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Memorandum of Understanding

For

Capacity Building Programme for Development and Validation of

GIS-Based Land Acquisition Plan (LAP) for NHAI

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Memorandum of Understanding for Capacity Building Programme for Development and Validation of GIS-Based Land Acquisition Plan (LAP) for NHAI.

Signature of Survey of India

Signature of NHAI





## Memorandum of Understanding

For

### Capacity Building Programme for Development and Validation of GIS-Based Land Acquisition Plan (LAP) for NHAI

Between

#### **NATIONAL HIGHWAYS AUTHORITY OF INDIA (NHAI)**

G 5&6, Sector-10,  
Dwarka, New Delhi-110 075

And

#### **SURVEY OF INDIA (SoI)**

Surveyor General's Office, Survey of India,  
Hathibarkala Estate, Dehradun - 248001

Signed on **2<sup>nd</sup> July, 2024**

This Memorandum of Understanding (hereinafter referred to as 'MoU') is entered into and effective as of the **2<sup>nd</sup> day of July, 2024** (the 'Effective Date'), **by and**

#### **BETWEEN**

**National Highways Authority of India (NHAI)**, constituted by an Act of Parliament, the National Highways Authority of India Act, 1988, and having its head office at G-5&6, Sector 10, Dwarka, New Delhi – 110075 (hereinafter referred to as "NHAI", which expression shall, unless repugnant to or inconsistent with the context, mean and include its successors and assigns of the **FIRST PARTY**.

#### **AND**

The **SURVEY OF INDIA (SoI)**, a central government organization under Department of Science & Technology (DST), Government of India located at Surveyor General's Office, Survey of India, Hathibarkala Estate, Dehra Dun - 248001 (hereinafter referred to as 'SoI' which expression shall where the context so admits include its successors in interest and permitted assigns) as **SECOND PARTY**.



**“NHAI” and “SoI” shall be collectively referred to as “PARTIES” and individually as “PARTY”.**

**WHEREAS**, the **National Highways Authority of India (NHAI)**, entrusted with managing India's National Highways, seeks collaboration with the Survey of India (SOI) to develop and validate a SOP for GIS-Based Land Acquisition Plans (LAPs), establish TOR for DPR Consultants to deliver LAPs, conduct a Capacity Building Programme for NHAI officials and DPR Consultants, assist in CORS Network densification, and facilitate the development of a web portal/application for LAP representation and data management.

**AND WHEREAS**, the **Survey of India (SOI)**, the National Mapping Agency under the Department of Science and Technology, Government of India, tasked with mapping and geospatial data management, agrees to develop a SOP for GIS-Based Land Acquisition Plans (LAPs), establish TOR for DPR Consultants delivering LAPs to NHAI, organize a Capacity Building Programme for NHAI officials and DPR Consultants, seek NHAI's assistance in CORS Network densification, and create a Web Portal/Application for LAP representation and data management to enhance geospatial infrastructure across India.

**NOW, THEREFORE**, NHAI and SOI, recognizing their mutual goals and capabilities, hereby agree to enter into this Memorandum of Understanding (MOU). NHAI will benefit from SOI's expertise in developing SOPs and TOR for GIS-Based LAPs, capacity building programs, CORS Network densification, and the creation of a Web Portal/Application. SOI will leverage its expertise to contribute effectively to these initiatives, aiming to advance geospatial capabilities and support efficient national highway development across India.

## **2. Abbreviations Used in This Memorandum of Understanding (MOU)**

- i. **GIS** - Geographic Information System
- ii. **MOU** - Memorandum of Understanding
- iii. **SOP** - Standard Operating Procedure
- iv. **TOR** - Terms of Reference
- v. **DPR** - Detailed Project Report
- vi. **CORS** - Continuously Operating Reference Stations
- vii. **PIU** - Project Implementation Unit
- viii. **RO** - Regional Office
- ix. **NIGST** - National Institute for Geo-Informatics Science & Technology
- x. **SOI** - Survey of India
- xi. **NHAI** - National Highways Authority of India
- xii. **DST** - Department of Science and Technology
- xiii. **GNSS** - Global Navigation Satellite System
- xiv. **QC** - Quality Control
- xv. **QA** - Quality Assurance
- xvi. **HQ** - Headquarters
- xvii. **NGP** - National Geospatial Policy
- xviii. **SGI** - Surveyor General of India
- xix. **Addl SG** - Additional Surveyor General
- xx. **DSG** - Deputy Surveyor General
- xxi. **JMC** - Joint monitoring Mechanism



### 3. BACKGROUND

Geospatial Technologies play very important role with location based information in infrastructure projects planning; monitoring and execution activities. GIS based preliminary project assessment, proposed project alignment, land acquisition plan; land acquisition activity etc provides the right kind of input for informed decision making. Process standardization for such geospatial processes requires clear understanding of technology solutions, skilled resources, and adequate capacity in various roles to effectively discharge the governance functions.

The National Geospatial Policy (NGP) 2022, released by the Department of Science & Technology (DST) in December 2022, aims to position India as a global leader in Geospatial technology by enabling, facilitating and supporting all government organizations, PSUs and departments with latest geospatial technology solutions. The use of geospatial technology is tremendously growing in almost every domain, viz. infrastructure, agriculture, urban, healthcare etc. Survey of India (SoI) is committed as per NGP-2022 to facilitate and enable other Centre or State Government organizations and agencies with geospatial technology solutions, expeditious adoption of latest technologies in their production processes, to facilitate others with in developing the process specifications and standards.

### 4. SCOPE OF THE WORK

The NHAI has been facing several technology implementation challenges including need for capacity building with role based professional training in various geospatial disciplines covering GIS based planning of proposed alignment, Land Acquisition plan (LAP), validation mechanism to ensure the delivery consistent good quality output from outsourced agencies in various process stages. This association will support NHAI with the clarity about the process workflows proposed and developed by consultants. This will enable NHAI to identify the process gaps with the support of SoI expertise in land surveying domain and plug those process gaps in timely manner and continuously improvise the process workflows to minimize the errors and omissions resulting in various litigations and incorrect land acquisition endeavors.

#### A. The MOU includes the following key features:

- i. **Development of an SOP for GIS Based Land Acquisition Plan (LAP):**
  - a. Detailed processes, steps, tools, and techniques for creating GIS-based LAP data.
  - b. Implementation of quality control processes at PIU, RO, HQ, and DPR Consultant levels.
- ii. **TOR (Terms of Reference) for DPR Consultants:** Prepare TOR outlining the technical specifications for GIS-based LAP and related deliverables.
- iii. **Capacity Building Programme for NHAI Officials:** Comprehensive training for NHAI officials and their DPR Consultants focusing on the development and validation of GIS-based LAPs.
- iv. **Development of a Web Portal** for Representing, Storing, and Sharing GIS Based LAP and related data.
- v. **Use and Densification of CORS Network Nationwide.**

#### B. Following activities will be undertaken under this MoU:



i. **Technology Support:**

For process improvement in land acquisition and land asset mapping, we aim to develop SOPs, streamline processes by addressing gap areas, strengthen QA/QC procedures, and introduce the latest technology solutions. This includes providing inputs for refining existing specifications/TOR for DPR consultants for the development/creation of GIS-based LAPs, implementing advanced GNSS surveying techniques, utilizing CORS services, improving land asset mapping, and developing a web portal/application for GIS-based LAPs and related data representation, storage, and sharing, especially for the LA-Division of NHAI.

ii. **Capacity Building:**

As outlined in this Memorandum of Understanding, NIGST-SOI, Hyderabad will conduct a specialized training program tailored for NHAI Professionals, focusing on the "Development/Creation of GIS-based Land Acquisition Plans (LAP) and its Data Validation Process." This training initiative will encompass foundational GIS and remote sensing techniques essential for the development and creation of GIS-based LAPs. Participants will gain insights into specific activities related to LAP development, understand their respective roles, and become proficient in the validation processes involving quality control (QC) and quality assurance (QA). Furthermore, the training will cover advanced methodologies for accurate land asset mapping, ensuring NHAI professionals are equipped with the requisite skills to effectively manage GIS data within their roles

iii. **Strengthening & use of CORS Network infrastructure:**

Under this Memorandum of Understanding (MOU), NHAI will collaborate to densify the CORS network and utilize the established CORS network infrastructure nationwide, under mutually agreed terms and conditions. SOI will provide technical specifications for CORS equipment and installations. This collaboration aims to enhance geospatial capabilities and improve accuracy in location-based services across infrastructure development projects

**5. JOINT MONITORING MECHANISM:** A joint monitoring committee (JMC) will be set up for regular monitoring and review of activities under the MoU:

- i. The JMC will be the Apex committee to provide the guidelines, directions and decisions for implementation and operation of MoU activities, as well as for dispute resolution.
- ii. A generic structure of JMC is as given below:

Chairman, NHAI	:	Chairman
SGI, SoI	:	Co-Chairman
Addl SG, NIGST	:	Member
Rep of NHAI (at least JS or equivalent level)	:	Member
Rep of NHAI (at least Dir or equivalent level)	:	Member
Rep of SoI (at least Dir or equivalent level)	:	Member
Joint Advisor (GIS)/ LA, NHAI	:	Member
DSG, NIGST	:	Member-Secretary



## 6. OBLIGATIONS AND RESPONSIBILITIES OF THE PARTIES

Broad roles and responsibilities of the Parties to this MoU are as under:

### A. OBLIGATIONS AND RESPONSIBILITIES OF NHAI:

- i. To provide all technical details of existing LA processes for study and analysis by SoI.
- ii. To provide all roles based process specific professional training related inputs to plan, design and prepare the custom training modules under capacity building program.
- iii. To nominate and send the trainees as per schedule training courses to NIGST, Hyderabad.
- iv. To extensively use the SoI CORS network infrastructure in all NHAI land survey and other activities.
- v. To provide inputs (status of CORS functioning etc.) or requirements for the CORS network densification as per NHAI requirements, if required. For CORS densification, the NHAI will provide space (as per SoI approved technical specifications) to establish CORS network based on mutual agreed terms and conditions.
- vi. To provide necessary support for the development of a web portal/application for representing, storing, and sharing GIS-based LAP and related data for the LA-Division of NHAI.

### B. OBLIGATIONS AND RESPONSIBILITY OF SoI:

- i. To extend the use of CORS network infrastructure services to the NHAI.
- ii. To extend the full technical support covering clearer process understanding in NHAI, process improvement inputs, streamlining of processes, adoption of latest technologies; refinement of process standards and specifications for DPRs/RFPs etc.
- iii. To impart the professional training and build skilled capacity in NHAI covering LA processes, latest surveying and mapping technologies, QA/QC processes, GIS & Web GIS based approach for effective land acquisition, role based training at various levels etc. at NIGST, Hyderabad.
- iv. To design, plan and prepare a course calendar for the NHAI officials, DPR consultants and NHAI nominated participants capacity building plan.
- v. Data development & Data validation process.
- vi. To develop a web portal/application for representing, storing, and sharing GIS-based LAP and related data for the LA-Division of NHAI using authentic licensed software/application.

## 7. VALIDITY

This MoU shall be deemed to have come into force from the date of signing of the MoU and will remain valid for three (3) years.

## 8. ASSIGNMENT

Neither this MoU, nor any rights hereunder in whole or in part, shall be assignable or otherwise transferable by either Party without the express written consent of the other.



## **9. NON-BINDING EFFECT**

This MoU is only intended to set out the broad terms of understanding on a preliminary basis between the Parties, in relation to their proposed collaboration for Startup Incubation and support program. This MoU does not create binding obligations between the Parties. However, for the purpose of effectuating this MoU and to give legal and binding effect the Parties may enter into and execute the detailed contracts detailing the responsibilities, rights, obligations, representations, warranties, undertakings, and consideration/fees/compensation.

## **10. TERMINATION OF THE MOU**

All parties may jointly decide for the termination of the MoU including but not limited to following:

- a. The proposals i.e. capacity building, technology support etc under the MoU are not being executed properly with failure to achieve the envisaged targets and objectives.
- b. The funds are not released within agreed timelines or are not properly utilized for intended purpose/activities.
- c. Breach of Terms & Conditions of provision of this MoU.

In the event of such eventuality, the NIGST shall return all balance unused funds to NHAI.

## **11. AMENDMENTS**

No amendments to this MOU shall be effective unless they are in writing and signed by duly authorized representatives of the parties. The MOU may be extended, modified, or amended as required, with the mutual written consent of the parties and the approval of the Apex Committee mentioned in Clause 5 of this MOU.

## **12. RESIDUARY MATTERS**

Any matter not specifically covered in this MOU may be settled by mutual consent between the parties and with the approval of the Apex Committee mentioned in Clause 5 of this MOU.

## **13. REPRESENTATION AND WARRANTIES**

For the purposes of this MoU, the Parties make the following representations and warranties:

- a. The Parties holds all valid permissions, authorizations, approvals and consents, licenses and registrations, which may be required under the laws prevalent from time to time, for the performance and delivery of the Services under this MoU. The Parties shall ensure that all such permissions, authorizations, approvals and consents, licenses and registrations, where required to be renewed, shall be kept valid and subsisting throughout the period of the MoU.
- b. All information or data furnished by the other Party or obtained either Party or developed under this MoU shall be treated as Confidential and



protected by the respective Parties to prevent disclosure to any persons other than those authorized by the other Party.

- c. The Parties possesses the necessary expertise, know-how, technology, resources, and infrastructure along with enabling rights and will continue to possess all the Intellectual Property Rights (IPR) over its background Intellectual Property (IP), to enable the Parties to pursue the transactions contemplated under this MoU.

#### **14. USE OF NAMES AND TRADE MARKS**

The Parties agree that they will not use the name of the other Party or its employees in any advertisement, press release or publicity with reference to this MoU or any product or service resulting from this MoU, without prior written approval of the other Parties.

#### **15. DISPUTE RESOLUTION**

In the event of any disputes, conflicts, or differences arising out of or in connection with this Memorandum of Understanding (MOU), the parties agree to resolve such issues amicably through mutual discussions and negotiations. If the parties are unable to resolve the dispute through informal discussions, the matter shall be referred to the Apex Committee constituted in Clause 5 of this MOU.

The Apex Committee shall undertake the following steps to resolve the dispute:

- i. Review the dispute, conflict, or difference in detail, considering all relevant facts, documentation, and information provided by the parties involved.
- ii. Facilitate discussions and negotiations between the parties to reach a mutually agreeable resolution.
- iii. If necessary, seek expert opinions or additional information to aid in the resolution process.
- iv. Render a decision that is fair, impartial, and intended to be mutually satisfactory to all parties involved in the dispute.

If the dispute is not resolved by the Apex Committee, the matter will be escalated and taken up between the Secretary, Ministry of Road Transport and Highways (MoRTH), and the Secretary, Department of Science and Technology (DST). The decision taken jointly by the Secretary, MoRTH, and the Secretary, DST, shall be final and binding on all parties involved in this MOU.

The parties agree to comply with and implement the decision in good faith, and this decision shall be final with no further recourse to judicial or other legal remedies.

#### **16. LIABILITY**

In no event shall either party be liable for any damages arising from or related to this MoU, whether direct, indirect, incidental, special, or consequential damages, lost profits or lost data or other damages even if the party has been



informed of the possibility thereof. Nothing in this MoU shall limit either Party's liability to the other for death or bodily injury caused by negligence or liability in the tort of deceit.

#### **17. FORCE MAJEURE**

No Parties shall be held responsible for non-fulfillment of their respective obligations under this MoU due to exigency of one or more of the force majeure events such as, but not limited to Acts of God, war, flood, earthquakes, strike, lockouts, epidemics, riots, civil commotion etc., provided on the occurrence and in cessation of any such event, the Party effected thereby shall give a notice in writing to the other Party immediately, after but not later than one month of such occurrence and cessation. The period between the occurrence and cessation of such event will be excluded while calculating the period during which the Party has to perform his obligations under this MoU. If the force majeure conditions continue beyond six months, the Parties may mutually decide about the future course of action.

#### **18. GOVERNING LAW**

This MoU will be governed by and construed in accordance with the Laws of India and the Parties submit to the exclusive jurisdiction of the Courts of Delhi/India.

#### **19. NOTICES**

All notices, requests, demands and other communications under this MoU or in connection herewith shall be given to or made upon the respective Parties as follows:

If to NHAI:

**The Chairman,  
National Highways Authority of India,  
G-5&6, Sector 10, Dwarka  
New Delhi - 110075**

If to SURVEY OF INDIA  
**Surveyor General of India,  
Surveyor General's Office,  
Hathibarkala Estate, Dehradun -248001**

#### **20. SEVERABILITY**

In the event that any terms, conditions or provisions of this MoU is held to be in violation of any applicable law, statute or regulation the same shall be deemed to be severable from the other provisions of this MoU and this MoU shall be construed as if such term, condition or provision had not been contained in this MoU.



## **21. MODIFICATION**

No term of this MoU will be changed or modified unless the Parties mutually agree to such change or modification in writing.

## **22. ENTIRE MoU**

This MoU sets forth the entire MoU and supersedes all prior or contemporaneous MoUs and representations, written or oral, of the Parties with respect to the transactions set forth herein, all of which are excluded, except for fraudulent misrepresentations. The Parties acknowledge that as of the date hereof, no binding commitments exist between the Parties with respect to the subject matter of this MoU except as may be provided herein.

## **23. WAIVER**

Any Party to this MoU may (a) extend the time for performance of any of the obligations or other acts of any other Party, (b) waive any inaccuracies in the representations and warranties of the Parties contained herein or in any document delivered by the Parties pursuant hereto or (c) waive compliance with any of the terms or conditions of the Parties contained herein. Any such extension or waiver shall be valid only if set forth in an instrument in writing signed by the Party to be bound thereby. Waiver of any term or condition shall not be construed as a waiver of any subsequent breach or a subsequent waiver of the same term or condition, or a waiver of any other term or condition, of the MoU. The failure of any Party to assert any of its rights hereunder shall not constitute a waiver of any such rights.

## **24. NON-EXCLUSIVITY**

Unless otherwise agreed between the parties, the relationship of the Parties under this MoU shall be nonexclusive and Parties, including their affiliates, subsidiaries and divisions, are free to pursue other MoUs or collaborations of any kind.

## **25. AUTHORITY**

Each signatory to this MoU represents and warrants that he/she is duly authorized by the Party for and on whose behalf he/she is signing this MoU to execute the same in a manner binding upon said Party and that all corporate approvals and procedures necessary for vesting such authority in him/her have been duly complied with.

## **26. SURVIVAL**

The other clauses of this MoU, which by their very nature ought to survive termination / expiration of this MoU, shall so survive.



## 27. SEAL OF PARTIES

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE SIGNED THIS MOU ON THE 2<sup>nd</sup> DAY OF July, 2024, AS RESPECTIVELY SHOWN AGAINST THEIR SIGNATURES:

1

**For and on behalf of the NHAI, New Delhi**

**Signature:**

**Name:** Santosh Kumar Yadav, IAS

**Designation:** Chairman, National Highways Authority of India (Ministry of Road Transport and Highways, Government of India)

**Date:** 2<sup>nd</sup> July 2024



**IN THE PRESENCE OF WITNESSES**

1.

**Signature:**

**Name:** Vibhav Mittal

**Designation:** General Manager (Technical), Land Acquisition Division, NHAI-Head Quarter.

2.

**Signature:**

**Name:** Rajesh Kumar

**Designation:** Joint Advisor (GIS), Land Acquisition Division, NHAI-Head Quarter.

**Date:** 2<sup>nd</sup> July 2024

2

**For and on behalf of Survey of India, Dehradun**

**Signature:**

**Name:** Hitesh Kumar S. Makwana, IAS

**Designation:** Surveyor General of India, Survey of India, Department of Science & Technology (Ministry of Science & Technology, Government of India)

**Date:** 2<sup>nd</sup> July 2024



1.

**Signature:**

**Name:** Dr. M.K. Stalin

**Designation:** Additional Surveyor General, National Institute for Geo-Informatics Science & Technology (NIGST), Survey of India.

2.

**Signature:**

**Name:** ER. TP Mallik

**Designation:** Deputy Surveyor General, National Institute for Geo-Informatics Science & Technology (NIGST), Survey of India.

**Date:** 2<sup>nd</sup> July 2024

