



धर्मदेवी नगरपालिका
Dharmadevi Municipality
मुद्देशनिश्चरे, संखुवासभा
Mudhe sanishare ,sankhuwasabha



१ नं. प्रदेश, नेपाल
Province NO.1 Nepal

प.स. / Ltr.NO :- ०७६/०७७
च.नं. / Ref.NO :-

प्रथम पटक प्रकाशित मिति २०७६/११/०१

सुचना

यस नगरपालिका अन्तरगत देहायका योजनाहरूको वृस्तित परियोजना प्रतिवेदन (DPR) तयार गर्नुपर्ने भएकाले यस नगरपालिकाले तय गरेको न्युनतम दररेट अन्तरगत रहि काम गर्न ईच्छुक यस नगरपालिकामा सुचिकृत फर्म कन्सल्टेन्सीले कार्यालयमा प्रति योजना रु १,०००/- को दस्तुत तिरि वा नेपाल एस वि आई बैंक मा यस नगरपालिकाको नाममा रहेको खाता नं. ४१३९५२४१२०७००१ मा जम्मा गरि भौचर पेश गर्न सकिनेछ, १ वटा फर्मले वढीमा २ वटा योजनाका लागि निवेदन दर्ता गर्न सकिनेछ, आफ्नो निवेदनका साथ अनुभवका कागजात, अन्य आवश्यक आधारभुत कागजात, भ्याट दर्ता, नविकरण, करचुक्ता, जनशक्ति योग्यता तथा न्युनतम कति रकम भित्र रहि काम गर्न सकिने हो सो रकम लगायतका मुल्यांकन गर्दा योग्यताक्रम हुने गरी विवरण राखि ३ दिन भित्र निवेदन दिनुहुन सम्बन्धित ईच्छुक फर्म वा कन्सल्टेन्सी हरुका लागि यो सुचना प्रकाशन गरिएको छ। अन्य जानकारीको लागि कार्यालयको प्राविधिक शाखाको फोन नं. ९८६२९६५९८८ मा जानकारी लिन तय गर्न सकिनेछ। साथै यस नगरपालिकाको Gmail Id Dharmadevimun@gmail.com समेतमा पेश गर्न सकिनेछ।

तपशिल

१. रामेश्वर मा.वि मोड देखी नागेश्वरी सडक १२ कि.मि (धर्मदेवी नगरपालिका क्षेत्र)
२. कुखुरेपानि जौटार सडक ४ कि.मि (धर्मदेवी नगरपालिका क्षेत्र)
३. भन्याङ्ग देखी फ्यागु डांडा सडक ४ कि.मि (धर्मदेवी नगरपालिका क्षेत्र)
४. भालुढुगा, कुन्ताङ्गमोड तामाफोक हुदै तेल्लोक सडक ४० कि.मि (धर्मदेवी नगरपालिका क्षेत्र)
५. आखिभुई बृहत खानेपानि योजना (तिन दोभाने मुहान वडा नं. १ देखी ९) सर्भेक्षण डिजाईन ड्रईङ्ग समेत (धर्मदेवी नगरपालिका क्षेत्र)

०१८

धर्मदेवी नगरपालिका
मुद्देशनिश्चरे संखुवासभा

फोन: नं. ०२९-४१४००६, ४१४००७, ४१४००८, Gmail. dharmadevimun@gmail.com, website www.dharmadevimun.gov.np

"सुन्दर समुन्नत, स्वच्छ, घर, गाउँ र शहर धर्मदेवी नगरपालिकाको रहर"



Dharmadevi Municipality

Office of the Municipal Executive

Mudhe Sanishare, Sanichuwasebha, Province-1, Nepal



Name of Work :- Detailed Engineering Road Survey & Design (DPR)

Detail of Estimate, Rate Analysis And Abstract of Cost

1. Rate analysis for surveying work per One Km in Rural Road (Dolidar DHR B)

S.N.	Description	Required(Days)	Rate	Amount (NRs)
1	<ul style="list-style-type: none">Provides leadership to the team.Visualises the task.Identifies the steps of survey work and organise.Carries out the survey work by using the required survey equipment like theodolite, level instrument, tape, etc.	1.50	1200.00	1800.00
2	<p>Overseer</p> <ul style="list-style-type: none">Supervises the preparatory work such as clearing the area of survey.Assists the Engineer in every matter that is necessary.Environment survey.	2.00	940.00	1880.00
3	<p>Sub-overseer/Survey Assistant</p> <ul style="list-style-type: none">Carries out the survey work by taking bearings and levels.Maintains proper recordings of the survey details.Establishment of benchmarks.	2.00	860.00	1720.00
4	<p>Staff Men</p> <ul style="list-style-type: none">Hold level staff.Erect ranging rods.	2.00	650.00	1300.00
5	<p>Tape/Chain Men</p> <ul style="list-style-type: none">Measure distances by tape/chain.	4.00	650.00	2600.00
6	<p>Unskilled Labourers/Survey Helpers</p> <ul style="list-style-type: none">Pegging work.Clearing off the bushes and obstacles as necessary.	4.00	650.00	2600.00
7	<p>Porters/Camp Workers</p> <ul style="list-style-type: none">Carry and shift the survey equipment and accessories.	2.00	650.00	1300.00
Sub-Total				13200.00
Rate OF Survey Works in One KM				13,200.00

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Chief Administrative Officer

2. Rate Analysis for design work per One Km in Rural Road (Dolidar DHR B)

S.N.	Description	Required(Days)	Rate	Amount(NRs)
1	Engineer • Works on or supervises on plotting work. • Works on design work. • Works on or supervises on drawing work. • Supervises on the work of estimating and costing. • Prepares project documents (BoQ, cost-estimate, drawings, schedules of labour and material, tender document, etc.). • Prepares the project report.	2.00	1200.00	2400.00
2	Overseer/Draftsperson • Works on plotting. • Works on drawing. • Works on estimating and costing. • Assists the Engineer in preparing the project documents and project report.	3.00	940.00	2820.00
3	Tracer/Computer Operator • Assists Engineer and Overseer in the preparation of drawings and other documents.	3.00	940.00	2820.00
4	Required Stationary item Afted And Before Design Work	1.00	885.00	885.00
Sub-Total				8925.00
Rate of survey and design work in one KM=				8,925.00

Calculation of Total (A+B)

S.N.	Description	Amount (NRs.)	Remarks
A	Rate Analysis For Survey work per One KM In Rular Road	13200.00	
B	Rate Analysis For Design work per One KM In Rular Road	8925.00	
	Sub - Total	22125.00	
	13% Vat Add	2876.25	
	Grand Total	25001.25	

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Terms of Reference



Term of Reference

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Chief Administrative Officer

1.0 BACKGROUND

The Dharmadevi Municipality (herein after referred as "the Office"), intends to utilize services of engineering consulting firms well experienced in the fields of survey and design of roads, bridge engineering, river training works, environment aspects etc. for providing engineering consulting services for detail engineering survey and design work of proposed Roads including cost estimation.

The physical parameters of the Road shall be determined in accordance with the category of the road and/or any other specialties of the project.

2.0 OBJECTIVES OF THE WORK

The main objective of the consulting services is to conduct a detail engineering survey of the proposed road, prepare detail design and cost estimate for the construction of the road. The consultant is required to perform the following jobs.

- ✓ Technical Studies: Assess the alignment feasibility with possible recommendation for low cost and local resources (manpower, technology and material) oriented road construction.
- ✓ Detail Engineering survey of the alignment and its corridor
- ✓ Conduct hydrological studies for cross drainage works and fixing of embankment height
- ✓ Design the road detail on corporation
- ✓ Prepare working drawings
- ✓ Prepare cost estimates with analysis of rates
- ✓ Prepare survey and design reports
- ✓ Prepare bill of quantities

3.0 SCOPE OF WORK

The consultant shall carry out the necessary field works along the alignment. The consultant shall be responsible for accuracy, interpretation, analysis of all data received and for the conclusion and recommendations in their report. The scope of work to be carried out by the consultant shall include but may not be limited to the following:

3.1 Desk Study

A desk study should be carried out, collecting all data, maps and information relevant to survey and design of the road and reviewing for planning of field survey and investigation works.

3.2 Field Study and Survey

The scope of work to be carried out by the consultant during field study and survey shall include but may not be limited to the following:



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3.2.1 Detailed Engineering Survey:

- Fixing of road alignment by setting out intersection point (IP) and intermediates points.
- Establishment of Bench Marks (BM) and other reference points
- Taking longitudinal section (LS) and cross section (CS) using appropriate methods
- Cross Section should be taken at LS 15-25 m interval depending upon the terrain and 2.5m interval across the alignment, 5 m both side from the centreline.
- Conduct the chain survey

3.2.2 Engineering Study and Inventory Survey

- ROAD INVENTORY SURVEY
 - + Sub base Condition Survey (Visual Survey)
 - + Road Geometry Survey
 - + Existing structure Survey
 - + Side drains requirements Survey
 - + Cross drainage requirements Survey
 - + Retaining and protection work requirements Survey
 - + Terrain Survey
 - + Land use Survey
 - + The locations of settlements off the road structures electric poles, streams, and water taps within the area of the plan.
- CONSTRUCTION MATERIALS SURVEY
 - + Identification of potential sources (query sites)
 - + Investigation of existing road materials on sites.
- GEOLOGICAL SURVEY
 - + General geology of the region, project area and the proposed road corridor should be described and a geological map of the area be presented along with identification of major features, pertinent to the project.
 - + Nature, type and structure and surface soil of the area need to be clearly identified and further required investigations listed.
 - + Whenever applicable, slope stability analyses of the representative site need to be carried out and the finding and recommendation be given
 - + The location of debris flow and other possible obstruction to the road alignment.
- HYDROLOGICAL AND METEOROLOGICAL STUDIES
 - + Climatic study: General climatic study of the area should be carried out and all relevant meteorological (Rainfall and Temperature) data and recommendation shall be presented.
 - + Study of the river and river system: The river system of the area should be described in the report. Preferably a river system map of the catchment's area and beyond (whenever applicable) should be produced.
 - + At least one cross-section of river at each crossing should be produced. In the cross section all bed and bank characteristics should be mentioned.



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- + Assessment of flood pattern and preliminary estimation of discharges should be carried out. Similarly, expected HFL shall be fixed as far as applicable
- + Information necessary for the design of the side drain and protection works as well as preliminary design of cross drainage structure shall be produced

3.3 Design and Drawings

The scope of work to be carried out by the consultant and activities covered by design and reporting work shall include but may not be limited to the following:

3.3.1 Design of Road and Prepare Working Drawings

- Calculate and plot the reduced ground level of longitudinal and cross section.
- Design the most economical road profile by balancing the volume of cut and fill to the nearest.
- Design horizontal and Vertical Curves.
- As per the engineering design, prepare the drawings of roads plan indicating the coordinate of IPs and profile (Longitudinal)
- Prepare the roads typical cross section with the pavement details.

3.3.2 Design of Road Side Structure and Prepare Working Drawings

- Design of appropriate road side structures
- Prepare the Drawings for above road side structures
- Prepare site plan

3.4 Prepare Bill of Quantities

- Prepare Rate analysis
- Prepare Cost estimate
- Prepare abstract of cost, Material & labour Schedules
- Prepare quality assurances Plan

3.5 Prepare and Submit Reports

In accordance with DoLIDAR standard procedures the consultant shall submit his report as follows:

- **Draft Report**

Prepare project report by including the documents (design, Drawings, BOQ, Cost estimate and others) prepared for Road.

This report shall be submitted in 1 (One) Copy for review and comments.

- **Final Report**

After all corrections and incorporation of all comments and suggestions to the submitted draft report, shall be submitted to Municipality Office in 2 (Two) copies.

4.0 GUIDELINES FOR EXECUTION OF CONSULTING SERVICES



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☛ Horizontal and vertical alignment of the road

The horizontal alignment of the road centerline should be determined within the survey of proposed corridor of the optimum alignment between control points specified as a reference for the engineering investigation. Where road track exists, efforts should be made to adjust alignment so as to match the original road track wherever possible. Cross Section should be taken at 15-25 m interval along the longitudinal sections and 2.5m interval across the alignment; 5 m both side from the centerline depending upon the terrain and section. Beginning and end of curves and then critical points as may be required should be fully define relative to the station of intersection points.

Vertical alignment should be determined with detailed calculation of earthwork quantities; Vertical curve should be properly designed.

☛ Consideration of environment protection

While designing the horizontal and vertical alignment, the consultant are required to assess the potential damage to the environment and attempt to mitigate or minimize such damage and suggest appropriate measure in design.

☛ Engineering Drawings Details

The consultant will prepare the following plans and working drawings on suitable reports material using the format and title sheets as required by the engineer in charge.

- + Map of district demarcation showing the location of the road.
- + Map showing complete alignment with Kilometer, names of area, land use, village, VDC, municipalities, name of natural drainage etc.
- + Location Map showing linkage of road the road with surrounding road network.
- + Map showing survey and design status of the complete road, intersection points, Benchmarks and other references points.
- + Plan, Profile (Longitudinal Section) and Cross- Section in the following Scale.
 - ☐ Plan - 1:1000
 - ☐ Horizontal Profile - 1:1000
 - ☐ Vertical Profile - 1:200
 - ☐ Cross Section - 1: 200
- + Plans and profile of the road should contain details of geometry viz. horizontal alignment with coordinates of IP, deflection angle, Ip to IP distances, Chainage of IP, curve data etc. names of VDC or municipalities, forest, land use pattern, cross drainage structure, retaining and protection structure required or as directed by Engineer in charge.
- + Standard charts of mentioned cross drainage structures, retaining/Brest wall and protection works, side drain, typical cross section of the road according to types of soil, passing zone(if provided), hairpin bend (If provided)

5.0 TIME SCHEDULE

The consultant shall complete the assigned works as per the following schedule:

- ☞ Inception Report within two weeks started from the date of signing of the agreement
- ☞ Draft Report within Ten weeks started from the date of signing of the agreement
- ☞ Final Report within two weeks after receiving Comments on the draft report

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Chief Administrative Officer

6.0 WORKING TEAM

The working team for field and office works should necessarily consist of the following Key Personnel together with adequate supporting manpower.

- (1) Highway / Transport Engineer
- (2) Geotechnical Engineer/ Engineering Geologist
- (3) Hydrologist
- (4) Environmentalist
- (5) Sociologist
- (6) Senior Surveyor/ Civil Engineer

7.0 PAYMENT SCHEDULE

1	1 st Installment	After submission of inception report	@ 30% of total remuneration
2	2 nd Installment	After Submission of Draft Design Report	@ 50 % of total remuneration
3	Final Instalment	After Submission of Final Detailed Engineering Design Report	@ 20 % of total remuneration

