GIS Requirements for Consultants

Introduction

The purpose of this document is to provide requirements and guidelines for consultants that work for various departments of the City of Bellingham in the use and delivery of Geographic Information System (GIS) data and services. In any event that there are any questions or necessary exceptions please contact the IT GIS staff (GISHelp@cob.org) to review the information.

It is important that project managers and consultants contact GIS staff at the earliest opportunity in their project process when involving data use or data products.

GIS Data Access

City GIS data is available both as a download and by accessing specific ArcGIS Server REST services. Both are outlined below. It is typical for data to have several subject matter experts, and for the data to be integrated in current business systems. Please make sure to touch base with the GIS Manager to be made aware of the necessary people to communicate with if you are modifying or changing data in any way.

Downloads

A full repository of all publicly available data in the GIS enterprise can be found through the city website on the GIS Data Downloads page. This data is updated monthly based on an extract from the enterprise SDE database and excludes sensitive material. As a vendor you'll need to explicitly ask for sensitive material in your project location if it exists. This typically includes utility information, but could include endangered species, and natural gas transmission lines.

Metadata for all downloadable feature classes can be found at: https://cob.org/services/maps/gis. Links to specific download files for file geodatabase, shape and DWG files can be found on the same page. The complete collection of downloadable GIS data can be found through the city ftp site at http://ftp.cob.org/file/d in the GIS Data folder. An anonymous sign in is required to access the files for download. Instructions are shown on the login page.

LiDAR data from a 2013 flight can be downloaded from the Puget Sound LiDAR Consortium web site at http://pugetsoundlidar.ess.washington.edu/.

Services

Much of the city's public GIS data is available through ArcGIS Server REST services. This includes dynamic services along with standard and aerial basemaps. The services are available in both Web Mercator and state plane projections. If there are specific integration requirements for a rest service, the GIS group

will create the service based on a defined specification. Please contact the city GIS group at GISHelp@cob.org to obtain REST service URL's and discuss the specific requirements of the GIS services.

Data Delivery Requirements

All GIS data for the City of Bellingham is stored and managed using Washington State Plane coordinate system. The city does maintain a replica using the Web Mercator projection but that is for view only purposes.

Any vector or raster data delivered to the city that is a result of a GIS data mapping project, study or analysis shall be delivered in the following projections.

- **Horizonal**: NAD 1983 StatePlane Washington North FIPS 4601 Feet
- **Vertical**: NAVD88

For more information regarding survey control and monumentation please reference the city survey data and information page (https://cob.org/services/maps/monuments) and survey monument application (https://maps.cob.org/geviewer/Html5Viewer/index.html?viewer=surveymonuments) for information about the use and location of survey control. Any exceptions to projection requirements shall be through written approval from the GIS Projects and Services Administrator.

Metadata

Any data provided to the city in the form of feature class, shape file, table or raster image will be accompanied by complete metadata with the following information provided at a minimum. A complete technical specifications document is available upon request by requesting *COB Geospatial Metadata Technical Specifications v2.0.*

- Basic/Identification information
    - Description
        - Abstract
        - Purpose
    - Citation
        - Origin
        - Title
    - Publisher
        - Published by
        - Published at
        - Published Date
    - Time period
    - Status
        - Progress and update frequency
    - Usage constraints
    - Contact person\organization
    - Bounding box
- Quality

    - Integrity tests
    - Completeness of data
    - Horizonal positional accuracy
    - Processing steps
- Coordinate system
    - Horizonal Projection
    - Zone
    - Units
    - Datum
- Attribute information
    - Overview
    - Attribute information for each column
        - Attribute name
        - Source
        - Definition
        - Domain information
- Metadata information
    - Metadata date
    - Metadata contact
    - Metadata standard name\version

Use of ArcGIS Online

ArcGIS Online is the preferred method for consultants provided GIS data, services and products to the City of Bellingham. Any products or services using ArcGIS Online will use the City of Bellingham ArcGIS Online organizational account. This will ensure that any GIS products will remain the possession of the City of Bellingham and that city GIS staff can monitor the quality and completeness of the products throughout the duration of the project.

City GIS staff will create ArcGIS Online user accounts for each consultant user working within the ArcGIS Online environment. Staff will review and assign permissions and capabilities based on requested functionality in relation to city GIS policies.

Mapping project files, documents, models, and analysis products

All GIS products delivered to the city not using ArcGIS Online shall be using ArcGIS Pro projects and delivered with all referenced data or as a map package. Any map products shall conform to the City of Bellingham layer definitions and symbology for all base and standard features within the enterprise layer catalog. Any exceptions to this need to be approved by IT GIS management staff (GISHelp@cob.org). All hard-copy map products shall be referenced through layouts in the ArcGIS Pro project and also be delivered as separate PDF files.

Other data, models, analysis products, scripts, tables, and associated data should all be fully explained, with appropriate documentation and metadata included. In particular, spatial data such as drone imagery or other remote sensing products should include a report, accounting, or visual examples of how points/lines/polygons align with recent City of Bellingham aerial imagery products, parcel data, or other relevant spatial basemap elements and not solely a report indicating accuracy relative to itself.