INVITATION FOR BID

NTPC Limited

(A GOVT. OF INDIA ENTERPRISE)

KOLDAM HYDRO POWER STATION
P.O. JAMTHAL, JAL JYOTI VIHAR
TEHSIL SADAR, DISTT. BILASPUR (H.P.)-174036

NOTICE INVITING TENDER (NIT)
FOR
EOI for DGPS Survey & Physical Verification of land at NTPC Koldam

Document No.: Koldam/C&M/2021-22/21725002/13115 **Date: 07.04.2021**

1.0 NTPC invites **online Expression of Interest (EOI** from Interested Agencies for ***"EOI for DGPS Survey & Physical Verification of land at NTPC Koldam"***, as per the Technical Details and Scope of Work mentioned hereinafter.

2.0 BRIEF SCOPE OF WORK

The brief scope of work under this package includes "**EOI for DGPS Survey & Physical Verification of land at NTPC Koldam"** as detailed in the Scope of work, Terms and Conditions and enclosed checklist given in the Documents.

3.0 Employer intends to finance the subject package through internal resources.

4.0 Detailed specification, scope of work and terms & conditions are given in the documents, which are available on-line (www.eprocurentpc.nic.in) as per the following schedule:

NIT No.	**Koldam/C&M/2021-22/21725002/13115**
NIT Date	07.04.2021
Source of IFB/NIT	Koldam Hydro Power Station
Contract Classification	EOI
Document Download Start Date & Time	07.04.2021, 18:00:00
Clarification Start Date	07.04.2021, 18:00:00
Clarification End Date	17.04.2021, 17:00:00
Pre-Bid Conference	Not Applicable
Last Date and Time for Bid submission	20.04.2021, 11:00 AM
Bid Opening Date and Time	21.04.2021, 11:00 AM
Estimated cost in Rs. Lacs	Rs. 12.14 Lakhs
Completion / Contract Period	Six (06)Months

5.0 EMD: Not Applicable.

6.0 Notwithstanding anything stated above, the Employer reserves the right to assess the capabilities and capacity of the Bidder / his collaborators / associates / subsidiaries / group companies to perform the contract, should the circumstances warrant such assessment mentions the overall to the Employer.

7.0 Qualification Requirements for Bidders: Not Applicable

8.0 Employer reserves the right to reject any or all or cancel / withdraw the Invitation for EOI without assigning any reason whatsoever and in such case no bidder / intending bidder shall have any claim arising out of such action.

9.0 A Complete Set of Documents are available on NTPC e-tender site at http://eprocurentpc.nic.in. Prospective agencies are required to have GePNIC User ID and Password for downloading Tender Documents, by registering themselves on GePNIC Site (http://eprocurentpc.nic.in). Documents may be downloaded by any interested bidder free of cost.

For access in GePNIC site, a valid Class III digital signature of the authorized person of the agency is a pre-requisite.

Further, in addition to EOI applications through GEPNIC portal, the EOI applications along with related documents can also be mailed to the mail IDs provided in the documents.

10.0 Address for Communication:

DGM (C&M)
NTPC LIMITED
KOLDAM HYDRO POWER STATION
P.O. JAMTHAL, TEHSIL SADAR, DISTT. BILASPUR (HP) PIN-174036
Tel No.: 01978-265531 / 265711, Mob. 9418687966
Email: sureshkumar02@ntpc.co.in, bipankumarsharma@ntpc.co.in
Websites: https://eprocurentpc.nic.in

NTPC Web sites for reference: https://eprocurentpc.nic.in or www.ntpc.co.in

SURESH KUMAR

Digitally signed by SURESH KUMAR
DN: c=IN, st=Himachal Pradesh, 2.5.4.20=2b12d3853b3b87549544e4b3f1454076404c6552c6caea73099607d990389797, postalCode=174036, street=KOLDAM HYDRO POWER STATION OF NTPC LTD, POST OFFICE JAMTHAL, TEL SADAR, ou=KOLDAM HPS, o=NTPC LTD, cn=SURESH KUMAR
Date: 2021.04.09 17:38:32 +05'30'

NTPC LIMITED

(A Government of India Enterprise)

एनटीपीसी
NTPC

Technical Specifications and scope of Work

TECHNICAL SPECIFICATIONS FOR DGPS SURVEY & PHYSICAL VERIFICATION

1.0.0 NAME OF WORK

DGPS Survey and physical verification of land of stations of NTPC Koldam, Bilaspur, Himachal Pradesh.

2.0.0 SCOPE OF WORK

2.1.0 The Contractor shall carry out the Survey and preparation of Plans (Maps) and report of the entire area/(areas indicated), of the Power plant and its other systems as per terms & conditions detailed in **Appendix-1**.

2.2.0 Marking co-ordinates of all corners/locations and Boundary outline of the whole acquired area for the project through DGPS enabled equipment.

2.3.0 Collecting Khasra/ Mouza maps of the area to be surveyed and superimpose the same on surveyed grids. The list/table indicating Khasra/ Mouza no. , area in acres, land use (as enumerated in Table A2 below) to be included in the report.

2.4.0 Taking observation and marking of all the existing visible structures / features like buildings, roads, drains, pipes, ,dam, spillway, plunge pool, power house, Townships, reservoir, administrative building, stores, CISF buildings, switchyard, tanks, dyke, open area, green area, electric, telephone line with poles, sheds, temples, ground coverage, boundary walls, tree, manholes and any other structure etc depending upon the site conditions and instruction of the Engineer-in-Charge or Single Point of Contact (SPOC) of subject cited work at respective sites.

2.5.0 Survey of linear alignments viz. water bodies/Approach Roads/Pipe Corridors etc & Marking of Structure/Features/pipelines, with color codes after taking details on the plan alongwith Area Reconciliation, plotting the exact space being occupied by the linear structure vis-à-vis the land acquired.

2.6.0 Putting unique identification marks (viz. buildings, parks, roads, reservoir, green belt, water bodies, open space etc) for the visible features as per the site requirementsand instructions of the Engineer-in-Charge or Single Point of Contact (SPOC) of subject cited work at respective sites.

2.7.0 Control survey and Geo-referencing of project area using DGPS

i. Establishment of Base Station with 72hr observation and fixing the coordinate link to IGS {International GNSS (Global Navigation Satellite System) Services} .

ii. Planning, identification and DGPS observation at Secondary Control points (bi-junction, tri-junction, field bund junctions) in cadastral sheet.

iii. Geo-referencing of the land plan on Secondary Control Point.

iv. Identification of different Land patches in the geo-referenced project area map.

2.8.0 Providing necessary surveying instruments and all other tools and materials, labor and qualified surveyors, scaffoldings, necessary transport, supervision by engineers and surveyors who is having at least 3 years' experience in surveying works of large (> 1000 acres) assignment, full insurance and all other incidental items as may be necessary for successful completion of the surveying and mapping work.

2.9.0 Color coding for different types of land (viz. Private, Govt., Forest etc.) and preparation of Area Chart (Type of land/utilization wise) as per format given in Table-A of **Appendix-II**.

2.10.0 Preparing & submitting a comparative statement of land as per Acquisition plan & actual physical possession in a tabular format & highlighting excess / shortfall / encroachment area & thereafter, rectifying the discrepancies if any to the extent possible as per format given in Table-B of **Appendix-II**.

2.10.1 Detailed Survey (door to door) and Report on land parcel /colonies under un-authorized encroachment as per format given in Table-C of **Appendix-II**.

2.10.2 Calculating actual area of plot and marking boundary line and showing breakup total area as per land use pattern viz. buildings, parks, roads, water bodies, pipe corridor, reservoir, green belt, nalla, open space etc. for the whole area, where detailed topographical survey to be done as per format given in Table-D of Appendix-II

2.11.0 Preparing project survey map in AutoCAD for making amendments/corrections as per the present site condition. Each activity should be shown as separate layers of the drawing and the details also need to be superimposed upon latest Google Earth map alongwith kmz files for separate areas.

2.12.0 Marking/showing the encroachment area, if any, separately on the AutoCAD drawings as well as on Google Earth map (kmz files).

2.13.0 Furnishing all field data & drawings in soft copy (on Pendrive) apart from hard copies.

2.14.0 Furnishing of the survey report as described in detail in the succeeding paragraphs is also included in the scope of this work.

2.15.0 Construction and installation of permanent reference PCC pillars (Size 400x400x750 mm depth (450 mm below ground level)) of approved specifications & drawings (Appendix-IV) and at interval of 100 m and part thereof and corners (having bend of 60 degree or less), including necessary excavation and backfill, as per direction of Engineer-in -charge. These Pillars shall be labeled permanently with their identification marks, respective GPS coordinates and reduced levels for future use along with NTPC name engraved on it. The pillars should be painted with white cement paint. The pillars shall also be shown on the survey drawings/Google Earth.

3.0.0 TENDER DRAWING

3.1.0 The enclosed **Vicinity Map** indicate the tentative location of the area/areas to be surveyed for locating the project as per **Appendix-III**.

The location/area(s) indicated in the Vicinity Map, is subject to change that may be necessary during actual execution of the work. The work shall be carried out as per the instructions of the Engineer – in – Charge Single Point of Contact (SPOC) of subject cited work at respective sites.

3.2.0 The Contractor must visit the site prior to submitting his quotations, to acquaint himself fully with the nature, type and scope of work and involvement therein. The rates quoted shall remain firm during entire period of execution till completion of the work and any additional claim for lack of knowledge shall not be entertained.

4.0.0 SPECIFICATION

4.1.0 The work shall be executed according to the specifications and good standard of practice necessary to fulfill the objective of the survey work, strictly in accordance with the instructions and satisfaction of the Engineer-in-Charge Single Point of Contact (SPOC) of subject cited work at respective sites.

4.2.0 The specifications shall be read in conjunction with the description of the item in the schedule. For any discrepancy which may exist between the drawing, specifications, and corresponding items of the schedule, decision of the Engineer-in-Charge as to the clarity of the point shall be final and binding to the Contractor.

5.0.0 CARRYING OUT AND SETTING UP OF REFERENCE PILLARS

5.1.0 The work shall also include constructing permanent reference pillars as per the sketch **Appendix – IV** at suitable locations as approved by the Engineer-in-Charge Single Point of Contact (SPOC) of subject cited work at respective sites. These reference pillars shall be labelled permanently with their respective coordinates and reduced levels (RL) for future use. The reference pillars shall also be shown on the survey drawings.

6.0.0 TOPOGRAPHICAL SURVEY AND MAPPING

6.1.0 Positions, both in plan and elevation, of all natural and artificial features of the area like waterways, nallas, trees, cultivation, houses, fences, pucca and kutcha roads including culverts and crossings, foot tracks, other permanent objects like telephone posts and transmission towers etc. are to be established and subsequently shown on survey maps by means of conventional symbols (preferably, symbols of survey of India Maps), all hills and valleys within the

area/areas are to be surveyed and plotted on maps by contours. Method of survey, etc. shall be decided by Engineer-in-charge on site in case of steepslopes and dense jungle etc. where gridding is not possible. Contour intervals shall be 5m. Any unusual condition or formations on the ground, locations of rock outcrops (if visible on the surface) and spring/falls, possible aggregate deposits etc. shall also be noted and plotted onthe maps.

The field work shall be done with DGPS enabled Equipment in the following steps:

i) Establishing horizontal and vertical controls and locating reference grids and bench mark in the area.
ii) Surveying for locating the natural and manmade details as described earlier.

The grids for the survey work shall be established in N-S & E-W direction (Corresponding to Magnetic North) or the Plant North as directed by the Engineer-in-Charge / Single Point of Contact (SPOC) of subject cited work at respective sites.

7.0.0 TRAVERSING

7.1.0 Triangulation or traversing or a combination of the two methods shall be adopted for the purpose of establishing horizontal control and in order to determine the exact relationship between various existing points on ground so that surveys required under the present scope of work and in future may be co-related and tied together.

7.2.0 Total intelligent station instruments should be deployed to achieve the specified accuracy of the work. Proper precautions for avoiding graduation errors and other instrumental and personal errors should be scrupulously observed.

7.3.0 From main traverse/triangulation station, subsidiary station shall be established atsuitable intervals to cover the entire area. Levels of these station shall be based on the Bench Mark established in the survey area. Occupying the main & subsidiary stations, all major details shall be surveyed by Total Station instrument. Further classification of details if necessary shall be carried out with plain table method.

7.4.0 The closing error in traverse shall not exceed one in twenty five thousand (1:25000) in terms of length or $L\sqrt{N}$ seconds total in angular measurement, whichever is less (were L is the least count of the instrument and N is the number of stations).

8.0.0 LATITUDE AND LONGITUDE

The contractor shall tie up the survey grids of areas surveyed with latitudes and longitudes.

9.0.0 CONSTRUCTION OF Reference PILLARS for marking Boundary:

9.1.0 Installation of permanent reference PCC pillars(1:2:4) (Size 400x400x750 mm depth with additional tapering at the top upto 150 mm above(450 mm below ground level)) of approved specifications & drawings (Appendix-IV) and at interval of 100 m and part thereof and corners (having bend of 60 degree or less), including necessary excavation and backfill, as directed by Engineer-in-Charge / Single Pointof Contact (SPOC) of subject cited work at respective sites. These are to be fixed at the boundary of NTPC acquired land, wherever required .These Pillars shall be labeled permanently with their identification marks, respective GPS coordinates and reduced levels for future use along with NTPC name engraved on it. The pillarsshould be painted with white cement paint. The pillars shall also be shown on the survey drawings/Google Earth.

10.0.0 PREPARATION & SUBMISSION OF SURVEY MAPS

10.1.0 The Contractor shall submit survey maps of the site in 1:4000 scale indicating grid lines, demarcating all existing visible structures / features like buildings, roads, drains, nalla, water reservoir, water channel, mucking area, , open area, green area, electric, telephone line with poles, sheds, temples, ground coverage, boundary walls, tree, manholes and any other structure etc.

10.2.0 One map titled Vicinity Map in 1:50000 scale or as directed by Engineer-in-Charge / Single Point of Contact (SPOC) of subject cited work at respective sites to be prepared. The map should cover location of plant indicating permanent features like villages/towns in vicinity, roads, National Highways, state higways with their names, rivers/nallahs, villages, major contour and other available features and/ or as per directions of Engineer-in-Charge / Single Point of Contact (SPOC) of subject cited work at respective sites. The horizontal and vertical grids of the map should be marked alongwith Latitude & Longitude values at 1 minute intervals.

10.3.0 The Mauza and Khasra map of the area should be collected by the Contractor from the local revenue authorities and survey grids be superimposed on the permanent feature maps and/or as directed by Engineer-in-Charge / Single Point of Contact (SPOC) of subject cited work at respective sites. The list/table indicating Khasra/Mouza no. area in acres, land use to be included in the report.

10.4.0 All the maps should be prepared in digitized forms using Inkjet/Pen plotter and standard computer software like AutoCAD or as directed by Engineer-in-Charge Single Point of Contact (SPOC) of subject cited work at respective sites. The block of name plate of all the drawings should be as per NTPC standard.

10.5.0 The digitized map should show the area and status of land as Govt revenue land, Acquired private land, forest land, released reserve forest land etc.

10.5.1 Color coding for different types of land on map as following

1. Type of land wise (Private, Govt.,Forest, Departmental, Direct purchase).
2. Possession (Land in possession of NTPC, adverse possession)
3. utilization wise (main plant, office buildings, Dam, Powerhouse, spillway, reservoir, plunge pool, township etc.).

10.6.0 The Contractor shall submit two copies of all the maps for review and approval of the Engineer-in-Charge / Single Point of Contact (SPOC) of subject cited work at respective sites. After approval, 2 (Two) prints of all the final maps (A0 Size) and soft copy in Pendrive(s) shall be submitted. Hard Copies of the maps and Soft Copy in Pendrive(s) shall be submitted in proper card board covers indicating index of drawings.

10.7.0 All the AutoCAD drawings should be prepared using different layers for different features with reference base map. The scale for the same should be clearly mentioned in the drawings. Preferably all the diagrams should have same scale.

10.8.0 NTPC INPUTS:

1. Assist in identification of locations on ground for DGPS observation.

10.9.0 Contractor's submissions;

Geo-referenced map including

Raw and post processed DGPS observation data in RINEX format

Base line & Network adjustment report for the Primary and secondary networks

Geo-referenced cadastral map based on in field observations

Certified & Authenticated Land Schedule (hard copy as provided by NTPC)

Geo-referenced shape/kmz file (soft copy) of the Project area with area statement

Area comparison statement

Applied area Vs Surveyed Area (plot wise and total)

11.0.0 SUBMISSION OF FIELD DATA AND REPORT

11.1.0 Contractor shall submit all data pertaining to the survey in original to the Engineer-in-Charge including all levels & co-ordinates in X-Y-Z format for the entire area on pendrive.

11.2.0 All field data (raw data from DGPS/total station) shall be submitted to NTPC from time to time as per progress of the work.

11.3.0 Two copies of the draft report shall be submitted on the completion of the field work for review and approval of the Engineer-in-Charge. The report should give the introduction of the site, methodology adopted for surveying the areas,

calculation of errors, transfer of Bench Mark, calculation for connecting the areas with latitudes and longitudes and any other calculation required for surveying and preparation of the survey maps.

11.4.0 Different area charts as per formats provided in Annexure-II. Please refer clauses 2.9.0 to 2.13.0 for details.

11.9.0 Text report explaining the methodology adopted for Total Station Survey and DGPS survey. Tabulated reading of the DGPS readings (in UTM and latitude, longitude, back bearing & fore bearing and RL format) and Coordinate statement

11.7.0 The survey report should also cover the following:

General site observation such as location of access roads, river and nallah courses, water bodies, etc.

11.7.0 Final survey report shall be submitted in 2 copies of standard A4 size sheets properly bound and printed using good quality paper and material and soft copy in pen drive with proper packing.

12.0.0 INSPECTION

The Contractor shall make all arrangement of men, material, transport at the work site for checking of the work to the satisfaction of Engineer-in-Charge / Single Point of Contact (SPOC) of subject cited work at respective sites or his authorized representative during the progress and on successful completion of the work. The Contractor shall intimate well in advance, before final decamping from work site, so that final work can be inspected by the Engineer-in-Charge Single Point of Contact (SPOC) of subject cited work at respective sites. This will form a part of acceptance of the wok for release of payments.

APPENDIX-1

SPECIAL TERMS AND CONDITIONS FOR SURVEY WORK

1.0.0 THE SCOPE OF SERVICES/WORK

The scope of services to be rendered or work to be performed by the Contractor shall be as detailed in the specifications enclosed with the Enquiry documents.

2.0.0 DEPLOYMENT OF RESOURCES (For Each Project)

2.1.0 For the Scope of Work under the contract, as detailed in the specifications the Contractor shall mobilize the following instruments as minimum requirement:-

1.	DGPS enabled equipment set	:	1 No.
2.	Total Station	:	1 No.
3.	Electronic auto level	:	1 No.

NOTE: Matching to the above, accessories like stands, staffs, ranging rods, steel tapes, stationery etc. should also be made available at site.
One set of DGPS considering 01 Base and 01 Rover. Bases and Receivers should be of same Make/Model and must have flexibility to use each other as Base or Rover vice versa. The DGPS equipment should at least conform to following accuracy :
Horizontal accuracy : 3 mm + 0.1ppm
Vertical accuracy : 3.5 mm + 0.4ppm
Technical / Calibration certificate to be produced from NABL Accredited Laboratories.

The DGPS used for survey must be set in Geographic Coordinate System-WGS84 datum.

Additional instruments shall be mobilized to match the work schedule and as per the directions of Engineer-in-Charge or Single Point of Contact (SPOC) of subject cited work at respective sites.

2.1.1 After arrival of the instruments at site, these shall not be moved out from the site by the Contractor without the prior written permission and approval of the Engineer-in-Charge or Single Point of Contact (SPOC) of subject cited work at respective sites. In case the instruments are moved out from the site without the prior written permission and approval of Engineer-in-Charge or Single Point of Contact (SPOC) of subject cited work at respective sites, NTPC reserves the right to deduct from the Contractor's bill(s), the amount as considered reasonable and/or withheld payments for the work done. The decision of the Engineer-in-Charge or Single Point of Contact (SPOC) of subject cited work at respective sites shall be final and binding in this regard.

2.2.0 The work at site shall be carried out under the full time supervision of a qualified engineer or a senior surveyor. The engineer or senior surveyor shall be responsible

for and capable of coordinating the work of the surveying teams, setting out the work accurately and identifying immediately and positively the type of instruments to be deployed and change in the methodology of surveying to achieve speed and accuracy in the work, and shall be fully conversant with the theory and techniques of the traversing, triangulation, spot leveling survey work covered by this contract.

2.3.0 For the full, proper and continuous supervision of the work under the Contract, the Contractor shall engage and mobilize the necessary contingent of qualified and experienced manpower at site. For this purpose minimum staff as detailed below shall be deployed at site on full time basis:

a) Graduate Civil Engineer/Senior Surveyor : 1 No.

b) Diploma in Engg./Surveyor (qualified) : 1 Nos.

c) Semi-skilled/unskilled workers : As per site requirements.

2.3.1 The actual deployment of staff shall commensurate with the site requirement & time schedule.

However, if the Contractor fails to deploy the minimum manpower at site as specified above, NTPC shall have the right to effect recovery from the contractor's bill(s).

The Engineer-in-Charge or Single Point of Contact (SPOC) of subject cited work at respective sites of NTPC shall decide the final amount of such recovery and his decision shall be final and binding in this regard.

3.0.0 DRAWINGS

The drawings shall be prepared directly on computers using standard software's like AutoCAD.

4.0.0 PROGRESS REPORT

4.1.0 The Contractor shall prepare and submit without fail to the Engineer-in-Charge or Single Point of Contact (SPOC) of subject cited work at respective sites progress report in three copies every fortnightly indicating status of setting out of the grids, total area surveyed, grid pillars constructed, methodology adopted for surveying and instruments deployed including staff working on the site and difficulties encountered during execution of the work etc.

4.2.0 The submission of such reports and review thereof by NTPC shall not be deemed to absolve the Contractor of his responsibility of timely completion of the assignment as per the time schedule indicated.

5.0.0 QUANTITY VARIATION

The rates quoted by the bidder shall be valid for ± 30% variation in overall contract value. For any variation beyond ± 30% variation, the item rate for such variation shall be mutually discussed and agreed upon. However, the quantities of individual items can vary upto any extent.

6.0.0 PAYMENT TERMS

6.1.0 No advance amount shall be paid.

6.2.0 Progressive payments shall be made against invoices of the Contractor setting out there-in the details of the work/services completed in line with provisions of "Schedule of Items" in accordance with the following terms:

a) 60% on completion of the field work and submission of the draft survey drawings and draft reports as per appendix II for the area surveyed and certification by In-charge of execution of subject cited work at respective sites .

b) 40% on submission of final report and drawings and certification by Engineer-in-Charge.

6.3.0 All payments shall be released by NTPC against Contractor's invoice subject to verification and certification by NTPC's Engineer-in-Charge.

7.0.0 Contractor has to clear the sites (removing bushes/ vegetation etc.) while surveying and locating reference points and installation of reference pillars at its own cost.

8.0.0 TIME SCHEDULE

Time is the essence of the Contract. The Contractor shall strictly adhere to and complete all works as per the time schedule enclosed as **Appendix-V.**

APPENDIX-II

TABLE –A1: SAMPLE AREA BREAK-UP CHART													
		Acquired Land for the Project as per records (in Acres) (A)			**Actual Area Surveyed (in Acres) (B)**			**Land under physical possession (as per NTPC record)**			**Land under physical possession (as per survey)**		
Sl. No.	Type of Land	Freehold	Leasehold	TOTAL	Freehold	Leasehold	TOTAL	Freehold	Leasehold	TOTAL	Freehold	Leasehold	TOTAL
1	Private-Under LA Act.												
2	Private-WBWS												
3	Private- under ROU/ROW												
4	Govt.- Transfer along with Project												
5	Govt.- Fresh transfer												
6	Govt.- From other govt organisation (CPSUs/SPSUs/Autonomous Body)												
7	Forest Land												
	Total												

TABLE –A2: SAMPLE AREA BREAK-UP CHART

		Acquired Land for the Project as per records (in Acres) (A)			Actual Area Surveyed (in Acres) (B)			Land under physical possession (as per NTPC record)			Land under physical possession (as per survey)		
Sl. No.	Utilization wise	Freehold	Leasehold	TOTAL	Freehold	Leasehold	TOTAL	Freehold	Leasehold	TOTAL	Freehold	Leasehold	TOTAL
1	**Plant Area**												
2	**Reservoir area at EL 646.**												
3	**Office area**												
4	**Rehabilitation colony**												
5	**Permanent Township**												
6	**Approach Road**												
7	**Labour Colony (if Any)**												
8	**Vacant land**												
9	**Green Belt/ area**												
10	**Ant other not covered above**												
11	**Transmission line**												
12	**Switchyard**												
13	**CISF establishments**												
14	**Mucking area**												
15													
16													
17													
18													
19													
20													
	TOTAL												

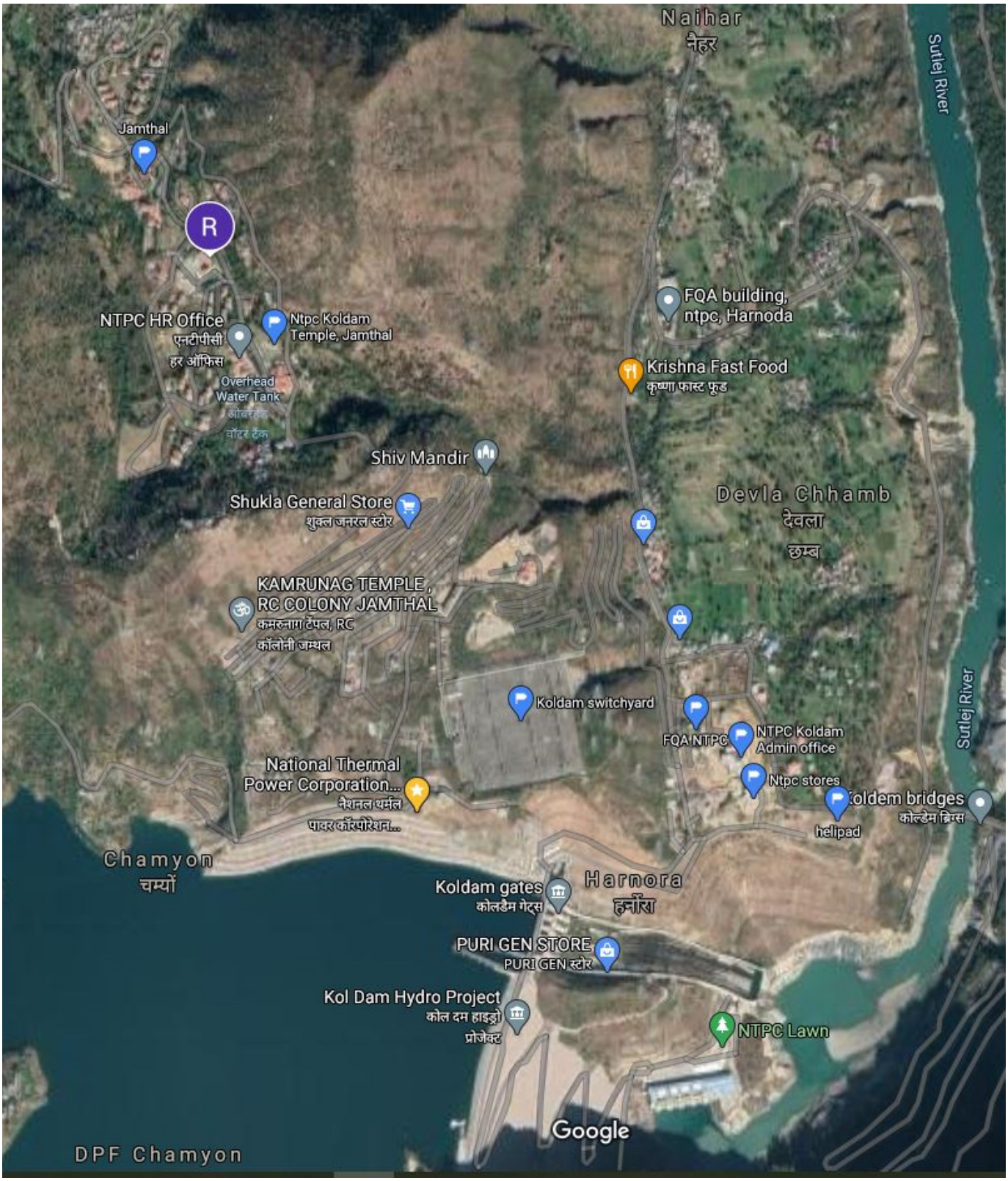
TABLE-B:- SAMPLE AREA BREAK-UP CHART							
Sl. No.	Location (Area)	Allocated/ Acquired Area (Acres)	Area in Actual Possession (Acres)	Area under Protected boundary (Acres)	Area outside Protected boundary (Acres)	Area Already encroached (Acres)	Area vulnerable for further encroached (Acres)
1	**Plant Area**						
2	**Reservoir area at EL 646.**						
3	**Office area**						
4	**Rehabilitation colony**						
5	**Permanent Township**						
6	**Approach Road**						
7	**Labour Colony (if Any)**						
8	**Vacant land**						
9	**Green Belt/ area**						
10	**Ant other not covered above**						
11	**Transmission line**						
12	**Switchyard**						
13	**CISF establishments**						
14	**Mucking area**						
15							
16							
17							
18							
19							
20							
	TOTAL						

	TABLE-C1:- DETAILED SURVEY OF ENCROACHED AREA									
Sl. No.	Location	Total Encroached Area (Acres)	Number of family	Name of Village	Khasra Number (s)	Mention type of Documents available with Unauthorized occupant	Nature & Area of Encroachment			
							Open	Hutment	Agriculture	Shops
1	ABC			ABCD						
2	PQRS			MNOP						
3	XYZ			QRST						
	TOTAL									

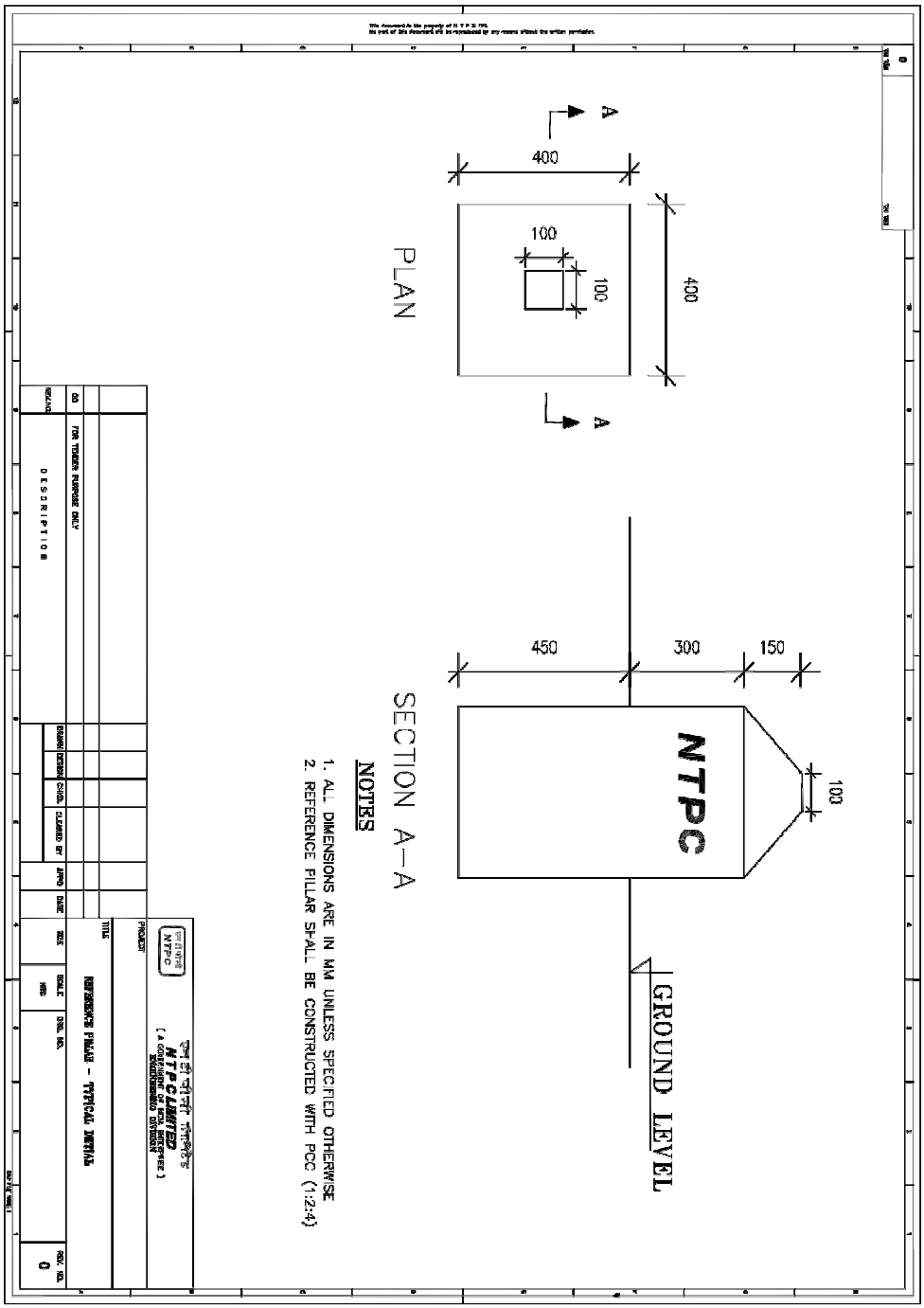
TABLE-C2:- DETAILED SURVEY OF ENCROACHED AREA (Details of family)						
Sl. No.	Location	Head of Family	Number of Occupants	Occupation	Details ofID (Aadhar card preferably)	Remarks
1	ABC					
2	PQRS					
3	XYZ					
	TOTAL					

Table-D:- Sample Area Break-up Chart							
Sl. No.	**Location (Area)**	**Allocated/ Acquired Area**	**Cumulative Built-up (Plinth Area)**	**Cumulative Circulation Area**	**Cumulative Green Area**	**Open Area**	**Other Areas**
1	**Plant Area**						
2	**Reservoir area at EL 646.**						
3	**Office area**						
4	**Rehabilitation colony**						
5	**Permanent Township**						
6	**Approach Road**						
7	**Labour Colony (if Any)**						
8	**Vacant land**						
9	**Green Belt/ area**						
10	**Ant other not covered above**						
11	**Transmission line**						
12	**Switchyard**						
13	**CISF establishments**						
14	**Mucking area**						
	TOTAL						

Appendix-III




Padhana
पधाना
Jaral
जारल
Dharli
धरली
Kanej
कनेज
Kiyana
कियाना
Parali
पराली
Sutlej River
Kun
कुन
Suin
सुई
D.P.F.Sagan
Padiar
पदियार
Sui Uperli
सुई उपेरली
Sai Brahmna
साई
ब्राह्मणा
Bandli
बांदली
D.P.F.Himri
Baga
बागा
Sahnali
सहनाली
34
13
21
Sutlej River
D.P.F. Chadog
D.P.F. चदोग
Jamnu
जमणु
Neori
नेवरी
Mindraj
मिन्द्राज
Namhol
नमहोल
Sutlej River
Samloh
सम्लोह
Tatapani
तातापानी
Thogi
ठोगी
Jangal
Har Singh
जंगल हार
सिंघ
Suni
सुनी
Dhar Warli
धार वरली
Darlaghat
दरलाघाट
11
205
22


PLAN
A
A
400
400
100
100
SECTION A-A
450
300
150
100
NTPC
GROUND LEVEL
NOTES
1. ALL DIMENSIONS ARE IN MM UNLESS SPECIFIED OTHERWISE
2. REFERENCE PILLAR SHALL BE CONSTRUCTED WITH PCC (1:2:4)
REFERENCE PILLAR - TYPICAL DETAIL
NTPC LIMITED
DESCRIPTION
00
FOR TENDER PURPOSE ONLY

APPENDIX – V

TIME SCHEDULE

Name of Project :

Name of Work : DGPS Survey and physical verification of land of stations under theNTPC Koldam HPS, Bilaspur, Himachal Pradesh.

S. No	Description		Completion period
1.	Mobilization & commencement of field work	:	Within 02 weeks from LOA
2.	Completion of field work (Survey)	:	End of 18 weeks from LOA
3.	Submission of Drawings & Draft report	:	End of 21 weeks from LOA
5.	Completion of field work (Fixing of Reference Pillars)	:	End of 21 weeks from LOA
6.	**Approval of Draft Report by Engineer-in-Charge** or Single Point of Contact (SPOC) of subject cited work at respective sites	:	Within 02 week after receipt of Draft Report
7.	Submission of Final Report	:	Within 01 week after approval of Draft Report

Total Completion period would be 24 weeks (06 months)

FORM OF APPLICATION & SCHEDULES

Form of Application of EOI for DGPS Survey & Physical Verification of land at NTPC Koldam

(TO BE PRINTED ON THE LETTER HEAD OF THE INTERESTED PURCHASER/ AGENCY & SIGNED)

Ref No. **Date:**

(This is only an enquiry for short listing of agencies for EOI for DGPS Survey & Physical Verification of land at NTPC Koldam).

To
DGM (C&M)
NTPC LIMITED KOLDAM
HYDRO POWER STATION
P.O. JAMTHAL, TEHSIL
SADAR, DISTT. BILASPUR
(HP) PIN-174036

Dear Sir,

We are interested in EOI for DGPS Survey & Physical Verification of land at NTPC Koldam. We hereby express our willingness to participate in RFP as and when NTPC Koldam invites the proposal for the same.

With reference to your invitation for EOI dated_____, we are furnishing herewith all the required details as per the prescribed Schedules:

Name of the Company and Address	
Whether the company is Govt. firm / Privately owned	
Kindly provide details of experience of DGPS Survey & Physical Verification of land.	
Name and Designation of the contact person	
Address	
Mobile Number	
E-Mail Address	
Any other relevant information	

Place: Date:

Name:
In the Capacity of:
Signed:
Duly authorized to sign the application for and on behalf of:
(Seal of the company)

FORMAT/ DATA SHEET

SNO	DESCRIPTION	DETAILS ENCLOSED (YES/NO)
Similar Works Executed		
1.	Previous order copies for similar work i.e. "DGPS/Drone survey or using analogous/alternative technology for survey work including physical verification of land".	
2.	Details of Similar work (as mentioned above) in hilly areas if executed previously.	
3.	Details of similar work (as mentioned above) around water bodies/ reservoir if executed previously.	
4.	Similar work done with analogous/alternative technologies for achieving required accuracy of work.	
Technical Data Required		
1.	Details of equipments available with agency and related data sheets.	
2.	Technical broachers and catalogues if available for related work execution (videos may also be uploaded or mailed).	

EOI documents can be mailed to:

1. virendraksingh@ntpc.co.in

2. sureshkumar02@ntpc.co.in

Place: Date:

Name:
In the Capacity of:
Signed:
Duly authorized to sign the application for and on behalf of:
(Seal of the company)

(FORM FOR ACCEPTANCE OF FRAUD PREVENTION POLICY)

We have read the contents of Fraud Prevention Policy of NTPC displayed on its tender website http://www.ntpctender.com and undertake that we shall strictly abide by the provisions of Fraud Prevention Policy of NTPC.

Place: Date:

Name:
In the Capacity of:
Signed:
Duly authorized to sign the application for and on behalf of:
(Seal of the company)