

**HIRING OF INDIVIDUAL CONSULTANT FOR
THE IMPLEMENTATION OF PROVINCIAL
SPATIAL DATA INFRASTRUCTURE (PSDI)**



*Punjab Urban Land System Enhancement Project,
Board of Revenue Punjab*

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Contents

1. INTRODUCTION.....	1
2. CONSULTANT SCOPE OF SERVICE	1
2.1 Oversight of PSDI Implementation / Inception	1
2.2 Key Work Packages - Monitoring and Evaluation of Map Projection, Geodetic Network, Geoportal & PSDI Integration with Next Generation LRMIS.....	2
3. DELIVERABLES	2
▪ Geodetic Datum Compatibility	3
3.1 Progress review Meeting & Presentations	4
4. PAYMENT SCHEDULE.....	4
Work Package 3	4
5. QUALIFICATION REQUIRED/SELECTION CRITERIA FOR INDIVIDUAL CONSULTANT	4

1. INTRODUCTION

The Board of Revenue (BoR), Punjab initiated the “Punjab Urban Land Systems Enhancement Project” in 2022 to improve province-wide land administration functions of the Government of Punjab. PULSE will be implemented over a period of five years through a dedicated project management unit led by BoR (PMU-BoR) and a project implementation unit led by the Punjab Land Records Authority (PIU-PLRA). The development of a provincial spatial data infrastructure (provincial SDI) for Punjab is one of the components of the PULSE project. The vast amount of data collection during project implementation will address the needs of multiple stakeholders and users in the Government of Punjab, aimed at sustainable land administration and management practices. The PULSE project generally and the SDI component specifically build on the previous efforts of the BoR/PLRA in compiling and managing millions of land records through years of sustained efforts in digitizing historical data as well as creating new land records digitally.

Geospatial information will add substantial value to Punjab’s economy and society with respect to the planning, implementation, monitoring and evaluation of development projects. However, the full potential of these technologies is unlikely to be realized until the provincial government takes the necessary steps to create viable frameworks to facilitate access to spatial information assets that are held by various public sector organizations to maximize the overall usage. In recognizing that the establishment of an SDI should be based on an integrated approach to develop policies, institutional and legal arrangements as well as appropriate technologies that facilitate the availability of and access to spatial data, the BoR/PLRA has developed the Terms of Reference for the PSDI individual consultant to implement key work packages proposed in the PSDI feasibility study.

2. CONSULTANT SCOPE OF SERVICE

The consultancy's primary objective is to oversee the progress of ongoing PSDI activities, new initiatives, and ensure the successful execution of all key work packages according to the defined requirements. The consultant will ensure to steer PSDI Implementation at every stage.

2.1 Oversight of PSDI Implementation / Inception

The PSDI consultant will be responsible for reviewing the PSDI Implementation plan including Geoportal Design and Development, Map Projection, Implementation of Geodetic Network and PSDI Integration with Next Generation LRMIS. In this context, PULSE will provide the implementation plan of the PSDI feasibility study, along with contract details of ongoing projects related to PSDI to the consultant. The consultant will then review the contracts and provide an implementation plan with revised timelines to the client.

2.2 Key Work Packages - Monitoring and Evaluation of Map Projection, Geodetic Network, Geoportal & PSDI Integration with Next Generation LRMIS

The consultant will be responsible to evaluate new projection system and PULSE Geodetic Network, assess its performance, outcomes, and overall impact against the project's goals and objectives. The PSDI Consultant will also be responsible for overseeing the design, development, and deployment of a robust geoportal that functions as a centralized platform for accessing, sharing, and managing geospatial data. The PSDI consultant will ensure that the geoportal meets all technical, functional, and user requirements, working closely with Geodesy Specialist, GIS specialists, developers, and other relevant stakeholders throughout the entire process. This will involve reviewing system architecture, establishing clear data management protocols, and ensuring the geoportal's user interface is intuitive and accessible to a wide range of users. The PSDI consultant will also oversee the integration of data sources and ensure that the platform supports seamless data sharing and collaboration between different entities. Additionally, the PSDI consultant will ensure the geoportal's security, scalability, and long-term sustainability, providing guidance on regular updates, data quality standards, and compliance with relevant legal and technical standards. In addition, the consultant will oversee the integration process with Next Generation LRMIS.

3. DELIVERABLES

Sr. No.	Milestones	Deliverables	Timelines in Months (from signing of contract)		
1	Inception Report	Inception report, comprising the implementation plan with revised timelines for new projection, geodetic network, geoportal & Integration with next Generation LRMIS. Each activity should have completion plan with three targets: an initial target, a midterm target, and a final target.	1		
Key Work Packages			After Submission of Inception Report		
			Initial Report	Midterm Report	Final Report
2	Work Package 1	Monitoring, evaluation and implementation of new Projection System. <ul style="list-style-type: none"> ▪ Accuracy & Distortion 	3	6	9

		<ul style="list-style-type: none"> ▪ Suitability & Compatibility with Existing Maps & Data ▪ Datum & Coordinate System Compatibility ▪ Computational Efficiency ▪ Usability & Standardization 			
3	Work Package 2	<p>Monitoring, evaluation and implementation of PULSE Geodetic Network.</p> <ul style="list-style-type: none"> ▪ Geodetic Datum Compatibility ▪ Coordinate System Consistency ▪ Spatial Coverage & Density ▪ Redundancy & Reliability ▪ Deformation Monitoring ▪ Re-measurement Frequency ▪ Long-Term Stability & Maintenance ▪ Error Analysis & Residuals ▪ Transformation Parameters for Other Systems ▪ Compliance with National & International Standards ▪ Accessibility & Data Sharing Policies 	3	6	9
4	Work Package 3	<p>Monitoring, evaluation and implementation of PULSE Geoportal</p> <ul style="list-style-type: none"> ▪ Setup and Configure Geoportal (ISO 19115, WMS, WFS etc.) ▪ Test and Implement Geoportal and its Data Security ▪ Metadata Module enabled as per PSDI requirement ▪ Training, Backups, and Handover to PULSE and Stakeholders. 	3	6	9
5	Work Package 4	PSDI Integration with Next Generation LRMIS	3	6	9

3.1 Progress review Meeting & Presentations

There will be monthly progress review meeting and in-person presentation for each submission.

4. PAYMENT SCHEDULE

Sr. No.	Description	Timeline	Payment (on satisfactory submission)
1	Inception Report	1 Month	5%
2	Work Package 1		
2.1	Initial Report	3 Months	5%
2.2	Mid Term Report	6 Months	5%
2.3	Final Report	9 Months	15%
3	Work Package 2		
3.1	Initial Report	3 Months	5%
3.2	Mid Term Report	6 Months	5%
3.3	Final Report	9 Months	15%
4	Work Package 3		
4.1	Initial Report	3 Months	5%
4.2	Mid Term Report	6 Months	5%
4.3	Final Report	9 Months	15%
5	Work Package 4		
5.1	Initial Report	3 Months	5%
5.2	Mid Term Report	6 Months	5%
5.3	Final Report	9 Months	15%

5. QUALIFICATION REQUIRED/SELECTION CRITERIA FOR INDIVIDUAL CONSULTANT

- PhD degree with minimum of 10 years of professional experience in SDI, GIS, Geodesy and IT/CS platform development / feasibilities studies, with advanced knowledge of geospatial information systems, including experience with metadata, data standards, and systems.
- Post-PhD experience in relevant discipline (GIS/CS/ Geodesy /Geoinformatics/SDI)
- Proven experience in working with local and international development organizations.
- A track record of successfully executing similar assignments with proven outcomes.

- Ability to operate effectively within a structured framework of processes and procedures.
- Professional maturity to handle sensitive information and maintain confidentiality both during the assignment and after its completion.
- Qualification and experience in SDI / GIS / CS to complete the required work effectively and efficiently.
- International experience in developing similar systems is a distinct advantage.