



TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)

(Directorate of Urban Development)

5th Floor, UD Bhawan, Sakuntala Road, near Rabindra Bhawan

Agartala, Tripura (W), PIN Code: 799001

Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

INVITATION FOR SUBMISSION OF EXPRESSION OF INTEREST (EOI) FOR

Procurement of Consulting Firm as

PROJECT MANAGEMENT & SUPERVISION CONSULTANT (PMSC)

Issuing Date: 02/09/2023

India: Tripura Urban & Tourism Development Project (TUTDP) in Tripura

ADB Project Number - 11601(PPRID)

1. The Government of India has requested assistance under the proposed “Tripura Urban & Tourism Development Project (TUTDP)” from Asian Development Bank, hereinafter referred to as ADB; towards the cost of “Tripura Urban & Tourism Development Project (TUTDP)” for Urban Local Bodies (ULBs) in Tripura and for selected tourist destinations in Tripura under ensuing ADB loan is being used for eligible payments under the Consulting Services named above.

2. The Project Management Unit (PMU) of Tripura Urban Planning and Development Authority (TUDA) & Tripura Tourism Development Corporation Limited (TTDCL) - the implementing agency (IA-1 & IA-2) is the “Employer” headed by the Project Director, PMU (TUDA & TTDCL) acting for the Urban Development Department (UDD), the Executing Agency (EA) for the stated “Tripura Urban & Tourism Development Project (TUTDP)” and invites “Expression of Interest (EOI)” from reputed and experienced consultancy firms/organisations having extensive technical and working experience in Urban Infrastructure including water supply, roads, drainages, septage/sanitation/Waste management and Tourism destination development & Tourism promotion related works to procure consulting services contract package/assignment to be executed. This EOI invitation is for Project Management & Supervision Consultant (PMSC) to support Municipal reforms and capacity of ULBs Strengthening, Urban Infrastructure improvement, Tourist destinations improvement, capacity of Tourism Corporation’s operational services improvement and supervision in execution of the work under the project.

Assignment Number	Name of the Assignment
TUTDP-TRI/TUDA/PMSC-01	Project Management & Supervision Consultant (PMSC)

3. Interested firms/organizations should submit their EOI on or before 09/10/2023, 15:00 Hrs. The details of Terms of References (TOR) are available at ‘Consultant Selection Recruitment Notice (CSRN)’ of www.adb.org and <https://udd.tripura.gov.in> and <https://tuda.tripura.ind.in>. EOIs submitted in other than the EOI standard template will be considered as non-responsive and will not be evaluated. EOI standard template can be downloaded only from ADB website (<https://www.adb.org/documents/recruitment-firms-individual-consultants-executing-agencies>).

4. The details of the consulting assignment/package are:

Start Date of Publication of EOI on ADB CSRN:	02/09/2023
Time and Deadline for Issuing TOR:	15:00 Hrs IST, 02/09/2023
Time and Deadline for Submitting EOI:	15:00 Hrs IST, 09/10/2023 [17:30 Hrs Manila Time for EOI Submission on ADB website]
Duration of Assignment (in months):	48 (forty eight)
Tentative Commencement Date of Consulting Services:	1 st April 2024
Anticipated Completion Date of Consulting Services:	31 st March 2028
Types of Consultants:	Firms/Organizations (JV/Associations) allowed
Number of Consulting Assignment/Package:	1(One), No. : TUTDP-TRI/TUDA/PMSC-01
Selection Method:	Quality & Cost Based Selection (QCBS-90:10)

5. Under no circumstances will the ADB, and UDD and TUDA and TTDCL, Government of Tripura be responsible for any cost incurred in submission of the EOI.

6. The procurement entity reserves the right to accept or reject any or all EOIs.

Office of the Project Director,
Project Management Unit (PMU)[ADB Assisted Project – TUTDP]
Tripura Urban Planning and Development Authority (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

Sd/-
Project Director, PMU
(TUDA)
UDD, Government of Tripura



**India: Tripura Urban & Tourism Development Project (TUTDP)
in Tripura
ADB Project Number - 11601(PPRID)**

**TRIPURA URBAN PLANNING & DEVELOPMENT AUTHORITY
(TUDA)
Urban Development Department, Government of Tripura**

**INVITATION FOR SUBMISSION OF EXPRESSION OF INTEREST (EOI) FOR
RECRUITMENT OF CONSULTING FIRM AS
PROJECT MANAGEMENT & SUPERVISION CONSULTANT
(PMSC)
TERMS OF REFERENCE (TOR)**

TUTDP-TRI/TUDA/PMSC-01

Employer:
**Project Management Unit (PMU),
Tripura Urban Planning and Development Authority,
Urban Development Department, Government of Tripura**

Issuing Date: 02/09/2023

Represented by:
The Project Director
Project Management Unit (PMU)
Tripura Urban Planning and Development Authority

Office of the Project Director,
Project Management Unit (PMU) [ADB Assisted Project – TUTDP]
Tripura Urban Planning and Development Authority (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
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Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

Country: INDIA

TERMS OF REFERENCE (TOR)
for
Recruitment of Consulting Firm (National) as
PROJECT MANAGEMENT & SUPERVISION CONSULTANT (PMSC)
Consulting Package No. TUTDP-TRI/TUDA/PMSC-01
to support PMU (TUDA & TTDCL),
Urban Development Department & Tourism Department,
Government of Tripura
under ADB-Assisted Project - TUTDP

Date of Publication : 02/09/2023
ADB Project Number : 11601(PPRID)
ADB Project Title : India: Tripura Urban & Tourism Development Project (TUTDP) in Tripura

I. Project Background

1. The state of Tripura is in north-eastern India. The state's economy is characterized by geographical isolation, yet the Tripura state, due to its unique location, has significant potential for tourism. The challenges in the state of Tripura are its geographical location, lower per-capita income, inadequate infrastructure capacities, communication bottlenecks, underutilized industrial potential, etc.¹

2. Inadequate urban infrastructure and low institutional capacity of ULBs have impeded economic growth in major towns in Tripura. Of its 20 ULBs, there are one Municipal Corporation, thirteen Municipal Councils, and six Nagar Panchayats (Town Councils). The Tripura Urban Planning and Development Authority (TUDA), under the Urban Development Department (UDD), is the nodal agency for urban infrastructure initiatives in the state. In terms of service provision, the average population covered by piped water supply in the 20 ULBs is 42% and the quantity of water in the slum areas is insufficient and far below the Indian public health standard. Water supply is intermittent with a duration usually ranging from 4 to 6 hours per day. In Tripura, there is no sewerage system in any of the project² towns and most of the houses have adopted onsite sanitation by constructing a septic tank. Effluent from septic tanks is discharged mostly to surface drains and/or open fields, or water bodies, and very few into soak pits.

3. The economic development of the state and employment generation through tourism development is not sufficiently tapped, as the last mile connectivity is lacking to raise tourist demands and access. Tripura has Buddhist pilgrimage sites, palaces, traditional art, music, and unique handicrafts; however, tourism has been hindered by inadequate infrastructure and unorganized and unplanned activities. South Asia Sub-regional Economic Cooperation has recognized the need to promote the sub region as a unique tourism destination and identified two product-specific programs that focus on the

¹ Government of Tripura, Directorate of Economics & Statistics Planning (Statistics) Department. 2017. [Economic Review of Tripura 2017-18](#). Agartala.

² Tripura Urban and Tourism Development Project (TUTDP).

themes of “Buddhist circuits” and “ecotourism based on nature and culture.” The Department of Tourism issued the policy, which covers 2020–2025, as a guiding document to promote Tripura as a premier tourism destination. The state has designated the Tripura Tourism Development Corporation Limited (TTDCL) as the nodal agency for tourism development. Improving regional tourism circuits across borders will require cooperation not just with respective state governments to offer a seamless experience for tourists, but among various infrastructure departments within the state government. State tourism agencies have competed among themselves to attract domestic and foreign travelers, and in isolation from other vital agencies, such as roads, power, water supply, forestry, customs, and police. This project will provide chances for the tourism department to work with urban department in planning and implementing hard infrastructure development under a joint project initiative and design.

4. In 2020, the ADB approved the Tripura Urban and Tourism Development Preparation facility, a project readiness financing (PRF) loan amounting to \$4.21 million, to prepare this ensuing project in urban and tourism sectors in an integrated manner. The purpose of the PRF loan was to prepare investment ready urban and tourism infrastructure projects in Tripura. Two project design and management consultant firms (PDMC) for urban and tourism components were selected in 2021 by Tripura Urban Development Authority (TUDA) and Tripura Tourism Development Corporation Limited (TTDCL) respectively. The two PDMCs have prepared the design of investment ready integrated urban and tourism infrastructure subprojects/project(s). A new ADB loan to finance the implementation of Tripura Urban and Tourism Development Project (TUTDP) is under processing, bidding for works has begun. A **Project Management and Supervision Consultant (PMSC) is to be selected to assist TUDA and TTDCL** in project implementation and management. These terms of reference further detail the scope, tasks, and arrangements.

5. The proposed Asian Development Bank (ADB) financed loan (the project) will improve the municipal infrastructure and public services and will lay the foundation for tourism development in the State of Tripura. Tripura is in the North East Region (NER) of India, covering an area of 10,490 square kilometers, with a population of 4.1 million (estimated 2022), and Agartala as the state's capital. The project targets key urban local bodies (ULBs) along the North East Economic Corridor, major infrastructure components of which include water supply, storm water drainage, communal or municipal roads, and tourism development support.

6. The PMSC consulting firm is tentatively expected to be mobilized from April 2024. The PMSC is to be recruited to support TUDA and TTDCL respectively for urban and tourism components implementation and management. **Another main task would be to support TUDA and TTDCL in preparing and processing next proposed loan from ADB for urban and tourism components (possibly in 2025-26).**

7. The PMSC will work in close coordination with the designated personnel of the following stakeholders for the consulting activities/tasks:

- (i) Implementing Agency (IA) - Tripura Urban Planning & Development Authority(TUDA), U D dept, Government of Tripura;
- (ii) Implementing Agency (IA) - Tripura Tourism Development Corporation Limited(TTDCL), Department of Tourism, Government of Tripura;
- (iii) Executing Agency (EA)–Urban Development Department (UDD), Government of Tripura;

- (iv) The state's Department of Tourism, empowered committee on tourism, and state tourism promotion council/district tourism promotion councils, etc., as applicable;
- (v) Other stakeholders from district headquarters/urban local bodies/village panchayats etc., that would be relevant in terms of jurisdiction for land ownership/administrative aspects, as a clearance authority, as various infrastructure providers, etc., as applicable;
- (vi) Any existing consultants, proposed/ procurement-in-pipeline consulting firm(s) and/or individual consultants as sector experts, appointed by the state separately, related to the integrated urban infrastructure sector and tourism sector works either through government funds or under the proposed new loan;
- (vii) Central agencies–North Eastern Council, Ministry of Development of North Eastern Region, Ministry of Housing and Urban Affairs etc., as applicable;
- (viii) Asian Development Bank; and
- (ix) With any other agency/authority as delegated by the EA, IA and ADB.

II. Project Description

8. The project is aligned with the following impact(s): clean and sustainable environment in ULBs achieved, and Tripura increasingly recognized in the India tourism industry as a new destination. The project will have the following outcome: Adequate, safe, and climate- and disaster-resilient, urban services (water, storm drainage, and municipal roads) provided and sustainable tourism improved in project areas. The intended project outputs are as follows.

9. **Output 1:** Municipal reforms and capacity of ULBs strengthened. The project will strengthen (i) the capacity of technical staff in project management and operation and sustainable maintenance (O&M) of urban infrastructure; (ii) ULB own-source revenue generation, financial management and accounting reforms; (iii) advisory support for city-wide inclusive sanitation for ULBs that complements government financing scheme; (iv) integration of climate change and disaster resilience in urban planning with universal design consideration, and gender equality and social inclusion (GESI) analysis and (v) support to developing building regulations and building byelaws for the state.

10. **Output 2:** Urban infrastructure improved. The project will improve various public infrastructures, such as (i) water supply, (ii) storm water drainage, and (iii) municipal roads.

11. **Output 3:** Tourist destinations improved. The project will strengthen public infrastructure that is vital for ecotourism such as (i) tourism destination development with climate resiliency and green infrastructure retrofitting; (ii) museum development at the Neermahal Palace (iii) improved tourist accommodation and family-oriented Adventure Park; and (iv) Tourism related goods and equipment for selected tourism destinations.

12. **Output 4:** Capacity of tourism corporation's operational services improved. Tripura tourism through TTDCCL will (i) develop a 10-year business plan including marketing and coordination with the private sector (including exploring outsourcing and O&M of tourism facilities and assets for local business, small and medium enterprise opportunities for women), (ii) demonstrating community-based tourism development (iii) stakeholder

tourism capacity and skill development program, (iv)marketing and tourism promotion activities.

13. Works and goods and their estimated cost under the project is listed in **Table 1** below. PMSC role would be to assist on-ground implementation of the above outputs and prepare the project for the next phase of ADB funding.

Table 1: Project Components

Package No.	General Description	Estimated Value (\$M)
Urban Contracts		
TUDA/WS-01/P-01	Design, Build and Operate Contract for Comprehensive Water Supply Improvement Works for Khowai, Mohanpur and Ranirbazar (Cluster IA Towns) of Tripura	7.71
TUDA/WS-02/P-02	Design, Build and Operate Contract for Comprehensive Water Supply Improvement Works in Bishramganj, Melaghar, Udaipur, Amarpur and Belonia (Cluster IIA Towns) of Tripura	15.64
TUDA/WS-03/P-03	Design, Build and Operate Contract for Comprehensive Water Supply Improvement Works for Dharmanagar, Kailashahar, Kumarghat and Ambassa (Cluster IIIA Towns) of Tripura	15.79
TUDA/R&S D-01	Improvement of Roads and Storm Water Drainage System in Khowai, Mohanpur and Ranirbazar (Cluster IA Towns) of Tripura.	6.46
TUDA/R&S D-02	Improvement of Roads and Storm Water Drainage System in Bishramganj, Melaghar, Udaipur, Amarpur and Belonia (Cluster IIA Towns) of Tripura	11.09
TUDA/R&S D-03	Improvement of Roads and Storm Water Drainage System in Dharmanagar, Kailashahar, Kumarghat and Ambassa (Cluster IIIA Towns) of Tripura	7.66
	Sub-total urban contracts, US\$ million	64.35
Tourism Contracts		
TTDCL/CH B/W01	Tourism Destination Development at Chabimura and Upgradation/Beautification of Visitor Amenities/Facilities at Fatik Sagar and Amar Sagar	7.11
TTDCL/NER /W02	Adaptive Reuse of Neermahal as Digital Museum including Planning and Design	0.46
TTDCL/CK M/W03	Upgradation of Visitor Amenities/Facilities, Enhancement of Built and Natural Features at Chaturdash Devta Temple and Kasba Kalibari Temple and Reconstruction of Yatri Niwas at Chaturdash Devta Temple	3.66
TTDCL/UKT /W04	Development of Sonamukhi Eco Accommodation & Adventure Park and Rehabilitation of Unakoti Tourist Lodge at Kailashahar	7.66

Package No.	General Description	Estimated Value (\$M)
TTDCL/G-01	Supply of items (i) FRP Kayaks and Accessories (ii) Supply of 30-seater Battery Operated Boats all complete (iii) Supply of Floating Pontoon and Accessories all complete	0.65
TTDCL/G-02	Supply of Battery-Operated Cart and accessories all complete (8 Carts) for Chabimura and Sonamukhi	0.063
TTDCL/G-03	Supply and Installation of (i) Children Play and Gym Equipment for Chabimura, Fatik Sagar, and Sonamukhi and (ii) Supply and installation of adventure activity equipment and accessories all complete at Sonamukhi	0.88
	Sub-total tourism contracts, US\$ million	20.49
	Total urban and tourism contracts, US\$ million	84.84

III. Purpose of the Assignment

14. Based on the project background as above, the PMSC is to be selected to assist TUDA and TTDCL by providing expertise in implementation and management of the prioritized municipal and tourist infrastructure and related amenities in 12 towns and 10 tourist destinations. The 12 towns under the urban component include 7 district headquarters (Ambassa, Belonia, Bishramganj, Dharmanagar, Kaliashahar, Khowai, and Udaipur), and 5 other towns (Amarpur, Kumarghat, Melaghar, Mohanpur, Raniirbazar) along the National Highway-8 that have 10 tourism destinations nearby. The tourist destinations are;

- (i) Eco accommodation near Kailashahar
- (ii) Purana Haveli, Chaturadash Devta Temple near Ranirbazar
- (iii) Rajghat Park and Neermahal palace near Melaghar
- (iv) Kasba Kalibari temple near Bishramganj, and
- (v) three destinations near Udaipur, which includes Chabimura

Map 1 shows locations of the 12 towns and 10 tourism destinations.

15. PMSC would be led by a Team leader (TL) who would be supported by two Additional Team leaders (ATLs) each of whom would be solely responsible for the urban and tourism components. There is a common group of experts who would be working on both tourism and urban components. They would be reporting to Team leader. Under each of the ATLs there are group of experts who would be solely dedicated to urban and tourism components. The Team leader and common group of experts would work closely with both TUDA and TTDCL at PMU level and will receive direction from office of Project Director in case of any disagreement. Additional team leader (ATL) -urban and the dedicated experts would support TUDA, similarly Additional Team Leader (ATL) – tourism and the dedicated experts would support TTDCL. Both ATLs will report to Team Leader of PMSC who will be overall responsible for the performance of the PMSC.

16. PMSC will be responsible for providing inputs for preparing and processing a new project for the proposed loan from ADB during year 2024-2025. The new project would cover the additional towns and tourist locations. Major design for the new project would have been done by the two PDMCs under PRF. PMSC is expected to refine the designs,

perform technical, environmental, social and financial due diligence and support TUDA/TTDCL in preparing and processing the proposed new project.

IV. Duration and Location of the Services

17. The duration of the assignment is 48 months from the signing of the contract (tentatively from April 2024 to March 2028). It is anticipated that the PMSC will work continuously over the duration of the assignment with individual expert inputs being intermittent as per agreed deployment schedule.

18. In addition to the existing project management unit in Agartala, a total of six Project Implementation units (PIUs) shall be created. PIUs will be set up for the 12 ULBs in the first phase: (i) at Kumarghat for 4 towns Dharmanagar, Kailasahar, Ambassa and Kumarghat; (ii) at Agartala for 3 towns Mohanpur, Ranirbazar, and Khowai; and (iii) at Udaipur for 5 towns Amarpur, Bishramganj, Belonia, Udaipur and Melaghar. Corresponding tourism components shall have separate PIUs under TTDCL at the same hub ULBs as the urban PIUs.

19. The Government of Tripura acting through Urban Development Department (UDD) has been designated as the Executing Agency of the TUTDP. Project Management Unit (PMU) which has been set up which is headed by Project Director. The Employer of PMSC is Project Director of TUTDP. TUDA is the implementing agency of urban component, whereas TTDCL is the implementing agency for tourism component. Project Implementation Units (PIUs) under TUDA and TTDCL are responsible for implementation on ground and comprise of engineers, planners, accountants, and other staff placed in offices in Agartala, Kumarghat and Udaipur.

20. The composition of the project specific PMU and PIUs of TUDA and TTDCL are presented in Table-2. The PMSC team lead by Team Leader of PMSC shall closely work with the office of Project Director of TUTDP and will seek overall guidance from his office. Project Director shall be monitoring the performance of PMSC and shall be responsible for resolving any coordination issues between urban and tourism. Project supervision team of ATLs of respective urban and tourism will work closely and support 6 PIUs of the Project (3 each of TUDA and TTDCL) in Agartala, Udaipur and Kumarghat. Respective ATLs will closely work with Additional Project Director – Urban and Additional Project Director – Tourism in PMU and will seek overall guidance from their offices. ATLs will function under the overall control of the Team Leader of PMSC. The PMSC shall always follow the most recent COVID-19 rules, measures, and protocols of the government.

Map 1; Location of Sub-Projects

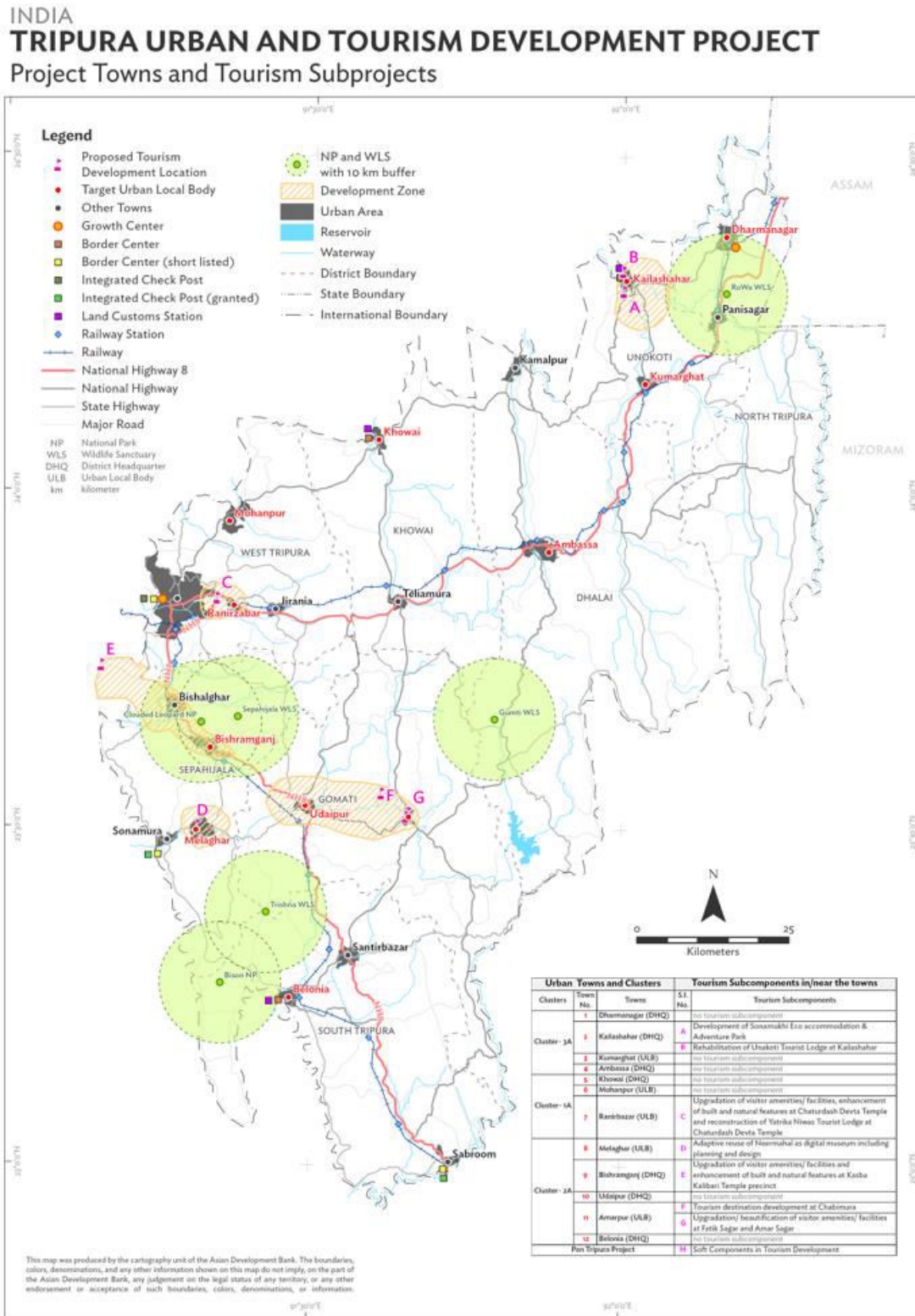


Table 2: Structure of Project Management Unit (PMU) and Project Implementation Units (PIU)						
Sl. No.	Name of Position	Resource		Sl. No.	Name of Position	Resource
TUDA - PMU				TTDCL - PMU		
1	Project Director (PD)	Secretary, UDD				
	-	-		1	Co-Project Director	Secretary, Tourism
2	Additional Project Director (APD) (Urban)	Commissioner, TUDA/Director Urban Development				
-	-	-		2	Additional Project Director (APD) (Tourism)	MD, TTDCL/Director Tourism
3	Project Coordinator (Urban & Tourism)	Chief Planner, TUDA				
-	-	-		3	Additional Project Coordinator (Urban & Tourism)	EE, TTDCL
Individual Consultants						
4	Deputy Project Coordinator (Urban)					To be filled from Ensuing loan
5	Deputy Project Coordinator (Tourism)					To be filled from Ensuing loan
6	Financial Management Expert					To be filled from Ensuing loan
7	Procurement Cum Contract Management officer					To be filled from Ensuing loan
8	Gender and Social Safeguards officer					To be filled from Ensuing loan
9	Environment Safeguards officer					To be filled from Ensuing loan
Technical Cell (PMU-TUDA)				Technical Cell (PMU-TTDCL)		
10	Technical Head (EE level) or Assistant Project Director (Technical)	Will be filled from Deputation		4	Project Manager-1 (AE level) TTDCL	Will be filled from Deputation

11	Project Manager-1(AE level, IC-07)	To be filled from Ensuing loan		5	Architect	To be filled from Ensuing loan
12	Junior Engineer-1 (Degree)	Will be filled from Deputation		6	Assistant Project Manager Electrical or Mechanical Engineer (Common for Urban and Tourism)	Will be filled from Deputation
13	Junior Engineer-2 (Degree)	To be filled from Ensuing loan		7	Junior Engineer-1 (Degree)	To be filled from Ensuing loan
-	-	-		8	Junior Engineer-1 (Degree)	Will be filled from Deputation
Accounts Cell (PMU-TUDA)				Accounts Cell (PMU-TTDCL)		
14	Sr. Accounts Officer	To be filled from Ensuing loan / preferably on deputation.		9	Sr. Accounts Officer TTDCL	Will be filled from Deputation
15	Accounts Officer	To be filled from Ensuing loan		10	Accounts Officer TTDCL	To be filled from Ensuing loan
16	Accounts Assistant - 2 No.	To be filled from Ensuing loan		11	Accounts Assistant - 2 No. TTDCL	To be filled from Ensuing loan
Legal Cell (PMU-TUDA) - In PMSC				Legal Cell (PMU-TTDCL)		
Agency to be hired on need basis.						
Support staff (PMU-TUDA)				Support staff (PMU-TTDCL)		
17	Technical Assistant - 3 No.	To be filled from Ensuing loan		12	Technical Assistant - 1 No. (TTDCL)	To be filled from Ensuing loan
18	IT Assistant - 2 No.	To be filled from Ensuing loan		13	IT Assistant - 1 No. (TTDCL)	To be filled from Ensuing loan
19	Office Attendant - 2 No.	To be filled from Ensuing loan		14	Office Attendant - 2 Nos. (TTDCL)	To be filled from Ensuing loan
GIS Cell (PMU-TUDA)				GIS Cell (PIU-TTDCL)		
20	GIS-Analyst - 1 No.	To be filled from Ensuing loan				To be filled from Ensuing loan

PIU (Field) Agartala 3 Towns (Khowai, Mohanpur, Ranirbazar)		
21	Project Manager-1 (EE level)	Will be filled from Deputation
22	Assistant Project Manager-4 (AE level, IC-10)	To be filled from Ensuing loan
23	Junior (Civil) Engineer-4 (Mohanpur)	To be filled from Ensuing loan
24	Junior (Civil) Engineer-5 (Ranirbazar)	To be filled from Ensuing loan
25	Junior (Civil) Engineer-6 (Khowai)	To be filled from Ensuing loan
26	Accounts Assistant - 1 No.	To be filled from Ensuing loan
27	Computer operator - 2 No.	To be filled from Ensuing loan
28	Office Attendant - 2 No.	To be filled from Ensuing loan
PIU (Field) Udaipur (5 towns)		
29	Project Manager-2 (EE Level)	Will be filled from Deputation
30	Assistant Project Manager-6 (AE Level, IC-12)	To be filled from Ensuing loan
31	Junior (Civil) Engineer-8 (Udaipur)	To be filled from Ensuing loan
32	Junior (Civil) Engineer-9 (Amarpur)	To be filled from Ensuing loan
33	Junior (Civil) Engineer-10 (Belonia)	To be filled from Ensuing loan

PIU (Field) Agartala (2 project sites, Kasba Kalbari and Chaturdas)		
15	Project Manager-2 (AE level) TTDCL	Will be filled from Deputation
16	Junior (Civil) Engineer - 2 Nos. TTDCL	To be filled from Ensuing loan
17	Accounts Assistant TTDCL - 1 no.	To be filled from Ensuing loan
18	Computer Operator TTDCL - 1 no.	To be filled from Ensuing loan
19	Office Attendant TTDCL - 1 no.	To be filled from Ensuing loan
PIU (Field) Udaipur (Chabimura and Amarpur)		
20	Project Manager-3 (AE level) TTDCL	Will be filled from Deputation
21		To be filled from Ensuing loan
22	Junior (Civil) Engineer - 2 Nos. TTDCL	To be filled from Ensuing loan

34	Junior (Civil) Engineer-11 (Melaghar)	To be filled from Ensuing loan			
35	Junior (Civil) Engineer-12 (Bishramganj)	To be filled from Ensuing loan			
37	Accounts Assistant - 1 No.	To be filled from Ensuing loan	23	Accounts Assistant TTDCL - 1 no.	To be filled from Ensuing loan
38	Computer Operator - 2 No.	To be filled from Ensuing loan	24	Computer Operator TTDCL - 1 no.	To be filled from Ensuing loan
39	Office Attendant - 2 No.	To be filled from Ensuing loan	25	Office Attendant TTDCL - 1 no.	To be filled from Ensuing loan
PIU (Field) Kumarghat (4 towns)			PIU (Field) Kumarghat (Sonamukhi and Unnakoti lodge)		
40	Project Manager-3 (EE level)	Will be filled from Deputation			
41	Assistant Project Manager-7 (AE Level, IC-13)	To be filled from Ensuing loan	26	Project Manager-4 (AE level) TTDCL	Will be filled from Deputation
42	Junior (Civil) Engineer-14 (Dharmanagar)	To be filled from Ensuing loan	27	Junior (Civil) Engineer- 2 nos. TTDCL	To be filled from Ensuing loan
43	Junior (Civil) Engineer-15 (Kailashahar)	To be filled from Ensuing loan			
44	Junior (Civil) Engineer-16 (Kumarghat)	To be filled from Ensuing loan			
45	Junior (Civil) Engineer-17 (Ambassa)	To be filled from Ensuing loan			
46	Accounts Assistant - 1 No.	To be filled from Ensuing loan	28	Accounts Assistant TTDCL - 1 no.	To be filled from Ensuing loan
47	Computer Operator - 2 No.	To be filled from Ensuing loan	29	Computer Operator TTDCL - 1 no.	To be filled from Ensuing loan

48	Office Attendants – 2 No.	To be filled from Ensuing loan	30	Office Attendant TTDCL – 1 no.	To be filled from Ensuing loan
	Project Management and Supervision Consultant – Urban and Tourism				To be filled from Ensuing loan

Note: Assistant Project Manager shall be focal in each cluster for Safeguard matters.

1. Scope of Services

21. PMSC role is to assist and advise Employer to carry out the improvements on ground meeting good standards of construction, project management, monitoring, and reporting. Another major task is to support the Employer consultants in processing the next proposed loan from ADB for urban and tourism components. They would advise Employer on required approvals of Environmental, Health and Safety (EHS) obligations. The 3 water supply contracts (in 12 towns grouped into 3 clusters) have been tendered as Design Build Operate (DBO) contracts (Table 1, first 3 contracts). The rest of the works contracts are based on Employer's design. Other tasks include: integration of climate change- and disaster resilience in urban planning with universal design consideration for Dharmanagar and Udaipur, and gender equality and social inclusion (GESI) analysis, and information, education and communication.

22. The DPRs, Investment Plan, Safeguards Documents and other documents as prepared by the two PDMCs for TUDA and TTDCL will be available for any kind of reference for work during this assignment of PMSC.

23. The PMSC has several main tasks which are explained in the following paragraphs.

Task 1: Project Management

24. The PMSC will assist both urban and tourism PIUs and PMU with the design vetting of water supply DBO component, project quality assurance, construction supervision and project management. The PMSC will work closely with both PIUs to ensure the effective and timely delivery of the project outputs to the highest standard. The PMSC will maintain liaison with TUDA and TTDCL through PIUs, and with ADB. Other main activities related to project management will include, but not be limited to:

- (i) Working with PIUs to identify project management needs, planning, strategies, and schedules for execution;
- (ii) The design and establishment of a project performance management evaluation system (PPMES) that will allow PIUs to (a) monitor and evaluate implementation of the project; (b) identify performance constraints; and (c) formulate and implement practical measures to address shortcomings. Frequent performance evaluations will be carried out based on assessment of the project. It should include secure financial management and accounting reporting and be accessible to the PIUs and ADB.
- (iii) Preparing a Quality Assurance Plan (QAP) that will assist the PMSC and PIUs with overall quality assurance. Essential elements of quality assurance for the project shall be controlled by the Engineer to ensure quality products are provided in a cost-efficient and timely manner. It will encompass all aspects of the project, including control of contractors and sub-contractors, inspections, production and special process controls, functional testing, control of nonconformities, drawing control, corrective actions, configuration controls, quality assurance records, audits and other quality specifications and requirements to meet the needs of the

- Project. Contractor's quality assurance operations shall be subject to the Engineer's verification at any time.
- (iv) Facilitating regular meetings between Employers, PIUs, Contractor and other relevant actors and documenting minutes of discussions. Preparing briefing materials on progress and issues, and providing general support to TUDA and TTDCL to effectively guide the Project's implementation;
 - (v) Maintaining regular communications with all stakeholders to ensure implementation of the Project so that it follows a participative and integrated management approach;
 - (vi) Ensuring the actual implementation schedule reflects the design of the Project and intended implementation schedule. Employer's objective is to expedite completion of the TUTDP. The PMSC shall identify the critical paths of Project activities; critical activities include the planning, tendering, award and implementation timing and sequence of bidding packages; consider opportunities for expediting the implementation schedule and recommend improvements wherever possible.
 - (vii) Advising and assisting the PIUs on establishing and maintaining the most appropriate and effective organizational, fiscal, implementation and management arrangements to ensure successful project implementation;
 - (viii) Establishing and maintaining appropriate fiscal management and monitoring systems and assist PIUs in fiscal management and monitoring project expenditures and disbursements;
 - (ix) Advising and assisting the PIU and ADB in the efficient coordination of the various packages. Ensure that the PIU is adequately assisted by its services such that all project activities and particularly construction contracts are implemented in a timely and cost-effective manner while maintaining the highest standards;
 - (x) Assisting with general project administration, performance and monitoring, and preparation of project reports;
 - (xi) Preparation of all project monitoring reports or any other report required to be submitted to ADB;
 - (xii) Ensuring timely mobilization and fielding of PMSC staff and when necessary, quick replacement of staff following Employer and ADB requirements;
 - (xiii) Assisting the PIUs to recruit/tender and evaluate contracts;
 - (xiv) Assisting the PIUs with planning and implementing any other activity related to design, construction, and commissioning. For example, but not limited to: (a) review of planning and establishment of contractor camps with access, utilities etc.; (b) supervising and ensuring compliance of environment, health, and safety requirements; and (c) supervising and ensuring compliance of environmental safeguards and social measures, etc.;
 - (xv) Preparing a Project Completion Report (PCR) in a manner satisfactory to the Employer and ADB, including major project events, performance of Contractors, actual and price inflated (to completion year) project cost (foreign and local costs separately) by implementation year. The PCR should follow prescribed ADB format and cover, among other items: (a) the relative successes (problems) in the implementation of each package; (b) an assessment of the impact of the project on the economy and social aspects of the beneficiary areas; (c) "as-built" drawings; and (d) detailed

- description of all the works by items of technical and non-technical matters;
- (xvi) Coordinate and provide all support to other consultants working for the project;
- (xvii) Updating TUTDP project documents as required;
- (xviii) Information, education and communication activities; and,
- (xix) Supporting visiting missions from ADB or others.

25. The PMSC will also provide support to PMU in planning and local resource mobilization. The consultant shall support the client in achieving project objectives related to planning and local resource mobilization initiatives. As part of this support shall be provided for:

- (i) Preparation of Sectoral Master Plan WS, Drainage & SWM Dharmanagar & Udaipur; and
- (ii) Geotagging of Properties in 7 district headquarters towns.

Task 2: Contract Management and Construction Supervision³

26. The PMSC will assist PIUs with design review and recommendation for water supply DBO contracts, issue of revised drawings wherever necessary, contract management, construction supervision and quality control. This includes assisting and advising the PIUs with smooth execution of all works under the Project for its timely and successful completion without having cost overruns. This applies to supervising all goods, works, surveys, field studies, investigations, training, and consulting services packages under the Project. The PMSC shall be responsible for documenting all the design drawings, reports, as-built drawings and construction monitoring and quality certificates. The PMSC shall also carry out the actual documentation and filing of the design drawings, reports, any events, as built drawings, and quality monitoring certificates.

27. The project will also include O&M embedded construction contracts combining design, construction, and O&M for water supply contracts for a period of 5 years. This will support the ULB's O&M responsibility and improve the quality-of-service delivery by providing continuity in system operation as well as O&M. PMSC shall be responsible for monitoring and certifying the performance of contractors during O&M. Special contract conditions with responsibility of operation and maintenance with contractor shall be designed, contractor shall be responsible for verifying the design provided by PDMC under the PRF. The Bill of quantity (BoQ) shall be item rate.

28. The PMSC shall act in the capacity of "the Engineer" and represent the Employer in the construction contracts. Accordingly, the PMSC shall have full responsibility and authority for the professional quality and sufficiency of the supervision with respect to contractor's design and other submission approvals, progress, quality of materials and work, measurements of quantities, costs, and legal aspects related to the contract.

³ Water supply contracts are hybrid, partly DB and partly item rate with operations clubbed.

29. Prior approval of the Employer is to be obtained by the PMSC for taking any action under a civil works contract designating the Consultant as “Engineer,” for which action, pursuant to such civil works contract, the written approval of the Client as “Employer” is required.

30. As “the Engineer,” the PMSC will ensure timely approval of contractor’s design, progress of the works, initiate laboratory as well as in-situ tests as necessary, enforce specified materials, workmanship requirements and construction methods, and control the overall quality of construction. This includes the assessment of programs, materials, labor, construction methods, and monitoring compliance with specified construction methods. The PMSC will carry out acceptance tests of equipment in the factory (if necessary) and on-site, including installation and commissioning. It also comprises supervision of contractors’ programs, rates of progress, performance testing, compliance with specifications and drawings, and health, safety and environmental requirements.

31. In case of anticipated cost overruns, the PMSC shall immediately inform the Employer and suggest mitigation measures wherever possible. Supervision shall be carried out on all sites where works are underway. Other specific activities will include, but are not limited to:

- (i) Establishing a data storage and transfer system for all documents and drawings;
- (ii) Assisting the PIUs with bid evaluation and contract negotiations, as necessary;
- (iii) Undertaking day-to-day construction supervision and monitoring, collection and checking of documentation, quality control, application of quality assurance procedures, checking the adequacy of contractor’s designs, drawings, and method statements, and preparation of progress and other reports;
- (iv) Carrying out regular inspections, including sample testing where required, of all materials and workmanship to ensure compliance with the design specifications;
- (v) Surveying each of the constructed components to evaluate physical and financial progress of each item;
- (vi) Maintaining a photographic and written record of all construction activities and progress;
- (vii) Conducting site investigations of construction materials and geotechnical investigations including laboratory testing and analyze investigation results;
- (viii) Monitoring the construction works and laboratories for quality assurance;
- (ix) Ensuring that works are being implemented as per the contract specifications;
- (x) Providing sound and timely advice to resolve problems that arise during construction;
- (xi) Holding regular site meetings with PIUs and Contractors and preparing minutes of such meetings (based on agreed standardized format), and proactively managing the execution of agreed actions;
- (xii) Instructing the Contractors to submit corrective measures or revised programs, as necessary, to keep pace with the anticipated progress and construction standards, and inform the PIUs on measures adopted;

- (xiii) Providing design adjustments / changes for works during construction in order to respond completely and efficiently to meet changing site and ground conditions as construction work progresses. Issuance of instructions and additional or modified drawings and specifications to the Contractors which may be necessary for the execution of the works and remedying of any defects, and inform the PIUs accordingly;
- (xiv) Endorsing interim payment certificates after final measurements for consideration to PIUs;
- (xv) Examining contractor's claims on justification and quantities; deciding on claims that fall within the authority of the Engineer; making recommendations for the claims to be considered by the PIUs;
- (xvi) Examining the need for contract variations; deciding on contract variations with the delegated authority of the Engineer, and for all other variations make recommendations to the PIUs;
- (xvii) Monitoring compliance of environmental health and safety plans for all activities related to implementation of the Project;
- (xviii) Monitoring the preparation and timely submission of as-built drawings as well as final reports by contractors;
- (xix) Preparing partial, substantial, and final completion certificates for consideration by the PIUs; and
- (xx) Preparing regular progress reports highlighting current progress, problems encountered, tests conducted, corrective measures adopted and estimate of likely completion date.

Task 3: Management of Environmental and Social Impacts

32. Ensure that all recommendations from the Environmental Management Plan (EMP) are incorporated in the design and civil work specifications prepared for implementation under the Project:

- (i) Review of all Bidding documents issued by PIU to ensure that all ADB safeguard requirements and the requirements in EMP are met;
- (ii) Ensure that the Contractor mobilizes their environmental health and safety officers in time so that there is adequate attention from the beginning to environment health and safety aspects;
- (iii) Ensure that all contractors' contract documents include requirements to manage and monitor impacts associated with construction works and other works to support the contractors' activities;
- (iv) Agree with the contractors on the responsibilities for routine monitoring at agreed locations;
- (v) Review and recommend additional mitigating measures to PIU for approval to ensure that all contractors prepare comprehensive plans to address all environmental and social impacts associated with construction works and other works to support the contractors' activities. Such measures to include monitoring requirements in relation to performance and the provision of required monitoring data that should be done by the contractors and their sub-contractors;
- (vi) Supervision by the supervising engineer guided by the environmental and social specialists to ensure quality control of monthly progress reports and enforce penalty provisions for persistent non-conformance;

- (vii) Conduct site visits to monitor implementation of the EMP based on changing field conditions and accordingly inform relevant agencies and field staff;
- (viii) Prepare biannual monitoring report to be submitted by PMU to ADB. The report should be based on: a) contractor's monthly report; b) site monitoring on implementation of recommendations and c) findings from routine consultation. The monitoring report should also provide recommendations;
- (ix) Lead problem solving in close coordination with other PMSC team members, PIU or Contractors on any incident, grievance, or complaint due to civil works and other activities related with civil works;
- (x) In case of an incident involving unexpected environmental impact, prepare remedial actions in close coordination with contractors, and prepare necessary reports that will be submitted by PIU to Employer, relevant government agencies and ADB;
- (xi) Conduct routine public consultations throughout the project implementation: a) to inform public on potential environmental impacts and social impacts (e.g., health related with pollution, HIV, human trafficking, forced labor), the planned mitigation measures as well as mitigation measures that have taken place; b) to gather public concerns and discuss how to effectively address their concerns; and c) to encourage participation of women in operation and maintenance activities of completed works;
- (xii) Assist PIU in establishing and operating a central Grievance Redress Mechanism within the PIU to respond to stakeholder enquiries, supervising implementation of a community awareness and public participation plan, and in managing incidents and grievances reported by the community; and
- (xiii) Providing on-the-job or on-site advice and training to contractors where necessary (such as when there are changes in personnel of contractors or when EMP is not being followed properly) to ensure proper implementation of the overall EMP.
- (xiv) A GESI action plan has been prepared as part of project processing with specific goals and targets. The consultant shall support PMU and PIUs in effectively implementing, monitoring and documenting the related activities.
- (xv) Resettlement Plans are prepared for various project packages. The consultant shall support in implementation, monitoring and documentation of the MPs.

EHS Reporting Requirements

33. Consultants responsible for following aspects of Environment, Health, and Safety reporting:

- (i) Immediately notify the Client of any failure by the Contractor to comply with its Environment, Health, and Safety obligations;
- (ii) Immediately notify the Client of any allegation, incident, or accident, which has or is likely to have a significant adverse effect on the environment, the affected communities, and the public, Client's Personnel, Contractor's Personnel or Experts. Confidentiality of full details should be maintained

for sensitive cases. The Consultant shall provide full details of such incidents or accidents to the Client within the timeframe agreed with the Client;

- (iii) Immediately inform and share with the Client any immediate notification related to Environment, Health and Safety incidents provided to the Consultant by the Contractor, and as required of the Contractor as part of the Progress Reporting.
- (iv) Share with the Client in a timely manner the Contractor's Environment, Health, and Safety metrics, as required of the Contractor as part of the Progress Reports.

Task 4: Communications

34. The PMSC will support PIU with managing communications during implementation of the Project. Main activities, amongst other will be:

- (i) Assisting and advising PIU to develop and manage an effective public relations plan and to implement such developed plan, Support the PIU with communication activities as necessary;
- (ii) Promoting the benefits of the Project and disseminating information to associated project stakeholders, general public, and non-government organizations (NGOs) on how well social and environmental aspects are taken care of and what benefits are attributed to the community;
- (iii) Proactively organizing public relations events as required;
- (iv) Assisting PIU with developing and maintaining a Project website to disseminate information and implementation progress, and provide a feedback and communication system for stakeholders and general public; and
- (v) Preparing a photographic and video diary of the construction works throughout the entire duration of the Project. This should show construction activities, progress, and interviews with TUDA, TTDCL, PIU, PMSC, contractors, government, and stakeholders. It will be prepared to a high professional standard.
- (vi) effectively implementing, monitoring and documenting the CAPP activities;
- (vii) preparation of knowledge products;
- (viii) visual and print media communication materials etc.

Task 5: Commissioning, Operation and Defects Liability

35. The PMSC will assist PIU with commissioning and operation phases. It will involve building capacity within PIU to manage the project facilities. Commissioning covers initial operation to identify and rectify any construction faults prior to the contractor's official handover of completed systems to Employer. Commissioning will be progressive over the final year of individual contract implementation. The PMSC, with the contractor/ supplier, will identify specific facilities needed, expertise and staffing requirements, and prepare detailed management, operation, and maintenance (MOM) procedures, including those relating to minimizing social and environmental impacts of all infrastructure developed under the Project. The MOM procedures should be developed in consultation with all stakeholders.

36. During the defect liability period for each package, the PMSC will carry out the following functions: (i) monitoring the functional as well as structural performance of the investments and report to the PIU; (ii) preparation of the inventory of the defects/damages rectification/repair works, if any, to be done by the Contractors as per the provisions of their contracts; (iii) evaluation of the design, drawings and construction methodology for rectification/repair works proposed by the Contractors and make recommendations to the PIU; (iv) supervision and checking of the quality of the defect/damage rectification/repair works; and (v) assisting the PIU with contract management and finance related issues related to the individual works contracts.

2. Detailed Outputs of the Assignment

5.1 Key Timelines or Milestones

37. The project is under preparation and Loan signing is expected in fourth quarter of 2023. As a part of project readiness prior to loan signing, three DBO of water supply, one road and drain and one tourism work bids have been invited in addition to this PMSC selection. Some more works contracts would have been ready to award by loan signing. The government has requested advance contracting (and retroactive financing) for the procurement of priority works. All advance contracting (and retroactive financing) will be undertaken in accordance with ADB's Procurement Policy and Regulations (2017) as amended from time to time. The intent of starting PMSC consultant recruitment is to have them in place right from the beginning of the project to act as Engineer to the contract and fully support PIUs in supervision and management of the project.

38. It is expected that during the first year of the project of 5 years duration, PMSC would be fully involved in setting up monitoring, supervision, quality assurance, communications systems. They would also be simultaneously assisting in tendering and contracts supervision. All tendering is to be completed by the end of first year. During years 2 and 3, focus would be on implementation and safeguards activities and supporting preparation of the next follow-on loan from ADB. In the 4th year, consultant inputs would be tapering off with commissioning, operation, defects liability and project completion activities being predominant.

5.2 Team Composition and Qualification Requirements of the Key Experts

39. Some of the specified Experts in PMSC would have Environment Health and Safety (EHS) Experience and they would be tasked with the responsibility of ensuring all PMSC members comply with EHS Code of Conduct Requirement and any Covid-19 regulations applicable.

40. **EHS Code of Conduct Requirement;** The Code of Conduct should be signed by each Expert to indicate that they have:

- (i) received a copy of the code;
- (ii) had the code explained to them;
- (iii) acknowledged that adherence to this Code of Conduct is a condition of employment; and

- (iv) understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

41. Standard Code of Conduct Form will be provided by Employer to be filled out, signed, and submitted prior to contract negotiations.

2.2.1 Team Composition

42. The PMSC will be contracted over a period of 48 months, tentatively from April 2024 to March 2028.⁴ Recruitment will be undertaken in accordance with ADB's Procurement Policy and Regulations: Goods, Works, Non-consulting and Consulting Services (2017, as amended from time to time).⁵ Firms will be recruited using quality- and cost-based selection (Q-CBS) method, Full Technical Proposal with a 90:10 quality-to-cost ratio. This ratio is justified as the priorities for the PMSC are high-quality outputs including expertise in municipal and tourism infrastructure, DBO contracts design review, supervising the construction of municipal and specialized ecotourism infrastructure in challenging environment.

43. The PMSC shall have extensive experience with designing and supervising municipal and tourism infrastructure construction and project management of multi-location contracts. The PMSC shall also have extensive experience in tendering, preparing contract documents, supervising construction works in towns. It is expected that consultants shall maximize their inputs at field since the work is to be implemented on ground.

44. The PMSC will be engaged under a time-based contract. Payment will be made upon submission of Monthly Progress Reports by the PMSC that will include detailed timesheets for the individual specialists and summary of activities undertake duly certified by the PMU and/or PIU as the case may be; the content of the Monthly Progress Reports will be agreed during the inception period of the assignment.

45. The required inputs of national key experts will be 623 person-months (pm), national non-key experts will be 1907 PM for a total of 2530 PM. Only CVs of key experts marked with # in the CV id column in Table 3 will be evaluated as part of the technical proposal. However, CVs of all other key and non-key experts too shall be submitted with the technical proposal. A minimum of 70% rating would be required for the qualification of key and non-key experts whose CVs in the first ranked firm's technical proposal would be evaluated prior to contract negotiation. Lesser scoring CV shall be replaced by the first ranked firm prior to contract negotiation.

46. This differentiation of key and non-key experts has been done only to expedite consultant proposal evaluation. The cost of all experts must be included in the financial proposal. All expert CVs are required in the technical proposal. **Table 3** provides a list of key and non-key experts required to undertake all tasks of PMSC scope of work.

⁴ The PMSC contract may be extended for subsequent phases of the Project, at the request of the executing agency, subject to satisfactory performance.

⁵ Available at: <https://www.adb.org/documents/procurement-regulations-adb-borrowers>.

Table 3: PMSC Expert Requirement

CV ID	Expertise	Person-Months
A	Key Staff (common to both Urban and Tourism)	
A1	Team Leader cum Project Management Expert	44
A2	Procurement cum Construction Contract Management Expert	24**
A3	Environmental (Safeguards and Climate Change) Expert	21**
A4	Social Safeguards Expert	21**
A5	Structural Engineer	24*
A6	Storm Water Drainage Expert	17**
A7	Wastewater and Sanitation expert	10*
A8	Gender Expert	21**
A9	Project Financial Expert	21**
A10	IT Expert	21**
A11	Mechanical Engineer	19**
A12	Electrical Engineer	19**
A13	Communication and Documentation specialist	19**
A14	Quality Control Expert	19**
A15	Road Design Engineer	20**
A1 to A15	Key Staff (common to both Urban and Tourism) Sub Total	320
B	Non Key Staff (common to both Urban and Tourism)	
B1	Safeguard support staff - 3 nos.	132
B2	Auto-CAD Operator (3 nos.)	132
B3	Quantity Surveyor (3 nos.)	132
B4	MIS/ IT Expert	33
B1 to B4	Non Key Staff (common to both Urban and Tourism)	429
C	Key Staff (solely Urban)	
C1	Additional Team Leader cum Water Supply Expert (Urban)	44
C2	Construction Management Expert -1 @ Cluster Head Quarters (CHQ)	33
C3	Construction Management Expert -2 @ CHQ	33
C4	Construction Management Expert -3 @CHQ	33
C5	Urban Planner cum GIS Expert	20**
C6	Solid Waste Management & Sanitation Expert*	12*
C7	Water Treatment and Process Engineer (1 no.)	12*
C8	SCADA Engineer	8*

CV ID	Expertise	Person-Months
C1 to C8	Key Staff (solely Urban) Sub Total	195
D	Non Key Staff (solely Urban)	
D1	Design Engineer-Water Supply (2 nos.)	30*
D2	Design Engineer-Wastewater and Drainage (1 nos.)	18*
D3	GIS Analyst	33
D4	Construction Supervisor (civil) -12 nos. @CHQ	396
D5	Construction Supervisor (E/M)-3 nos. @CHQ	99
D6	Junior Architect	33
D7	Office Manager cum Accountant	44
D8	Computer cum Data Entry Operator – 3 nos.	132
D9	Office Assistant – 3 nos.	132
D10	Technical Assistant- 2 nos.	88
D1 to D10	Non Key Staff (solely Urban) Total	1005
E	Key Staff (solely Tourism)	
E1	Additional Team Leader cum Tourism Expert	36
E2	Senior Architect / Urban Designer	22**
E3	Construction Management Expert	33
E4	Conservation/ Heritage Architect	6*
E5	Landscape Architect	11*
E1 to E5	Key Staff (solely Tourism) Total	108
F	Non Key Staff (solely Tourism)	
F1	Civil/Structural Design Engineer	22**
F2	Construction Supervisor Civil (5 persons)	165
F3	Construction Supervisor Electro Mechanical (1 person)	33
F4	Junior Architect	33
F5	Office Manager cum Accountant	44
F6	Computer cum Data Entry Operator – 2 nos.	88
F7	Office Assistant – 2 nos.	88
F1 to F7	Non Key Staff (solely Tourism) Sub Total	473
	Consulting Inputs - Total Key Staff (A+C+E)	623
	Consulting Inputs - Total Non-Key Staff (B+D+F)	1,907
	Total Consulting Inputs	2,530

Notes:

^a Recent health certificate of experts over 70 years age shall be included in the proposal.

^b Experts with ** shown against person months must provide minimum 80% field inputs. Those with * must provide minimum 50% field inputs. Rest, to provide 100% field inputs.

47. The minimum required qualifications and experience for each expert as well as their tasks, responsibilities and outputs are outlined in the following sub-section. In addition, each member of the PMSC shall provide timely high quality necessary inputs for reports preparation, preparation of all proposed next loan documents to meet all the requirements of ADB and of the government, capacity strengthening activities,

preparation, and supervision of supporting studies in their relevant specialized field(s), and all other tasks as directed by the Team Leader /Additional Team Leaders. The Team Leader will supervise and manage the totality of the services of the PMSC and have the overall responsibility of all the outputs and deliverables to be produced by the entire PMSC. IEC activities and GESI activities will be part of the responsibility of PMSC. Provisional Sum shall be used for carrying out the field activities.

48. **Support Staff and Logistical Arrangements.** The PMSC shall provide the administrative and support staff needed for their team to carry out their services. An adequate number of suitably skilled office support staff will be required to meet the needs of the PMSC Agartala project office and field offices, and all associated logistics of the consulting assignment. The positions and actual numbers of support staff shall be at the discretion of the PMSC who will cost them accordingly as out-of-pocket, fixed-rate expenses in their financial proposal. The PMSC is not required to submit CVs for office support staff as part of their technical proposal since they will not be evaluated as part of the expert team.

49. Other out-of-pocket expenses the PMSC will be responsible to include: (i) all other necessary facilities and logistic support for its staff including living accommodation and per diems; (ii) national travel, and miscellaneous transportation; (iii) day-to-day office communications, utilities and other miscellaneous costs which may be required for carrying out the services as per the requirement of the Contract; and (iv) printing, publishing and transmittal of all reports and deliverables (excluding specific communication outputs related to Task 4, which shall be funded under provisional items).

2.2.2 Qualification Requirements for the Experts

A. Key Staff (common to both Urban and Tourism)

50. **A1 Team Leader cum Project Management Expert.** The expert shall have the following credentials:

- (i) Civil engineer, preferably with a Master's degree in Civil Engineering/ Urban Planning/Urban Engineering/ Contract Management and 15 years of relevant work experience out of which minimum 10 years should be related to multiple location concurrent works activities, construction of hospitality infrastructure, water supply roads etc.
- (ii) Project management of construction projects similar to the Project that include multiple concurrent works activities as mentioned in (i) above.
- (iii) Team Leader experience for at least 5 years (experience as Dy. Team Leader for 8 years is also considered) leading large expert teams during implementation, execution and working in similar projects in similar geographical and topographical settings.
- (iv) The expert should be competent in engineering, design, contract management, quality assurance and quality control, safety, compliance with safeguards, etc. pertaining to construction of similar projects.
- (v) The expert will have excellent verbal and written communication skills in English.
- (vi) Experience in external funded/aided projects will be preferred.

- (vii) The expert will be responsible for leading and contributing to all tasks and for undertaking the following activities, among others.
 - (a) Having overall responsibility for the timely delivery and quality of all outputs, in formats that are acceptable to Employer and ADB;
 - (b) Managing the relationships with the PIUs, PMU, ADB and all other stakeholders;
 - (c) Setting-up an effective organizational structure for the PMSC. Preparing and implementing all systems and procedures needed to ensure the effective contract management and construction supervision of the contract works and goods procurement in accordance with the scope of works with specified standards;
 - (d) Being responsible for overall direction of the PMSC team, coordination of inputs, and management of individual experts;
 - (e) Being responsible for the overall management of the engineering team and their activities. Providing expert advice as required. Review and ensure outputs are complete, well prepared using consistent formats, and their content is prepared to the highest standard;
 - (f) Carrying out a comprehensive review of the detailed designs and draw attention to changes which may have become necessary since their preparation;
 - (g) Advising on construction and contracting methods, and performing a comparative analysis of options, benefits, risks, mobilization, and implementation schedules;
 - (h) Identifying important technical and managerial issues which affect progress, safety, quality, and compliance with safeguards;
 - (i) Reviewing the construction schedule and recommending actions to avoid delays;
 - (j) Reviewing mobilization of the Contractor's resources (experience of the personnel, equipment, machines, quality and quantity of materials, funds, etc.) and recommending additional resources to be mobilized;
 - (k) Guiding, coordinating, and supporting project activities and providing overall guidance and direction;
 - (l) Lead team efforts and provide inputs to preparation and processing of follow on loan from ADB;
 - (m) Supporting visiting missions from ADB and
 - (n) Coordinating the expert support to the Employer of PMSC experts in processing next proposed loan from ADB.

51. **A2 Procurement cum Construction Contract Management Expert.** The expert shall have the following credentials:

- (i) Engineer, preferably with overall experience of 10 years and minimum 3 years' experience as procurement/contract/contract management expert in similar development projects.
- (ii) The expert will be responsible for advising on procurement following ADB regulations and procurement guidelines, experience in EAP (Externally Aided Project) will be preferred;

- (iii) The expert to have in depth knowledge and understanding of technical, commercial, and legal aspects of procurement in development projects. Specialized knowledge of and significant experience in substantive areas/aspects of procurement advantageous. Experience with procurement processes for externally-financed projects, mainly those funded by ADB or World Bank in preparing bid documents, evaluation of bids desirable.
- (iv) Sound experience in FIDIC contract condition and DBO FIDIC contract condition is required;
- (v) Skills in communicating with authorities and other stakeholders and demonstrated capabilities in report writing needed. The expert's main activities include, but are not limited to;
 - a) Assisting the PIU with procurement of works, goods, services contracts;
 - b) Revision of procurement plan whenever required;
 - c) Advising on procurement strategies in accordance with the government's and ADB's Procurement Policy and Regulations (2017) as amended from time to time;
 - d) Supporting Employer in processing next proposed loan from ADB for preparing procurement and bid documents;
 - e) Assisting PIU with advance procurement where necessary. This applies to packages of next proposed loan from ADB during the term of this consulting package;
 - f) Preparing standard criteria and checklists for evaluation of the tenders and assist PIU in preparation of the bid evaluation reports;
 - g) Assisting PIU with contract negotiations, preparation of contracts and contract awards;
 - h) Supporting specific actions for integrity, ease of fund flow, and transparency;
 - i) Examining consultant and contractor claims and support the construction management experts, and PIU with determination of need for contract variations;
 - j) Preparing and delivering on-the-job training related to procurement, and contracts;
 - k) Provide inputs to preparation and processing of follow on loan from ADB;
 - l) Provide inputs for standardizing components of monthly reports related to procurement and contract awards, contract management, performance of each contract package; and
 - m) Providing advice as required helping resolve contractual matters.

52. **A3 Environmental (Safeguards and Climate Change) Expert.** The expert shall have the following credentials:

- (i) The expert will preferably have a Master's degree in environmental sciences, environmental engineering, or similar and 10 years of experience

- undertaking similar assignments, preferably in similar geographic conditions, financed by ADB or other multilateral agencies.
- (ii) Experience of 3 years in externally aided project, preferably ADB/WB project is required;
 - (iii) The expert will have skills in communicating with authorities and other stakeholders and demonstrated capabilities in report writing. The expert's main activities include, but are not limited to:

Preconstruction Phase:

- a) Update initial environmental assessment for proposed project using REA checklists and submit to PIU/ PMU;
- b) Assist in summarizing IEE and translating to language understood by local people;
- c) Review IEE/EMP and revise report to submit to PMU;
- d) Assist PMU and PIU in obtaining all necessary clearances, permits, consents, NOCs, etc. Ensure provisions and conditions are incorporated in the IEE and detailed design documents;
- e) Assist in ensuring IEE is included in bid documents and contract agreements;
- f) Assist in determining adequacy of cost for EMP implementation;
- g) Assist in addressing any concern related to IEE and EMP; and
- h) Conduct specific assessment requirements.

Construction Phase:

- i) Monitor EMP implementation;
- j) Assist in addressing any grievances brought about through the Grievance Redress Mechanism in a timely manner as per the IEEs;
- k) Monitoring of Implementation of EMP at site by contractor;
- l) Recommend corrective action measures for non-compliance by contractors;
- m) Assist in the review of monitoring reports submitted by contractors;
- n) Assist in the preparation of monthly monitoring reports; and
- o) Conduct continuous public consultation and awareness.

53. **A4 Social Safeguards Expert.** The expert shall have the following credentials:

- (i) The expert will have a master's degree in sociology, social work or relevant field with 10 years of experience undertaking similar assignments, preferably financed multilateral agencies preferably ADB/World Bank and with demonstrated experience of working with government.
- (ii) The expert will work in close coordination with the PMU, PIUs and the PMSC team to ensure that civil works comply with ADB's Safeguard Policy Statement (SPS) 2009, and other ADB's policy on environment, social aspects such as gender, labor relations, public participation, and public grievances. The main activities of the expert will include but not be limited to the following:

- a. Review bidding documents prepared for each contract and ensured that all safeguards requirements are included;
- b. Prepare and update the resettlement plans, resettlement and indigenous peoples plans (RIPP), and due diligence reports (DDR) and ensure their disclosure;
- c. Provide support to PMU and PIUs in liaising with district administration to obtain the land documents, issuance of no objection certificates and transfer of land (as and when required);
- d. Assist in carrying out all required baseline surveys;
- e. Assist PMU and PIUs in implementation of the resettlement plans and RIPPs including specific action plans;
- f. Assist, monitor and assess the grievance redress mechanism implementation and records keeping by the contractors and PMU/PIU staff, provide recommendation as required;
- g. Support the PMU and PIUs in ensuring that the social safeguard and activities are carried out in accordance with government policy, agreed plans and in compliance with the SPS on behalf of PMU/PIUs;
- h. Conduct regular consultations with all the stakeholders, including the affected persons; Coordinate workshops, Focused Group Discussions (FGDs) and community consultation during design and implementation phase.
- i. Prepare/ provide inputs to monthly / quarterly / semi-annual / annual, as per reporting outline suggested by ADB;
- j. Assist PMU in social safeguard compliance, monitoring, documentation and reporting including preparation of social safeguards monitoring reports for submission to ADB as per reporting outline suggested by ADB;
- k. Conduct training need assessment and provide training to project staff, consultants and contractors on social safeguard requirements; and
- l. Undertake all other tasks as may be required in order to ensure social safeguard issues encountered during the implementation phase are resolved consistent with the requirements of ADB SPS.

54. **A5 Structural Engineer.** The Engineer shall have the following credentials:

- (i) The engineer must be an experienced structural engineer, preferably with a Master's degree in structural engineering and 5 years of work experience out of which about 2 years should be related to design and construction of urban engineering / hospitality / commercial / residential buildings.
- (ii) The engineer's activities will include, but are not limited to:
 - a) Reviewing, advising, and undertaking, if necessary, stability calculations for all structures to be constructed under the project;
 - b) Revise structural design to provide the most economical solution for each structure;
 - c) Reviewing, revising, and advising on, and detailing, if necessary, the reinforcement of all the structures, as necessary;

- d) Supporting as necessary the other engineers and specialists for reviewing the works;
- e) Periodic site visits during the construction of structures;
- f) Checking the DBO Contractor's fabrication and shop drawings, including structural design, as and when needed;
- g) Reviewing, revising, and recommending modifications to the structural design as a result of changes in ground and other conditions;
- h) Provide inputs to preparation and processing of follow on loan from ADB;
- i) Regularly reviewing the structural engineering aspects of the works and report accordingly; and
- j) Reviewing and reporting on any Contractor initiated proposals for modification of the structural designs.

55. **A6 Storm Water Drainage Expert.** The expert shall have the following credentials:

- (i) The expert must have degree in civil engineering and preferably post graduate degree in Hydraulics or similar and minimum of 10 years' experience in design and implementation of storm water drainage works;
- (ii) The expert will be responsible for contributing to all tasks and for undertaking the following activities;
 - (a) Design, supervision of construction. Installation, Testing and Commissioning of storm water drainage;
 - (b) Quality assurance of design and construction of subprojects with storm water components;
 - (c) Monitoring the work and output of the sub-teams involved in carrying out subprojects with storm water drainage components;
 - (d) Advising Team Leader/Additional Team Leaders and the implementing agencies on matters related to storm water drainage;
 - (e) Undertaking scheduled field visits for construction supervision oversight of storm water drainage on site;
 - (f) Examining the preparedness of the contractor for the project construction works and suggest ways to expedite the activities with quality;
 - (g) Supporting the Procurement and Contracts Specialist with examining contractor claims and providing advice to the PIUs as necessary;
 - (h) Examining the needs for contract variations;
 - (i) Provide inputs to preparation and processing of follow on loan from ADB and;
 - (j) Monitoring preparation of as-built drawings;
 - (k) Providing inputs to sectoral master plan.

56. **A7 Wastewater and Sanitation Expert.** The expert shall have the following credentials:

- (i) The expert must have degree in civil engineering and preferably post graduate degree in Hydraulics/Environmental/Public Health engineering

- or similar and minimum of 10 years' experience in design and implementation of non-sewered onsite sanitation/ STP/ combined treatment of faecal sludge & used water / waste water;
- (ii) The expert will be responsible for contributing to all tasks and for undertaking the following activities:
 - (a) Design, supervision of construction. Installation, Testing and Commissioning of Septage Treatment Plants;
 - (b) Quality assurance of design and construction of subprojects with waste water/sanitation components;
 - (c) Monitoring the work and output of the sub-teams involved in carrying out subprojects with waste water/sanitation components;
 - (d) Advising Team Leader/Additional Team Leaders and the implementing agencies on matters related to waste water/sanitation;
 - (e) Undertaking scheduled field visits for construction supervision oversight of wastewater component on site;
 - (f) Examining the preparedness of the contractor for the project construction works and suggest ways to expedite the activities with quality;
 - (g) Supporting the Procurement and Contracts Specialist with examining contractor claims and providing advice to the PIU as necessary;
 - (h) Examining the needs for contract variations;
 - (i) Provide inputs to preparation and processing of follow on loan from ADB and;
 - (j) Monitoring preparation of as-built drawings;
 - (k) reviewing and ensuring quality of Feasibility and Detailed reports prepared for sanitation investments under phase 2 of ADB loan;
 - (l) Provide inputs to sectoral masterplans.

57. **A8 Gender Expert.** The expert shall have the following credentials:

- (i) The expert must have a Post Graduate degree in social science. Gender focus studies in addition to post-graduate degree will be preferred. The expert should have a minimum experience of 10 years in community mobilization and social development works and a minimum 5 years' experience in implementation of gender projects. Experience of working in ADB / World Bank/ JICA funded projects in similar roles will be preferred.
- (ii) The expert will be responsible for contributing to all the tasks related to the approved Gender equality and social inclusion action plan. This will include (but not limited to):
 - a. Assisting TUDA and TTDCL PMUs and PIUs in implementing all the activities as per the target and indicators specified in the approved Gender Equality and Social Inclusion action plan (GESIAP);
 - b. Preparing an action plan to implement GESIAP activities in coordination with Community awareness and public participation consultants (CAPPC), PMU and PIUs;
 - c. Providing strategic support to CAPPC in designing and implementing community awareness and public participation (CAPP) activities aligned to the GESIAP;

- d. Coordinating with elected representatives, district administration, ULBs, Line departments, NGOs and community to facilitate project implementation and sustainability;
- e. Guiding CAPPCC experts in implementing GESIAP activities
- f. Conducting community consultations to inform elderly, women, children and persons with disabilities responsive features in the infrastructure and services under urban and tourism components;
- g. Working closely with technical experts of PMSC and contractors to ensure inclusion of appropriate EWCD features in the project components;
- h. Working closely with other technical experts of PMSC, contractors, PMU and PIU is ensuring livelihood opportunities for women as per the GESIAP targets;
- i. Maintaining sex disaggregated data on staff, consultants, workforce participation, project related consultations, trainings workshop and awareness raising events;
- j. Assisting PMU and PIUs and coordinating with the vendor/contractor and ULB in GIS-based property tax tagging system with gender disaggregated data for identified ULBs;
- k. Conducting feedback surveys, end line surveys as per GESIAP requirements to report on benefits of project;
- l. Conducting capacity development activities like training programs, workshops, consultations and community-based programs as per GESIAP;
- m. In coordination with other sector experts, assisting identified ULBs in integrating GESI aspects during preparation and adoption of climate resilient, inclusive and gender responsive sectoral plans 2041 for water supply, sanitation and solid waste management and ensuring inclusion of a separate section on GESI mainstreaming in the sectoral plans 2041;
- n. Assisting TUDA and TTDCL PMUs in undertaking gender responsive measures to improve institutional environment for gender equality and to improve employment of women in the respective organizations;
- o. Assisting TTDCL in updating Tripura Tourism Policy after 2025 to include GESI elements and measures to promote women's employment in the tourism sector;
- p. Assisting TTDCL is implementing a women's internship program for women;
- q. Ensuring training needs assessment and training of women in the area of construction, operation and maintenance of urban water supply assets and non-traditional jobs;
- r. Ensuring handholding support to women in employment opportunities in the project;
- s. Establishing convergence with other other government programs on livelihood;
- t. Undertaking comprehensive documentation of all training and awareness activities including participation numbers disaggregated by sex, photographs as per formats approved by the PMU and

- participants feedback and submit timely reports to PMU for submission to ADB.
- (iii) The expert will be responsible for preparing consolidated monthly reports for PMU and GESIAP quarterly progress reports for submission to ADB through PMU in the designated format.
- (iv) The expert will prepare GESI action plan completion report highlighting success stories and lessons learned.

58. **A9 Project Financial Expert.** The expert will be responsible for monitoring and providing advice on the financial management and disbursement arrangements of the project, for both the TUDA and TTDCL components, in accordance with the Project Administration Manual, legal agreements and ADB's Loan Disbursement handbook. The specific tasks will include:

- (i) Support the PMU in preparing budget estimates, revision of cost tables for the project.
- (ii) Support the PMU ensuring that separate accounts for the project are duly maintained by TUDA and TTDCL and the receipts and expenditure are duly recorded.
- (iii) Support the PMU in recording transactions in the accounting system and review and recommend adjustments to the system, as required, to record project transactions.
- (iv) Support the PMU (TUDA and TTDCL) in ensuring all payments are duly prepared, reviewed, authorized, and recorded in the accounting system and all expenditure items meet the eligibility criteria as defined in the ADB's legal documents.
- (v) Review quarterly reconciliations of disbursements records and ADB's disbursement data available in the Loan Financial Information System to ensure accuracy and completeness of project records.
- (vi) Assist in preparing withdrawal applications, supported by adequate documentation as outlined in the ADB's Loan Disbursement Handbook (LDH) and ensure proper filing of supporting documents.
- (vii) Assist the PMU in preparing financial information to be included in the quarterly progress reports, as per the format agreed with ADB and included in the PAM.
- (viii) Assist PMU (TUDA AND TTDCL) in preparing separate project financial statements annually covering all activities financed under all funding sources of the project.
- (ix) Assist the PMU (TUDA and TTDCL) to provide quarterly updates on the Financial Management Action Plan (FMAP) included in the PAM.
- (x) Support the PMU in ensuring timely internal audit of project transactions by the chartered accounting firm engaged for this purpose.
- (xi) Support the PMU in ensuring that the two project financial statements are audited and that the audit reports, audited project financial statements and the management letters are submitted to ADB in a timely manner. Also, support the PMU to ensure timely submission of audited entity financial statements of TUDA and TTDCL.
- (xii) Support the PMU in following up on internal and external audit recommendations to improve the internal controls of the project.

- (xiii) Assist the PMU in all other tasks as assigned by PMU director or equivalent.
- (xiv) Provide support to ADB team during Project Review Missions and participate in discussions on financial management related matters with ADB's financial management specialist.
- (xv) Regularly monitor financial management arrangements of the project including internal controls over project transactions.
- (xvi) Participate in various meetings with stakeholders as required.

Minimum Qualification Requirements

The consultant shall be National with experience in financial management of infrastructure projects.

Required Skills:

- Preferably with a chartered accountancy qualification and/or a master's degree in finance, or Business Administration from an accredited university.
- Previous extensive experience of at least 15 years in financial management of infrastructure projects with extensive knowledge of financing of donor financed projects. Previous experience of working with multilateral agencies will be preferred.

Minimum General Experience: 15 years

Minimum Specific Experience: 10 years

Regional/ Country Experience: Required

59. **A10 IT Expert.** IT expert shall have a degree in information technology / data science or related fields. The position requires 6 years of work experience in implementing ICT projects in Urban area out of which about 3 years of experience in managing projects of similar nature, preferably ADB/WB financed projects. The IT expert will support the PMU/PIU in all IT matters relating to the project. He/she will work closely with the PMU to:

- (i) develop the PPMS which is an IT based tool for day today project monitoring, and for next proposed loan project from ADB, develop RFP for IT related solutions similar to smart cities but on limited scale mainly to provide urban/ municipal services management;
- (ii) develop and implement a software to support urban / tourism related operations;
- (iii) provide support in the acquisition and implementation of software for Project Management, MIS and Asset management;
- (iv) provide support in the acquisition and implementation of Enterprise Resource Planning or similar software;
- (v) work in close cooperation with MIS/GIS/Communication and Documentation experts and provide guidance to IT analyst;
- (vi) be responsible for all software and hardware troubleshooting in the project;
- (vii) Provide inputs to preparation and processing of follow on loan from ADB;
- (viii) provide support and expertise in the acquisition, collation and reporting project progress and status information and;

- (ix) perform other related tasks to achieve the efficient IT enabled operations and reporting of the project.

60. **A11 Mechanical Engineer.** The Engineer must have the following credentials:

- (i) The engineer shall have a bachelor degree in mechanical engineering and 5 years of work experience, out of which about 2 years should be related to mechanical aspects of urban infrastructure and buildings.
- (ii) The engineer should have demonstrated experience of working in implementation teams, and working on complex projects in similar geographical settings.
- (iii) The engineer should be competent in planning, design, tendering, contract management, quality assurance and quality control, safety compliance etc. pertaining to construction of similar urban infrastructure and tourism projects.
- (iv) The expert will be responsible leading and contributing to all tasks related to mechanical engineering and for undertaking the following activities, among others. The main tasks of the engineer will include but not be limited to:
 - (a) Reviewing the detailed designs for mechanical aspects of water supply and sewage pumps, pumping stations, septage treatment, tourist and heritage buildings, adventure and children park equipment, raw water and wastewater treatment process equipment, roads, and drains;
 - (b) Reviewing and revising as per site conditions, if necessary, the detailed designs for mechanical aspects of the works and goods
 - (c) Participate in the preparation of processing of next proposed loan from ADB
 - (d) Review the bidding documents for the mechanical aspects under the project;
 - (e) Carrying out acceptance tests with the manufacturer(s);
 - (f) Provide inputs to preparation and processing of follow on loan from ADB;
 - (g) Assist with testing and commissioning; and
 - (h) Supporting preparation of MOM manuals for all mechanical items installed or that are associated with the project.

61. **A12 Electrical Engineer.** The Engineer must have the following credentials:

- (i) The engineer shall have a bachelor degree in electrical engineering with 5 years of work experience, out of which about 2 years should be related to electrical aspects of urban infrastructure and buildings.
- (ii) The engineer should have demonstrated experience of working in implementation teams, and working on complex projects in similar geographical settings.
- (iii) The engineer should be competent in planning, design, tendering, contract management, quality assurance and quality control, safety compliance etc. pertaining to construction of similar projects.

- (iv) The engineer will be responsible leading and contributing to all tasks related to electrical engineering but not be limited to:
 - a) Reviewing the detailed designs for electrical aspects of the urban and tourism infrastructure and buildings including water supply and sewage pumps, pumping stations, septage treatment, raw water and wastewater treatment process equipment, roads, and drains.
 - b) Reviewing the detailed designs for electrical aspects of the urban and tourism infrastructure and buildings including substations, distribution infrastructure, site lighting, SCADA control systems and communications;
 - c) Participate in the preparation of processing of next proposed loan from ADB;
 - d) Reviewing the existing power transmission/distribution systems within the vicinity of the works and advising on optimum connection points, and what new infrastructure will be required;
 - e) Review the bidding documents for the electrical aspects under the project;
 - f) Carrying out acceptance tests with the manufacturer(s);
 - g) Assist with testing and commissioning; and
 - h) Supporting preparation of O&M manuals for all electrical items installed or that are associated with the project

62. **A13 Communication and Documentation Specialist.** The expert must have at least a master's degree in development studies, communication, social work or a relevant discipline. Minimum of 6 years demonstrated experience in the area of communications in development projects required. Experience of working for projects financed by ADB and other multilateral donors essential. Strong oral and written English proficiency. The main activities of the specialist will include but not be limited to the following:

- (i) Prepare a detailed work plan for the implementation of the project's communication strategy and ensure its effective and timely implementation;
- (ii) Consolidate and document the communication learnings and lessons from the project to inform the Employer and ADB in processing next proposed loan from ADB
- (iii) Coordinate with all specialists and PIUs working on the various activities to ensure synchronization of communication workplans, timing of implementation and harmonization of materials and messaging.
- (iv) Develop and manage an effective public relations plan and to implement such developed plan, support the PIU with communication activities as necessary;
- (v) Promoting the benefits of the Project and disseminating information to associated project stakeholders, general public and NGOs on how well social and environmental aspects are taken care of and what benefits are attributed to the community;
- (vi) Proactively organizing public relations events as required;

- (vii) Assisting PIU with developing and maintaining a Project website to document and disseminate project information and implementation progress. Provide a feedback and communication system for stakeholders and general public
- (viii) develop detailed communication action plans (monthly, quarterly, and annual);
- (ix) support in preparing and monitoring the MIS,;
- (x) prepare the project quarterly and annual reports including a qualitative assessment of the project benefits;
- (xi) coordinate and monitor the progress and results of all capacity building activities;
- (xii) video documentation on the before and after effects of the project;
- (xiii) guide, assist, coordinate, and monitor project activities to be conducted among project key stakeholders and submit progress reports to the PIU and ADB, as necessary; and
- (xiv) provide support for the project review missions of ADB including progress updates on the GAP implementation.

63. **A14 Quality Control Expert.** The Engineer must have the following credentials:

- (i) The Engineer will have a graduate degree in Civil Engineering/Geotechnical Engineering. Must have 5 years of work experience in design and construction of earthworks, civil construction, buildings, roads and other similar civil structures related to this project.
- (ii) Experience shall include planning, implementing, and analyzing the results of geotechnical sampling/drilling/testing investigations for earthworks, drainage and stability. Have familiarity with sourcing and testing materials from borrow areas.
- (iii) The Engineer will be responsible for planning any additional investigations, supervision of their execution and evaluation of the findings. Shall contribute expertise to support the Employer in processing next proposed loan from ADB. The Engineer's tasks will also include, but not be limited to:
 - a) Managing and control of the in-situ investigations;
 - b) Logging of drill holes and trenches to national best practice standards;
 - c) Supervising in-situ and lab testing of construction materials and finished products;
 - d) Evaluating all findings and establishing geological profiles for each structure with the results of logging and permeability testing;
 - e) Carrying out geological and geotechnical mapping and analysis;
 - f) Drawing conclusions and writing reports about the geotechnical conditions;
 - g) Recording rock and soil conditions as the work progresses;
 - h) Monitoring all instrumentation and testing activities, as required; and
 - i) Regularly review the geological and geotechnical conditions at the sites.

64. **A15 Road Design Engineer.** The Engineer must have the following credentials:

- (i) The engineer will preferably have a master's degree in civil engineering in transportation/ roads or equivalent. Experience in project management will be preferred. Must have 5 years of experience in roads design and construction, culvert, bridges. Shall have demonstrated experience of working in implementation teams, and working on projects in similar geographical settings.
- (ii) The engineer will work closely with other team members in PMSC/PIU. The main tasks of the specialist will include but not be limited to:
 - a) Support the project in all aspects of road design and construction;
 - b) Take full responsibility for the effective design quality and safety systems;
 - c) Ensuring roads construction program is implemented according to design specifications and project schedule;
 - d) Contributing to training and capacity building of PIU staff;
 - e) Coordination and integrated action between field units, other consultants, various government institutions, project beneficiaries, PIU and provide clear directions and decisions on all aspects of roads construction;
 - f) Examining and commenting on contractor claims;
 - g) contribute expertise to support the Employer in processing next proposed loan from ADB
 - h) Be responsible for roads construction component reports preparation; and
 - i) Any other work assigned by TL/ATLs

B. Non-Key Staff (common to both Urban and Tourism)

65. **B1 Social Safeguards staff (3 numbers).** The social safeguards staff must have the following credentials:

- (i) The staff must have a master's degree in sociology, social work or relevant field with 5 years of experience undertaking similar assignments, preferably financed multilateral agencies preferably ADB/World Bank and with demonstrated experience of working with government. The social safeguards staff will be responsible for supporting the overall implementation of the social safeguard activities and will undertake following tasks but not be limited to:
 - a) Support PMSC expert in conducting public participation and awareness programs in accordance with ADB procedures.
 - b) Support in coordinating for the base line requirements,
 - c) Assist PMU and PIUs in implementation of the resettlement plans and RIPP's including specific action plans;
 - d) Support PMU and PIUs in assessment of the loss to affected persons, preparation of the micro plans and ID cards and disbursement of compensation.
 - e) Provide support to PIUs and Affected Persons in coordinating for issuance of allotment letters and shifting to new shops.

- f) Provide support to PMU/PIU in preparation of social monitoring reports; Assist the PMU and the PIUs in ensuring that all activities are in compliance with national/ state and ADB's requirements,
- g) Undertake necessary consultations with the affected persons to activities regarding social safeguard compliances for PIUs and the contractors,
- h) Provide support to affected persons in accessing the GRM.
- i) Conduct regular consultations with all the stakeholders, including the affected persons; Coordinate workshops, Focused Group Discussions (FGDs) and community consultation during design and implementation phase.

66. **B2 Auto-CAD Operator (3 numbers):** The Auto CAD Operator must have the following credentials:

- (i) The operator will have an appropriate diploma or certificate qualification in drafting, and at least 5 years of practical drafting experience;
- (ii) The operator must have sound knowledge and experience of data processing and using drafting software such as AutoCAD;
- (iii) The operator will be responsible for the overall quality and delivery of drawings prepared by the PMSC. Will undertake following tasks but not be limited to:
 - a) Establishing a secure and backed-up database system for managing all documents,
 - b) drawings and software used by the PMSC;
 - c) Establishing a comprehensive indexed drawing and document numbering system;
 - d) Establishing and using templates, protocols, and drawing standards that are to be used for all drawings and presentations;
 - e) Preparing the drawings and keeping track of their revisions;
 - f) Reviewing and maintaining quality assurance on all drawings prior to release to contractors, PMU, PIU, and others; and
 - g) Working independently with minimal guidance.

67. **B3 Quantity Surveyor (3 numbers):** The Quantity Surveyor to have the following credentials:

- (i) The quantity surveyor shall be graduate in Civil Engineering having experience of not less than 5 years or diploma in Civil Engineering with minimum 10 years' experience with specialization in preparing estimates / rate analysis / market assessment of costs / BOQ / specifications/ schedule of rates for municipal and tourist infrastructure projects;
- (ii) Should have demonstrated experience of working in implementation teams, and working on projects in similar geographical settings;
- (iii) The quantity surveyor will undertake the following activities, but not be limited to:
 - a) Preparation of analysis of rates, quantity surveying, estimates, determining market prices, BOQs, checking of Contractor's Interim and Final Payment Certificates for all Sub-Projects, checking of specifications;

- b) Assisting procurement expert and other experts of PMSC in preparation of bid documents;
- c) surveying and quantification of as built items of works;
- d) Competency in documentations of invoices, their verification and checking Contractors' claims for quantities and rates;
- e) Establishing through professional survey and assessment methods quantities as per drawings and as built in all contracts, in particular, for DBO water supply contracts; and
- f) Document safely on computer and in contract files, quantities, variations, claims and as built quantities of all works.

68. **B4 MIS/ IT Expert:** The Expert must have the following credentials:

- (i) The Management Information Systems (MIS) and IT expert will have a relevant background in engineering/information technology or other associated topics with at least a master's degree/MCA.
- (ii) The specialist will also have at least 8 years of experience on similar development projects and should demonstrate prior MIS databases developed.
- (iii) The MIS/IT expert will work closely with other IT experts and be directly responsible to the TL/ATLs and will undertake the following specific tasks:
 - a) Development and implementation of a web-based MIS system for the project and making it operational;
 - b) PPMS preparation and implementation to effectively show the progress of the Project. Generate monthly quarterly reports, maintain all data, GIS. Support IT expert whenever required. He should have experience of project monitoring etc. ;
 - c) Design, develop, operate, and maintain a comprehensive MIS database. The system should incorporate early notifications /triggers of when reports are due to ensure timely reporting;
 - d) Work with project staff to establish key data and indicators, including gender-disaggregated data, for monitoring implementation progress and relating to project outcomes against targets;
 - e) Develop Project procedures and manual for the use of the Project MIS;
 - f) Ensure that the MIS, operated by project staff, can provide timely and appropriate reports; and
 - g) Design, prepare and deliver training program for staff on the use of the MIS and facilitate/review periodic updating.

C Key Staff (solely Urban)

69. **C1# Additional Team Leader cum Water Supply Expert (Urban):** The expert shall have the following credentials:

- (i) Civil engineer, preferably with a master's degree in hydraulics/planning/urban and 12 years of work experience out of which

- minimum 8 years should be related to preferably water supply projects, urban roads, and drains
- (ii) Experience as Deputy Team Leader in similar project at least for 3 years and experience in contract management in similar project at least for 3 years is desirable
 - (iii) Project management of construction projects similar to the Project that include multiple concurrent works activities
 - (iv) The expert should be competent in urban engineering, design, contract management, quality assurance and quality control, safety, compliance with safeguards, etc. pertaining to construction of similar projects in similar geographical and topographical settings and using similar construction methods
 - (v) The expert will have excellent verbal and written communication skills in English.
 - (vi) Sound experience in FIDIC Contract condition and DBO FIDIC Contract management.
 - (vii) The expert must have knowledge of project management software such as PRIMAVERA (or similar).
 - (viii) The expert will be responsible for leading and contributing to all tasks and for undertaking the following activities.
 - a) Supporting the Team Leader as required, leading the team in his / her absence, and coordinating with the PIU and key stakeholders.
 - b) Reviewing in detail Contractor submissions;
 - c) Examining the preparedness of the contractors for project construction works and suggest ways to expedite the activities;
 - d) Guiding correspondence with Contractors, construction supervision and monitoring of quality control;
 - e) Checking of materials for quality and quantity to ensure they meet specifications;
 - f) Oversee work of the Contracts Specialist with examining contractor claims and providing advice to the PIU as necessary;
 - g) Examining the need for contract variations;
 - h) Monitoring preparation of as-built drawings;
 - i) Supervising and monitoring contractors;
 - j) Assist with testing and commissioning;
 - k) Advising PIU to develop and manage an effective public relations plan and to implement such developed plan, Support the PIU with communication activities as necessary;
 - l) Advising the PIU in coordinating the planning, management, monitoring, and reporting of all Project activities including supporting the development and implementation of progress monitoring and communication systems;
 - m) Supporting PIU with packaging contracts and finalizing tender documents;
 - n) Coordinating with and assisting PIU on any relevant Project activity
 - o) Promoting the benefits of the Project and disseminating information to associated project stakeholders, general public, and non-government organizations;

- p) Advising PIU with developing and maintaining a Project website to disseminate information and implementation progress, and provide a feedback and communication system for stakeholders and general public;
- q) Lead urban team efforts and provide inputs to preparation and processing of follow on loan from ADB;
- r) Preparing a photographic and video diary of the construction works throughout the entire duration of the Project. This should show construction activities, progress, and interviews with Employer, PMU, PIU, PMSC, contractors, government staff, and stakeholders. It will be prepared to a high professional standard; and
- s) Coordinating the expert support to the Employer and consultants of the PMSC in processing next proposed loan from ADB for urban component;
- t) providing inputs to sectoral master plan.

70. C2, C3, and C4 Construction Management Experts (3 numbers) @ Cluster Head Quarters (CHQ): The expert must have the following credentials:

- (i) Civil engineer with a Bachelor's degree, preferably with a Master's degree and 10 years of work experience out of which about 5 years should be related to construction management of urban engineering projects (Water Supply Projects, Construction of Urban Roads, Sanitation Works including STP etc., and other Urban Amenities/ Infrastructure works) that include multiple concurrent works activities;
- (ii) Experience of 3 years in Externally Aided Project, preferably ADB/WB;
- (iii) Should have lead construction supervision teams in similar projects. Each of the 3 experts would be based in a cluster PIU and would lead a team of 4 to 7 construction supervisors;
- (iv) The expert should be competent in construction management preferably of DBO contracts of water supply or sewerage, quality control and safety pertaining to construction of similar projects. The expert must have knowledge of project management software such as PRIMAVERA (or similar). Tasks will also include, but not be limited to:
 - a) Supporting the Team Leader / ATL and coordinating with the PIU and key stakeholders;
 - b) Reviewing in detail Contractor submissions;
 - c) Guidance to construction supervisors of PMSC and contractors for project construction works and suggest ways to expedite the activities;
 - d) Effective correspondence with Contractors and monitoring of quality control;
 - e) Testing of materials for quality and quantity to ensure they meet specifications;
 - f) Identifying the need for contract variations;
 - g) Preparation of as-built drawings;
 - h) Assist with testing and commissioning; and

- i) Coordinating the expert support to the Employer and consultants of the PMSC experts in processing next proposed loan from ADB for urban component.

71. **C5 Urban Planner cum GIS Expert.** The specialist to have degree in architecture or civil engineering and master's in Urban Planning with specialization / training in GIS and geo-informatics. Required to have 10 years' experience in relevant assignments. Should have handled at least 3 projects of city infrastructure designing and managing projects related to water supply, Sewerage, and storm sewer for a city/cities. Have a broad range of experience in Urban Infrastructure and a strong background in Public Health Engineering, especially in Water Supply and Sanitation. Should have prepared at least 3 master plans out of which at least two Master Plans of a city on GIS platform. Tasks will also include, but not be limited to:

- (i) formulation of GIS based city master plans, development plans, area plans, zonal plans, town planning schemes;
- (ii) sectoral master plans for Udaipur and Dharmanagar,
- (iii) developing and managing geo-databases;
- (iv) practical experience in GIS software tools like Arc Map, ERDAS and other platforms;
- (v) preparation of base maps, Spatial attribute data collection and vetting of maps;
- (vi) using GIS data analysis and modelling tool for project and;
- (vii) expert support to the Employer and consultants of the PMSC in processing next proposed loan from ADB
- (viii) Support in procuring sub consultant, coordinate, monitor and document geo tagging of all properties in 7 district headquarters towns.

72. **C6 Solid Waste Management and Sanitation Expert.** The specialist to have post graduate degree in civil engineering with environmental engineering as specialization. Required to have 10 years' experience in relevant assignments. Should have handled at least 3 projects of city infrastructure designing and managing projects related to solid waste management & sanitation and should be well conversant with the latest technologies and trends in the sector. Should have prepared at least one sectoral plan for SWM. Tasks will also include, but not be limited to:

- (i) Preparation of sectoral plans for SWM for Dharma Nagar and Udaipur
- (ii) Any issues brought to him related to SWM arising during project implementation
- (iii) Support and advising in managing construction debris and garbage generated in line with the EMP
- (iv) Support in procuring sub consultant, coordinate, monitor and document geo tagging of all properties in 7 district headquarters towns.

73. **C7 Water Treatment and Process Engineer.** The Engineer must have the following credentials:

- (i) The Engineer must be an experienced engineer, preferably with Master's degree in civil engineering in environmental or public health engineering or drinking water supply. Shall preferably have 5 years of experience in

- the detailed engineering design of water supply treatment processes and management including the use of SCADA.
- (ii) Experience of 2 years in Externally Aided Project preferably ADB/WB preferred;
 - (iii) Have demonstrated ability to work within a multi-disciplinary consulting team and others project stakeholders; to review DBO Contractor's designs for quality and efficiency and suggest means by which errors can be rectified and designs improved.
 - (iv) The Engineer's responsibilities will include, but not be limited to:
 - a) At each stage of project implementation, ensure all designs and construction is of quality acceptable to PIU;
 - b) Reviewing and finalizing all engineering designs and cost estimates and other relevant tasks related to raw water treatment processes.
 - c) Review and provide proposals to improve engineering design and tender documents;
 - d) Tender documents should be checked to confirm that technical specifications are complete and correct;
 - e) Design and Construction Supervision: Ensure all designs and construction are of quality acceptable to PIU;
 - f) Contribute expertise to support the Employer in processing next proposed loan from ADB
 - g) Carry out design checks to ensure the quality of outputs by contractors for each stage; and
 - h) Prepare practical tests to assess operation staff in operating water supply and wastewater treatment systems. Suggest training focus areas and needs to PIU.

74. **C8 SCADA Engineer.** The Engineer must have the following credentials:

- (i) The SCADA Engineer shall have a bachelor degree in civil/mechanical/electrical/electronics'/instrumentation engineering with preferably post-graduation. Required to have 5 years of experience in planning, investigating, and modelling SCADA systems for similar projects.
- (ii) Must have sufficient knowledge and experience in district metered zone management and leak assessment.
- (iii) The SCADA Engineer with experience of at least one externally funded project (ADB or World Bank etc.) is preferred. Ensuring interoperability, SCADA platform architecture should be open to accept additional applications and systems for future improvement in water supply network management.
- (iv) This should be an open system which can be expanded on a modular basis as required and is highly extensible to accommodate planned expansion. It should also be capable of managing the new remote terminal unit sites and communications upgrades. The SCADA Engineer responsibilities include but not be limited to:
 - a) Define objectives for water supply management, SCADA system, Operation Control Centre-a computer based centralized

- management system-and software (upgrades or new) for HQ and project areas;
- b) Define the scope of the system including: (a) data monitoring-remote sensing/GIS and direct measurement of water levels, flows, gates positions, rainfall; (b) decision support system software; (c) automation of gates; (d) power supply requirement and options, e.g., mains plus backup solar; and (e) data communication options, e.g., cellular-mobile phone network;
- c) Develop network sectorization program;
- d) Detailed review of water supply DBO Contractor's design submissions comprising SCADA and make appropriate modifications and recommendations to improve SCADA performance;
- e) Contribute expertise to support the Employer in processing next proposed loan from ADB
- f) Together with T/DTL, conduct trainings on SCADA systems; and
- g) Prepare specifications and quantities and work with the procurement specialist to prepare bidding documents for the next proposed loan from ADB for urban component.

D. Non-Key Staff (solely Urban)

75. **D1 Design Engineer-Water Supply (2 numbers).** The Engineer must have the following credentials:

- (i) The Engineer shall be a graduate civil engineer, preferably with a master's degree and 5 years of work experience of which about 2 years should be related to water supply systems and hydraulic systems and structures.
- (ii) A practical knowledge of SCADA and proficiency in hydraulic modelling of water supply system is essential.
- (iii) The Engineer should have demonstrated experience of design and implementation and working in complex projects in similar geographical and topographical settings.
- (iv) The Engineer to be competent in planning, design, safety, and compliance with safeguards pertaining to construction of similar projects.
- (v) The Engineer's responsibilities include contributing to all tasks related to hydraulics. Tasks will also include, but not be limited to:
 - a) Review the hydraulic analyses for water supply undertaken in support of the detailed designs;
 - b) Support the other PMSC design experts with reviewing DBO contractor's design, and if warranted, improve detailed designs for all water supply hydraulic structures systems to ensure they convey the required design flows, are low maintenance, and are safe;
 - c) Support the PMSC with finalizing bid documents during processing next proposed loan from ADB;
 - d) Assist with testing and commissioning; and
 - e) Supporting preparation of O&M manuals

76. **D2 Design Engineer-Wastewater and Drainage.** The Engineer shall have Bachelor's Degree in Civil Engineering and post graduate degree in hydraulics/waste

water/sanitation engineering/drainage and minimum of 5 years' experience in design and implementation of non-sewered onsite sanitation / waste water and storm water drainage works in urban areas. The Engineer's tasks will also include, but not be limited to:

- (i) Design, supervision of construction, installation, testing and commissioning of septage treatment plants
- (ii) Quality assurance of design and construction of subprojects with storm water/waste water/sanitation components;
- (iii) Assisting the TL/ATL and the implementing agencies on matters related to waste water/sanitation.
- (iv) Examining the contractor's construction works and prepare revised design and drawings wherever necessary;
- (v) Documentation of design and preparation of as-built drawings; and
- (vi) Contributing expertise to support the Employer in processing next proposed loan from ADB for urban component.

77. **D3 GIS Analyst.** The Analyst must have the following credentials:

- (i) The Analyst shall have university degree in geography, data management, engineering, or other closely related field with technical specialization in geo-spatial technology, cartography, Geographic Information Systems (GIS). Minimum 5 years' experience in GIS with a strong emphasis on spatial analysis. Demonstrated experience in GIS mapping of urban areas, towns, cities, covering all features with database and database designing and management, customization of GIS application, Preparation of map with database of property survey, preparation of map with complete database of all the utilities (Road, Water network, Drainage, Sewerage, Power network, etc.).
- (ii) The Analyst shall be responsible leading all tasks related to GIS but not be limited to:
 - a) Work under the guidance of Urban Planner cum GIS Expert to provide technical support on GIS and related matters;
 - b) Design, develop, customize, and maintain discipline specific GIS (maps, tables, etc.);
 - c) Undertake spatial analyses and create information products from the GIS related software and systems to meet project specific needs;
 - d) Provide quality control regarding data capture, evaluation of data acquired from ground and develop database;
 - e) Assist Urban Planner cum GIS Expert in the preparation of base maps for towns;
 - f) Work closely with the MIS expert in collating spatial and non-spatial information with respect to plot boundaries, network of basic infrastructure such as roads, sewerage, storm drainage and water lines, etc.;
 - g) Supervise the Integration of total survey into GIS domain;
 - h) Provide capacity building training for PIU / PMU staff on their GIS needs;
 - i) supervise integration of geo tagging of property data onto the GIS platform and

- j) Any other task as assigned by the TL/ATL

78. **D4 Construction Supervisor (civil) -12 numbers to be based at @ Cluster Head Quarters (CHQ):** The Construction Supervisor must have the following credentials:

- (i) The Construction Supervisor shall have bachelor's degree in civil engineering with at least 5 years of experience or be a diploma holder in civil engineering with at least 8 years of experience in municipal infrastructure construction in urban areas having worked with minimum supervision. He will be reporting to Construction Management Expert of the Cluster Head Quarters and will undertake following tasks but not be limited to:
 - a) Monitor the activities of the contractors that are engaged by Employer and report back to the PIU and Construction Management Expert any issues that are identified including opportunities for improvement in construction quality, efficiency and timeliness;
 - b) Coordinate with PIU and Contractors to ensure quality, identifying site issues and work for redressal through appropriate channels;
 - c) Regularly and continuously be present at work sites, especially for key milestone construction activities;
 - d) Communicate with Contractors and PIU effectively and quickly to identify, troubleshoot and expeditiously resolve any design or site issues;
 - e) Provide guidance to contractors' field staff in latest construction management techniques/practices;
 - f) Support progress monitoring with preparation of s-curves for physical and financial progress and other monitoring methods;
 - g) Gather and collate data regularly for progress reporting; and
 - h) Perform any other duties assigned by Construction Management Expert of the Cluster Head Quarters, relevant to the project.

79. **D5 Construction Supervisor (Electrical/Mechanical-3 numbers) to be based at cluster headquarters (CHQ).** The Construction Supervisor must have the following credentials:

- (i) The Construction Supervisor shall have at least a bachelor's degree in Electrical or Mechanical engineering with at least 5 years of experience or a diploma holder in Electrical or Mechanical engineering with at least 8 years of experience in municipal infrastructure construction projects in urban areas and having worked with minimum supervision;
- (ii) The Construction Supervisor will be reporting to Construction Management Expert of the Cluster Head Quarters. Electrical / Mechanical engineers in PMSC will undertake following tasks but not be limited to:
 - a) Monitor the activities of the contractors that are engaged by Employer and report back to the PIU and Construction Management Expert of the Cluster Head Quarters and Electrical / Mechanical engineers in PMSC any issues that are identified including opportunities for improvement in construction quality, efficiency and timeliness;

- b) Coordinate with PIU and Contractors to ensure quality, identifying site issues and work for redressal through appropriate channels;
- c) Regularly and continuously be present at work sites, especially for key milestone activities;
- d) Communicate with Contractors and PIU effectively and quickly to identify, troubleshoot and expeditiously resolve any design or site issues;
- e) Provide guidance to contractors' field staff in testing, operation and commissioning;
- f) Support progress monitoring with preparation of s-curves for physical and financial progress and other monitoring methods;
- g) Gather and collate data regularly for progress reporting; and
- h) Perform any other duties assigned by Construction Management Expert of the Cluster Head Quarters and Electrical / Mechanical engineers in PMSC.

80. **D6 Junior Architect.** (i) The expert shall have a degree in architecture (ii) 4 years of experience in projects, which demonstrates expertise in architecture, landscape architecture, development of visitor amenities; (iii) experience in externally financed projects (ADB, JBIC, World Bank or other bilateral/multilateral funding agencies); (iv) experience of working in similar region on similar projects will be advantageous. Architect will undertake following tasks but not be limited to:

- (i) Support Urban team in finalizing the drawing of buildings and manage AUTO CAD draftsman.
- (ii) review site plans, drawings, specifications, and cost estimates for buildings and landscape works;
- (iii) coordinate the arrangement of existing and proposed land features and structures;
- (iv) prepare graphic representations of proposed plans using computer-aided design and drafting (CADD) software;
- (v) select appropriate materials for use in landscape designs;
- (vi) analyze environmental reports on land conditions, such as drainage and energy usage;
- (vii) inspect building and landscape work to ensure that it adheres to original plans;
- (viii) supervise quality of works and approve amendments, if any; and
- (ix) monitor and ensure that project is implemented as designed.

81. **D7 Office Manager cum Accountant.** (i) The expert shall have a degree in BA/BSc/B Com/BBA/CA or equivalent (ii) 5-7 years of experience in projects, which demonstrates similar assignment (iii) experience in externally financed projects (ADB, JBIC, World Bank or other bilateral/multilateral funding agencies, Centrally sponsored schemes); (iv) experience of working in similar region on similar projects will be advantageous. Office Manager cum Accountant will undertake following tasks but not be limited to:

- (i) Support the Team Leader in management of the office.
- (ii) Look after the accounts related matters.
- (iii) Management of office stationary and equipments.

- (iii) File Management of PMSC.

82. **D8 Computer cum Data Entry Operator.** (i) The expert shall have Diploma/ITI Certificate in Computer Typing/ Stenography or equivalent from Government recognized registered institute (ii) 3-5 years of experience in projects, which demonstrates similar assignment (iii) experience in externally financed projects (ADB, JBIC, World Bank or other bilateral/multilateral funding agencies, Centrally sponsored schemes); (iv) experience of working in similar region on similar projects will be advantageous. Computer cum Data Entry Operator will undertake following tasks but not be limited to: Support the Expert/Design Engineer/PMSC in computer and data entry works.

83. **D9 Office Assistant.** (i) The expert shall have BA/BSc/B Com or any other Graduate Degree (ii) 3-5 years of experience in projects, which demonstrates similar assignment (iii) experience in externally financed projects (ADB, JBIC, World Bank or other bilateral/multilateral funding agencies, Centrally sponsored schemes); (iv) experience of working in similar region on similar projects will be advantageous. Office Assistant will undertake following tasks but not be limited to: Support the Team Leader/Expert/Design Engineer/Office Manager/PMSC in office management and other official works of PMSC.

84. **D10 Technical Assistant.** (i) The expert shall have degree in Civil Engineering (ii) 4-5 years of experience in projects, which demonstrates similar assignment (iii) experience in externally financed projects (ADB, JBIC, World Bank or other bilateral/multilateral funding agencies, Centrally sponsored schemes); (iv) experience of working in similar region on similar projects will be advantageous. Technical Assistant will undertake following tasks but not be limited to:

- (i) Support the PMSC in technical works in office.
- (ii) Look after technical matters.
- (iii) Collection of Secondary data from line departments.

E. Key Staff (solely Tourism)

85. **E1 Additional Team Leader cum Tourism Expert.** The expert must be an experienced civil engineer or architect, preferably with a master's degree and 12 years of work experience out of which about 8 years should be related to project management of construction projects similar to the Project that include multiple concurrent works activities and construction of hospitality infrastructure. The expert should have demonstrated experience of leading implementation teams, and working in complex projects in similar geographical and topographical settings. The expert should be competent in contract management, quality assurance and quality control, safety, compliance with safeguards, etc. pertaining to construction of similar projects. The expert will have excellent verbal and written communication skills in English. The expert will be responsible for leading and contributing to all tasks and for undertaking the following activities, among others:

- (i) Having overall responsibility for the timely delivery and quality of project's tourism component outputs, that are acceptable to Employer and PIU;
- (ii) Managing the relationships with the PIU, PMU, and all other stakeholders;

- (iii) Preparing and implementing all systems and procedures needed to ensure the effective contract management and construction supervision of the contract works and goods procurement of tourism component in accordance with the scope of works with specified standards;
- (iv) Being responsible for overall direction of the tourism team, coordination of inputs, and management of individual experts;
- (v) Being responsible for the overall management of the tourism consulting team and their activities. Providing expert advice as required to TL and other team members. Review and ensure outputs are complete, well prepared using consistent formats, and their content is prepared to the highest standard;
- (vi) Carrying out a comprehensive review of the detailed designs done to-date and draw attention to changes which may have become necessary since their preparation;
- (vii) Advising on construction and contracting methods, and performing a comparative analysis of options, benefits, risks, mobilization, and implementation schedules;
- (viii) Identifying important technical and managerial issues which affect progress, safety, quality, and compliance with safeguards;
- (ix) Reviewing the construction schedule and recommending actions to avoid delays;
- (x) Reviewing mobilization of the Contractor's resources (experience of the personnel, equipment, machines, quality and quantity of materials, funds, etc.) and recommending additional resources to be mobilized;
- (xi) Guiding, coordinating, and supporting Project activities and providing overall guidance and direction;
- (xii) Advising the TTDCL PIU in coordinating the planning, management, monitoring, and reporting of all Project activities including supporting the development and implementation of progress monitoring and communication systems;
- (xiii) Advising the PIU in planning, and coordinating inputs;
- (xiv) Supporting PIU with packaging contracts and finalizing tender documents;
- (xv) Coordinating with and assisting PIU on any relevant Project activity and
- (xvi) Supporting visiting missions from ADB and
- (xvii) Coordinating the expert support to the Employer in preparing and processing next proposed loan from ADB for tourism component.

86. **E2 Senior Architect / Urban Designer.** The expert must be an experienced Architect with a Bachelor's degree or equivalent, preferably with a Master's degree and 10 years of work experience out of which about 6 years should be related to design and construction management of similar tourism and hospitality sector construction projects that include multiple concurrent works activities comprising functionality and aesthetics. The expert should have demonstrated proficient qualities and worked on complex projects in similar geographical and topographical settings and using similar construction methods. The expert should be competent in quality assurance and quality control, safety, compliance with safeguards, pertaining to construction of similar projects. The expert must have excellent verbal and written communication skills in English. Expert will be responsible for, among other activities:

- (i) Supporting the ATL as required, leading the tourism team in his / her absence, and coordinating with the PIU and key stakeholders.
- (ii) Reviewing detailed architectural design aspects;
- (iii) Examining the preparedness of the contractors for project construction works and suggest ways to expedite the activities with quality;
- (iv) Guiding architectural and aesthetics elements, landscaping, daily construction supervision and monitoring of quality control;
- (v) Checking of materials for quality and quantity and ensure they meet specifications;
- (vi) Examining contractor claims and providing advice to the TTDCL PIU as necessary;
- (vii) Examining the need for contract variations;
- (viii) Monitoring preparation of as-built drawings;
- (ix) Supervising and monitoring contractors;
- (x) Assist with testing and commissioning;
- (xi) Support the PIU with communication activities as necessary;
- (xii) Preparing a photographic and video diary of the construction works throughout the entire duration of the Project. This should show construction activities, progress, and interviews with Employer, PMU, PIU, PMSCT, contractors, government staff, and stakeholders. It will be prepared to a high professional standard; and
- (xiii) Coordinating the expert support to the Employer in processing next proposed loan from ADB for tourism component.

87. **E3 Construction Management Expert.** The expert shall be an experienced civil engineer with a bachelor's degree, preferably with a Master's degree and 10 years of work experience out of which about 5 years should be related to construction management of construction projects that include multiple concurrent works activities and construction of aesthetic buildings and infrastructure. The expert should have demonstrated experience of leading implementation teams in field, and working on complex projects in similar geographical and topographical settings. The expert would be competent in contract management, safety, compliance with safeguards, risk management, project controlling, claim management, etc., pertaining to construction of similar projects. The expert must have extensive knowledge of data processing and project management information systems (MIS) and software like PRIMAVERA (or similar) as well as excellent verbal and written communication skills in English. Reporting to the ATL-Tourism, the expert will have overall responsibility for supervising and monitoring construction activities and leadership of the tourism construction supervision team and contractors. The expert will be responsible for, among other activities:

- (i) Undertaking daily construction supervision with quality assurance and quality control monitoring and control on site;
- (ii) Checking of materials for quality and quantity and ensure they meet specifications;
- (iii) Identifying the important technical and managerial issues in construction of the works which are affecting the progress, safety, quality, and compliance with safeguards;
- (iv) Examining the preparedness of the contractor for the project construction works and suggest ways to expedite the activities with quality;

- (v) Reviewing the mobilization of the contractor's resources (personnel, equipment, machines, materials, funds, etc.) and recommending additional resources to be mobilized to complete the works according to the implementation schedules and to the required specifications;
- (vi) Responsible for the operation of the project management information system (MIS);
- (vii) Assisting with preparation of interim payment certificates;
- (viii) Supporting the Procurement and Contracts Specialist with examining contractor claims and providing advice to the TTDCL PIU as necessary;
- (ix) Examining the needs for contract variations;
- (x) Supporting the PIU in monitoring compliance with environment management plans;
- (xi) Monitoring preparation of as-built drawings;
- (xii) Assisting with preparation of partial, substantial, and final completion certificates;
- (xiii) Supervising and monitoring of the contractors;
- (xiv) Having regular meetings with the Contractor, the Engineer and the PIU to operationalize all recommendations in an efficient and effective manner; and
- (xv) Contributing expertise to support the Employer in preparing and processing next proposed loan from ADB for tourism component.

88. **E4 Conservation/ Heritage Architect.** The Specialist shall have at least a degree in architecture, planning, or a related discipline with a minimum of 10 years of experience working in heritage area. S/he must have a demonstrated ability to analyse site problems, develop indicators, devise solutions, and guide conservation and heritage components and preferably should have been associated with civil construction works in heritage areas with expertise of museum and exhibition. The expert will play a leading role in the tasks described below:

- (i) In consultation with PMU/PIU, verify, review and ensure compliance to the heritage conservation requirements of structures especially those being restored;
- (ii) Assess, and, where necessary, mitigate possible adverse impacts of the project's physical and non-physical interventions on the declared heritage monuments and their surrounding buffer zones;
- (iii) Oversee implementation of modernization works within the conservation area, restoration, removal, addition, rearrangement, and other interventions that may be required so as not to disturb the existing Heritage structures due to the proposed works;
- (iv) In close collaboration with other Specialists, devise protocols and systems for on-site monitoring and predictive modelling and reporting of the impact of tourism, if any, on the site, their buffer zones, and the surrounding environment;
- (v) Prepare an Operations Manual for implementation of the protocols and systems and conduct workshop to train site managers in the application of the manual;
- (vi) Collection of evidence and preparation of reports towards compliance related to conservation and mitigation efforts implemented as per the guidelines in the EMP;

- (vii) Support Employer, PIU and contractors to resolve issues relevant to cultural heritage aspect; and
- (viii) Consolidate the heritage learnings and lessons from the project to inform the Employer in processing next proposed loan from ADB for tourism component.

89. **E5 Landscape Architect.** The landscape architect and designer will contribute to sensitive landscape constructions in the project, including public space upgrading. The expert must be an experienced Landscape Architect with a Bachelor's degree and 10 years of work experience out of which about 5 years should be related to design and construction management of similar projects which have significant landscaping components. Based on the detailed engineering drawings, s/he will improve design and concept to explore and incorporate green design concept. S/he will closely coordinate with the Architects and Construction Manager and is responsible for the quality of outputs. Expert will be responsible for, among other activities:

- (i) Review detailed landscape design and its drawings and analyse options to enhance their aesthetic value. The options should also consider local capacity and budget for operation and maintenance;
- (ii) Work with other Architects and Engineers in the Consulting and TTDCL PIU teams and contribute to improved design and construction of landscape elements by applying green, ecologically-friendly concepts;
- (iii) Conduct site visits and regularly and supervise landscape component of the project;
- (iv) Conduct training / workshop targeted at PIU / PMU / TTDCL staff on the green, eco-sensitive design and construction of landscaping features
- (v) Contribute to preparation of as-built drawings;
- (vi) Supervise and monitor contractors and
- (vii) Contributing expertise to support the Employer in preparing and processing next proposed loan from ADB for tourism component.

F. Non-Key Staff (solely Tourism)

90. **F1 Civil/Structural Design Engineer.** The expert must be an experienced civil and structural engineer, preferably with a Master's degree and 8 years of work experience out of which about 5 years should be related to design and construction of commercial / residential building / resort. The expert must have excellent verbal and written communication skills in English. The activities, will include, but are not limited to:

- (i) Reviewing, advising, and undertaking, if necessary, stability calculations for all structures to be constructed under the project;
- (ii) Revise structural design to provide the most economical solution for each structure;
- (iii) Reviewing, revising and advising on, and detailing, if necessary, the reinforcement of all the structures, as necessary;
- (iv) Supporting as necessary the other engineers and specialists for reviewing the works;
- (v) Periodic site visits during the construction of structures;

- (vi) Checking the Contractor's fabrication and shop drawings, including structural design, as and when needed;
- (vii) Reviewing, revising, and recommending modifications to the structural design as a result of changes in ground and other conditions;
- (viii) Regularly reviewing the engineering aspects of the works and report accordingly; and
- (ix) Reviewing and reporting on any Contractor initiated proposals for modification of the civil/structural designs.

91. **F2 Construction Supervisor Civil (5 persons).** The Supervision Engineer shall have at least a bachelor's degree in civil engineering with at least 5 years of experience or civil engineering diploma with 8 years' experience in construction projects preferably in hospitality sector. The Supervision Engineer will be based in the project areas (or towns nearby). The Supervision Engineer will be directly reporting to the Construction Management Expert and will undertake the following specific tasks:

- (i) Monitor the activities of the contractors that are engaged by Employer and report back to the TTDCL PIU and Construction Management Expert any issues that are identified including opportunities for improvement in construction quality, efficiency, and timeliness;
- (ii) Regularly and continuously be present at work sites, especially for key milestone construction activities
- (iii) Provide guidance to contractors' field staff in latest construction management techniques/practices;
- (iv) Support progress monitoring with preparation of s-curves for physical and financial progress and other monitoring methods;
- (v) Monitor the progress of the Contractor's construction works as per project deadlines and prepare progress reports (both physical and financial related to the civil works);
- (vi) Ensuring work quality as per specifications, identifying site issues and work for redressal; and
- (vii) Perform any other duties assigned by Construction Manager, relevant to the project.

92. **F3 Construction Supervisor Electro Mechanical.** To be an experienced electro-mechanical engineer, preferably with a graduate degree and 8 years of work experience, out of which about 5 years should be related to electro-mechanical aspects of buildings and services. Should have demonstrated experience of working in implementation teams. The supervisor should be competent in planning, design, tendering, contract management, quality assurance and quality control, safety compliance etc. pertaining to construction of similar projects. Shall be responsible for supervising all tasks related to electro-mechanical engineering and for undertaking the following activities, among others:

- (i) Reviewing and revising as per site conditions, if necessary, the detailed designs for electrical and mechanical aspects of the works and goods
- (ii) Reviewing the existing power transmission/distribution systems within the vicinity of the structures and advising on optimum connection points, and what new infrastructure will be required;

- (iii) Planning any additional investigations and contributing expertise to support the Employer in preparing and processing next proposed loan from ADB for tourism component;
- (iv) Carrying out acceptance tests with the supplier / manufacturer(s);
- (v) Assist with testing and commissioning; and
- (vi) Supporting preparation of O&M manuals for all electro-mechanical items installed or that are associated with the project.

93. **F4 Junior Architect.** Must be an experienced Architect with a Bachelor's degree and 6 years of work experience out of which about 3 years should be related to design and construction management of similar construction projects that include functionality and aesthetics. The expert should have worked on projects in similar geographical and topographical settings and using similar construction methods. Should be competent in architecture of buildings, landscaping and building services. Apart from other architects, will be responsible for, among other activities:

- (i) Support tourism team in finalizing the drawing of buildings and manage AUTO CAD draftsman.
- (ii) Troubleshooting design and construction issues as they arise.
- (iii) Preparing and issuing detailed architectural design and drawings;
- (iv) Regular and frequent visits and sustained presence in work sites to expedite the activities with quality;
- (v) Take responsibility for architectural and aesthetics elements, landscaping, daily construction supervision and quality control;
- (vi) Checking of materials for quality and quantity and ensure they meet specifications;
- (vii) Supporting the Contracts Specialist with examining contractor claims and providing advice to the TTDCL PIU as necessary;
- (viii) Preparation of as-built drawings;
- (ix) Supervising and monitoring contractors;
- (x) Assist with testing and commissioning;
- (xi) Assist in preparing a photographic and video diary of the construction works throughout the entire duration of the Project. This should show construction activities, progress, and interviews with Employer, PMU, PIU, PMSC, contractors, government staff, and stakeholders. It will be prepared to a high professional standard and
- (xii) Contributing expertise to support the Employer in preparing and processing next proposed loan from ADB for tourism component.

94. **F5 Office Manager cum Accountant.** (i) The expert shall have a degree in BA/BSc/B Com/BBA/CA or equivalent (ii) 5-7 years of experience in projects, which demonstrates similar assignment (iii) experience in externally financed projects (ADB, JBIC, World Bank or other bilateral/multilateral funding agencies, Centrally sponsored schemes); (iv) experience of working in similar region on similar projects will be advantageous. Office Manager cum Accountant will undertake following tasks but not be limited to:

- (j) Support the Team Leader in management of the office.
- (jj) Look after the accounts related matters.
- (jjj) Management of office stationary and equipments.

(iii) File Management of PMSC.

95. **F6 Computer cum Data Entry Operator.** (i) The expert shall have Diploma/ITI Certificate in Computer Typing/ Stenography or equivalent from Government recognized registered institute (ii) 3-5 years of experience in projects, which demonstrates similar assignment (iii) experience in externally financed projects (ADB, JBIC, World Bank or other bilateral/multilateral funding agencies, Centrally sponsored schemes); (iv) experience of working in similar region on similar projects will be advantageous. Computer cum Data Entry Operator will undertake following tasks but not be limited to: Support the Expert/Design Engineer/PMSC in computer and data entry works.

96. **F7 Office Assistant.** (i) The expert shall have BA/BSc/B Com or any other Graduate Degree (ii) 3-5 years of experience in projects, which demonstrates similar assignment (iii) experience in externally financed projects (ADB, JBIC, World Bank or other bilateral/multilateral funding agencies, Centrally sponsored schemes); (iv) experience of working in similar region on similar projects will be advantageous. Office Assistant will undertake following tasks but not be limited to: Support the Team Leader/Expert/Design Engineer/Office Manager/PMSC in office management and other official works of PMSC.

5.3 Reporting Requirements and Time Schedule for Deliverables

97. Unless otherwise agreed, all deliverables are to be submitted as drafts for review and comment by the PIU and PMU and thereafter amended and submitted as final versions. Other occasional deliverables maybe required from time to time on an informal basis. PMSC shall assist both PIUs to maintain an electronic safe backup of all contract related documentation and submit one electronic version and three print copies of every report listed in **Table 4**.

Table 4: List of Main Deliverables

No.	Item	Description	Due Time⁶
Task 1 – Project Management			
1.1	Inception Report	The inception report will: (i) confirm, elaborate on, and adjust as necessary the consultant's approach, methodology and work plan based on information received during the inception phase; (ii) provide a detailed plan of the consultant's activities and confirmation and adjustment to the tasks of each expert with further elaboration as required; (iii) provide a detailed implementation plan for the project's activities; (iv) discuss any issues identified during the inception phase; (v) outline the planned implementation of the provisional items with scopes and costs; and (vi) the contents of the PPMES and the MIS.	1st month
1.2	PPMES and QAP	Design of the PPMES appropriate for the project. The content of the PPMES should be discussed in the inception report and agreed with the PIUs and ADB prior to developing the system. The system should be flexible to allow routine changes as necessary and it should be accessible from the PIU and client's project offices. A manual will be prepared that shows users how to update and use the system. PPMES and QAP would establish benchmarks for project management and quality assurance respectively. They will be updated routinely as necessary.	3rd month, updated routinely
1.3	MIS	The MIS will detail how all information related to the Project will be structured, managed, and secured. It will include a secure filing system for printed material and a secure and backed up server for electronic material. It will be accessible from the PIUs/PMU and TTDCL/TUDA. The MIS will also include the public website for the Project.	4th month

⁶ The due date applies to submission of draft versions for those reports which require both draft and final versions

No.	Item	Description	Due Time ⁶
1.4	Mid-term Report (the number of versions of this report will depend on how many mid-term review missions are fielded by ADB)	<p>Scheduled approximately half way through the consultancy period and should be produced prior to the ADB mid-term mission (note that the number and schedule of missions may vary). The contents would include, but not be limited to:</p> <ul style="list-style-type: none"> (i) summary of the progress including issues, confirmation elaboration and/adjustments to the consultant's program; (ii) progress against the financing and the DMF; (iii) updated detailed implementation plan; (iv) status of loan covenants; (v) updated PAM; and (vi) Summary and discussion of all specialist aspects of the project including construction, capacity building, social grievances, and environmental safeguards, together with conclusions and any recommendations for adjustment. The content of the report will be agreed with the PIUs / PMU and ADB prior to its preparation. 	29 th month, however timing and number to be agreed with PMU and ADB
1.5	Final Report	<p>The Final Report will be submitted one month after issue of the Performance Certificate for the last civil works contract. The Final Report will present a summary of all aspects of project implementation and comparison with the expectations of the financing (or as subsequently adjusted) and of the DMF. The report will summarize and discuss the results of specialist aspects of the project including construction, capacity building, social grievances, and environmental safeguards, together with conclusions, recommendations and lessons learned for future projects. The content of the report will be agreed with the PIUs/PMU and ADB prior to its preparation.</p>	58 th month

No.	Item	Description	Due Time ⁶
1.6	Monthly Reports	Concise mainly tabular report, 4-page maximum summarizing monthly progress of the project, implementation status and highlighting any critical issues that require client or ADB support with resolving. Upon agreement of PIUs, PMU and ADB, these may be submitted electronically only.	Monthly, by the 7th day of each following month
1.7	Quarterly Reports	Concise reports giving more details of the project and key issues. For every year, the first two reports will be incremental reports detailing activities, progress and issues during the previous trimester, and planned activities for the next trimester. These reports must present all the findings related to procurement and to monitoring requirements identified in the DMF, including progress on delivering the outputs. The reports will also summarize the results of relevant data collected. The fourth report (which will become the Annual Report) will be cumulative for the full year period. The Quarterly Report is to include that month's Monthly Report (no separate monthly report).	Quarterly, by the 15th day of the following month
1.8	Briefing Reports	Special briefing reports as requested by the PIUs, PMU and/or ADB.	As required
1.9	PCR	The contents of the report shall be as agreed between the PIUs, PMU, PMSC and ADB. It will focus on the individual contracts and generally it will follow standard ADB format.	Last month of loan closure for the project
1.10	Specific reports for proposed follow-on loan documents	Prepare specific reports to support follow on loan preparation	Timing to be determined with PMU
1.11	Updated Communications Strategy and Plan	Reviewing, improving, and routinely updating the Project's communications strategy and plan.	3rd month, annual revisions every year

No.	Item	Description	Due Time ⁶
1.1 2	Website	Professional and user-friendly website where all project reports, information, photos and video links are available to users. Website to be routinely updated as required.	To be operational by 5 th month
1.1 3	Video presentation	Maintain a video diary of the implementation of the Project. Annually, prepare an edited highlight of physical progress snippets and capacity building initiatives (workshop, training, consultation, communication etc.) of approximately 1 hour duration with footage of construction activities and interviews with stakeholders, as necessary. The production will be prepared to the highest professional standards.	Annually
Task 2 – Contract Management and Construction Supervision			
2.1	Construction Supervision Manual	The Manual will outline the PMSC's approach to contract management and construction supervision. The format and contents of the Manual will be discussed and agreed with the PIUs and ADB. However in general it will show the management and reporting structure, team organizations, logistical arrangements, report and certificate templates, etc. It will be updated from time-to-time to suit the needs of the Project program.	2nd month
2.2	Health and Safety Manual	The Health and Safety Manual will include guidelines, requirements, procedures, and protocols, etc. that will guide and support safe practices on all construction sites, camps, offices, and transport routes. It will be agreed by all Contractors and updated every year.	3rd month
2.3	Monthly Progress Reports	The monthly report shall be prepared by the within one week of the end of the report period. It shall provide, among other items: (i) progress during the month on a quantitative and cost basis with appropriate graphical presentations comparing progress with program and giving reasons for any discrepancies with proposed remedial measures; (ii) cumulative expenditure	Monthly

No.	Item	Description	Due Time ⁶
		record, variation order and claims for the works and goods contracts; (iii) record of variation orders issued and being prepared; (iv) claims received, under consideration and settled; (v) comments on the quality of the month's work; (vi) a record of climatic conditions; (vii) any other matters which are deemed necessary by the PIUs, PMSC and contractors; and (viii) details of non-conformance works, recommendations and actions taken for rectifications.	
2.4	Annual Progress Reports	Highlighting the main features of the construction activities and other activities under consulting services contracts, in the previous fiscal year. The PMSC shall prepare and submit the annual report within fifteen days of the end of the Fiscal Year.	Annually
2.5	Health and Safety Reports	Specifically report every health and safety incident, provide recommendations for improvements, and document responses of project management (Contractors, PIUs, PMU and PMSC) to control and contain them.	Monthly
2.6	Claim Reports	For every claim, individual claim reports will include an analysis of the claim, the Engineer's recommendation as to whether the claim should be accepted, partly accepted, or rejected and the Contractor's entitlement under the contract.	Every claim
2.7	Tender Documents	To be reviewed or prepared for all outstanding works and goods packages under the Project following PMU and ADB procurement requirements and formats.	As required to meet the implementation schedule
2.8	Special Reports	The PMSC will prepare and submit any other report related to contract management and construction supervision as requested by the PIUs/PMU and ADB.	As required

No.	Item	Description	Due Time ⁶
Task 3: Management of Environmental and Social Impacts			
3.1	Environmental Monitoring Reports	Requirements are described in the EMP document. Generally, the reports are to: (i) capture any environmental safeguards issues and their resolution; (ii) the compliance by contractors of EMPs; and (iii) a summary of environmental monitoring to be presented.	Submit semi-annual monitoring reports as per guidance provided in the EMP
3.2	Social, Gender and Grievance Monitoring and Evaluation Reports	<p>Generally, the reports will discuss the quality and progress of gender action plan implementation, and any issues and remedies suggested to be presented. Status of any grievances including physical progress and financial expenditure to be stated.</p> <p>Generally, the reports will discuss the quality and progress of gender action plan implementation, and any issues and remedies suggested to be presented. Status of any grievances including physical progress and financial expenditure to be stated.</p> <p>GESI progress report will be submitted on quarterly basis in the designated format along with the project QPR.</p>	Initially submit reports every 3 months for first year and then every 6 months thereafter
3.3	Financial Management & Monitoring Reports	Providing inputs to the quarterly and annual progress reports to be submitted to ADB.	Quarterly, by the 15th day of the following month

No.	Item	Description	Due Time ⁶
Task 4 - Commissioning and Operation			
4.1	Contract Completion Reports	This shall be prepared at the end of each DBO / works / goods contract. The report shall incorporate as-built records and drawings, details of construction methodology, concrete quality, hydrological, sedimentation, geological, and geotechnical condition, etc. The report will also include: a record of changes of design with reasons and progress records for different types of works. The contents of the report shall be as per the standard for this type of the contract and as agreed between the PIUs and PMSC.	Completion of each works contract
4.2	Certificates	These will include the Statement of Completion Certificates, Taking Over Certificates, and Performance Certificates.	As required
4.3	Final Reports	The Final Report will be submitted one month after the issue of the Performance Certificate for each civil works contract. The report will contain details of remedial works carried out by the Contractors to rectify defects found during the Defects Liability Period. The report will also contain a summary of Final Statements.	Completion of each works contract's Defects Liability Period
ADB = Asian Development Bank, BOQ = bill of quantities, DBO = design build operate, DMF = design and monitoring framework, EMP = environmental management plan, PAM = project administration manual, MEM = Monitoring and Evaluation Manual, MIS = Management Information System, MOM = management, operation and maintenance, O&M = operation and maintenance, PCR = project completion report, PIU = project implementation unit, PMSC = Project Management and Supervision Consultant, PMU = project management unit, PPMES = Project Performance Monitoring and Evaluation System, QAP = Quality Assurance Plan, TOR = terms of reference			

5.4 Relevant Background Information or Materials for the Assignment

98. The Employer through its PRF Consultant and ADB have prepared documents, drawings, and other information to support the preparation of this Project. Shortlisted firms may review them at the Employer's office in Agartala with prior appointment. Shortlisted firms may also download copies of available digital reports and documents of the project which are accessible through TUDA and ADB websites.

5.5 Indication if Downstream Work is Potentially Considered

99. No downstream work is envisaged.

5.6 Training and Capacity Building Requirement

100. Training and capacity building requirements are listed under sub-sections 5.3 and 6 (c).

5.7 Equipment Procurement

101. Requirements of equipment listed in Table 5. Office equipment procured by PMSC using provisional sum or contingencies shall be procured in accordance with ADB's Procurement Policy (2017) and Procurement Regulations for ADB Borrowers (2017). Such procurement shall be with prior approval of PMU. Upon project completion, all equipment shall be handed over to PMU/PIUs in good working condition.

6. Client's Input and Counterpart Personnel

- (i) **Services, facilities, and property to be made available to the Consultant by the Client:** PMSC shall be provided functional office space in Agartala and 3 cluster PIUs in project towns free of charges by the employer. The office would be shared with PIU. Workspace to accommodate up to 25 persons is offered in Agartala. In addition, 6 seats each will be made available in cluster PIUs in project towns. Shared rest rooms are in the Agartala office building and cluster PIUs in project towns. Cost of office supplies and consumables to be PMSC's responsibility.
- (ii) **Professional and support counterpart personnel to be assigned by the Client to the Consultant's team:** TUDA and TTDCL have assigned staff to the PMU and PIUs to work with the Consultant's team. Details shown in Table 2.
- (iii) **Provisional sums and contingencies:** Provisional sums have been included in the consultancy agreement for procurement of various requirements that will support the project. The PMSC will be responsible for preparing the exact implementation arrangements, TORs, specifications, and detailed cost estimates of the procurement or expenditure which will be approved by the PMU before initiating procurement or expenditure. Procurement procedures will follow ADB's latest Procurement Guidelines. Contingencies can only be allocated by PIUs / PMU for tasks which are either not covered under this scope of work or for additional procurement of services through PMSC. The tentative scopes of provisional items are summarized in **Table 5**.

Table 5: Indicative Provisional Items

Item	Description
IT equipment (computers, printers, software, furniture, OH projector, camera etc.)	Procurement of equipment and their maintenance till the end of the project. The equipment shall be handed over to PIUs when PMSC contract ends.
Material testing / surveys / specific studies	Material testing offsite in laboratories or onsite by specialized agencies and any supporting surveys and specific studies including topographic surveys, geotechnical investigations, laboratory tests, and socioeconomic surveys required to be done for the proposed new project to be financed by ADB.
Training / Seminars & workshops of PMU / PIU / Contractors / others	For routine meetings, workshops and training sessions convened by the PMSC or PIUs or PMU.
Communication Materials	Publishing of communication materials and media including the video diary of the Project.

3. Client will provide the following inputs, project data and reports to facilitate preparation of the Proposals:

102. None.

4. Specific Requests to Consultants for Proposal Information

103. In addition to the information required by the Request for Proposal and any other relevant information the firm wishes to submit, the proposals for the PMSC should also ideally provide the following information:

- (i) The lead firm's experience with: (a) supervising multiple construction packages in multiple locations being implemented concurrently; (b) managing multidisciplinary teams; (c) assisting the executing agencies with implementing environmental and social measures, ensuring safeguard policies/ requirements of the government and ADB are met; and (d) having overall responsibility for project implementation management.
- (ii) The firms' experience with supervising construction of civil works contracts (including DBO contracts) as the 'Engineer.' The works in towns shall have comprised of water supply, septage treatment plants, storm water drains and roads. If the lead firm does not have experience in any of the above types of works then there could be a joint venture agreement with the suitably experienced partner firm.
- (iii) The firms' experience in undertaking ADB project preparatory technical assistance projects (or similar) in the municipal infrastructure / urban development / tourism sectors. This includes preparing and supervising site investigations, surveys, and studies, and preparing ADB's or other multilateral development bank loan documents.
- (iv) The lead firm's experience of undertaking similar projects in similar geographic region should be highlighted. For the lead and joint-venture

partner firms, similar experience in other developing countries should also be highlighted, along with any other experience relevant to the nature of the proposed project.

- (v) Practical recommendations for expediting the overall implementation schedule for the Project.
- (vi) Submission of CVs in Tech-6 of the technical proposal: please ensure they are presented in the same order as the positions listed in Table 3.

8. Basis of Payment

104. Payment shall be made upon submission of monthly invoices by PMSC to PIU supported by time sheet and contractually permissible reimbursable expenses. Provisional sums and contingencies have been provided which are meant to be used for specific activities. PMSC to spend the provisional sum and contingency only after getting prior consent from PMU which would be reimbursed at cost.