MEMORANDUM OF UNDERSTANDING
Between
STATE CARTOGRAPHER'S OFFICE, UNIVERSITY OF WISCONSIN-MADISON
And
THE DEPARTMENT OF ADMINISTRATION, DIVISION OF INTERGOVERNMENTAL RELATIONS
Regarding V6 Statewide Parcel Map Database Project
January 1, 2020 to December 31, 2020

1. **Purpose**
   The purpose of this document is to define the scope of work for the State Cartographer's Office (SCO) role in the "Version 6 Statewide Parcel Map Database Project" (V6 Project). The V6 Project is a joint effort with the Wisconsin Department of Administration (DOA) Division of Intergovernmental Relations (DIR) to run between January 1, 2020 and December 31, 2020. This scope of work refers only to the V6 Project, not to the larger Statewide Digital Parcel Map Initiative (Parcel Initiative) nor subsequent phases of the Parcel Initiative that may be covered by other scope of work documents.

2. **Background**
   Wisconsin Act 20, the biennial state budget for 2013-2015, created statutory directives for state and local governments to coordinate on the development of a statewide digital parcel map. As required by state statute 59.72(2)(a), counties are now required to have certain parcel information online in a standardized searchable format. These statutory directives can be grouped together as the Statewide Digital Parcel Map Initiative and will continue to be fulfilled by the V6 Project.

   The V6 Project follows successful collaboration between DOA and SCO on similar efforts. DOA and SCO have partnered on projects to create statewide parcel layers for the LinkWISCONSIN Address Point and Parcel Mapping Project, and the Version 1-5 Projects. Each iteration of the project has created a statewide parcel database and map layer based on an aggregation of existing local parcel datasets. Counties must submit data according the "Searchable Format," a set of standards for parcel data that followed from the directives in Act 20. Attaining the Searchable Format entails meeting certain benchmarks for county parcel data improvement, which are tied to WLIP Strategic Initiative grant requirements. V6 is necessary to continue progress toward and achieve the Searchable Format standard statewide in a way that can be continuously maintained. Because DOA has followed an iterative model that further develops the map with each new annual version, V6 seeks to build on efficiencies, and further improve and enhance the statewide parcel map.

3. **Project Goals**
   - **Tracking progress.** The statewide parcel layer is built in an iterative fashion. V6 will continue to track the progress made with investments to local governments, specifically on benchmarks for parcel dataset development instituted with the 2016 WLIP grant application and continued in the 2017, 2018, and 2019 grant applications.
   - **Incremental improvement.** Improvement of the statewide parcel layer itself, as well as the workflow and methods for each step in the aggregation process, with each new version of the layer. As with the database, the hosting and display should keep pace with current technology and be continually improved to meet users' needs. Intake and aggregation process should become more efficient with time, facilitating other improvements and/or opportunities for value-added products.
   - **Authoritative Automated Asynchronous Aggregation.** A long-term goal is to achieve the "Four A's" so county data stewards can submit datasets at any time or interval by automatically merging local data with the most current statewide database. The objective for this project is to

move toward a more efficient, automated process for data aggregation where the locus of standardization labor is on the data contributors rather than the aggregator. Such a process would require fewer state resources be dedicated to the aggregation process and thereby reduce state costs for sustaining the statewide digital parcel map.

- **Outreach and technical assistance to counties.** This may take the form of further development of existing technical tools or the creation of new tools for counties and municipalities to use. It could also involve site visits and direct assistance.
- **Lean government principles and efficiency.** The V6 Project should seek to create and realize efficiencies in general, eliminate waste, and integrate or collaborate with other state GIS services where possible.
- **Responsiveness to public needs and economic development goals.** Evaluate parcel layer user suggestions and implement improvements where feasible.

4. **Project Deliverables**
   - **A draft V6 statewide parcel database and map layer** aggregated from existing county and municipal parcel datasets for purposes of internal quality assurance/quality control.
   - **A statewide parcel database and map layer** aggregated from existing county and municipal parcel datasets in both GIS and CSV formats, using a documented update process that, at a minimum, includes the parcel attributes required by s. 59.72(2)(a), those listed in the parcel schema and Searchable Format standard detailed by the *V6 Submission Documentation* and recommended in the *V4 Final Report*, is aligned as closely as feasible with the property tax bill content prescribed by state statute and the Wisconsin Department of Revenue, and, if statewide benefits clearly outweigh the costs of implementation, enhanced with additional data fields (i.e., "Searchable Format 2.0").
   - **Hosting and display of V6 parcel layers.** Employ a hosting solution for the statewide parcel database and map layer (with the potential for a third-party hosting solution), and publicly display the database and map layer along with end-user schema documentation, with delivery through platform(s) that provide a mechanism for linking to publicly available county land information websites, land information officer contact information, and other publicly available county GIS data layers and web mapping services.
   - **Download/Export of data and data subset capabilities,** including a download by filter or download subset function, as well as individual county downloads.
   - **Validation of county data submissions.** Provide an automated mechanism for evaluating county data submissions for fitness to submission requirements and data model while accounting for individual county differences, along with a report of possible deviations from the schema and directives on how to rectify errors.
   - **Benchmarking data.** Provide data evaluating counties against current benchmarks, with parcel benchmark data as uniform as possible, ready to be provided to counties within six weeks after successful data submission date.
   - **Workflow documentation.** Document the data intake and processing workflow in human-readable format in as few files as possible, with attention to differentiating aspects of workflow that are/are not and can/cannot be automated, any conditions in local government data that comprise legitimate data model exceptions (e.g., from prior years' notes, intake notes, county submission form content, qualifying language/examples in submission documentation, data validation tool programming, et cetera), and other obstacles in local data conditions that could hinder future efforts at automation.
   - **Collection and delivery of ancillary data layers to the UW-Madison Arthur H. Robinson Map Library,** including county-maintained zoning layers that are not collected and/or aggregated by another government entity.

- **Edition 2 Statewide PLSS database.** Collection of PLSS corner data as part of V6 call for data, for the purposes of creating an Edition 2 (E2) statewide PLSS database aggregated from current county datasets using a documented process that, at a minimum, has the following characteristics:
  - Builds on and from the Edition 0 and Edition 1 statewide PLSS database
  - Based on accurate county corner coordinate values where available
  - Uses the Wisconsin Department of Natural Resources 1996 PLSS layer (Landnet) corner coordinates where county data is not available
  - Accommodates for the inclusion of multiple spatial representations of corner points
  - Is compatible with the goal of performing automated updates of corner coordinates
  - Contains polygons down to the section level at minimum based on best-available corner coordinate data
  - Uses standardized indexing system for corner point identification throughout the state
  - Provides mechanism to separate non-PLSS areas
  - Uses industry-standard format for delivery and distribution, including download capability and web app, with integration with other web mapping application services offered by the SCO where appropriate and directions on how data contributors can submit updated datasets
  - Is integrated into parcel web app
  - Based on existing federal PLSS standards tailored to the specific needs of Wisconsin
- **A final project report,** by September 30, 2020, written in collaboration with DOA.
  At a minimum, the report shall address:
  - <u>Project Background</u>
  - <u>Technical Approach</u>
  - <u>Benchmark Progress Assessment</u> – Assessment of where each county is at in terms of meeting the four benchmarks listed by the *V1 Interim Report* and the requirements for counties to achieve by the V6 call for data deadline of March 31, 2020.
    - Benchmark 1 – Parcel and Zoning Data Submission
    - Benchmark 2 – Extended Parcel Attribute Set Submission
    - Benchmark 3 – Completion of County Parcel Fabric
    - Benchmark 4 – Completion and Integration of PLSS
  - <u>Recommendations for V7</u> – Recommendations not limited to but potentially overlapping content of workflow documentation.
- **Final project report addendum on PLSS,** by December 31, 2020, containing:
  - <u>PLSS Sub-Project Background</u> – With brief overview of PLSS data model
  - <u>Evaluation</u> – Evaluation of local PLSS datasets, the PLSS deliverable, improvements over LandNet and statewide PLSS datasets aggregated by other entities, progress on the E0, E1, and E2 PLSS databases, and, if any, deficiencies in the E2 deliverable.
  - <u>Opportunities and Recommendations</u>
    - Feasibility and potential costs associated with county-level implementation of an updated, standardized corner point identification system
    - Feasibility of future annual automated updates using county data
    - Possible enhancements based on outreach to database users
    - Possible coordination with counties and the surveying community to resolve county boundary discrepancies, and to implement advanced methods to incorporate PLSS data into parcel maps to improve accuracy
    - Visualizations and metrics to portray progress of PLSS and parcel improvements
    - Recommendations for any potential future statewide PLSS aggregation efforts

5. **Responsibilities and Logistics**

   Responsibilities of the SCO and DIR will be essentially the same as with the V1-V5 Projects. SCO will be responsible for the following logistics:

   - **Data development.** The SCO will perform all data development for the V6 Project including data model, database design, interpretation, ingest, ETL, editing, attribute mapping, spatial manipulation, data assembly, and integration, QA/QC, and data assessment.
   - **Standards development.** Identification of specific standards to improve the efficiency of data integration, data submission standards, timetables, and benchmarks for counties.
   - **Benchmarking.** SCO to generate benchmark data by county and document benchmark progress contemporaneously as part of data intake process, based on benchmarks developed in consultation with DOA.
   - **Public access to data.** SCO will be responsible for working to locate and configure an appropriate solution and technology for visualization of and access to the final statewide parcel map database. Features such as data hosting, tiered governmental and public access, and other features beyond simple display, search and query functions are beyond the scope of the SCO's responsibilities.
   - **Project management.** Project management and administration will reside primarily in the SCO for the V6 Project. This includes hiring, managing, and oversight of GIS staff and students.
   - **Technical assistance for statewide parcel map layer hosting and display.** The SCO will provide technical assistance for maintaining a functional statewide parcel layer application online.
   - **Final deliverables.** The SCO will deliver the final V6 database and map layer by June 30, 2020; the final parcel project report by September 30, 2020, the final PLSS deliverable due December 1, 2020, and final report addendum by December 31, 2020.

   DIR will be responsible for the following logistics:

   - **Data acquisition.** The DIR will be responsible for making formal data requests to county and/or municipal GIS offices, including follow-up steps such as open records requests.
   - **Data sharing.** The DIR will review and implement licensing agreements as needed and document data sharing issues.
   - **Software and hosting/display technology.** Provide access to commercially-licensed desktop GIS software. DOA will provide access to three basic desktop ArcGIS licenses for the SCO use on the project, access ArcGIS Online, and all necessary credits for ArcGIS Online.

   Both the SCO and DIR will participate in community outreach efforts. In consultation with DIR, the SCO will conduct outreach and publicize project goals and status. Both the SCO and DIR will provide project liaisons to facilitate collaboration.

6. **Project Timeline**

Date	Milestone
January 1, 2020	V6 Project start
January 17, 2020	V6 Data validation tool finalized
January 31, 2020	Call for data ready
March 31, 2020	V6 Data submissions due
June 10, 2020	Draft database for purposes of QA/QC
June 30, 2020	V6 Parcel map available online
September 30, 2020	V6 Final report due
December 1, 2020	Final PLSS Edition 2 deliverable due
December 31, 2020	Final report addendum due covering PLSS Edition 2

7. **Payments to SCO**

SCO shall receive, during the term of this scope of work, reimbursement of expenses up to the amount of $127,612 for staff time, materials and incidental expenses in executing the V6 Project. SCO shall submit invoices to the DOA on a quarterly basis. Such invoices will include major budget category detail, e.g., salary, fringe, supplies, travel, etc. The final invoice shall be submitted to the DOA within 60 days of contract end date.

8. **Project Budget**

Item	Description	Amount
Staff salary and fringe	David Vogel (50%), Ana Wells (97%), and Howard Veregin (3%)	$97,095
Student assistant(s)	1500 hours	$12,372
Travel and supplies	Computer hardware, data storage, outreach, travel, conferences, etc.	$1,500
Indirect	15%	$16,645
TOTAL		**$127,612**

9. **Primary Project Contacts**

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Department of Administration:
Mike Friis, Program Manager
Peter Herreid, Project Liaison
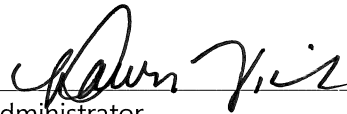608-267-3369
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For the University of Wisconsin-Madison

For the Department of Administration,
Division of Intergovernmental Relations

Assistant Director, Grants and Contracts
Research & Sponsored Programs

Administrator
Division of Intergovernmental Relations

May 30, 2019
Date

June 3, 2019
Date