Closeout Submittals 01.78.00

Description:

The purpose of the section is to provide guidelines for UMD Design Standards related to document, production, closeout and turnover of GIS data and documentation.

Related Sections:

- 01 78 39 CAD Standards for Consultants

Effective Date:

January 1, 2020

Applicable Standards:

- TBD

General Requirements:

GIS Data Deliverable Requirements:

- All received GIS data must adhere to the requirements and standards outlined in this section.
- Where possible, the contractor will utilize source GIS data provided by the University of Maryland (UMD).
- Layer level metadata updates are required for all updated or new layer deliverables and the contractor shall consult with the University GIS Point of Contact to identify the specific metadata content requirements.
- The contractor shall provide a document (in Microsoft Excel format) summarizing data deliverables that lists all layers developed or updated.

Format:

All data layers developed by consultants and used on projects with a GIS component must include the following:

- Vector data (point, line, polygon, annotation):
  - ArcGIS compatible formats required.
  - Shapefile or ArcGIS feature class (file geodatabase) format preferred.
  - Other compatible formats (e.g., GeoPDF, KML) are acceptable with pre-approval.
  - Datasets should follow Esri Local Government Information Model data structure where possible.
- Tabular data:
  - Comma-delimited text files (ASCII text)
  - Microsoft Excel spreadsheets
  - Microsoft Access databases
- Geospatial dataset derived from new or existing geospatial data:
  - Include an explanation of the methodology and components used to generate the derived geospatial data.
- Geodatabases (for projects involving multiple data layers or topologically integrated feature classes):
  - Stand-alone ArcGIS file geodatabase (preferred) or personal geodatabase format
  - UMD Enterprise geodatabase access (project dependent)
- Raster data (imagery, DEM, etc.)
  - ArcGIS compatible formats required.
  - GeoTIFF, MrSID or ESRI Grid formats preferred.
  - All raster data must include accompanying geo-referencing or world files.

Coordinate System:

- Mapping shall be in accordance with National Map Accuracy Standards, based on Maryland State Plane Coordinate System as follows:
- **Projected Coordinate System:** NAD_1983_StatePlane_Maryland_FIPS_1900_Feet
- **Geographic Coordinate System:** GCS_North_American_1983 (2011)
- **Vertical Control:** North American Vertical Datum 1988 (NAVD88)
- Units: US Survey Feet

Metadata:

All data layers must have complete metadata that conforms to the Federal Geographic Data Committee Standards (FGDC) https://www.fgdc.gov/metadata/csdgm/ in all categories:

Topics and Keywords	Thumbnail and Enclosures	Fields
Citation	Spatial Reference	Metadata Details
Resource Details	Spatial Data Properties	Metadata Contacts
Extents	Geo-processing history	Resource Constraints
Distribution		

Metadata: Critical Elements

- Dataset identification: Basic information about the dataset including the name given to the resource and project associations.
- Dataset description: A textual description of the content of the resource including entity types and attribute information details, collection parameters, and any post processing.
- Dataset reference date(s): Acquisition or event date(s).
- Dataset quality information: General assessment of the quality and spatial precision of the dataset.
- Dataset/metadata point of contact: Identity of, and means to communicate with, person(s) and organization(s) associated with the dataset.
- Metadata reference information: Information on the data of the metadata and the responsible parties.

Media:

All information will be written to labeled digital storage media or approved digital delivery method (FTP or direct database connections) along with documentation describing the files contained on the disk(s).

Data Integrity:

The contractor shall employ appropriate Quality Assurance/Quality Control standards to ensure that data are topologically correct, accurate and complete (to include):

- No erroneous overshoots, undershoots, dangles or intersections in the line work.
- Point and line features will be snapped together where appropriate to support networks. For example; do not break linear features for labeling or aesthetic purposes.
- Line features should be continuous. Point features should be digitized as points, using attribute block symbols with insertion points in the center of the block/feature.
- No sliver polygons or gaps and overlaps in features and related features not sharing coincident extents.
- Digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer.

University Furnished Materials:

- UMD will provide designers with all available information, including geospatial data, reports, schematics, pertinent information and/or data copy.
- When requesting data from University of Maryland, the designer must identify which data layers they require. The UMD Map/Spatial Data Request Form must be completed and submitted prior to the release of any information related verifications.
- Designers are required to acquire all new (current) campus GIS base data at the beginning of the design of each project and are responsible to seek routine/periodic updates for the full design term of the project.