



Local Government  
Aamchowk Rural Municipality  
Province No:-1  
**Office Of Rural Municipality Executive**  
**Balankha,Bhojpur**

## **Terms of Reference (ToR)**

**For**

**DPR of**  
**Detailed Engineering & Architectural Survey Including Soil Test, Design,**  
**Drawing, Cost Estimate and Report Preparation of "10 BED AAMCHOWK**  
**AADHARBHUT ASPATAL"**

**2077/2078**

## **1. Background:**

The Aamchowk Rural Municipality, Balankha is assigned to build the Detailed Engineering & Architectural Survey including Soil Test, Design, Cost Estimate & Report of "10 BED AAMCHOWK AADHARBHUT ASPATAL" at Balankha, Bhojpur district in FY 2077/78. The Aamchowk Rural Municipality requires procurement of consulting services for the Survey, Soil Test, Design and Preparation of detailed Architectural and Engineering drawings of the aforementioned Building.

## **2. Objectives:**

The objectives of the assignment are to prepare the Master Plan with DPR, Drawings, Cost Estimate & Report for the Building. However following objective fulfill the proposed study:

- To carry out detailed topographic survey and map of the areas (in appropriate scale)
- To prepare master plan with all physical infrastructures required in the building Area.
- To carry out the Geotechnical Investigation (Soil test by digging 5 bore holes).
- To carry out the structural design of the Building
- To carry out the Sanitary design required for the Building
- To carry out the Electrical design (Lighting, Telecommunication and data networking, Security system, fire Alarm System) required for the Building
- To design the security System
- To design the Firefighting system
- To prepare the Landscape Design
- To prepare the HVAC Design
- To prepare the Interior Design
- The detailed master plan would include detailed engineering survey and design for all the components of infrastructures.
- To design the infrastructure depicting the local architecture and using local construction technology and materials. Drawings of infrastructures should include Plan, Section, Elevation and Perspective view in color format along with soft copies.
- To prepare cost estimates, Bidding Document and Specifications of the project.
- Preparation of schematic drawings, 3D Master plan, cost estimate and Infrastructure development plan
- Presentation of the complete work at Aamchowk Rural Municipality.

### **3. Outputs:**

The expected outputs are as follows:

#### **3.1 Engineering Survey and Survey Drawings:**

The consultant in consultation with the respective Rural Municipality or Owner of the Site should carry out engineering survey of the site. The consultant shall prepare topographic map of the site. The contour interval shall be between 1m and 0.5m as per site condition and the instruction of Aamchowk Rural municipality. The topographic map shall be consistent with cadastral map accompanied with all details in the site.

#### **3.2 Master Plan:**

The consultant in consultation with the Aamchowk Rural municipality, related organizations and local people should prepare master plan of the main Building and other additional buildings as per requirement, and landscaping of the site in suitable scale.

#### **3.3 Architectural Design and Working Drawings:**

The consultant in consultation with the Aamchowk Rural municipality, related organizations and local people should prepare architectural design and drawings of the Building, and conceptual plans of the other additional buildings like (as per requirement) and landscaping of the site. The Consultant should prepare details of working drawings of the Hospital Building, acceptable to Aamchowk Rural municipality, in suitable and presentable scales (architectural drawing in 1:100 or 1:50 and other details in the range of 1:5 to 1:20 or as per division office institution). The architectural details should also be in compliance with NBC 106:2003 regarding the provisions for physically disabled people.

The consultant shall also prepare three dimensional views of the design using Sketchup or similar softwares.

#### **3.4 Structural Design and Detail Working Drawings:**

The consultant should develop detailed structural analysis and prepare working drawings showing all necessary details required for construction. Such details should be in full compliance with the requirements of NBC 105, SP34 and IS1893:2002. The consultant should submit Hard & soft copy of structural analysis.

### **3.5 Water Supply and Sanitary Design and Working Drawings:**

The consultant should carry out detailed water supply and sanitation design and working drawings along with the storm water drainage, firefighting systems, and rainwater harvesting system showing necessary details required for construction. They should be in accordance with the Standard Practice and Codes for Buildings and in accordance with NBC.

### **3.5 Electrical Design and Working Drawings:**

The consultant should carry out detailed electrical design with Standard Practice and Codes for public buildings and should comply with NBC 207:2003/standards. The Consultant should prepare electrical working drawings showing necessary details required for electrification.

### **3.6 Preparation of Technical Specification**

The Consultant should prepare technical specification of civil, water supply and sanitary works which are specific to the project and which are not included in the standard specification of the Aamchowk Rural municipality.

### **3.7 Quantity Estimate, Cost Estimate and BoQ.**

The consultant is required to prepare a detailed quantity, and cost estimate of civil, electrical and water supply and sanitary and bill of quantities. The cost estimate should be based on standard norms, rate analysis and approved rate for construction materials of the district. The consultant should seek approval from the Aamchowk Rural municipality for the items/ materials which are not included in norms for rate analysis.

### **3.8 Preparation of Bidding Document**

The Consultant should prepare the Bid document required for the bidding procedure for the Construction work of the project as per office instruction.

#### **4. Scope of Work:**

The major scope of work comprised developing of master plan of Building along with the design and estimate.

- Carry out Desk Study/Review of Existing site as well as practices.
- Detailed Topographic survey of the study area with existing structures i.e. temple, natural and manmade structures and infrastructures.
- Preparation of master plan and prioritization of infrastructure development with reference to the Information gathered from primary and secondary data

. All design works should strictly be in compliance with Nepal National Buildings Code (NBC), 2060.

#### **5 Methodology of work**

To achieve the objectives stipulated, the consultant needs to adopt the following steps of the methodology.

##### **❖ Desk Study**

A Desk Study need to be carried out, collecting all data, maps and other information relevant to Building design for planning of further field survey and investigation works as well as detailed design and checked the actual area of the plot.

##### **❖ Field survey and study**

It is the important part of the study. During the field study existing situation of the project area have to be visualized to perceive the ground reality. In order to guarantee the accuracy of survey work, the proper survey procedure has to be carried out.

##### **❖ Opinion Survey, Discussion and Meeting**

To get the clear idea about the perception of the municipality and the stakeholder's local people etc. should be carried out. The interaction with the mentioned personnel will help to know the main requirements, amenities that have to be provided in the design. During the course of the study, opinion surveys and interviews with concerned stakeholders should be carried out to find out the problems, needs and suggestions for effective concept of spatial requirement and functional flow.

##### **❖ Analysis and Synthesis**

The data information collected during desk study and field survey/investigation has to be compiled and based on the analysis of primary and secondary data, field data and information, it was interpreted in the master plan.

#### ❖ Detail Design Preparation

The concept plan of the proposed assignment will be finalized with Municipality and local stakeholders. After that, the detail design has to be prepared based upon the field survey and as per the requirement. The drawings prepared have to be in appropriate scale.

### **6. Personnel Requirements:**

The consultant should provide and manage a work team comprising of the following professionals to accomplish the proposed assignment. The required number of manpower and man-month should be in accordance with work schedule and manning schedule:

Item	Gazetted Class	Experience
Team Leader (Urban Planner)	Second Class Equal	5 years Experience
Environmental / Geotechnical Engineer	Second Class Equal	5 years Experience
Architect	Second Class Equal	3 years Experience
Structure Engineer	Second Class Equal	3 years Experience
Civil Engineer	Third Class Equal	3 years Experience
Electrical Engineer	Third Class Equal	3 years Experience
Sanitary Engineer	Third Class Equal	3 years Experience
Draft Man/Cad Expert		
Surveyor		

The team should also consist of supporting technical and non-technical staffs.

### **7. Work Schedule:**

The work shall be completed within 2 month from the date of agreement. The consultant is thus instructed to prepare their work schedule accordingly.

### **8. Reporting Requirements:**

The Consultant shall prepare and submit the reports as specified below. Auto Cad Software should be used to prepare all drawings. All reporting shall be in English and in the metric system except as otherwise mentioned. Inception, draft and final reports should be submitted to the Aamchowk Rural Municipality as specified below. Reports and drawings should be submitted in A4 and minimum A3 sized of papers respectively. 3 Sets of final drawing need to submit in A1 size. The final report must also be submitted in digital format.

### **8.1 Inception/ Field Report:**

The consultant should submit two (2) sets of inception report to the Aamchowk Rural Municipality within 10 days from the date of Work Order. The inception report should clearly specify findings of literature and field study, including minutes of meetings with the concerned officers and representatives of Building. Architectural design concept should be submitted at this stage.

### **8.2 Draft Final Report:**

Draft final report shall contain all the working drawings (architectural, structural, electrical, water supply, sanitary, storm water drainage and rainwater harvesting and utilization system) and relevant details including design calculation, 3-D views. The consultant should submit 3 sets of the report within 1.5 month after acceptance of Inception report. This report is to be presented in the Aamchowk Rural Municipality in presence of professional and concerned officials comprising experts for discussion, comments and suggestions. Date and time of presentation shall be mutually finalized by Aamchowk Rural Municipality and the Consultant.

### **8.3 Final Report:**

The final report should incorporate comments and suggestions on the draft final report. The consultant should also submit a digital copy in CD with final report including aforementioned drawings. The final report should be submitted in 3 copies (one set original and two sets in duplicate) within 2 month from work order date. 2 Sets of final drawing need to submit in A3 size.

The consultant should also produce other relevant reports to the Aamchowk Rural Municipality as and when necessary.

## **9. Capacity Building:**

Consultant should involve one technical staffs from Aamchowk Rural Municipality from the beginning of the project.

## 10. Payment Schedule:

Payments should be made by Aamchowk Rural Municipality upon the submission of Consultant's invoices according to the following schedule:

<b><u>Mode of Payment</u></b>	<b>Percentage</b>
1. First installment after the submission of inception/ Field report	30
2. Second installment after the submission of Draft Final Report and Presentation	40
3. Final installment of the payment after the submission and acceptance of final report completion of all duties and responsibilities assigned to the consultants as provisioned in this TOR.	30

Advance payment cannot be requested.

## 11. Contact Address:

LOCAL GOVERNMENT  
AAMCHOWK RURAL MUNICIPALITY  
PROVINCE NO 1  
OFFICE OF RURAL MUNICIPALITY  
BALANKHA, BHOJPUR