</li> <li>Stipulate Material Testing Procedures and Specifications;</li> <li>Identify sources of materials, quarry sites and borrow areas;</li> <li>Confirm the suitability and availability of material in the borrow pits and quarries for pavement;</li> <li>If required, identify and evaluate additional sources of materials;</li> <li>Undertake field and laboratory testing of the materials to determine their suitability for various components of the works and goods; and</li> <li>Be overall responsible for all Material Testing and specification and certification of material quality.</li> </ul>
5	Cost Engineers 12 person-months	Experience:	Preferably 8 years' experience in costing of water sector and solid waste management projects
	each (2 Nos.)	Qualification:	Preferably Civil Engineering Degree with recognized professional qualification
		Responsibilities:	Responsible for completing the costing of works and equipment, and for ensuring that costing is accurate
			and based on the latest available market data.

10. The indicative staffing requirement for the Part 2 assignment activities as outlined in paragraphs above is shown in the Table 4 below. The qualifications and key tasks of these positions are described in Table 5.

S/No	Expertise	Positions	Input (Person-Months)			
Α.	International Experts					
1	Chief Resident Engineer (CRE)	1	48			
2	Engineers Representative (ER)	1	24			
3	Quality Control Engineer	1	48			
4	Contract & Project Management and Construction Supervision Engineers	2	96			
5	Environmental Specialist	1	24			
	Sub-Total 6 240					
В.	National Experts					
1	Construction Supervision Teams (7 teams)	7*	800			
2	Environment Engineer	4	96			
3	Resettlement Expert	1	12			
4	Social Development and Gender Expert	1	12			
5	Senior Survey Engineer	4	40			
6	Chief Quantity Surveyor	2	96			
	Sub-Total National Exper 12+ 1056					

S/No	Expertise	Positions	Input (Person-Months)
	Grand Total	18+	1296

Note: Person-months based on a civil works contract length of 24 to 48 months. 18+ = Total of 18 key personnel and 7 teams of supervision engineers

S/No	Title	Experience, Qualification & Responsibilities		
	International Exper	ts		
1	Chief Resident Engineer 48 person-months	Experience:	Preferably 20 years of professional experience with 15 years in supervising construction of large wastewater facilities including experiences in solid waste management projects. Must have worked for at least one international funded project as Chief Resident Engineer.	
		Qualification:	Civil Engineering degree (internationally recognized professional qualification)	
		Responsibilities:	The international consultant will be responsible for assisting the Client with the construction supervision of the civil works contracts, and specifically to act as "The Engineer" as defined in the FIDIC Based contract documents. The consultant will be responsible for preparing completion reports in a form acceptable to ADB and the Client, and making the recommendation to issue the completion certificate for the works.	
2	Engineers Representative 48 person-months	Experience:	Preferably 15 years of professional experience with 12 years working in wastewater sector including experiences in solid waste management project(s). Must have at least one project experience with international funded projects as "engineers' representative".	
		Qualification:	Civil Engineering degree (internationally recognized professional qualification)	
		Responsibilities:	The Engineer's Representative will have the overall responsibility for managing site supervision teams. The responsibilities of the Engineer's Representative and his/her staff are, under the overall control of the Chief Resident Engineer, to supervise construction of the work and to test or order to test and examine any materials to be used or workmanship employed in connection with the works.	
3	Quality Contr	Experience:	Preferably 10 years working in similar	
	Engineer	Qualification	assignments/positions	
	48 person-months	Qualification: Responsibilities:	<ul> <li>Bachelor degree in related disciplines</li> <li>The responsibilities of the Engineer focus on verifying that the following meet the specifications or other requirements of the civil works contract:</li> <li>Contractors' sources of construction materials and stone crushing procedures</li> </ul>	
			Contractors' proposed asphalt mix design	

# Table 5: Qualifications and Key Tasks, Part 2

	Title	Experience, Qualification & Responsibilities		
			<ul> <li>Contractors' concrete production plant and concrete trial mixes</li> <li>All pavement materials for both rigid and flexible pavements</li> <li>Laboratory and field tests undertaken by the Contractor</li> </ul>	
4	Contract & Project Management and Construction Supervision Engineers 96 person-months (2 nos)	Experience /Qualification	Civil Engineering degree (internationally recognized professional qualification) Preferably 5 years of relevant experience in in wastewater sector including experiences in solid waste management project(s)	
	(2 1105)	Responsibilities:	7 engineers are each assigned to one major contract or group of contracts to supervise construction of the work and to test or order to test and examine any materials to be used or workmanship employed in connection with the works. These engineers will also direct the work of the local site supervision teams.	
5	Environmental Specialist 24 person-months	Experience and Qualification: Responsibilities:	<ul> <li>Bachelor degree in environmental engineering or a related discipline.</li> <li>Preferably 15 years' experience working in similar assignments/positions.</li> <li>Knowledge of ADB and Government's requirements and procedures is desirable.</li> <li>During the construction stage, the specialist will have to provide semi full-time inputs, and will have to review all monitoring reports of national consultants and advises on corrective actions, and monitors the environmental performance of the project. He/she must also in charge of safety compliance enforcement at all work sites.</li> <li>He/she will supervise all resident teams in the implementation of the project environmental and safety conducts, and prepare and submit to the PCU monthly environmental monitoring reports in collaboration with</li> </ul>	
			TPS and PCU's environmental officers.	
	National Experts			
1	Construction Supervision Teams Engineers 800 person-months (7 teams)	Experience and Qualification:	Tertiary qualification in a relevant discipline (nationally recognized professional qualification) Preferably 10 years of professional experience, of which 5 years working in similar assignments/ positions.	
		Responsibilities:	The consultant is free to propose the composition of 7 site teams; however, it is expected that the team will require expertise in the areas of quality control, road alignment and pavement engineering, construction of sewers and treatment works, materials, and construction safety.	

S/No	Title	Exp	erience, Qualification & Responsibilities
2	Environmental Engineer	Experience and Qualification:	Bachelor degree in a related discipline
	96 person-months (4 experts X 24 pm)		Preferably 5 years' experience working in similar assignments/positions
			Knowledge of ADB and Government's requirements and procedures is desirable
		Responsibilities:	During the construction stage, a total of 4 national environmental specialists, providing each an equivalent of 18 p.m. inputs, will assist the international environmental engineer to supervise the implementation of the project environmental and safety conducts, and prepare and submit to the PCU monthly environmental monitoring reports in collaboration with TPS and PCU's environmental officers.
2	Resettlement	Experience and	Pachalar dagrap in a related dissipling
3	Specialist 12 person-months	Experience and Qualification:	Bachelor degree in a related discipline. The specialist should have at least 10 years of relevant experience in design of resettlement plans (LARP) and framework and experience in implementing resettlement plans as part of donor supported projects, preferably with the ADB. Knowledge of ADB and Government's requirements and procedures is desirable.
		Responsibilities:	During the construction stage, he/she will have to provide an equivalent of 12 p.m. inputs, and will supervise and monitor LARP implementation, and will prepare monthly monitoring reports.
4	Social Developme & Gender Expert 12 person-months	Experience /Qualification	Graduate in sociology, social anthropology or similar / relevant discipline with at least 10 years of relevant working experience. The specialist should be well familiar with social gender safeguards and ADB procedures.
		Responsibilities:	<ul> <li>Responsibilities will include but not limited to the following:</li> <li>The consultant will assist the TPS and PCU in identifying scope for gender mainstreaming and assist in implementation and monitoring of Gender Action Frameworks.</li> <li>Training of TPS and PCU staff and other Consultants deputed staff on gender areas on continues basis and prepare training and communication material in local language;</li> <li>Implement the GAP with support of TPS and PCU.</li> <li>Ensure that the GAP report is included in the quarterly reports to PCU and ADB.</li> </ul>
<u> </u>		<u> </u>	
5	Senior Survey Engineer 40 person-month each (4 Nos.)	Experience:	Preferably 10 years work experience in the surveying, design and supervision of construction of wastewater treatment and collection systems, pipe network optimization and pumping facilities. 5 years' working

S/No	Title	Exp	erience, Qualification & Responsibilities
S/NO	<b>I Itle</b>	Exp Qualification:	<ul> <li>experience in similar urban sector development projects in countries with similar geographic conditions.</li> <li>Knowledge in pressure pipe modeling software is required. ADB or other International funded project implementation experience is desirable.</li> <li>Bachelor's degree in civil Engineering, surveying–or equivalent.</li> <li>Under the supervision of the CRE and ER, the Senior Survey Engineer will be responsible for all construction</li> </ul>
			<ul> <li>Implement proper survey procedures (computational and operational) and related quality control, and accurate &amp; consistent field reporting.</li> <li>The Senior Survey Engineer may not be solely project-based, but may be roving in nature within the Company's local geographical area. In this scenario, the Survey Engineer will visit the Company's major job sites on a regular basis to stay ahead of construction, while ensuring the field supervisory staff is confident that their layout efforts are accurate and timely.</li> </ul>

S/No	Title	Exp	erience, Qualification & Responsibilities
6	Chief Quantity Surveyors	Experience:	15 years relevant experience on preferably urban wastewater infrastructure projects
	96 person-mont each (2 Nos.)	Qualification:	A graduate degree in quantity survey or civil engineering
		Responsibilities:	He/she will be responsible for measurement of all type of quantities and preparation of measurement sheet in accordance with approved drawings for preparing interim and final payment certificates. He/she will be responsible for preparing the Bills of Quantities and the Engineer's Estimates for the individual subprojects. The quantity surveyors shall review detailed estimates for quantities (considering designs and mass haul diagram) and project cost for the entire project (civil works packages wise), including the cost of environmental and social safeguards proposed and market rate for the inputs or the local schedule of rates. The quantity surveyors will ensure correctness of documentation, IPCs and quantities during the construction and confirming the computation and processing of interim payment certificate, producing details of the final bill and total quantities consumed during the project. The quantity surveyors prepare quantitative estimates for any suggested variation with its cost impact on the project. Assist the CRE and others engineers in all quantity related matters.

## B. Project Management, Coordination and Capacity Building (PMCCB)

#### 1. Scope of PMCCB Services

10. The consultant will assist the TPS and PCU with the overall project coordination and management through the relevant agencies at the provincial, and cities level. The consultant will work closely with TPS, PCU, and engineering, procurement, and contract management (EPCM) consultant, PMCCB consultant, and ADB. The consultant will work in Tashkent City on a full-time basis (time-based contract) while international experts are entitled and may work from home based on an agreed arrangement. Specific services to be provided by the consultant includes, but is not limited to are as follows:

- a. assist TPS and PCU in managing the civil works and goods contracts and verifying variation orders issued to the contractors;
- b. control costs, quality and schedule of contractors' works and deliverables;
- c. recommend appropriate mitigation actions when quality of deliverables does not meet the specifications;
- d. define and ensure that implementation of an installation safety process manual is following local regulations, standards and best practices and not in any way conflictive with ADB principles;

- e. fully operationalize and ensure the regular updating of the monitoring and evaluation (M&E) system and the associated software and tools. Produce the necessary reports;
- f. assist the TPS and PCU in implementing the gender action plan (GAP) and public information, education and communication (IEC) program;
- g. assist the TPS and PCU in ensuring that all social and environmental safeguard provisions are met as per the local regulations and the legal/loan covenants;
- h. assist the TPS and PCU in conducting following activities:
  - Preparation of the replies to auditors.
  - Procurement of Contractors
  - Preparation of Procurement and Contract documents
  - Technical & financial evaluations
  - Contract preparation.
  - Contract approval & signing.
  - Review and approval of Feasibility & Design Reports
  - Ensuring monthly targets with quality
  - Ensuring Contractor equipment, material and supervisory staff at site.
  - Daily progress reports.
  - Ensuring specification compliance through quality assurance and quality control.
  - Payments and audit observations
  - Investigation agencies queries.
  - Assets Transfer and associated activities
  - Project completion certificate
  - Mobilization of communities for smooth operation
  - Transfer of land
- Approve and adopt guidelines and a manual for (i) site selection; (ii) feasibility study (including screening tool to ensure no category A, or involuntary resettlement project is funded); (iii) detailed design; (iv) operation and maintenance; (v) procurement; and (vi) screening checklist for climate change mitigation
- Strengthen the system of internal controls to prevent or detect material misstatements on a timely basis, and establish an internal audit function with professional staff.
- Develop an annual internal audit plan that will prepare annual internal audit reports, and to report any deficiencies and weaknesses uncovered during its review of projects system of internal control, and to recommend improvements to mitigate risk.
- Implement and maintain a risk management plan to mitigate fraud and corruption risks. Implementing agency to ensure proper implementation of (i) project design and specification, (ii) project selection, (iii) project costing, (iv) component quality, (v) inspection and validation, (vi) payment requests, and (vii) asset management.
- Develop and implement a proactive policy and practical actions to strengthen the anticorruption system, such as: (i) demonstrate management's commitment, (ii) increase awareness of anticorruption, and (iii) strengthen staff accountability on key decisions and expenditure approval.
- Ensure that process to provide the necessary information to [fill in what gov office or committee here] for all large procurement amounts is followed at every stage as per Government's and ADB guidelines.

- Structure and adopt the program performance monitoring system.
- The system will incorporate the recommendations to ensure all program indicators are effectively monitored and reported on during the entire program.
- Adopt a centralized internet-based M&E system, with access provided to education and health departments, and ADB.
- Submit program progress reports bi-annually to ADB.
- Implement gender mainstreaming strategy and gender action plan for the project and include the implementation progress in the implementing agency's bi- annual monitoring report.
- Community consultations include consultations with women beneficiaries as well on-site selection and project benefits.
- Develop and adopt procedures to register and address grievances regarding environmental and social safeguards; and
- Any documents, ancillary notes and/or reports that may be assigned from time to time at the request of ADB project officer.

Specific duties including but not limited to the following:

## i. Project Start-up and Office Administrations

- a) Assist TPS and PCU to identify, establish and strengthen the TPS and PCU offices and make sure that the offices are safe, secure and conveniently located near to key partners and stakeholders.
- b) Procure necessary supplies and equipment, as approved under the Project, for TPS and PCU in coordination with IA and PCU.
- c) Assist TPS and PCU to maintain office premise standards.
- d) Facilitate initial establishment of the Project Steering Committee (PSC) and thereafter coordinate and conduct regular meetings. Prepare briefing materials on progress and issues and providing general support to the PSC to effectively guide the program's implementation.
- e) Assist the TPS and PCU to procure utility vehicles, maintenance machineries and office equipment through national/international shopping and national competitive bidding procedures.
- f) Assist to establish an effective coordination and project monitoring mechanisms within and between PCU office in Tashkent City and the project site offices.
- g) Maintain effective coordination with all project site offices.
- h) Support TPS and PCU to maintain effective coordination with TPS and respective Suvokovas.

#### ii. TPS and PCU Support

#### • Project Management Support:

- Provide day-to-day support to the TPS and PCU in the overall management of project implementation, involving coordination of activities, monitoring, maintenance of records, certification of works, and progress reporting to relevant authorities.
- b) Assist with the regular review and update of the project administration manual (PAM).

- c) Assist the TPS and PCU in managing procurement activities for civil works, goods and services contracts and progress reporting on procurement activities.
- d) Support the EPCM, TPS and PCU in contract management.
- e) Prepare a schedule / timeline in a recognize software with the mutual consent with TPS and PCU and input all the activities on monthly basis.
- f) Develop a project financial information and accounting system and carry out its operation.
- g) Support TPS and PCU to obtain timely government approvals for the projectrelated matters and documents (e.g., memo, letter, policy and legal documents).
- h) Prepare and update Land Acquisitions and Resettlement Plan (LARP) based on detailed design and assist TPS and PCU in the preparation of regular monitoring reports, and updates to the LARP based on new information, and as required, during project implementation.
- i) Review all contractual documents, drawings and advise the TPS and PCU for inconsistencies/deficiencies and take corrective actions with TPS and PCU approvals.
- j) Convene and attend all meetings required to carry out the services necessary for project activities, including periodic meetings with city TPS / consultants and contractors to review progress, and prepare and distribute copies of the agenda and circulation of the meeting minute records.
- k) Advise and assist the TPS and PCU in establishing and maintaining the most appropriate and effective organizational, fiscal, implementation and management arrangements to ensure successful project implementation.
- Prepare various reports (e.g., regular reports based on agreed format, monthly and quarterly progress reports, mid-term review, in a manner satisfactory to the TPS/PCU and ADB.
- m) Coordinate and monitor the project site offices, ensuring proper and effective unit functioning and take corrective measures where required.
- n) Effectively coordinate with the EPCM and PMCCB consultants on all activities relating to the project, including engineering design, procurement, construction management, operational design, and business management. Ensure that these activities are timely implemented and reported.

#### • Environmental, Social, Gender, Safeguards Support:

- a) Assist the TPS and PCU in the implementation and monitoring of the Resettlement Plan for the affected persons (AP). This includes the preparation of due diligence reports and LARP and monitoring reports.
- b) Provide guidance in the implementation and monitoring of the Environmental Monitoring Plan (EMP), during the pre-construction and construction periods. This also includes to conduct the EIA where required and approval from relevant authorities and preparation of IEE/ EMP and monitoring reports.
- c) Provide support and guidance to TPS and PCU in the implementation and monitoring of the Gender Action Plan (GAP). This includes the preparation of the reports, and undertaking data collection, analysis and reporting, as required.
- d) Organize, supervise and maintain the implementation of the Land Acquisition and Resettlement Framework (LARF).
- e) Prepare additional studies, including socio-economic, technical, environmental, and social safeguards surveys, as the need arise.
  - Capacity Development and Project Communication Support:

- a) Develop and coordinate the implementation for the TPS and PCU in delivering the capacity development component.
- b) Preparation of monitoring and progress reports for the capacity building program in consultation with TPS and PCU.
- c) Assist to provide on-the-job training and guidance to the TPS and PCU staff in the areas such as, project management, customer management, social safeguards, gender mainstreaming, sanitation and hygiene awareness program, public communication and participation component and other related training to ensure successful project implementation.
- d) Support TPS and PCU on various project communication activities (e.g., awareness campaign) implementing the PAM stakeholder communication strategy and media relationship.

#### • Financial Management:

- a) Provide support and guidance in the implementation and monitoring of the Financial Sustainability Action Plan. This includes assistance in the preparation of financial monitoring reports.
- b) Lead to support TPS and PCU in the preparation of disbursement related documents. Provide training to financial and procurement staff in the ADB loan disbursement policies and withdrawal of loan proceeds including the imprest fund procedure (e.g., withdrawal applications, documents for advance fund).
- c) Develop and implement accounting software and provide training on FMS for recording of financial transactions, maintaining proper books of accounts for TPS and PCU.
- d) Prepare and implement strong internal financial control systems as per ADB guidelines.
- e) Work closely with TPS and PCU financial management officers.
- f) Identify, procure, develop, and set up a financial management system (FMS), including project financial information and accounting system to be used during the implementation of the Project.
- g) Elaborate and propose procedures for setting-up and maintaining consolidated project accounts throughout the implementation of the project.
- h) Provide assistance for the preparation of the first annual work plan and budget and of work plan and budget for the subsequent project's years as well as in updating of detailed cash flow projections.
- i) Lead the periodical review of the work plan and budget of the project.
- j) Provide assistance to prepare draft loan withdrawal applications for the payment of eligible project costs and other disbursement related documents.
- Provide assistance to TPS and PCU in preparing terms of reference for auditing all project accounts, recruit project auditor, and following up on the comments/recommendations of the auditor.
- Assist the TPS and PCU in preparing the project financial progress reports as required by ADB; provide required inputs and information necessary for the preparation of periodical progress reports and completion report.
- m) Provide advice on capacity building needs of TPS and PCU staff, review financial management capacity building programs proposed by the suppliers of the FMS software, and provide assistance during the delivery of training sessions.

- n) Liaise with the financial specialists selected for the delivery of training in financial management under the capacity building program and provide relevant inputs and material for training preparation as required.
- o) Monitor project expenditures and supervise the quarterly and annual financial reports during the first Program' year.
- p) Assist and provide support to TPS and PCU to maintain regular book keeping and accounting.
- q) Provide input to TPS and PCU on carrying out review and consolidating monthly financial statements and requests for payment by contractors and service providers and assist the TPS and PCU in the process of approval for payment release.
- r) Undertake financial and economic analysis, as required, of the subprojects.
- s) Effectively coordinate with the PMCCB consultant and assist with the development of a cost of service study and tariff model for water and other municipal services targeting full cost recovery.
- t) Review financial sections of the project documents to ensure that the financial sections conform to the Government's requirements.
- u) Review TPS financial projections and business plan and advise TPS and PCU on how realistic the business plan is, and whether it conforms with the financial requirements of the project documents, and prepare recommendations for the TPS/PCU and ADB's consideration.
- v) At year 2 of the project carry out a review and update the Financial Management Assessment of the EA and TPS.
- w) Provide inputs to quarterly, semi-annual and annual reports as needed.

11. The consulting firm will be selected and engaged using government rules and procedures acceptable to ADB meeting requirements of ADB's procurement related policies, rules and procedures. The project is expected to be effective in [October 2019] and completed by [December 2025]. The consultant is expected to commence in October/November 2019.

12. **Mandatory Staffing Requirement.** As a mandatory requirement, the consulting team shall include the experts described in Table 6 below, for which CVs will be evaluated. Minimum person-month allocations for those experts are also provided in Table 7. The firm is required to propose the actual time allocation and the potential addition of team members. The actual time allocation will depend on the particular methodology and approach being proposed. The required qualifications and experience of mandatory experts, and key tasks they are to undertake are shown in Table 8.

S/No	Expertise Position		Input (Person- months)
Α.	International Experts		
1	Project Team Leader / Project Management Specialist	1	16
2	Financial Management Specialist	1	8
3	Institutional and Services Reforms Specialist	1	8
4	Procurement Advisor	1	8
5	5 Communication Advisor		8
6	Public Participation Advisor	1	4

#### Table 6: Summary of Mandatory Staffing Requirement

S/No	Expertise	Positions	Input (Person- months)
	Sub-Total	6	52
В.	National Experts		
1	Project Management Specialist/DTL	1	18
2	Procurement and Contact Management Expert	2	24
3	Monitoring and Evaluation/ Reporting Specialist	1	12
4	Environment Specialist	1	8
5	Institutional and Services Reforms Specialist	1	8
6	Resettlement Specialist	1	8
7	Gender Specialist	1	8
8	HR and Capacity Building Expert	1	8
9	Planning Engineer (Information Coordination, Scheduling, Planning and Controlling)	2	18
10	Community Outreach Expert	1	2
	Sub-Total	12	114
	Grand Total	18	166

## Table 7: Summary of Indicative Non-Key Staffing Requirement

S/No	Expertise	Indicative Positions	Indicative Input (Person-months)
Α.	International or National Experts to be proposed by the firm		
1	Financial Analyst	1	12
2	Project Scheduling Expert	1	3
3	Budget/Cost Control Expert	2	24
4	Quality and Probity Expert	2	12
5	Customer Service Specialist	1	6
	Grand Total	7	57

## Table 7: Mandatory Key Positions – Qualifications, Experience and Key Tasks

S/No	Title	Experience, Quali	fication & Responsibilities	
	International Exp	International Experts		
1	Project Team Leader / Project Management Specialist (16 pm)	Experience:	Preferably 15 years of international experience in project management/coordination or general management and 10 years should be at senior level and managerial position. The candidate must have demonstrated ability to lead teams composed of international and national consultants and create a strong working relationship with the Client. Excellent communication (written and oral) skills in English and strong inter-personal skills will be considered an asset and Experience in Central Asia will be an added value.	

Qualification:         Bachelor's degree in engineering/ engineering/ management/urban development or equivalent (internationally recognized professional qualification) — preferably Master in engineering/management/urban development or equivalent.           Responsibilities:         He/she will have overall responsibility for the organization, conduct and delivery of consultancy services and reporting to the Client. Team Leader will head the Consultants' team and will work directly to manage the project and will maintain liaison with the Client IA and PCU. Guide the whole team on overall managing the project coordination, monitoring and reporting activities.           Responsibilities:         Assume full responsibility for the consultancy contract.           Base the I/APCU in Project implementation, coordination, monitoring and reporting.           Assume full responsibility for the consulting team and performance of services under the consultancy contract.           Ensure that the consulting team undertakes the overall project management of the sub-projects including timely reporting.           Ensure preparation of detailed and quantitative progress reports to support the project reporting and true picture in terms of progress both physical and financial.           Keep the Client informed of any issues that may delay the implementation and progress of all works both by informal and formal meetings and correspondence and assist in any project issue which the Client may require.           Ensure that the implementation of environment and social safeguards requirements are complete and updated.           Coordinate with other Consultants (EPCM and PMCCB) for timely completion of their inputs and report the same to the Client on t	S/No	Title	Experience Qualit	fication & Responsibilities
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S/No Title	Experience, Quali	fication & Responsibilities
2 Financial Management Specialist (8 pm)	Experience:	Preferably 12 years' international working experience in program/project finance, accounting and financial reporting under ADB and/or another International Donor funded project. Knowledge of Financial Management Systems (FMS) is required. And 5 years' working experience in similar projects in countries with similar geographic conditions is and added value. Experience in financial and economic analysis and tariff setting/regulation of municipal infrastructure and services is required.
	Qualification:	Bachelor's degree with a major in Finance/Accounting/Economics/Management or equivalent – preferably Master's degree in Finance/Accounting/Economics/ Management or equivalent. Under the supervision of the Project Team Leader, the
		<ul> <li>Financial Management Specialist will undertake the following tasks:</li> <li>Work closely with the Project Team Leader to develop the project annual work plans and budget.</li> <li>Support IA and PCU to prepare withdrawal applications and supporting documents for timely disbursements.</li> <li>Support IA and PCU to implement Section 2.09 of the Project Agreement.</li> <li>Work closely with IA/PCU Finance Management Specialist and Accountant.</li> <li>Identify, procure, develop, and set up a financial management system (FMS), including Project financial information and accounting system to be used during the implementation of the Project and further transferred to the Tashkent City province administration.</li> <li>Elaborate and propose procedures for setting-up and maintaining consolidated project.</li> <li>Provide assistance for the preparation of the first annual work plan and budget and of work plan and budget for the subsequent Project's years as well as in updating of detailed cash flow projections.</li> <li>Lead the periodical review of the work plan and budget of the Project.</li> <li>Provide assistance to IA/PCU in preparing terms of reference for auditing all project accounts, recruit project auditor, and following up on the comments/recommendations of the auditor.</li> <li>Assist the IA/PCU in preparing the Project financial progress reports as required by ADB; provide required inputs and information necessary for the</li> </ul>

S/No	Title	Experience Qualit	fication & Responsibilities
<u>S/No</u>	Title	Experience, Qualif	<ul> <li>ication &amp; Responsibilities</li> <li>preparation of periodical progress reports and completion report.</li> <li>Provide advice on capacity building needs of IA and PCU staff, review financial management capacity building programs proposed by the suppliers of the FMS software, and provide assistance during the delivery of training sessions.</li> <li>Liaise with the financial specialists selected for the delivery of training in financial management under the Capacity Building Program and provide relevant inputs and material for training preparation as required.</li> <li>Provide inputs as needed for the preparation of the TOR for the recruitment of consulting services for the implementation Capacity Building Program.</li> <li>Monitor project expenditures and supervise the quarterly and annual financial reports during the first Program' year.</li> <li>Assist IA and PCU to maintain regular book keeping and accounting.</li> <li>Provide input to IA/PCU on carrying out review and consolidating monthly financial statements and requests for payment by contractors and service providers and assist the IA/PCU in the process of approval for payment release.</li> <li>The consultant will undertake financial and economic analysis, as required, of the subprojects.</li> <li>Work with PMCCB consultants to develop cost of service study and tariff model for water and other municipal services targeting full cost recovery.</li> <li>Review financial sections of TPS conform to the Government of Tashkent City and Government of Uzbekistan requirements.</li> <li>Review TPS financial projections and business plan and advise IA/PCU on how realistic the business plan is and if it conforms to financial requirements in the project documents.</li> </ul>
			<ul> <li>At year 2 of the Project carry out a review and update the Financial Management Assessment of the EA and IA.</li> <li>Provide inputs to quarterly, semi-annual and annual reports as needed</li> </ul>
			· · ·
3	Institutional and Services Reform Specialist (8 pm)	Experience:	Preferably 12 years' international working experience in institutional improvement and reform of water or similar public utility companies. Experience in community and communal services institutional analysis and development, particularly in the water supply and sanitation sector is required. Having 5 years' working experience in similar projects in countries with similar geographic conditions will be an added advantage. ADB

S/No	Title	Experience, Quali	fication & Responsibilities
			or other International Donor-funded project
			implementation experience is desirable.
		Qualification:	Bachelor in Development
			studies/Economics/Finance/Administration
			(Business/Public)/Engineering or related field or equivalent, preferably Master in Development
			studies/Economics/Finance/Administration
			(Business/Public)/Engineering or related field or
			equivalent.
		<b>Responsibilities:</b>	Under the supervision of the Project Team Leader, the
			Institutional and Service Reform Specialist will
			undertake the following tasks:
			Work with PMCCB consultants (to be recruited) to
			assess, design, and facilitate corporate
			development as defined in Project Administration
			Manual (PAM).
			• Review and define the institutional structure,
			mandates, staff requirements, and job descriptions
			<ul><li>and qualifications of the company.</li><li>Prepare service standards and key performance</li></ul>
			<ul> <li>Prepare service standards and key performance indicators that are clearly defined and measurable,</li> </ul>
			to be reported by the company.
			• Lead to work with government officials and other
			consultants to implement Financial Sustainability
			Action Plan as included in PAM.
			<ul> <li>Based on staff requirements, assess capacity</li> </ul>
			requirements for staff, and prepare and implement a capacity development program for putting in place
			adequate capacity in IA focusing on technical
			aspects; and co-lead implementation of the
			capacity development program.
			• Develop a monitoring framework for water utilities
			reflecting the service standards and key
			performance indicators, and assist IA in undertaking monitoring and producing reports;
			<ul> <li>Advise TPS administration and other relevant</li> </ul>
			Government stakeholders on international best
			practices for water sector regulation and provide
			specific guidance considering the context of
			Uzbekistan, mainly from a technical viewpoint.
			<ul> <li>Suggest suitable changes aimed to render IA more autonomous operationally and financially and to</li> </ul>
			incentivize and its district branches to improve
			operating efficiency.
			• PS the Capacity Building Program and provide
			support with specific examples and eventually
			participating to selected workshops sessions;
			<ul> <li>Provide inputs to periodic and annual reports, as required</li> </ul>
			<ul><li>required.</li><li>Other works including: Establishing new municipal</li></ul>
			<ul> <li>Other works including. Establishing new multicipal companies – organization structure, staffing,</li> </ul>
			salaries, hiring, training, etc.; Developing new
			municipal companies' business plan - Institutional

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>Development aspects; and Building capacity for new municipal companies' structure, staffing, salaries, hiring, training, etc.</li> <li>Assist the identification of revenue requirements to assist the tariff modelling activity.</li> </ul>
4	Procurement Advisor (8 pm)	Experience and Qualification:	Bachelor Degree in a relevant discipline and an internationally recognized professional qualification.
			At least 10 years' experience in procurement, including in public sector enterprises, with assignments in developing countries and on projects funded by ADB or other international donors.
			Through knowledge of ADB or other international donor's procurement requirements.
		Responsibilities:	<ul> <li>Demonstrated client liaison and capacity building skills.</li> <li>This advisor trains EA/IA/PCU Procurement staff and provides expertise on the following:</li> <li>International (FIDIC/ADB) Procurement for all IA/PCU/PCUs, following ADB procurement guidelines;</li> </ul>
			Evaluation of bids; and     Indeting as required of the Broouroment Plan
			<ul> <li>Updating as required of the Procurement Plan</li> </ul>
5	Communication Advisor (8 pm)	Experience and Qualification:	Master Degree in a relevant discipline and an internationally recognized professional qualification.
5			
5	Advisor		internationally recognized professional qualification. At least 10 years' experience in communication, including for any urban utility company, and assignments in developing countries. Demonstrated client liaison and capacity building skills.
	Advisor (8 pm)	Qualification: Responsibilities:	<ul> <li>internationally recognized professional qualification.</li> <li>At least 10 years' experience in communication, including for any urban utility company, and assignments in developing countries.</li> <li>Demonstrated client liaison and capacity building skills.</li> <li>The international communication specialist supports the Team Leader in all activities, with specific responsibility for production of the Communication Plan and communication tools such as the Project Website and the Project Promotional Video.</li> </ul>
6	Advisor	Qualification:	internationally recognized professional qualification. At least 10 years' experience in communication, including for any urban utility company, and assignments in developing countries. Demonstrated client liaison and capacity building skills. The international communication specialist supports the Team Leader in all activities, with specific responsibility for production of the Communication Plan and communication tools such as the Project Website and
	Advisor (8 pm) Public Participation	Qualification: Responsibilities: Experience and	internationally recognized professional qualification. At least 10 years' experience in communication, including for any urban utility company, and assignments in developing countries. Demonstrated client liaison and capacity building skills. The international communication specialist supports the Team Leader in all activities, with specific responsibility for production of the Communication Plan and communication tools such as the Project Website and the Project Promotional Video.
	Advisor (8 pm) Public Participation Advisor	Qualification: Responsibilities: Experience and	<ul> <li>internationally recognized professional qualification.</li> <li>At least 10 years' experience in communication, including for any urban utility company, and assignments in developing countries.</li> <li>Demonstrated client liaison and capacity building skills.</li> <li>The international communication specialist supports the Team Leader in all activities, with specific responsibility for production of the Communication Plan and communication tools such as the Project Website and the Project Promotional Video.</li> <li>Master Degree in a relevant discipline and an internationally recognized professional qualification.</li> <li>At least 10 years' experience in communication, including for any urban utility company, and</li> </ul>

S/No	Title	Experience, Qualit	fication & Responsibilities
	<b>National Experts</b>		
1	Project Management Specialist / DTL (18 pm)	Experience: Qualification:	Preferably 12 years' experience in project management/coordination or general management and 8 years should be at senior level and managerial position. The candidate must have demonstrated ability to lead teams and create a strong working relationship with the Client. Excellent communication (written and oral) skills in English and strong inter-personal skills will be considered an asset. Bachelor's degree in engineering/ engineering management/general management/urban development or equivalent (internationally recognized professional qualification) – preferably Master in engineering/management/urban development or equivalent.
		Responsibilities:	<ul> <li>Under the direct supervision of the Project Team Leader, the Project Management Specialist / DTL will undertake the following tasks but is not limited to the following:</li> <li>Support the TL in assisting the IA/PCU in Project implementation, coordination, monitoring and reporting.</li> <li>Support the TL in assuming full responsibility for the consulting team and performance of services under the consultancy contract.</li> <li>Support the TL in to ensure that the consulting team undertakes the overall project management of the sub-projects including timely reporting.</li> <li>Support the TL to ensure preparation of detailed and quantitative progress reports to support the project reporting and true picture in terms of progress both physical and financial.</li> <li>Support the TL in keeping the Client informed of any issues that may delay the implementation and progress of all works both by informal and formal meetings and correspondence and assist in any project issue which the Client may require.</li> <li>Support the TL in coordination with other Consultants (EPCM and PMCCB) for timely completion of their inputs and report the same to the Client.</li> <li>Support the TL in collaboration with the procurement specialists to make sure that the bidding documents are prepared in accordance with ADB procurement guidelines and standard bidding documents and update the Client on the overall progress of procurement activities.</li> </ul>

S/No	Title	Experience. Qualit	ication & Responsibilities
			<ul> <li>Support the TL to elaborate a set of performance parameters to be used for monitoring the performance of the all components.</li> <li>Support the TL in providing recommendation to the Client on any early warnings that may delay the overall project activities or any specific sub-projects activities.</li> <li>Act as an acting TL in absence of the team leader.</li> </ul>
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2	Procurement and Contract Management Expert (24 pm) (2 experts)	Experience: Qualification:	<ul> <li>Preferably 12 years' experience in a Procurement and contract management major civil works and goods project. Proven credentials in procurement management and knowledge of ADB or other MDBs will be an added advantage.</li> <li>Bachelor's degree with a major in Civil Engineering, law, contracts, purchasing, business, management or equivalent – preferably Master's degree in Civil</li> </ul>
			Engineering, law, contracts / procurement, management or equivalent. Under the direct supervision of the Project Team Leader, the Procurement Expert will undertake the following tasks but is not limited to the following:
			<ul> <li>Provide support in coordination of preparation of the bidding documents in close coordination with the IA/PCU procurement specialists for the procurement of goods and works and make sure that such documents are in accordance with ADB Procurement Guidelines (April 2015 and as updated from time to time);</li> <li>The consultant will prepare in preparation of the procurement plan for the identified subprojects and coordinate the preparation of procurement documents/tendering and bidding documents for procurement of subproject (goods and civil work both) related to all sector (water, wastewater, solid waste, urban roads and equipment;</li> <li>Assist the IA/PCU to carry out procurement progress reporting and annual review of the Procurement Plan;</li> <li>Liaise with the Expert responsible for Procurement under the "Capacity Building" component of the Procurement Plan</li> <li>Assist the IA/PCU to carry out annual review of the Procurement Plan</li> <li>Assist the IA/PCU to carry out annual review of the preparation of the training modules.</li> <li>Assist the IA/PCU procurement specialist and the bid evaluation committee in the coordination for the bidding process for the procurement of works and goods; assist for; (a) the preparation and publication of invitations to bid, (b) answers to bidders' queries, (c) evaluation reports;</li> </ul>

S/No	Title	Experience, Quali	ication & Responsibilities
		,	<ul> <li>Assist in coordination for organizing, bidder site</li> </ul>
			visits, if applicable;
			Assist to procure office vehicles, supplies and
1			equipment;
			<ul> <li>Work together with the IA/PCU and EPCM</li> </ul>
			procurement specialists to coordinate the
			processes of obtaining no-objection from the ADB,
			during the bid evaluation and for bid evaluation reports;
			<ul> <li>Manage all procurement processes, procurement,</li> </ul>
			bidding, claims, tendering, in
			• He will be responsible implementation of rules and
			procedures as per ADP or local guidelines.
			• Work together with the IA/PCU project director for
			the preparation of the necessary documentation for
			contract signing and consultant and contractor mobilization;
			<ul> <li>Provide inputs to periodical and annual reports as</li> </ul>
			required.
			• Experience and knowledge of ADB's procurement
			procedures is essential. He/she will be responsible
			for assisting the client in all procurement reporting
			and progress matters.
3	Monitoring and	Experience:	Preferably 12 years as M&E specialist/ reporting
Ŭ	Evaluation/	Experience.	specialist for major infrastructure projects with proven
	Reporting		experience in monitoring, coordination, evaluation and
	Specialist		reporting. Experience in ADB or other donor agencies is
	(12 pm)	Qualification:	an added advantage.
		Qualification:	Bachelor's Degree in Statistics/Engineering/Management or equivalent –
			preferably Master in
			Statistics/Engineering/Management or equivalent.
			Under the supervision of the Project Team Leader,
			He/she will be responsible for:
			<ul> <li>Development of the Program Performance</li> </ul>
			Monitoring System (PPMS) in accordance with
			IA/PCU and ADB requirements.
			Development of monitoring procedure for different
			parameters in PPMS.
	1		<ul> <li>Reporting the performance of projects according to</li> </ul>
			the parameters in the PPMS
			<ul> <li>the parameters in the PPMS.</li> <li>Maintaining a calendar of M&amp;E activities.</li> </ul>
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			<ul> <li>Maintaining a calendar of M&amp;E activities.</li> <li>Preparation of periodic Monthly &amp; Quarterly Reports.</li> </ul>
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			<ul> <li>Maintaining a calendar of M&amp;E activities.</li> <li>Preparation of periodic Monthly &amp; Quarterly Reports.</li> <li>Supporting staff &amp; IA and PCU in preparation of progress reports.</li> <li>To work closely with other specialists of IA and PCU to provide M&amp;E guidance and feedback.</li> </ul>
			<ul> <li>Maintaining a calendar of M&amp;E activities.</li> <li>Preparation of periodic Monthly &amp; Quarterly Reports.</li> <li>Supporting staff &amp; IA and PCU in preparation of progress reports.</li> <li>To work closely with other specialists of IA and PCU</li> </ul>

S/No	Title	Experience, Qualit	fication & Responsibilities
4	Environmental Specialist (8 pm)	Experience:	Preferably 12 years' experience in designing, implementation, and monitoring of environmental monitoring plan. Knowledge of ADB environmental policy and experience with the application of ADB environmental guidelines is required. 5 years' working experience in similar projects in countries with similar geographic conditions. And excellent verbal and written communication skills in English. ADB or other International Donor-funded project implementation experience is desirable. Bachelor in Natural or Environmental sciences/Civil
			Engineering /Environmental Engineering or equivalent, preferably Master in Environmental sciences/Civil Engineering /Environmental Engineering or equivalent.
		Responsibilities:	<ul> <li>Under the supervision of the Project Team Leader, the Environmental Specialist will undertake the following tasks:</li> <li>Provide the necessary inputs for the implementation of the EMP using the compliance monitoring checklist included in the project IEE.</li> <li>Provide inputs to the IA/PCU Social and Environmental Specialist to supervise the precommissioning baseline monitoring following the Mitigation and Monitoring guidelines provided in the IEE.</li> <li>Organize analysis of water, air and soils as specified in the EMP.</li> <li>Monitor and report on effectiveness of management of waste proceeding from the dismantling of components of the existing and of the water distribution centers (WDC) being rehabilitated paying attention to the handling of removed debris until disposal or recycling and landscaping.</li> <li>Propose and elaborate reporting formats to be further used by the IA/PCU Social and Environmental Specialist make sure that results of monitoring are reported in quarterly, bi-annual, annual reports and in the Project completion report for submission to the IA, PCU and ADB, as required.</li> <li>Provide inputs to the IA/PCU in dealing with contractors for the implementation of the EMP and supervise the compliance of the Contractor in implementing the Environmental Monitoring Plan (EMP), during the pre-construction and construction periods. This also includes to conduct the EIA where required and approval from relevant authorities and preparation of IEE/ EMP and monitoring reports</li> </ul>

S/No	Title	Experience, Qualit	fication & Responsibilities
			<ul> <li>Prepare specifications to be included in the Bills of quantities (BOQ) for Contractors which will oversee:         <ul> <li>i) carrying out the EMP as specified in the IEE, and</li> <li>ii) conduct environmental monitoring including measurements and observations on dust and air pollution during construction in accordance with the Quarterly Compliance Monitoring Checklist for Contractor.</li> </ul> </li> <li>Assist the IA/PCU in dealing with the road Police Department for the preparation of traffic emergency plans and temporary deviations of traffic during construction.</li> <li>Provide guidance to the design and build contractor to prepare a sludge management plan of the new 6 months before commissioning of the Plant; open a dialog with and involve IA to endorse due responsibility for environmentally compatible management of the STP.</li> <li>Prepare a methodology and a checklist review for supervision of the EMP completion and relevant report to be prepared by Contractors and assist IA and PCU to obtain timely such reports.</li> <li>Provide inputs and methodology to IA/PCU to: i) prepare and maintain a grievance redress mechanism, ii) establish a grievance redress committee (GRC), and iii) carry out monitoring on effectiveness; make sure that: (i) GRC will have strong female representation, and (ii) the grievance process is implemented effectively, according to the plan and schedule in the IEE.</li> <li>Prepare additional studies including social-economic, topographical, technical, environmental, and social safeguards surveys, as the needs arise.</li> <li>Provide inputs to periodic and annual reports as applicable.</li> </ul>
5	Institutional and Services Reform Expert (8 pm)	Experience and Qualification:	Master Degree in a relevant discipline and an internationally recognized professional qualification. At least 15 years' experience in institutional development, including assignments in developing countries and on projects funded by ADB/IFI.
		Responsibilities:	Demonstrated client liaison and capacity building skills. Assist Institutional and Services Reform Advisor in:
			<ul> <li>Establishing new municipal companies – organization structure, staffing, salaries, hiring, training, etc.;</li> <li>Developing new municipal companies' business plan – Institutional Development aspects; and</li> <li>Building capacity for new municipal companies' structure, staffing, salaries, hiring, training, etc.</li> </ul>

S/No	Title	Experience, Quality	fication & Responsibilities
6	Resettlement Specialist (8 pm)	Experience:	Preferably 12 years' overall experience as a Resettlement Specialist/ Social Safeguard Expert on major infrastructure projects. Preferably of 5 years' work experience in land acquisition and involuntary resettlement. Knowledgeable and up-to-date knowledge of laws and regulations of Uzbekistan on land acquisition and compensation and related activities. Knowledge in Safeguard Policy Statement of ADB 2009 is required. Experience in implementation of LARP for ADB or other International Donor-funded projects in Uzbekistan is required. Excellent verbal and written communication skills in English. ADB or other International Donor-funded project implementation experience is desirable.
		Qualification:	Bachelor's degree with a major in social sciences, sociology or anthropology or equivalent – preferably Master's degree in social sciences, sociology or anthropology or equivalent.
		Responsibilities:	Under the supervision of the Project Team Leader, the Environmental Specialist will undertake the following tasks:
			<ul> <li>Prepare and update where required all the LARP related data, activities and reports.</li> <li>Developing the land acquisition and resettlement plan (LARP) for all subprojects related all sector</li> </ul>
			<ul> <li>where resettlement or land or any other asset of the public is being acquired for the project. The ADB safeguard policies and guidelines will be followed in addition to the local laws related to resettlement and land acquisition. The consultant will also prepare safeguards due diligence reports for all subprojects.</li> <li>Preparation of data base of all the affected</li> </ul>
			<ul><li>households and their eligibility and entitlement based on the final LARP.</li><li>Assist in disbursement of compensation and</li></ul>
			<ul> <li>assistance and ensure that affected persons are compensated as per the LARP before commencement of civil works in relevant section.</li> <li>Review, monitor and evaluate the effectiveness with which the LARP is implemented, and recommend necessary corrective actions to be</li> </ul>
			<ul><li>taken. Advise on corrective measures where necessary to the IA/PCU.</li><li>Work with the IA/PCU to establish a system to monitor social safeguards of the project and</li></ul>
			<ul> <li>parameters of safeguards.</li> <li>Take proactive action to anticipate the potential resettlement requirements of the project to avoid delays in implementation.</li> </ul>
			<ul> <li>Prepare procedures to document and record the grievances and sensitize the IA/PCU on the</li> </ul>

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>grievance redress mechanism which includes the notification, arranging the GRC meetings and recording the grievance in a data base.</li> <li>Assist IA/PCU in monitoring the implementation of land acquisition in the Project.</li> <li>Design a LARP monitoring report template and develop monitoring indicators</li> <li>Consolidate/ prepare, with assistance from IA/PCU and semi-annual social monitoring and due diligence reports.</li> </ul>
7	Gondor	Exporionco	Proforably 12 years' experience of working on gonder
7	Gender Specialist (8 pm)	Experience:	Preferably 12 years' experience of working on gender issues and training and capacity building in projects of social sectors including water and sanitations. Having direct experience in nongovernment organizations, government agencies and research institutes in Uzbekistan, with direct involvement in the development and implementation of gender mainstreaming features in development projects.
		Qualification:	Bachelor's degree in gender studies/sociology/social sciences or equivalent – preferably Master in gender studies/sociology/social sciences or equivalent.
		Responsibilities:	Responsibilities will include but not limited to the following:
			<ul> <li>The consultant will assist the IA and PCU in identifying scope for gender mainstreaming and assist in implementation and monitoring of Gender Action Frameworks.</li> <li>Review gender action plan (GAP), social poverty reduction and sector strategy, C&amp;P plan, and other social development documents prepared during the project preparatory technical assistance.</li> <li>Orient IA, PCU in assuring clear understanding of project schedule and respective roles and responsibilities in GAP implementation and other social development activities.</li> <li>Establish an effective monitoring and reporting system based on sex-disaggregated data collected during public consultation and obtained from implementation team, IA and its district branches, contractors and other parties, including trainers who will provide community hygiene promotion and sanitation awareness trainings.</li> <li>Carry out the gender analysis of subprojects and ensure project are gender sensitive and addresses gender concern and needs of women.</li> <li>Training of IA and PCU staff and other Consultants deputed staff on gender areas on continues basis and prepare training and communication material in local language;</li> <li>Implement the GAP with support of IA and PCU and update the GAP regularly</li> </ul>

S/No	Title	Experience, Qualit	fication & Responsibilities
			<ul> <li>Ensure that the GAP monitoring report is included in the quarterly reports to IA/PCU/IA and ADB.</li> </ul>
8	HR and Capacity Building Expert (8 pm)	Experience and Qualification:	Master Degree in a relevant discipline and an internationally recognized professional qualification.
			At least 10 years' experience in HR and capacity building, including for any urban utility company.
			Sound knowledge of the local business executive labor market, and of government of Tashkent City (including new municipal companies) institutional arrangements.
		Responsibilities:	This expert will be in charge of "head hunting" and recruiting from the local market all municipal companies' staff, including high level management.
			He will also assist the international institutional development Advisor in designing the capacity building program and will be responsible for the implementation
			of the same, coordinating inputs from all team members.
	·	·	
9	Planning Engineer (Information, Coordination, Scheduling,	Experience:	Preferably 12 years' experience as Project Coordinator/ M&E specialist in infrastructure projects. Knowledge and experience of information sharing, and coordination is desired. Experience in ADB or other donor agencies is an added advantage.
	Planning and Controlling) (18 pm) (2	Qualification:	Bachelor's degree in Civil Engineering/ Engineering management or equivalent – preferably Master in Engineering Management or Planning or equivalent.
	experts)	Responsibilities:	He/she will be responsible for:
			<ul> <li>The overall project coordination and information sharing through reports, updates and meeting arrangements.</li> </ul>
			<ul> <li>Development of the Program information sharing tool and assist in designing the</li> </ul>
			Performance Monitoring System (PPMS) in accordance with IA/PCU and ADB requirements and DMF monitoring and
			<ul> <li>implementation.</li> <li>Coordinate with the team on the individual work plans and their monitoring and intimation on</li> </ul>
			<ul><li>possible updating when required.</li><li>Support in preparation of periodic Monthly &amp;</li></ul>
			<ul> <li>Quarterly Reports.</li> <li>Provide early warnings on the areas where improvements are required both at individual</li> </ul>
			<ul> <li>level and project level.</li> <li>Supporting staff &amp; IA and PCU in preparation of progress reports, presentations and updates.</li> </ul>

S/No	Title	Experience, Quali	fication & Responsibilities
			<ul> <li>Any other relevant task assigned by the TL or the Client</li> <li>Assist/prepare the M&amp;E specialist and TL in technical progress reporting.</li> <li>Assist TL in daily day to day activity reporting.</li> <li>Support the TL in technical aspects of the project at the field level.</li> <li>Assist IA/PCU/IA in day to day subprojects progress reporting.</li> <li>Raise early warnings of any hurdles during the execution of the project.</li> <li>Liaise with the supervisory consultants on daily progress and reporting.</li> <li>Any other task assigned by the TL.</li> </ul>
10	Community Outreach Expert (2 pm)	Experience and Qualification:	<ul> <li>Bachelor Degree in a relevant discipline and an internationally recognized professional qualification.</li> <li>At least 10 years' experience in working with local communities and civil society organizations.</li> <li>Through knowledge of local communities and civil society organizations, and of processes for community outreach.</li> </ul>
		Responsibilities:	The national expert will assist the international Advisor for all tasks related to Public Participation listed above, particularly in identifying and liaising with local communities and civil society organizations. He will be responsible for defining a public participation strategy, and for organizing meetings with local communities and civil society organizations to collect important feedbacks to incorporate into the project design.

#### C. Due Diligence Consultants

12. In general, the individual consultants (international with the support of national expert) shall perform the following key tasks:

#### 1. Social (Involuntary Resettlement) Specialist

- Prepare the Land Acquisition and Resettlement Plan (LARP) based on the detailed design and the project Land Acquisition and Resettlement Framework (LARF) developed under the TRTA;
- Organize, supervise and maintain the implementation of the approved LARP; and
- Assist TPS/PCU in the preparation of regular LAR implementation monitoring reports, and update the LARP based on new information, and as required, during project implementation.

## 2. Social (Poverty and Gender) Specialist

- Provide support and guidance to TPS and PCU in the implementation and monitoring of the Gender Action Plan (GAP); and
- Carry out any additional social impact assessments based on the detailed design, and if found necessary, and conduct relevant social surveys and public consultants for the assessments. This also includes the preparation of the reports, and undertaking data collection, analysis and reporting, as required, when the need arise.

## 3. Environmental Specialist

- Provide guidance in the implementation and monitoring of the Environmental Monitoring Plan (EMP), during the pre-construction and construction periods. This also includes to conduct the Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) where required and in accordance with ADB guidelines;
- Preparation of additional IEE/EIA and update the EMP (as required); and
- Assist the TPS/PCU in the preparation of regular EMP monitoring reports, and update the IEE/EIA based on new information, and as required, during project implementation.

## 4. **Financial Economic Specialist**

- Prepare additional project financial analysis and socio-economic assessments based on the detailed design and additional project scope (if any), as the need arise.
- Assist the TPS/PCU in the preparation of regular project monitoring reports, and update the financial economic indicators based on new information, and as required, during project implementation.