

HSCC (INDIA) LIMITED
(A Govt. of India Enterprise)

Ref No. : HSCC/Soil Survey/NRCH/BQ/2026

Date: 12.03.2026

Subject: Request of Budgetary Quotations for Detailed Field Survey, Under Ground Mapping and Geotechnical Investigation for Northern Railway Central Hospital, Connaught place, New Delhi, India.

You are requested to submit Budgetary quotation for the following works :-

A. Detailed Field Survey

1. Topographical Survey

- i. Carrying out topographical survey including transferring the level from nearest available permanent G.T.S. benchmark Establishment of 3 nos. bench mark at nearby permanent structures.
- ii. The reduced level with respect to M.S.L. shall be engraved at each location of the bench mark.
- iii. Spot leveling of area of land/plot by taking spot levels as required.

2. DGPS Survey

- i. Identification and marking of Ground Control Points on the area of Interest. Minimum number of GCP shall be as per project requirement/ industry standard.
- ii. Monumentation of G.C.P.: Required number of ground control points shall be marked on the ground using DGPS method at regular/random interval throughout the project area. Control chart shall be prepared choosing Ground Control Points with easy access as well as easy identification on image. Control points shall be established on ground based on the control chart preferably on permanent structure, culvert corner, Road barrier, bridge corner, rock-in-situ, field bunds and other definable points like tri-junctions, road-junctions.
- iii. Obtaining NOC from Airports Authority of India.

3. Drone Survey

- i. To conduct Unmanned Aerial System (UAS)/Drone survey for Photogrammetric 3D mapping of proposed Site.
- ii. The broad scope of work involves topographic survey and preparation of Existing Land-Use (ELU) & Land-Cover (ELC) / topographic maps of existing project site using high-precision Drone/ UAV (Unmanned Aerial Vehicle Image/Photogrammetric approach) technology.
- iii. **It is the responsibility of the surveyor to obtain necessary permissions from all concerned authorities.** HSCC will provide necessary letters for the same.
- iv. Collection of High-Resolution Aerial Imagery of minimum approx. 3 to 5 cm GSD by Drone/UAV, performing Aerial triangulation, Digital Terrain Modelling, 3D topographical mapping & High Resolution Geo-Referenced Ortho-rectified Orthophoto mosaic generation for collection of the details of all existing assets including Picking up of natural and manmade features

	covering the entire Project site Topo and Contour maps Digital Terrain Model (DTM) Collection of details for all features above the surface and visible in UAV data or Image, from the surveyed data such as - All types of Buildings, Utilities, Electric and telephone installations, Existing roads, other service buildings, Fencing, Trees (with girth greater than 0.15 metre), Vegetation, Boundary/Retaining Wall, Sewer Lines, Tanks, storm water drain/drainage line/nallah passing through/nearby. v. Stereographic images with minimum 80% forward and 60% side overlap Photographic Condition: Free from fog / snow / haze / dust / smoke / sun angle etc. vi. Longitudinal and Cross Section of the existing major buildings. vii. Photography with professional Multitrotor Drone at suitable Flying Height. 4. Deliverables i. Aerial Topographical Survey deliverables with in accuracy of 5 CM RSME: a. AutoCAD Drawing with Coordinates b. Topographical base map in AutoCAD format having all the natural & manmade features such as buildings, road, Power (HT & LT) & telecommunication lines/poles, boundaries fences, Municipal/Public sewer line, Water Supply Line and storm water drain/drainage line/nallah passing through/nearby etc in DWG or DXF format. c. Contours at an interval of 50 cm in DWG or DXF format d. Digital Elevation Model of 0.25 m resolution in ASCH format and DWG format e. 3cm resolution (GSD) Ortho photo in ECW or TIFF format which can be opened in CAD ii. Final survey report shall be submitted in 3 copies of standard A4 size sheets and drawings in A0/A1/A2 size sheets properly bound and printed using good quality paper along with soft copy of complete report as per the data acquired during survey.
	B. Under Ground Mapping 1. Site reconnaissance and visual inspection. 2. To accurately detect, map, and document all underground utilities (metallic and non-metallic including but not limited to gas lines, water pipes, communication cables and sewer lines) and features up to a depth of 3 meters within the project area. 3. Grid based scanning shall be done for total area. 4. Drawing shall be prepared on computer through digitization process and the soft copy shall be provided along with 3 sets of signed & stamped hard copy (A0/A1A2 Size).
	C. Geotechnical Investigation 1. Boring of holes of 150mm dia. in all types of soil including boulders, gravels, hard rock etc. upto the depth of 15m below the existing G.L. or refusal whichever is met earlier complete in all respects. 2. Conducting standard penetration test in all bore holes at intervals of 1.5 m and also at change of strata as per IS codes of practices. 3. Collecting disturbed and undisturbed samples of soil at 1.5m interval and also

- at change of strata from bore holes
4. Recording of water table in bore hole.
 5. Conducting following tests but not limited to following on samples collected from each hole
 - i. Tests on Disturbed and Undisturbed samples: -
 - Visual and Engineering Classification
 - Sieve analysis and Hydrometer analysis
 - Liquid, Plastic and Shrinkage limits
 - Specific Gravity
 - Chemical Analysis
 - Swell pressure and free swell index determination (applicable only for black cotton soil)
 - Proctor Compaction Test
 - CBR Penetration Test
 - Relative density (for sand)
 - ii. Tests on undisturbed samples
 - Bulk density
 - Moisture content
 6. Conducting chemical analysis of soil and water.
 7. To determine the Weighed Average shear wave velocity (V_s) as per IS 1893(Part 1):2025 of soil layers upto the depth of influence under the foundation using appropriate method based on site conditions.
 8. To determine the electrical resistivity of soil at site and provide resistivity values and recommendations.
 9. Submission of Geotechnical Investigation report including but not limited to recommendation of SBC, Soaked CBR, Modulus of Subgrade Reaction, Shear Wave Velocity and Electrical Resistivity.

Please submit budgetary quotation quoting unit rates as per the format enclosed at (ANNEX–A) for subject work by 14:30 hrs on 16.03.2026 through email to structure@hsccltd.co.in

The submitted budgetary quotation is used only for estimation and planning purposes and shall not construed as a commitment on the part of HSCC for placement of any order.

We look forward to receiving your quotations.

DGM/HoD (D&E)
HSCC (India) Limited

ANNEX – A
Budgetary Quotation

To,

DGM / HoD (D&E)
HSCC (India) Limited,
E-6(A), Sector – 1,
Noida (U.P.) – 201301

Subject: Budgetary Quotations for Detailed Field Survey, Under Ground Mapping and Geotechnical Investigation for Northern Railway Central Hospital, Connaught place, New Delhi, India.

We herewith submit our Budgetary quotation as below:

S.No	Description	Unit	Quantity	Rate	Amount
1.	Detailed Field Survey including Topographical Site Survey, DGPS Survey and Drone Survey as per defined scope of work	Acre	55		
2.	Submission of all deliverables of Detailed Field Survey as per scope of work.	Ls.	1		
3.	Obtaining NOC from Airports Authority of India for Proposed buildings.	Ls.	1		
4.	Under Ground Mapping as per scope of work.	Acre	5		
5.	Submission of all Drawings/Documents of Underground Mapping as per scope of work.	Ls.	1		
6.	Boring of holes of 150mm dia. in all types of soil including boulders, gravels, hard rock etc. upto the depth of 15m below the existing G.L. or refusal whichever is met earlier complete in all respects and recommendation of SBC as per scope of work.	Rm	120		
7.	Submission of Geotechnical Investigation Report as per scope of work.	Ls	1		
GST as Applicable					
Total Amount including GST					

Signature
Name & Address of the Firm with seal

Date:
Place: