

**Environmental Planning & Coordination Organization Paryavaran Parisar, E-5
Arera Colony, Bhopal**

EPCO invites proposal for physical and topographical survey from professional survey firms for empanelment. For details, please refer our website-www.epco.in

Executive Director



Environmental Planning & Co-ordination Organization (EPCO)

Paryavaran Parisar, E-5, Arera Colony, Bhopal (M.P.)

Empanelment of Vendor for Executing Physical and Topographical Survey Works in Madhya Pradesh

Term of Reference

Environmental Planning & Co-ordination Organization (EPCO), an organization of Housing & Environment Department of Govt. of Madhya Pradesh, engaged in Planning & Research activities invites proposal from Professional Surveyor's firms meeting the following requisite criteria for

Empanelment of vendor for executing Physical and Topographical Survey Works in Madhya Pradesh for a period of 3(three) years.

The scope of work includes detailed Physical and Topography survey using Total Station instrument including reconnaissance/detail survey of land, Existing Buildings/campus, Nallah streams, Existing road pavement, proposed road alignment etc and Demarcation/setout/ layout of structures on site, including providing & fixing Bench marks, preparation of survey/ demarcation drawings as required in the state of Madhya Pradesh. The work would also include Spot Levels and contours using Digital State of Art Total Stations including transfer of entire data to computer system in different geo referenced layers / themes using features of standard softwares and compatible with System Design Software packages including supply of soft copies and hard copies in appropriate scale.

Interested parties shall have to submit the following documents with their applications:

- (i) Experience of having undertaken similar work with any other Government/ public sector organizations during the last 3(three) years as on date.
- (ii) The firm must own in their own name the following surveying instruments/ system.
 - a) Total Station (having accuracy of 5 Seconds) / GPS
 - b) Auto cad or any other latest similar software

Necessary documents in this regard shall be enclosed along with the application.

- (iii) The list of technical persons presently engaged by the firm/ contractor including their qualification has to be submitted along with the application.
- (iv) Service Tax registration certificate / PAN & VAT registration number.

The interested firms should send their applications along with details of information as mentioned above.

Specifications / Item of works for executing Physical & Topographical Survey Works in Madhya Pradesh:

1. Physical and Topographical survey of Land showing all existing physical features of site e.g. Approach Road, Footpath, Electric Poles, Telephone Poles, Land Boundary, Fencing, Trees, Building Structures, Open Wells, Tube Wells, Gates, Nallah, River, Water body etc. complete with Spot Levels and contours using Digital State of Art Total Stations, GPS, automatic levels etc. including transfer of entire data to computer system in different geo referenced layers / themes using features of standard softwares and compatible with System Design Software packages such as AutoCAD, Rabbit etc including supply of soft copies and hard copies in appropriate scale.

A) Area Less than 1.00 Hectare

- i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval.
- ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval.
- iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.

B) Area 1.0 Hectare to 4.0 Hectare

- i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval.
- ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval.
- iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.

C) Area more than 4.0 Hectare and upto 8.0 Hectare

- i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval.
- ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval.
- iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.

D) Area more than 8.0 Hectare upto 20.0 Hectare

- i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval.
- ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval.
- iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.

E) Area more than 20.0 Hectare

- i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval.
- ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval.
- iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.

1.1 Add extra for Hilly areas

1.2 Add extra for Dense areas(Plantation, Habitation etc)

2. Survey for Existing Buildings/campus Kachha, pucca houses including taking detailed measurements thereof, measuring all components like fencing, plot boundary, electric poles, telephone poles, etc. complete as required with Spot Levels, contours and sketching if required, showing details for existing foundation, plinth, superstructure, roofing, flooring and doors and windows etc. using Design Software, Digital State of Art Total Stations, GPS, automatic levels etc. including transfer of entire data to computer system in different geo referenced layers / themes using features of standard softwares and compatible with System Design Software packages such as AutoCAD, Rabbit etc including supply of soft copies and hard copies in appropriate scale.

A) Area less than 1000 sqm

B) Area more than 1000 sqm

3. Providing & fixing Bench marks on given location as per the approved design including Fly Leveling/Double Leveling at given interval including colour washing & marking B. M. No., Level etc. complete.

A) Standard bench marks:

Size 30X30X90cm In CC 1:2:4 including providing & fixing of Bronze plate of size 12X12X0.6cm and anchor bolts of 10 mm dia and 30 cm length including shaping and welding etc., including Cost of cement, metal and sand and Labour for excavation in any type of soil, mixing, laying and curing of concrete including erection and removal of form work and fixing of plate etc complete.

B) Bench mark stone:

Providing & fixing Bench mark stone of size 15x15x75 cm, Chisel dressed cut stone erection and fixing /embedding 45 cm depth of stone with 15 cm concrete 1:4:8 all around and in bottom including cost of cement, metal, sand and Labour for excavation in any type of soil, handling and fixing of B.M. stone including mixing, laying & curing of concrete etc complete.

4. Demarcation/setout/ layout of structures on site using Digital State of Art Total Stations, GPS etc. including Pegs , Lime, construction of Reference pillars with material & laborer, etc complete as required including transfer of entire actual data to computer system in different geo referenced layers / themes to prepare the Demarcation Drawings using features of standard softwares and compatible with System Design Software packages such as AutoCAD, Rabbit etc including supply of soft copies and hard copies of final Layout Drawings in appropriate scale.

- i) Building Structure Layout including footings, Columns, Boundary Wall etc complete as required.
- ii) Residential Colony layout including Plot Boundary, Service Roads, Open spaces etc as per the approved Drawing.

- iii) Road Alignment including Median, Formation Levels etc as required.
- iv) Lake Boundary

5. Physical and Topographical survey of Existing Road showing all existing physical features of site e.g. Cross Road, Junctions, Road Islands, Footpath, Electric Poles, Telephone Poles, Land Boundary, Fencing, Trees, Building Structures, Open Wells, Tube Wells, Gates, Nallah, River, Water body etc. complete with Spot Levels as on required chainage on center line of road and on left & right side of center line as on required distance and making drawing including Plan, Longitudinal section, Cross sections as required with contours using Digital State of Art Total Stations, GPS, automatic levels etc. including transfer of entire data to computer system in different geo referenced layers / themes using features of standard softwares and compatible with System Design Software packages such as AutoCAD, Rabbit etc including supply of soft copies and hard copies in appropriate scale.

A) Length Less than 1.00 Km.

- i) Spot Levels at every chainage interval of 5.0m & at every 1.0m,2.0m,3.0m,4.0m,5.0m,6.0m,7.0m,8.0m,9.0m,10.0m distance both sides of center line of road or upto road boundary or as required for cross section.
- ii) Spot Levels at every chainage interval of 10.0m & at every 2.0m,4.0m,6.0m,8.0m,10.0m,12.0m,14.0m,16.0m,18.0m, 20.0m distance both sides of center line of road or upto road boundary or as required for cross section.

B) Length 1.00 Km. to 5.00Km.

- iii) Spot Levels at every chainage interval of 5.0m & at every 1.0m,2.0m,3.0m,4.0m,5.0m,6.0m,7.0m,8.0m,9.0m,10.0m distance both sides of center line of road or upto road boundary or as required for cross section.
- iv) Spot Levels at every chainage interval of 10.0m & at every 2.0m,4.0m,6.0m,8.0m,10.0m,12.0m,14.0m,16.0m,18.0m, 20.0m distance both sides of center line of road or upto road boundary or as required for cross section.

6. Physical and Topographical survey of Road Alignment showing all existing physical features of site e.g. Cross Road, Junctions, Road Islands, Footpath, Electric Poles, Telephone Poles, Land Boundary, Fencing, Trees, Building Structures, Open Wells, Tube Wells, Gates, Nallah, River, Water body etc. complete with Spot Levels as on required chainage on center line of road and on left & right side of center line as on required distance and making drawing including Plan, Longitudinal section, Cross sections as required with contours using Digital State of Art Total Stations, GPS, automatic levels etc. including transfer of entire data to computer system in different geo referenced layers / themes using features of standard softwares and compatible with System

Design Software packages such as AutoCAD, Rabbit etc including supply of soft copies and hard copies in appropriate scale.

A) Length Less than 1.00 Km.

- i) Spot Levels at every chainage interval of 5.0m & at every 1.0m,2.0m,3.0m,4.0m,5.0m,6.0m,7.0m,8.0m,9.0m,10.0m distance both sides of center line of road or upto road boundary or as required for cross section.
- ii) Spot Levels at every chainage interval of 10.0m & at every 2.0m,4.0m,6.0m,8.0m,10.0m,12.0m,14.0m,16.0m,18.0m, 20.0m distance both sides of center line of road or upto road boundary or as required for cross section.

B) Length 1.00 Km. to 5.00Km.

- iii) Spot Levels at every chainage interval of 5.0m & at every 1.0m,2.0m,3.0m,4.0m,5.0m,6.0m,7.0m,8.0m,9.0m,10.0m distance both sides of center line of road or upto road boundary or as required for cross section.
- iv) Spot Levels at every chainage of 10.0m & at every 2.0m,4.0m,6.0m,8.0m,10.0m,12.0m,14.0m,16.0m,18.0m, 20.0m distance both sides of center line of road or upto road boundary or as required for cross section.

7. Physical and Topographical survey of Existing Stream/ Nallah showing all existing physical features of site e.g. Cross Road Junctions, Road Islands, Footpath, Electric Poles, Telephone Poles, Nallah Boundary, Slope Lines, Fencing, Trees, Building Structures, Open Wells, Tube Wells, Gates etc. complete with Spot Levels as on required chainage on center line of Nallah bed and on left & right side of center line as on required distance and making drawing including Plan, Longitudinal section, Cross sections as required with contours using Digital State of Art Total Stations, GPS, automatic levels etc. including transfer of entire data to computer system in different geo referenced layers / themes using features of standard softwares and compatible with System Design Software packages such as AutoCAD, Rabbit etc including supply of soft copies and hard copies in appropriate scale.

A) Length Less than 1.00 Km.

- i) Spot Levels at every chainage interval of 5.0m & at every 1.0m,2.0m,3.0m,4.0m,5.0m,6.0m,7.0m,8.0m,9.0m,10.0m distance both sides of center line of nallah bed or upto nallah banks or as required for cross section.
- ii) Spot Levels at every chainage interval of 10.0m & at every 2.0m,4.0m,6.0m,8.0m,10.0m,12.0m,14.0m,16.0m,18.0m, 20.0m distance both sides of center line of nallah bed or upto nallah banks or as required for cross section.

B) Length 1.00 Km. to 5.00Km.

- i) Spot Levels at every chainage interval of 5.0m & at every 1.0m,2.0m,3.0m,4.0m,5.0m,6.0m,7.0m,8.0m,9.0m,10.0m distance both sides of center line of nallah bed or upto nallah banks or as required for cross section.
- ii) Spot Levels at every chainage interval of 10.0m & at every 2.0m,4.0m,6.0m,8.0m,10.0m,12.0m,14.0m,16.0m,18.0m, 20.0m distance both sides of center line of nallah bed or upto nallah banks or as required for cross section.

Financial Proposal

Considering the above terms of reference and technical specification, the vendor will submit their financial proposal for physical and topographical survey in Prescribed Format given at **Annexure-1**. Rate to be quoted will be inclusive of all taxes, fare, Transportation charges etc complete.

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All rights reserved or and exercisable by the Executive Director, Environmental Planning & Co-ordination Organization (EPCO), Bhopal. 'EPCO' the Organization reserves the right to accept or reject any or all of the tenders in full or in part including the lowest bid without assigning any reasons or incurring liability there of.

Last Date for Submission

Last date for submission of proposal is 15th April 2011 during office time. Proposal after due date will not be accepted.

Contact:

Executive Director,

Environmental Planning & Co-ordination Organization (EPCO),
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Bhopal (M. P.)

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Financial Proposal

Particulars	Unit	Rates in Rs.
1. Physical and Topographical survey of Land		
A) Area Less than 1.00 Hectare i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval. ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval. iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.	Hectare Hectare Hectare	
B) Area 1.0 Hectare to 4.0 Hectare i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval. ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval. iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.	Hectare Hectare Hectare	
C) Area more than 4.0 Hectare and upto 8.0 Hectare i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval. ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval. iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.	Hectare Hectare Hectare	
D) Area more than 8.0 Hectare upto 20.0 Hectare i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval. ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval. iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.	Hectare Hectare Hectare	
E) Area more than 20.0 Hectare i) With Spot Levels at Grid of 5.00m and Contours at 0.50m interval. ii) With Spot Levels at Grid of 10.00m and Contours at 0.50m interval. iii) With Spot Levels at Grid of 20.00m and Contours at 1.00m interval.	Hectare Hectare Hectare	
1.1 Add extra for Hilly areas	Hectare	
1.2 Add extra for Dense areas(Plantation, Habitation etc)	Hectare	
2. Survey for Existing Buildings/campus		
A) Area less than 1000 sqm B) Area more than 1000 sqm	Sqm Sqm	
3. Providing & fixing Bench marks		

A) Standard bench marks	Each	
B) Bench mark stone	Each	
4. Demarcation/setout/ layout of structures on site		
A) Building Structure Layout including footings, Columns, Boundary Wall etc complete as required.	Sqm	
B) Residential Colony layout including Plot Boundary, Service Roads, Open spaces etc as per the approved Drawing.	Hectare	
C) Road Alignment including Median, Formation Levels etc as required.	Km.	
D) Lake Boundary	Hectare	
5. Physical and Topographical survey of Existing Road		
A) Length Less than 1.00 Km.		
i) Spot Levels at every chainage interval of 5.0m & at every 1.0m, 2.0m, 3.0m, 4.0m, 5.0m, 6.0m, 7.0m, 8.0m, 9.0m, 10.0m distance both sides of center line of road or upto road boundary or as required for cross section.	Km.	
ii) Spot Levels at every chainage interval of 10.0m & at every 2.0m, 4.0m, 6.0m, 8.0m, 10.0m, 12.0m, 14.0m, 16.0m, 18.0m, 20.0m distance both sides of center line of road or upto road boundary or as required for cross section.	Km.	
B) Length 1.00 Km. to 5.00Km.		
i) Spot Levels at every chainage interval of 5.0m & at every 1.0m, 2.0m, 3.0m, 4.0m, 5.0m, 6.0m, 7.0m, 8.0m, 9.0m, 10.0m distance both sides of center line of road or upto road boundary or as required for cross section.	Km.	
ii) Spot Levels at every chainage interval of 10.0m & at every 2.0m, 4.0m, 6.0m, 8.0m, 10.0m, 12.0m, 14.0m, 16.0m, 18.0m, 20.0m distance both sides of center line of road or upto road boundary or as required for cross section.	Km.	
6. Physical and Topographical survey of Road Alignment		
A) Length Less than 1.00 Km.		
i) Spot Levels at every chainage interval of 5.0m & at every 1.0m, 2.0m, 3.0m, 4.0m, 5.0m, 6.0m, 7.0m, 8.0m, 9.0m, 10.0m distance both sides of center line of road or upto road boundary or as required for cross section.	Km.	
ii) Spot Levels at every chainage interval of 10.0m & at every 2.0m, 4.0m, 6.0m, 8.0m, 10.0m, 12.0m, 14.0m, 16.0m, 18.0m, 20.0m distance both sides of center line of road or upto road boundary or as required for cross section.	Km.	
B) Length 1.00 Km. to 5.00Km.		
i) Spot Levels at every chainage interval of 5.0m & at every 1.0m, 2.0m, 3.0m, 4.0m, 5.0m, 6.0m, 7.0m, 8.0m, 9.0m, 10.0m distance both sides of center line of road or upto road boundary or as required for cross section.	Km.	

ii) Spot Levels at every chainage of 10.0m & at every 2.0m,4.0m,6.0m,8.0m,10.0m,12.0m,14.0m,16.0m,18.0m , 20.0m distance both sides of center line of road or upto road boundary or as required for cross section.	Km.	
7. Physical and Topographical survey of Existing Stream/ Nallah		
A) Length Less than 1.00 Km.		
i)Spot Levels at every chainage interval of 5.0m & at every1.0m,2.0m,3.0m,4.0m,5.0m,6.0m,7.0m,8.0m,9.0m, 10.0m distance both sides of center line of nallah bed or upto nallah banks or as required for cross section.	Km.	
ii)Spot Levels at every chainage interval of 10.0m & at every2.0m,4.0m,6.0m,8.0m,10.0m,12.0m,14.0m,16.0m, 18.0m, 20.0m distance both sides of center line of nallah bed or upto nallah banks or as required for cross section.	Km.	
B) Length 1.00 Km. to 5.00Km.		
i) Spot Levels at every chainage interval of 5.0m & at every1.0m,2.0m,3.0m,4.0m,5.0m,6.0m,7.0m,8.0m,9.0m, 10.0m distance both sides of center line of nallah bed or upto nallah banks or as required for cross section.	Km.	
ii)Spot Levels at every chainage interval of 10.0m & at every2.0m,4.0m,6.0m,8.0m,10.0m,12.0m,14.0m,16.0m, 18.0m, 20.0m distance both sides of center line of nallah bed or upto nallah banks or as required for cross section.	Km.	

Date:

**Signature of Authorized Person
and Seal of Firm**