



GIS Data Submission Requirements

Northern Rockies Regional Municipality

Technological Services Department

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To support integration with our enterprise geodatabase and enable mapping, field inspections, and information sharing with internal staff and stakeholders, all GIS data submissions must adhere to the following standards:

1. Data Format

If an empty NRRM geodatabase is provided for your project, use that geodatabase to deliver your data and follow its predefined schema and structure.

If no empty geodatabase has been provided, submissions must be in one of the following formats (unless otherwise approved by NRRM GIS staff):

- Esri Shapefile (.shp)
- Esri File Geodatabase (.gdb)
- Esri Layer Package (.lpx)
- Esri Package Project (.ppkx)
- GeoTIFF (.tif) for raster data

2. Units of Measurement

- Linear measurements shall be in meters.
- Angular measurements shall be in decimal degrees.

3. Coordinate Reference System (CRS)

To ensure consistency with the NRRM enterprise geodatabase, submissions should use NAD 1983 CSRS UTM Zone 10N (EPSG: 3157) whenever possible. This is the preferred and recommended coordinate system for all surveyed or engineering-grade data.

If your data originates from GPS devices or web-mapping applications and cannot reasonably be converted, WGS 1984 UTM Zone 10N (EPSG: 32610) is acceptable as an alternative.

Preferred Coordinate System (use by default):

- Datum: NAD 1983 (CSRS)
- Spheroid: GRS 1980
- Projected Coordinate System: NAD 1983 CSRS UTM Zone 10N (EPSG: 3157)

Alternative (acceptable only when GPS or web-mapping workflows require it):

- Datum: WGS 1984
- Spheroid: WGS 1984
- Projected Coordinate System: WGS 1984 UTM Zone 10N (EPSG: 32610)

Important: Submissions in NAD 1983 CSRS (EPSG: 3157) help avoid reprojection and maintain full compatibility with NRRM's internal systems.

4. Data Structure and Content

If an empty NRRM geodatabase is provided for your project, populate that geodatabase directly and follow its predefined schema and attribute structure.

If no empty geodatabase has been provided, the following standards apply:

Each asset class shall be submitted in a separate layer.

If symbology is part of the data submission, provide the data as an Esri Layer Package (.lpx).

- All features must include complete and relevant attribute information (e.g., material, diameter, installation date, etc.).

- Each asset class shall be submitted in a separate layer with appropriate symbology.
- All features must include complete and relevant attribute information (e.g., material, diameter, installation date, etc.).

5. Accuracy and Precision

- Positional accuracy must meet or exceed standards such as the National Map Accuracy Standards (NMAS) or ISO 19157.
 - If positional accuracy is determined to be low, please note with an added attribute field in the layer (called POS_ACC).
- Horizontal accuracy should be within ± 10 cm for surveyed assets unless otherwise agreed upon.

6. Metadata Requirements

If an empty NRRM geodatabase is provided for your project, follow its built-in metadata structure and no additional metadata file is required.

If no empty geodatabase has been provided, comprehensive metadata must accompany all submissions, compliant with ISO 19115 or FGDC standards. Metadata must include:

- Data source
- Creation date
- Author/organization
- Coordinate system
- Processing steps
- Usage constraints
 - Data source
 - Creation date
 - Author/organization
 - Coordinate system
 - Processing steps
 - Usage constraints

7. Quality Control and Validation

Prior to submission, data must be reviewed for topology errors, attribute completeness, and spatial integrity.

8. Submission Method

- Data must be submitted via the secure Box.com link provided by the NRRM Project Manager.
- If multiple files or large datasets are included, they must be compressed into a single .zip file.
- File naming convention:
[ProjectName or Number][YYYYMMDD][Description]
Example: Proj2229133_20250412_50thAveSouthRoadUpgrade.gdb

9. Licensing and Usage Rights

- Submitters must disclose all intellectual property rights and licensing terms.
- Any restrictions on data usage must be clearly stated in the metadata or accompanying documentation.

10. Accompanying Documentation

Each submission must include:

- Data dictionary or schema definition if an empty NRRM geodatabase was not provided for your project,
- Readme file summarizing contents.
- Contact information for follow-up or clarification.

11. Version Control

- This document is subject to periodic updates. Submitters are responsible for using the most current version available at the time of submission.
The latest version can be obtained from the NRRM Technological Services Department, through your assigned Project Manager, or downloaded from <https://www.northernrockies.ca/en/our-government/bidding-opportunities.aspx>
- - Document Version: 1.0
 - Last Updated: July 22, 2025
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12. Deadlines and Contact Information

- Final as-built submissions must be provided and accepted prior to project closing.
- For administrative matters, please contact the assigned Project Manager.
- For questions regarding GIS standards, attribute requirements, or technical submission details, contact the NRRM Technological Services Department:
 - Phone: (250) 774-2541 ext. 2070
 - Email: technology@northernrockies.ca