

**PART II : STUDY, PREPARATION OF TENDER
DOCUMENTS FOR INSTALLATION
OF FLOW METERS.**

TERMS OF REFERENCE

DOCUMENT III-1

Section – 2 : Scope of Work

SECTION 2 - SCOPE OF WORK:

Stage I : Study and Preparation of Tender Documents.

2.1. Study and Prepare Reports :

The Consultant shall conduct on-site continuous flow measurement for obtaining the flow information of the existing renovated sewer network including Trunk and Main lines in the State of Kuwait.

The Consultant shall identify the Domestic, Industrial and Commercial flow quantity for each drainage area separately. Flow measurement records available for Part-I can be utilized for Part-II, any additional requirement of flow measurement shall be undertaken by the consultant, to identify and select manholes of trunk and main lines and in the networks for the installation of Permanent Flow Meters.

Flow measurement results shall be submitted in the form of a flow measurement report.

The project will have two (2) contracts, the Consultant shall identify the areas for each contract and shall be approved by the Engineer.

2.2. Flow Meters :

2.2.1. Requirements :

Primary Sensing devices needed to measure the variables at manholes, control valves etc. have to be designed and installed.

A Remote Terminal Unit (RTU) to be designed and install to receive the signals and convert them into signal which is suitable for transmission.

Installation of RTU that can handle analogue input and multiple digital inputs.

A communication medium suitable and compatible to existing system to transmit signals between remote and central sites. Typical radio communication medium is to be designed and installed.

Installation of communication devices suitable for continuous data transfer. The transmission of data could be intermittent but the communication system must be capable of data transfer at any time.

2.2.2. Additional Requirements:

Flow Meters provided with ultrasonic, multi path, transit time, Doppler or Radar type flow meters in selected sewer manholes, RTU at the same selected manholes shall be provided with Master SCADA system shall also be included to facilitate graphical trend (real time and historical) and alarm displays.

RTUs shall be provided and interface through GSM connections with Master SCADA systems for flow monitoring. Separate analog signals shall be provided for flow rate, velocity and depth. Alarm contacts from the flow meter shall provide diagnostic and process alarms. Surcharging and diagnostic alarms shall be available at the SCADA works stations.

The Consultant to perform the following :-

The existing sewerage networks of main lines and trunk lines where flow meters are to be installed including the inflow lines coming to this area from other areas and the disposal of sewage from these areas to the existing main lines are included in the Scope of work of this Agreement.

2.3. Preparation of Tender Documents :-

The project will have two (2) contracts.

The Consultant shall prepare Tender Documents and perform Tender Evaluation. The Tender Documents shall not be inferior in detail and quality to the Tender documents previously issued by MPW. Copies of MPW Tender Documents are available at MPW Sanitary Engineering Department, for overlooking.

The work under this part shall be performed in four Phases as outlined in Performance of Work Phases Section-3, however, the following general remarks are included for the guidance of the Consultant.

- (i) The Consultant shall make all necessary Studies. and prepare the Tender Documents suitable for tendering the Installation Contract.
- (ii) The Consultant shall study the existing Sanitary Sewerage Network by investigation and obtain data with the help of any means including but not limited to the following :
 - Existing Sewerage Network Drawings.
 - Visual inspection of the project areas.
 - Topographic Survey.
 - Survey of Manholes and Pipes Inverts
- (iii) The Consultant shall make all necessary studies of the existing sewer networks drawings which are available at the Ministry of Public Works. The Consultant may obtain the mother-prints from the MPW and reproduce as many sets as he needs.
- (iv) The Consultant shall engage a survey team which shall be available throughout the Study and Design period to provide levels and other topographical data as well as data manholes, sewers to supplement information in the Study and Design of the Project. This team shall also establish, a system of bench marks for use throughout the execution of the project.

- (v) The cost of all surveying, must be estimated and included in the financial proposal as a direct cost.
- (vi) The Consultant shall conduct all pre-bid conferences and answer all inquiries and provide tender evaluation services for the contract bids. The consultant will analyze and evaluate all bids to determine their responsiveness and compliance with the tendering requirements and submit the bid tabulations, analysis and evaluation together with a recommendation for contract award to MPW.
- (vii) Upon approval of award of the contract, the Consultant shall conduct any required clarifying discussions with the successful Contractor and prepare the FINAL CONTRACT DOCUMENTS for signature by MPW and the Contractor.

2.4. Monthly Report.

The Consultant shall submit to the Engineer 8 copies + 5 CDs of the monthly report of the works carried out under Stage 1. The report shall be prepared so that a quantitative estimate of the work done can be assessed and it shall be in a form approved by the Engineer. The Consultant shall also submit documents to support the report if required by the Engineer.

2.5. Periodic Progress Review Meetings:

The Consultant will establish the requirement for regular meetings with MPW and other Ministries Representatives. These meetings will be scheduled at a time convenient to the Engineer to review the work progress and discuss the relevant issues as per a prepared agenda.

The agenda and the summary of sequence of discussions in every meeting will be prepared by the Consultant and approved by the Engineer.

2.6. Services to MPW Design Office :

The Consultant shall provide all office stationary and consumables needed for the Engineer's office in-charge of the Design works (Design Administration, Sanitary Engineering). This office shall specify the monthly needs the cost of which is limited to KD.200/- per month. This shall be provided for the whole duration of Stage-I. The Financial proposal for Stage I shall be inclusive of the above cost.

Stage - II : Supervision of Installation of Flow Meters (Provisional)

There will be Two (2) Construction Contracts for Installation of Flow Meters.

The Consultant shall provide necessary staff for site supervision for each contract as shown in Table F3, Financial Proposal. The supervisory teams shall be headed by the Resident Engineers. The Consultant shall be responsible through the Resident Engineer, for the Supervision of each project and for the staff assigned to the project. He will be held responsible to report to the Engineer.

2.7. As Built Drawings :

After construction, the Contractor shall provide to the MPW, three complete sets + 3 CDs of final "As-Built" Drawings approved by the Consultant responsible for supervision of Construction Works. These drawings must show all details of work executed, variations and amendments introduced into the work. Such drawings shall be submitted to the MPW, manual and manufacturer's instruction for Flow Meters Contract before the issue of the last certificate of completion of the works to the Contractor.

2.8. Facilities for the Consultant

2.8.1. Site Offices

Site offices for the Consultant to be shared with MPW Project Engineer and mobile site offices for the Site Engineers shall be provided, furnished and maintain by the Contractor for the whole duration of the project. The Contractor shall also supply all services to these site offices. The Consultant will use these facilities free of cost. But the Consultant shall equip their Resident Engineer's office and all mobile site offices with all necessary equipment such as Computers, Photocopiers, Word Processors etc. and all the stationery required for their use. This equipment shall be provided at the cost of the Consultant.

2.8.2. Vehicles

The Consultant shall provide and maintain the necessary vehicles for his site supervisory staff for the whole period of Agreement. The total cost to be included in Table F2 (Direct Cost).

2.8.3. Office Apparatus and Stationery

Supply within 15 days of the date of start of work and maintain following apparatus for offices of the supervisory staff working under the project for use throughout the complete period of functioning of supervision agreement for execution of project.

In case any office apparatus is not supplied or maintained or if an alternative apparatus during the maintenance period of an out of order apparatus is not provided, then the fines appearing hereunder will be imposed and the Consultant will supply all such apparatus so as to meet with the full needs of its supervisory staff.

The Consultant must also arrange for working and maintenance of this apparatus for complete period of the functioning of the agreement and the rates of agreement should include only expenses for running, repairs and consumables in Table 2 (Direct Cost). After full completion of all the works mentioned in the items of agreement this office apparatus will be returned to the Consultant. The number of apparatus depends of the value of agreement and the size of works involved.

Table – 1

S.No.	Kind and Specification of Apparatus	No	Fine per Day for an Apparatus (Kuwaiti Dinars)	The highest Limit of Fine (Kuwait Dinars)
1	Computers with Printers complete	15	10/-	300/-
2	Photocopying Machine complete	2	25/-	750/-
3	Digital Fax Machine complete	2	10/-	100/-
4	Mobile without International Line	15	10/-	150/-
3	Theodolite (Digital) complete	3	25/-	750/-
4	Levelling Instrument complete	3	15/-	500/-
5	Wireless suitable for the project	8	25/-	750/-
6	Navigator	2	25/-	750/-
7	Compass (GPS)	4	5/-	50/-
8	Measuring Tapes (Different sizes - 7.5mtr to 100 mtr)	10	5/-	50/-

**Section – 3 : Instruction for the Performance of
Works**

SECTION - 3 - INSTRUCTION FOR THE PERFORMANCE OF WORK STAGES.

3.1. STAGE - I : Study, Design and Preparation of Tenders Documents :

The Consultant shall perform all the works under Stage(I) – Study, Design and Preparation of Tenders Documents in Four Different Phases as outlined below :-

- Phase I : The Report – Preliminary & The Report – Final.
- Phase II : The Preliminary Design and Preparation of Draft Tenders Documents.
- Phase III : The Final Design and Preparation of Final Tenders Documents.
- Phase IV : Tenders Evaluation Services & Contract/s Documents.

Phase-I :

3.1.1. The Report – Preliminary.

This shall include all necessary studies which shall comprise but not limited to the following:-

- (i) Identify density of buildings and population at present time and growth projection till full occupation of each area.
- (ii) Identify the percentage of the current sewage amount to the design flow.
- (iii) Review the As Built Drawings of all existing activities & utilities to identify locations of gravity lines, lifting stations, pumping stations, pressure mains. etc.
- (iv) Study for different areas for Flow Meters Installation requirement and identify the recipient manholes.
- (v) Prepare an approximate cost estimate for all activities of works.
- (vi) Submit 10 copies of Preliminary Report to the MPW and other Ministries for review and comments alongwith five(5) CDs.

3.1.1.1 The Report – Final.

- (i) Submit 10 copies of Final Report to MPW after all the MPW comments have been incorporated alongwith five(5) CDs.

Phase -II :

3.1.2. The Preliminary Design and the Preparation of Draft Tender Documents:

Upon approval of the report and cost estimate described in Phase-II, the Consultant shall proceed with Phase II works, which include:

Preliminary Design :

The preliminary Design shall take into account all the available data and information. The Preliminary Design shall include, but not limited to the following:-

- Establishment of sufficient number of Bench Marks to be used as reference points during execution of the project. The exact location and elevation of such Bench Marks shall be marked on the plans if required.
- The Consultant shall study and review the existing status of complete sewerage network of all the areas.
- The Consultant shall submit 2 sets of the preliminary Installation Drawings for each area to the ministry for review alongwith Two(2) CDs.

Phase -III :

3.1.3. Final Design and Final Preparation of Final Tenders Documents:

1. Final Design

Upon approval of the preliminary Installation design by the MPW, the Consultant shall proceed to make final Installation design which shall comprise of, but not limited to:

Installation Design and Contracts Drawings:

- All details of manholes, diameter of sewers, slope, partial and cumulative distances etc. Working drawings shall also include the details of Manholes and other appurtenances related to Sewers.
- All final drawings shall be of highest standard, complete and fully detailed and dimensioned in the Metric system and lettered in English language.
- While preparing the drawings and contracts documents, the Consultant shall keep constant co-ordination with the Employer, discuss pertinent issues including design criteria etc. in order that the views of the Ministry of Public Works can be incorporated as the work proceeds.
- All approvals needed from all other authorities are to be obtained by the Consultant.

- The Consultant shall supply 10 copies of final Installation design drawings with design calculations for the approval of the MPW and other Ministries alongwith Five(5) CDs. Upon approval or completion of all amendments required, the Consultant shall supply one complete set of original and a mother print and Two (2) CDs of the final Installation design drawings to the Ministry.
- All corrections, modifications, additions, alterations etc. suggested by the ministries shall be done by the Consultant within the time schedule and at no extra cost to the employer.

2. **Preparation of Tenders Documents and Work Estimates :**

- The Consultant shall prepare tenders documents for the approved detailed Installation design to cover the complete the Installation works and testing and commissioning of the proposed works. The tender shall include all required documents as mentioned in Section 4.1.4. and Form of Maintenance Contract (if required), in addition to that, submit detailed estimate for the proposed works on CD.(read only) along with sealed copy of BOQ. The Estimate is to be based on the average and current market rates. The construction cost estimate shall be considered confidential.

The Consultant shall supply 5 sets for each Contract of all Tender Documents to the MPW alongwith 5 copies of CD for all Tender Documents showing the difference & location of changes comparing with the previous submittals for approval. Upon approval on completion of all amendments required, the Consultant shall supply one complete set of the documents and 3 sets of computer diskets of documents which must be operable on the latest version computers.

- After approval of the final Installation design and Tenders Documents, the Consultant shall print and submit 5 sets of the documents alongwith 20 documents loaded computer discs (CDs) when ordered by the MPW.
- The Consultant shall be present for pre-tender requirements which may include attending meetings related to the project and preparation of addenda,....., etc. if needed.

Phase -IV:

3.1.4. Tender Evaluation Services & prepare Contracts Documents:

The Consultant shall analyze and evaluate all bids to determine their responsiveness and compliance with the tendering requirements. Submit the bid tabulations analysis and technical and financial evaluation together-with a recommendation for contract award to MPW along-with the relevant diskets.

Upon approval of award to each contract, the Consultant shall conduct any required clarifying discussions with the successful Tenderer and shall prepare ten (10) copies of final contracts documents for signature by MPW and Contractor.

In case the lowest Tenders amount differ than Consultants Estimation more than $\pm 10\%$, MPW has the right to ask the Consultant to modify the Design and prepare New Tenders Documents without extra cost.

Section – 4 : Schedule of Requirements

SECTION-4:SCHEDULE OF REQUIREMENTS

The services to be provided by the Consultant are divided into:-

- (A) **STAGE- I:**
Study, Installation Design, Preparation of Tenders Documents and Evaluation of Tenders for the Flow Meters Installations Works.
- (B) **STAGE- II:**
Supervision Services (if requested) for Installation Contracts.

4.1. **STAGE-I : Study, Design and Preparation of Tenders Documents**

The Study and Design shall comprise:

- Phase-I: The Preliminary Report ,
 The Final Report.
- Phase-II: Preliminary Installation Design and Draft Tenders Documents.
- Phase-III: Final Installation Design and Final Contracts Documents.
- Phase-IV: Tenders Evaluation & Preparation of Contracts Documents.

Phase-I

4.1.1. **The Preliminary Report.**

The Consultant shall submit to the MPW 10 copies of a detailed Preliminary Report alongwith five (5) CDs.which shall deal with and include the following as a minimum :-

- The requirements of the Project as mentioned in this Terms of Reference.
An approximate estimate of cost.
- Everything necessary for the preparation of the Report (such as Staff, instruments, transport, investigation, surveying works, computer programming etc.) shall be provided and done by the Consultant at his own expense and responsibility.

Presentation

The Consultant shall be required to present the findings and recommendations at a conference with the attendance of appropriate officials of the Government of Kuwait.

Presentation No.1 to be held at the time of submission of the Preliminary Report.

4.1. 2.The Final Report.

Upon approval of the Preliminary Report by the MPW, the Consultant shall prepare the Final Report incorporating all the corrections and modifications suggested by the First Party and submit 10 copies + 5 CDs.

Phase-II

4.1.3.Preliminary Installation Design and Draft Tenders Documents.

Upon approval of the Final Report and estimate of cost by the MPW, the Consultant shall prepare the following:

- (1) Preliminary Installation Design & Drawings of the Projects (2 sets & two(2) CDs) for MPW.
- (2) Sufficiently detailed preliminary estimate of cost (2 sets & two(2) CDs) for MPW.
- (5) Draft Specifications (2sets) & two(2) CDs) for MPW
- (6) Draft Bill of Quantities (2 sets) & two (2) CDs) for MPW.

The Preliminary estimate of cost shall be based on the current and expected market rates.

Presentation No.2 to be held as explained in 4.1.1. at the time of submission of Preliminary Installation Design.

Phase-III:

4.1.4.Final Installation Design and Final Tenders Documents.

Upon approval of the Preliminary Installation Design and Estimate of Cost, the Consultant shall proceed to make the final Installation design and final drawings.

The final drawings shall include all necessary details and complete information of the project.

The Consultant shall supply 5 copies of final drawings and details for the approval of the MPW alongwith Two(2) CDs. Upon approval or completion of all amendments required, the Consultant shall supply to the MPW two complete sets of negatives (mother prints) of the final approved drawings.

All final drawings shall be of the highest standard, complete and fully detailed and dimensioned in the Metric System and lettered in English language.

The Consultant shall present with the final drawings a schedule of the final estimate of costs. Rates are to be submitted by the Consultant and agreed by the MPW.

If the final estimate of cost exceeds by 5% differ than the Preliminary Estimate of Cost, the MPW shall have the right to request the Consultant to amend without extra fees the final Installation design in such a manner that the final estimate of cost be within the limit of the agreed Preliminary Estimate of Cost.

However, if such is due to reasons not related to the design and beyond the control of the Consultant, and if the MPW is still desirous to change the design and specifications to reduce the cost, then the Consultant shall be entitled to additional fee for such re-design work.

After approval of the final Installation design and drawings, the Consultant shall submit 3 copies of the priced Bill of Quantities to be submitted in accordance to the final approved estimated cost.

Tender Documents of the Contract.

The Consultant, when instructed by the MPW, shall prepare 5 sets of all the Documents and 20 CDs for each Contract with complete detailed Schedule of Rates, Bill of Quantities, Specifications, Drawings and Reports as detailed below:

- DOCUMENT I : TENDERING PROCEDURE
(Arabic)

- DOCUMENT II : GENERAL CONDITIONS
 - II-2 : Particular Conditions
(Arabic)

- DOCUMENT III : TECHNICAL CONDITIONS
 - III-2 : Particular Specifications
(English)

 - III-3 : Drawings (English)
The drawings shall also be prepared by latest CAD method with computerized data files in DWG format on compact disk (CD-ROM).

 - III-4 : Bill of Quantities (English)

 - III-5 : Price Analysis (English)

 - III-6 : Appendices (if any).

All works in this project are to be measured and included in the Bills of Quantities. The use of Prime Cost and Provisional Sums will only be allowed where it is impracticable to measure the particular item (which, then must be completely described and specified). The Bills of Quantities and Specifications shall contain sufficient details and special descriptions to enable tenderers to be called for the construction and completion of the whole of this project. Upon completion of the Documents of the Contract, the Consultant shall supply five sets for the approval of the MPW. Upon approval or completion of all amendments required by the MPW, the Consultant when ordered, shall supply to the Ministry, 5 complete sets of paper prints and 20 CD copies of the Final Approved Documents and Final Drawings of the contracts.

The cost of the Project after approval of Final Design, shall be calculated by the Consultant on the basis of the quantities established by the Consultant.

Phase -IV:

4.1.5. Tenders Evaluation

After bids are received, the Consultant shall render assistance in evaluating these bids and its compliance with the requirement and conduct any meeting clarification for the selection of Contractor for each construction contract as specified in section 3.1.4 and prepare 10 sets of documents for each contract for signature by the MPW and Contractor.

The Ministry shall have the right to request the Consultant to amend without extra fees, the final design or specifications, in case the total amount of the project by the lowest bidder differ by $\pm 10\%$ of the final cost estimate submitted before tendering by the Consultant.

4.2. Stage-II : Supervision Services (if requested) for Installation Contract:

The Consultant should clearly understand that there is no commitment on the part of the MPW to assign Supervision for Installation of Flow Meters to him.

If and when requested by the MPW, the Consultant shall undertake the supervision of Installation works as indicated in this Agreement.

Section – 5 : Schedule of Time

SECTION - 5 - SCHEDULE OF TIME:

The period for completion of all works under the terms of this agreement shall be as outlined below:-

5.1. Stage I : Study, Design, Preparations of Tenders Documents and Advice on Tenders Award : 365 calendar days as scheduled below:

(1)	Data Collection and Preliminary Report	:	60	cal. days.
	Presentation No.1	:	(date to be confirmed in due time)	
(2)	MPW Review	:	20	cal. days.
(3)	Final Report	:	30	cal. days.
(4)	MPW Review	:	15	cal. days.
(5)	Preliminary Design & and Draft Tenders Documents:		90	cal. days.
	Presentation No.2	:	(date to be confirmed in due time)	
(6)	MPW Review	:	30	cal. days.
(7)	Final Design and Final Tenders Documents	:	60	cal. days.
(8)	MPW Review and Comments:		30	cal. days.
(9)	Finalize & Submit Tenders Documents	:	30	cal. days.
	T o t a l	:	365	cal. days.

Note : One month period after date of enterprise will be considered as mobilization period and will be inclusive in 365 days.

(10) Evaluation of Tenders and Advice on Tender Award (As necessary)

5.2. Stage II : Supervision of Flow Meters Installation Works. (Provisional)
There will be two Contracts for installatin of Flow Meters.
The period of Agreement for Stage II will be 24 months for each Installation Contract and 26 months for Supervision of each contract.

Section – 6 : Fees and Terms of Payment

SECTION - 6 - FEES AND TERMS OF PAYMENT:

In the final agreement with the successful Consultant, the overall maximum amount payable under the terms of the executed agreements will be the total sum of each individual part shown in the Consultant's Financial Proposal. The Consultant will be expected to complete the proposed work within this maximum amount unless scope changes have been approved by the MPW in advance, which may increase or decrease this maximum payable amount.

The amount payable under the terms of the final signed Agreement will be as follows :-

6.1. Stage-I

The fees for Study, Design, Preparation of Tenders Documents and evaluation of the Tenders based on proposed programme scheduled in Section - 4 shall be as per Financial Proposal Table (F1) and (F2). The mode of payment shall be as follows :-

6.1.1. Payment for the direct Cost Items such as Survey and Soil Investigations will be paid as per actual expenses based on the accepted official & original documents and not more than the individual sum of the same activity shown in the agreed Financial Proposal of the Agreement. The break down of the payment will be as follows:-

- 25% of each item's total cost after confirmation of starting the activity.
- 65% of each item's total cost at the substantial completion of the activity.
- 10% of each items total cost at the final completion of activity.

The maximum percentage of the direct cost not exceed 15% of the total amount of the project.

6.1.2. Payment for Specialist Staff visits shall be made for each visit after receiving the original receipts of expenses within the maximum amount of each.

6.1.3. Payment of the total remaining value of Stage-I after above shall be made as follows :-

- | | | |
|---|--|-----|
| - | After approval of the Preliminary Report | 15% |
| - | After approval of the Final Report | 10% |
| - | After approval of the Preliminary Design and Draft Tenders Documents | 30% |

- After completion and approval of the Final Design and Final Tenders Documents and Drawings including the Computer CDs 25%
- After approval and receipt of all sets of Tender/s Documents, one set of complete original mother print and two (2) sets of paper print and One(1) set on CD for each services of the final approved Design drawings. 10%
- For assisting in the Study of the Tenders received and presenting the evaluation report and Contract/s Docuemnts 10% *

All payments will be made in Kuwaiti Dinars.

* This % age will be valid for two years after the date of submitting the Final Tender/s Documents of Tender/s and then will be reduced to 5% only.

6.2.Stage-II :

There will be Two Contracts for the Installation of Flow Meters.

A monthly remuneration calculated on the basis of actual supervisory staff and direct cost as per Financial Proposal Table (F2) and Tables (F3-1 to F3-4).

All payments will be made in Kuwaiti Dinars. With reference to Construction Supervision, the rates shall be fixed for the total mentined construction period. Thereafter inflation may be allowed at the same rate as the CPI (Consumer Price Index) published by the Ministry of Planning for the year immediately preceeding, only in case the extension or delay refer to reasons not related to the Consultant or beyond his control.

Direct cost will be paid as per actual expenses along the services is valid, based on original accepted official documents and not more than the relevant individual rate/sum shown in the agreed financial proposal.

A- Performance Bond

A.1: Stage –I: Study, design and Preparation of Tenders & Contracts Documents and advise on Tenders Award.

The Performance Bond will be 10% from the Stage-I total value for Ministry of Public Works as per Article 19 in Document I (General Conditons).

A.2: Stage-II: Construction Supervision :

The percentage of the Performance Bond will be 10% of the total value of Stage II for each contract for Ministry of Public Works as per Article 19 of Document I (General Conditions).

B - Advance Payment and Bank Guarantee and Method of Recovery :

According to Article (20) of Document –I (General Conditions) the Advance Payment shall be 10% of the value of each stage and recovery method will be 10% from each payment due to the Consultant.

The Ministry has the right to adjust this percentage in order to guarantee the full recovery of the advance payment at least one month befor the completion date of each stage.

- C- Insurance :**
Insurance will be according to Article (21) of Document I (General Conditions) and as follows :-
- C-1: Insurance Certificate on Stage-I: Study, Design & Preparation of Tenders & Contract Documents and Advise on Tenders Award :**
If the Ministry assign the works of this stage to the Consultant, then this certificate value will be (10% of the total estimated project value) and is to be submitted with the Final Tenders Documents.
The Certificate shall be valid for 5 years from the date of submitting the tender documents, taking into consideration that the insurance policy must, in all cases, cover all the Consultant's Design Responsibilities as per the Agreement Conditions.
- C-2: Insurance Certificate on Stage-II: Construction Supervision :**
If the Consultant is assigned the supervision works then he shall, before the date of enterprise, submit the Insurance Certificate for a value equal to 10% of the Project cost.
It shall remain valid till the date of issuing final completion certificate from Ministry to the Contractor(s) work, taking into consideration that the insurance policy must, in all cases, cover all the Consultant's responsibilities as per the Agreement Conditions.
- D: Penalty for Delay :**
According to Article (24) of Document ((General Conditions) the penalty for delay will be as follows :
The Consultant shall pay a penalty to the Ministry for delays of Contract/s in proportionate with his responsibilities of delay on completion of the construction contract/s.

Stage –I: Study, Design and Preparation of Tenders Documents and advise on Tenders Award.

The Penalty value is (KD.500/-) for each day of delay.

Stage-II: Construction Supervision :

If the Consultant failed to provide the Supervision Staff as per the Ministry request or any of the staff member was absent from work without an accepted excuse by the Ministry, then the Ministry has the right to charge the following penalties.

KD.150/- for each day of absence for first week and then after KD.200/- of absence for the Resident Engineer.

KD.100/- for each day of absence for any Engineer or Quantity Surveyor.

KD.80/- for each day of absence for any Technical Inspector.

KD.50/- for each day of absence for any of the Administrative Staff.

Section – 7 : Staffing

SECTION 7 -STAFFING:

The specialized nature of this project requires that the Consultant staff the project with a core group of Professionals and Technicians that are experienced in both Project Management techniques and the engineering design, construction, operations and maintenance. The project Manager shall be resident in Kuwait. The Consultant shall have a Senior Mechanical or Sanitary Engineer in residence in Kuwait assigned to the project to oversee the Installation design of Flow Meters.

7.1 Organizational Chart:

The Consultant shall submit with their Technical Proposal an organizational chart of the team(s) proposed. The chart shall provide the name of the person proposed and his or her assignment on the team. The chart shall indicate the team member to be resident in Kuwait and those located internationally. A detailed CV of each nominated team member shall be included in the Technical Proposal presented in the form and with the content as illustrated in Table T2.

7.2 Staff Qualifications:

The Consultant shall determine the number of staff necessary to complete the scope of work as stated herein. The Consultant shall submit in the Technical Proposal full details of the staffing proposed. The Financial Proposal shall reflect the cost of the staffing proposed in the Technical Proposal. Prior to assignment to the project or performing services for the project, the Consultant shall submit the proposed staff name and qualifications to MPW for approval. The majority of the engineers and other staff assigned to the project must have been employed by the Consultant at least one year prior to being assigned to this project.

The following positions are the core staff needed for execution of this contract:

7.2.1 Project Manager.

- 15 years experience in sanitary engineering similar projects
- 7 years Project Management Experience.
- Experience with major multi-contract, multi-facility Projects of value in excess of KD.20 million
- Graduate plus Master in Engineer Chartered or Registered Engineer from an internationally recognized institute with International Experience.
- Resident Middle East Experience.

7.2.2 Electrical Senior Engineer.

- 15 years experience in design and construction of major Electrical facilities.
- Graduate from an internationally recognized institute with multi-national experience.
- Resident Middle East Experience.

7.2.3 Instrumentation Telemetry Engineer.

- 12 years experience in design and construction of state of the instrumentation for major sanitary or similar works.
- Graduate Engineer with multi-national instrumentation experience.
- Resident Middle East Experience.

7.2.4 Civil Engineers (Hydraulic)

10 years experience similar works.

Graduate Hydraulic Engineer chartered or registered engineer from an internationally recognized institute.

Resident Middle East Experience.

7.2.5 Penalties.

Ministry has the right to control minimum staffing and penalize the consultant with the ability to deduct the salary of staff missing. The Consultant shall provide a certified time sheet to be monitored by MPW.

Section – 8 : General Matters

SECTION 8 - GENERAL MATTERS :

8.1. Office Staffing:

The selected Consultant is expected to maintain an office in Kuwait that is adequately equipped and staffed with engineering personnel and support staff throughout the Agreement Period.

The Consultant's staff shall have word processing, computer aided drafting and data entry capabilities and all tools and equipment to fulfil his obligations. The Consultant shall make his own assessment as to the number of staff and man-months required for this project. Full details of his staffing shall be included in his Technical Proposal. The Financial Proposal shall reflect the cost of the staffing proposed in the Technical Proposal.

82. Co-Ordination :

It is necessary and obligatory that a close cooperation concerning various planning, design and construction works must be done during the period of this Agreement with, but not limited to, the following:

- Municipality.
 - Ministry of Public Works.
 - Ministry of Defense.
 - Ministry of Communication.
 - Ministry of Energy
 - Ministry of Interior.
 - Environmental Public Authority
 - Public Authority for Housing Authority.
 - Traffic Department.
 - Public Authority for Agriculture and Fish Resources
 - All concerned Consultant's Offices and/or other offices.
-
- The Consultant should bear in mind that all existing and proposed planning is an on-going process and that Consultant should keep the situation under review and shall incorporate the latest data and information in the design.
 - The Consultant should cooperate closely with the Sub-Service Committee and other concerned ministries to define the service reservations such as sanitary, stormwater, brackish water, sweet water, telephone, electrical cables...etc. along the sidewalk of roads.
 - The Consultant should keep all correspondence with all other concerned offices directly or indirectly in the study, design and construction of the Project. All of these correspondence or part of it should be presented at any time to MPW, when requested.

8.3. **Insurance** :

8.3.1. **Design Insurance** :

According to Article (21) Doc.(I), the Consultant shall submit an Insurance Policy/Policies in his name and in favor of Ministry/any other nominee of the Ministry, 10% of the contract value, to indemnify all damages, losses, expenses and claims/liability due to faults in the design prepared by Consultant, his employees, his agents or sub-consultants and specialists or their employees or agents.

8.3.2. **Supervision Insurance** :

According to Article (21) Doc.(I), in the case, the Consultant is assigned the supervision work, then he shall submit an insurance policy or policies in his name and in favour of the Ministry and/or any other nominee of the Ministry, to indemnify all damages, losses, costs, claims and liability due to fault in the supervision works performed by the Consultant, his employees or agents. All costs for this policy/policies shall be included in the Supervision fees.

8.3.3. **Third party Insurance** : (During the Study & Design Period)

The Consultant, before commencing the execution of the works on the site, shall insure against any damage, loss or injury which may occur to any property, or to any person by or arising out of the execution of works or temporary works by the Consultant, his employees, his agents or sub-consultants and specialists.

All the expenses for the policies shall be included in the direct cost of study and design fees.

Section – 9 : Consultant’s Financial Proposal

SECTION 9 : CONSULTANTS PROPOSALS

9.1. Financial Proposal :

The Consultant shall submit 10 copies of Financial Proposal for each Part of the Work as described below :-

Stage I Study, Design, Preparation of Tenders Documents for Flow Meters Installation Works and Evaluation of Tenders for Construction Contracts.

Stage II Supervision of Flow Meters Installation Works (PROVISIONAL)

- The Financial Proposals shall be prepared to show the Consultant's Staff and a detailed breakdown of man-months with indication of salary, overheads and profit. Copies of Forms included in this document shall be used in preparing the Financial Proposal. Separate cost estimate summaries shall be provided for each part.

- The period for completion of Stage -I shall be 365 calendar days.

For Stage II, there will be two construction contracts. Construction Period for each contract shall be 24 months and Consultant's Supervision period shall be 26 months for each contract .

- For Stage -I Staff Cost, Table F1 and Stage-II Staff Cost, Table F3 shall be filled in and submitted.
- Direct costs in the proposals shall be itemized in sufficient details for each part of work so that the individual costs can be clearly understood and evaluated. Cost items shall include but not limited to vehicle and transport expenses, air fares for assigned visitors from home office of International Consultant to/from Kuwait, soil and sub-surface investigations and other items as necessary. Calculations for the direct cost shall be made for Stages I and II separately in the Format given as Table F2.
- For Supervision, the Consultant shall be responsible (as part of his overhead) for providing all necessary site office consumable equipment (typewriters, word processors, surveying equipment etc.), codes and standard manuals and other reference materials and equipment required by the Consultant in the performance of his work. The Ministry will provide and maintain for the Consultant only a site office and office furniture.

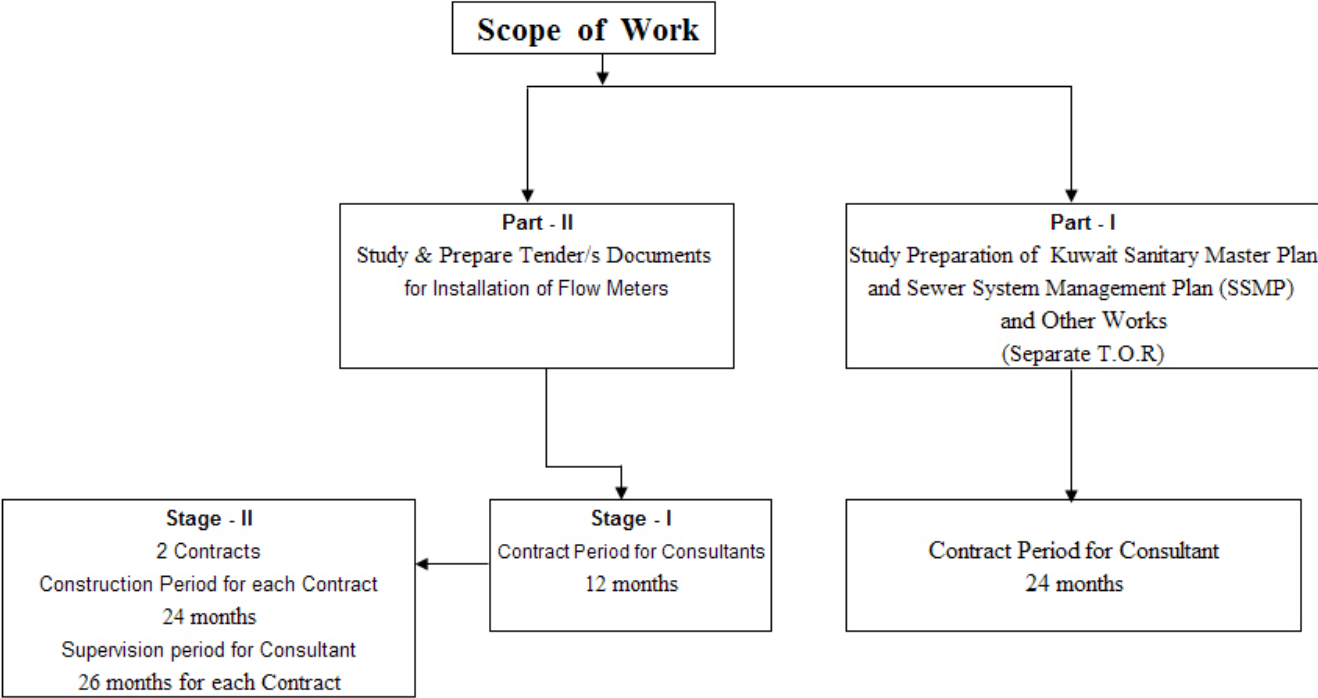
Financial Proposal

Description	Staff Costs	Direct Costs	Total - KD
Study, Design and Preparation of Documents KD.			
Direct Cost KD.			
Total for Study, Design and Preparation of Documents (a) KD			
Consultant's Supervision Contract – 1 Direct Cost Contract – 2 Direct Cost KD. KD. KD. KD.			
Total for Consultant Supervision (b) KD.			
Total Cost (a) + (b) carried to Summary (Part I & Part II) KD.			

Section 10 - Attachments

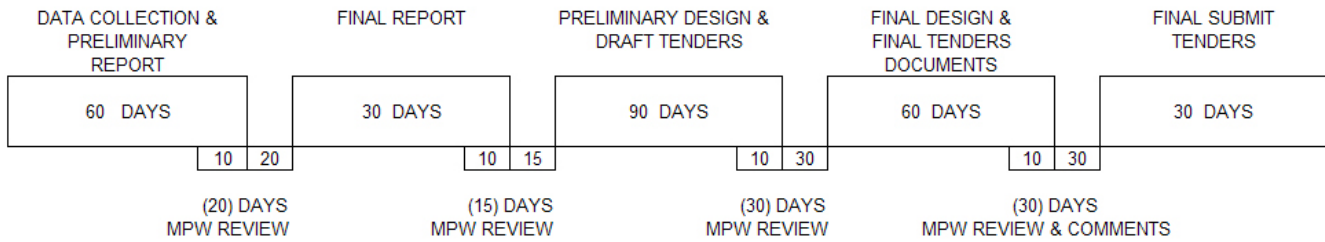
- Table F1 - Financial Proposal – Man month Costs
- Table F1-1- Production/Printing Costs
- Table F2 - Direct Costs
- Table F3 - Supervision Fee
- Financial Proposal (Summary – Part I & II)

Section 11 - Drawings



SECTION (5) - SCHEDULE OF TIME

D O C U M E N T I I I - 1



365 DAYS

The Consultant has to submit almost complete stage of work to (MPW) and other Ministries for review at the start of overlap period as shown above.