AUTODESK UNIVERSITY

Create a 3D Model of your City for Free

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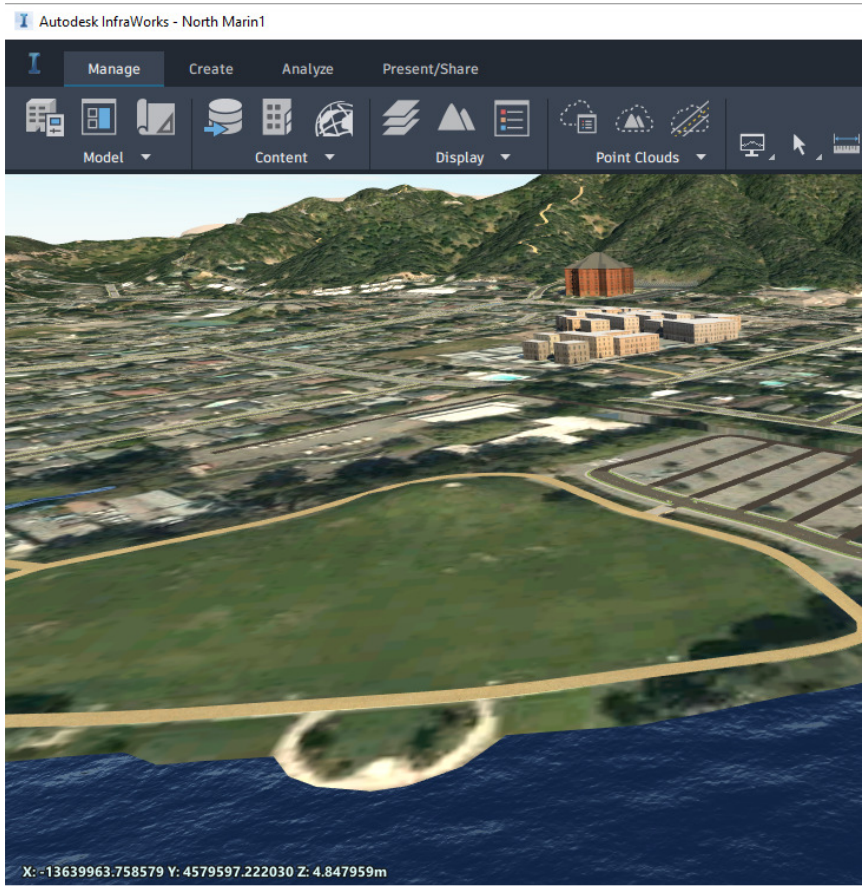
What is InfraWorks?

Neighbourhood or City Model

Tool to:

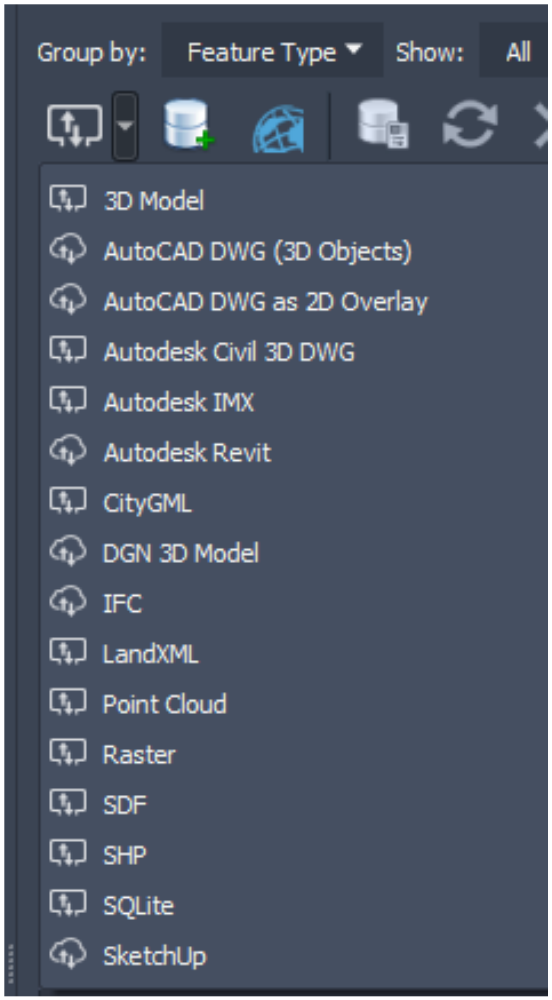
- **Model your city using existing data**
- **Create new features**
- **Analyze features**
- **Present to web or video/images**



Spatial Data

File-based

- DWG (AutoCAD 2D, 3D, Civil)
- DGN (Microstation files)
- IMX (Import/Export for InfraWorks)
- RVT (Revit Models)
- IFC (Industry Foundation Classes)
- CityGML (Geographic Markup Language)
- LandXML (Civil XML format)
- Point Cloud (LAS,LAZ, RCP, RCS)
- SDF/SHP/SQL Lite
- Sketchup

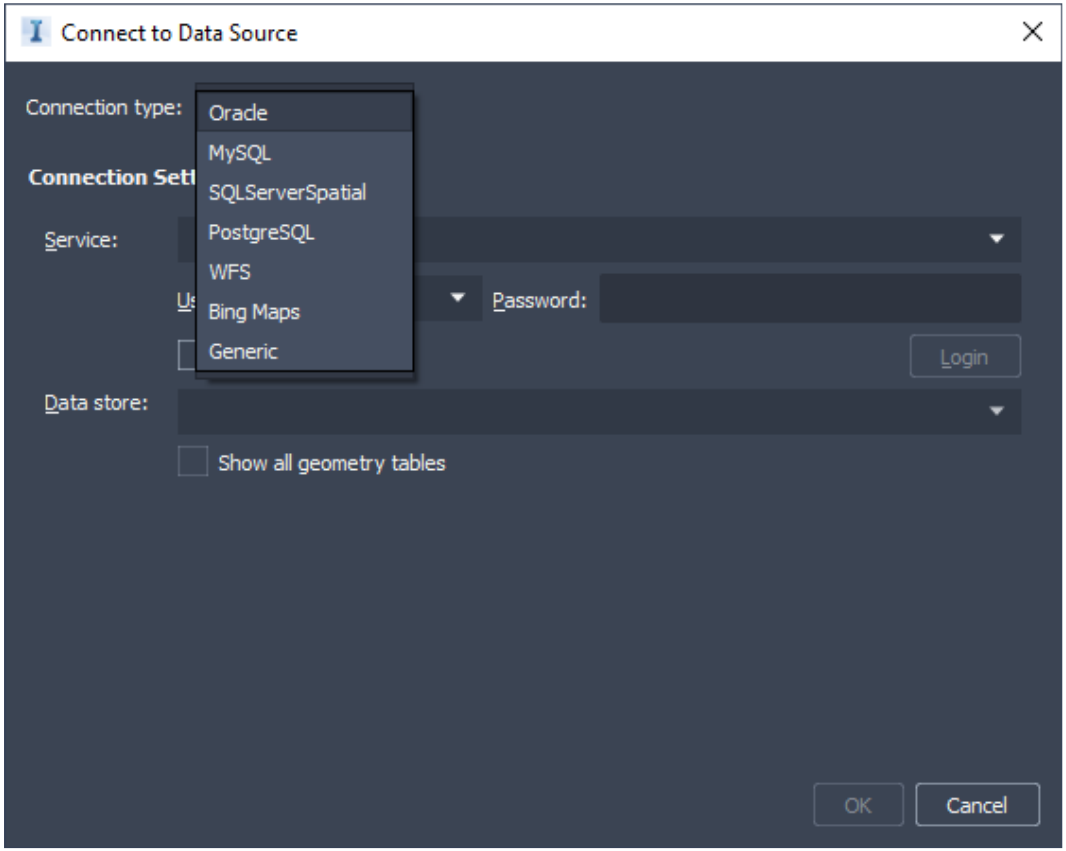


Spatial Data

Data Sources

- MySQL Database
- SQL Server Database
- PostgreSQL Database
- Oracle Database

- WFS (Web Feature Service)
- Bing Maps (background)
- Generic (OGR Provider – file based)
  e.g. ESRI File Geodatabase



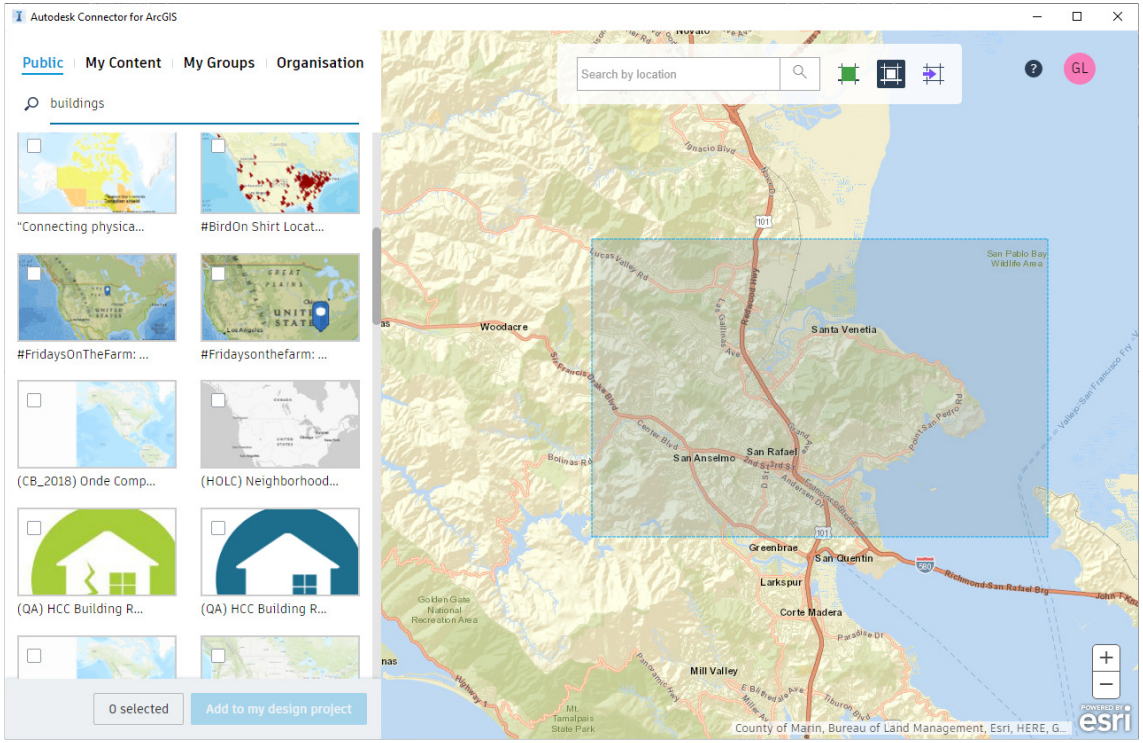
Spatial Data

ArcGIS Poral or ArcGIS Online

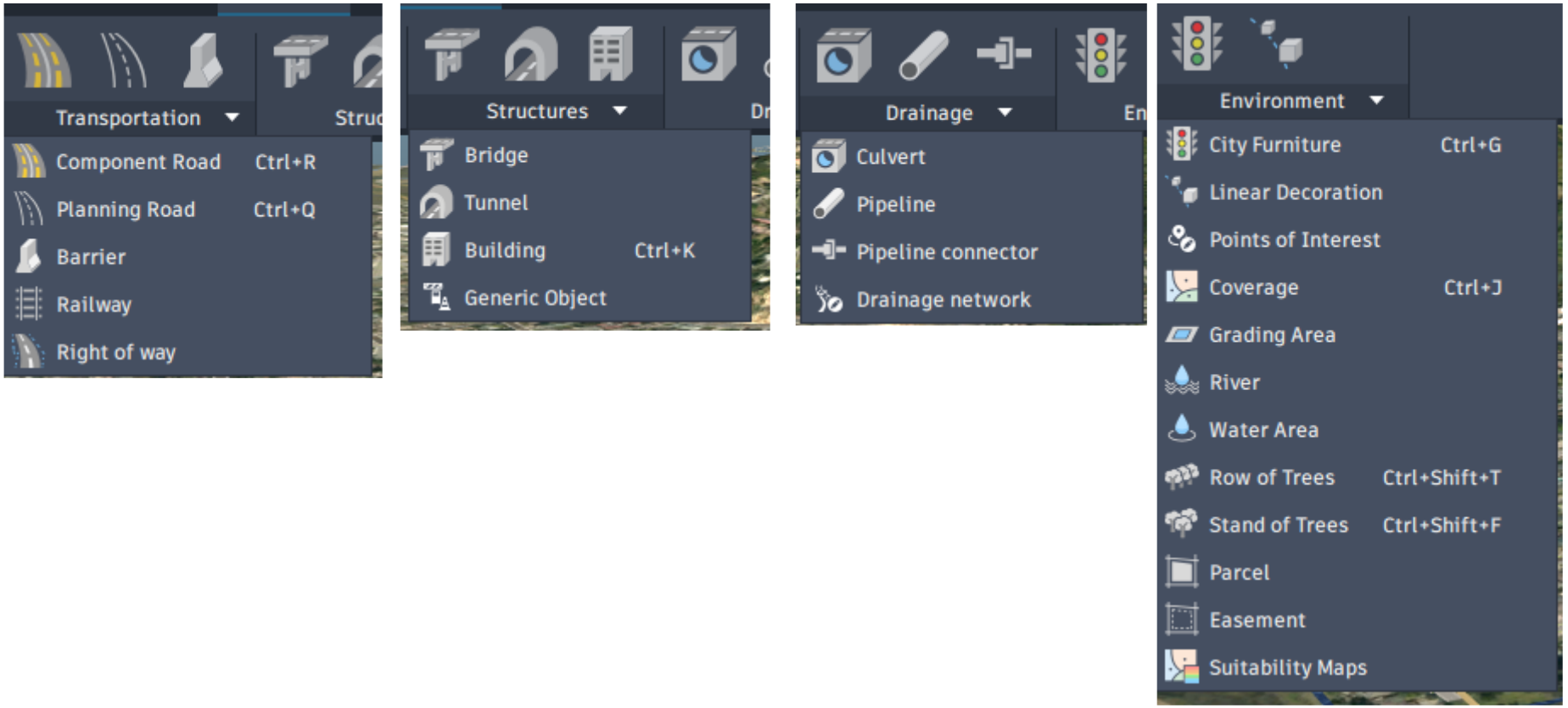
- ArcGIS.com

  aka ArcGIS Online
- ArcGIS Enterprise (Portal)

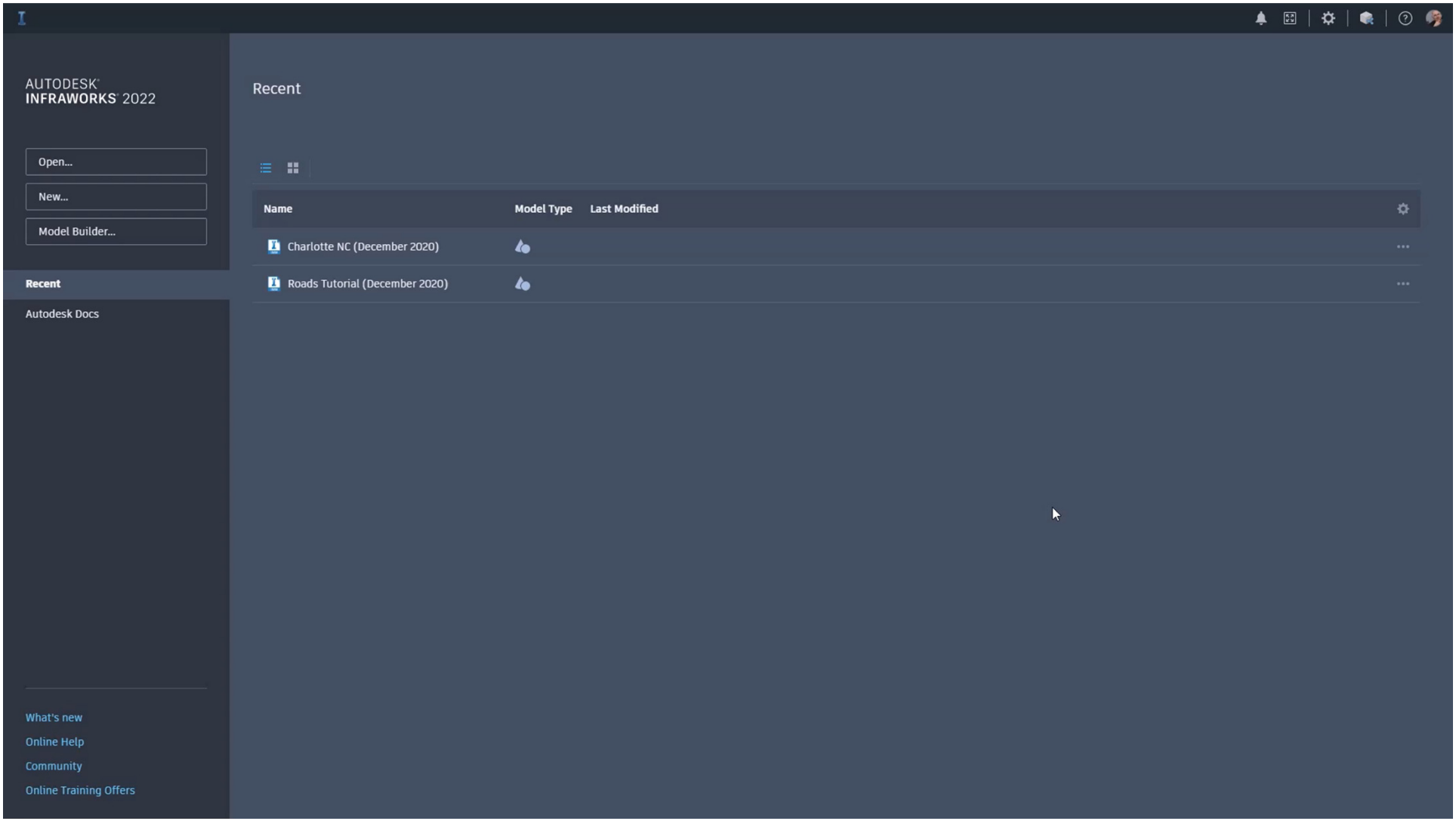
  – both intranet or internet



Creating New Features



Model Builder
The Easy Way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Name
Model Type
Last Modified
Charlotte NC (December 2020)
Roads Tutorial (December 2020)

The Hard Way

Find Spatial Data

https://gisopendata.marincounty.org/

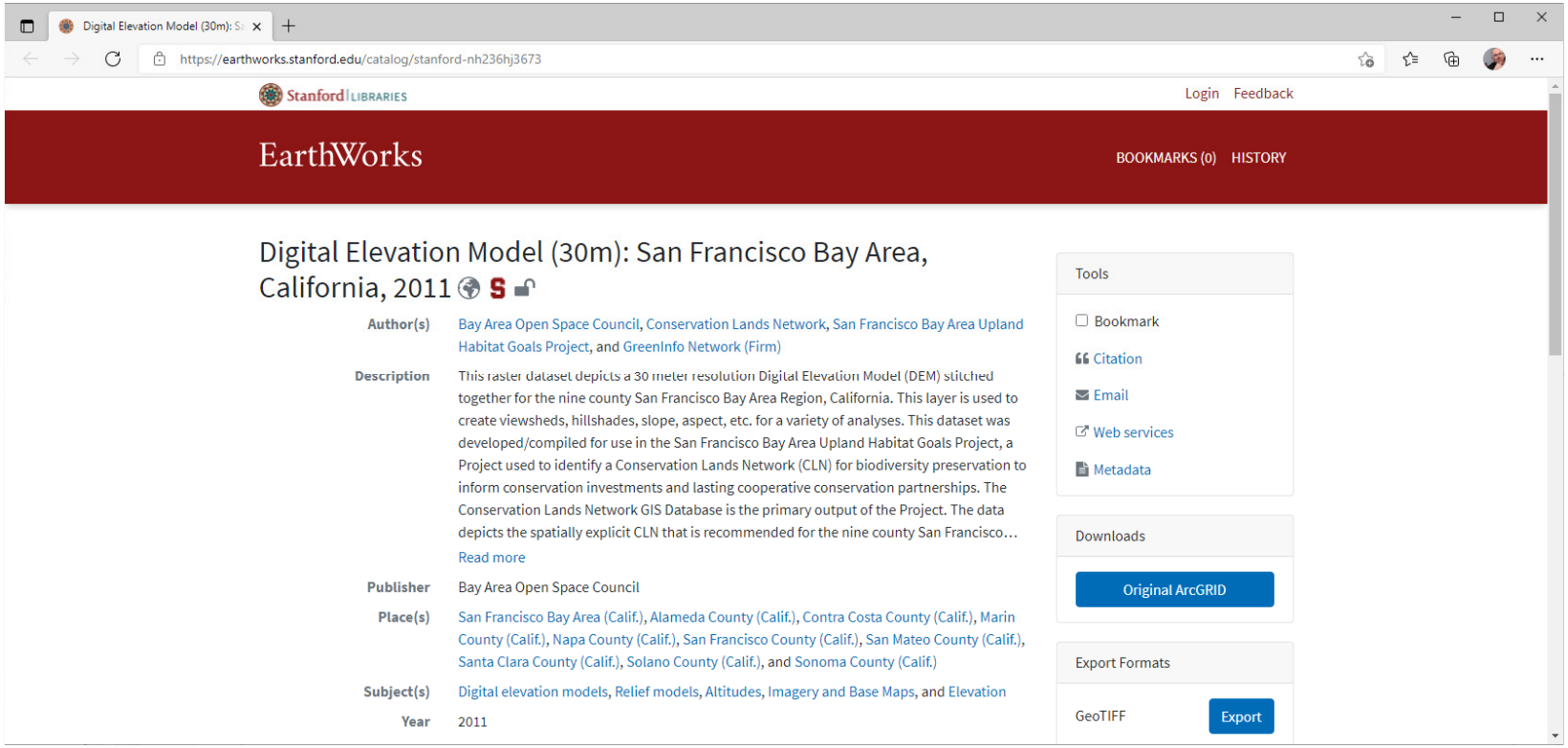
Find Spatial Data

https://gisopendata.marincounty.org/

- **Building_Footprint.shp (and associated files such as PRJ, DBF, SHX)**
- **CITY_LIMITS.shp**
- **Roads.shp**
- **NHD_Waterbody.shp**

Find Spatial Data

https://earthworks.stanford.edu/catalog/stanford-nh236hj3673



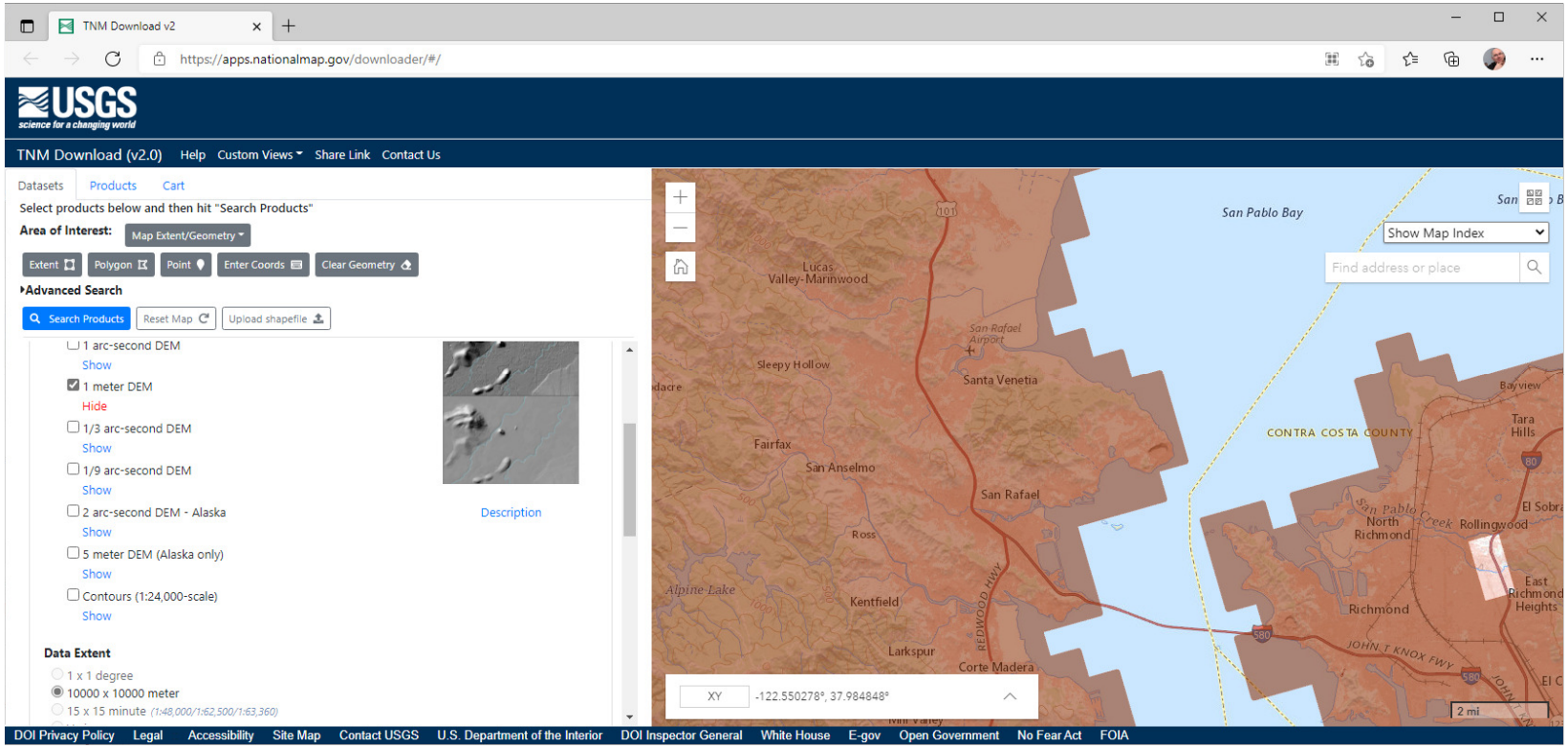
Find Spatial Data

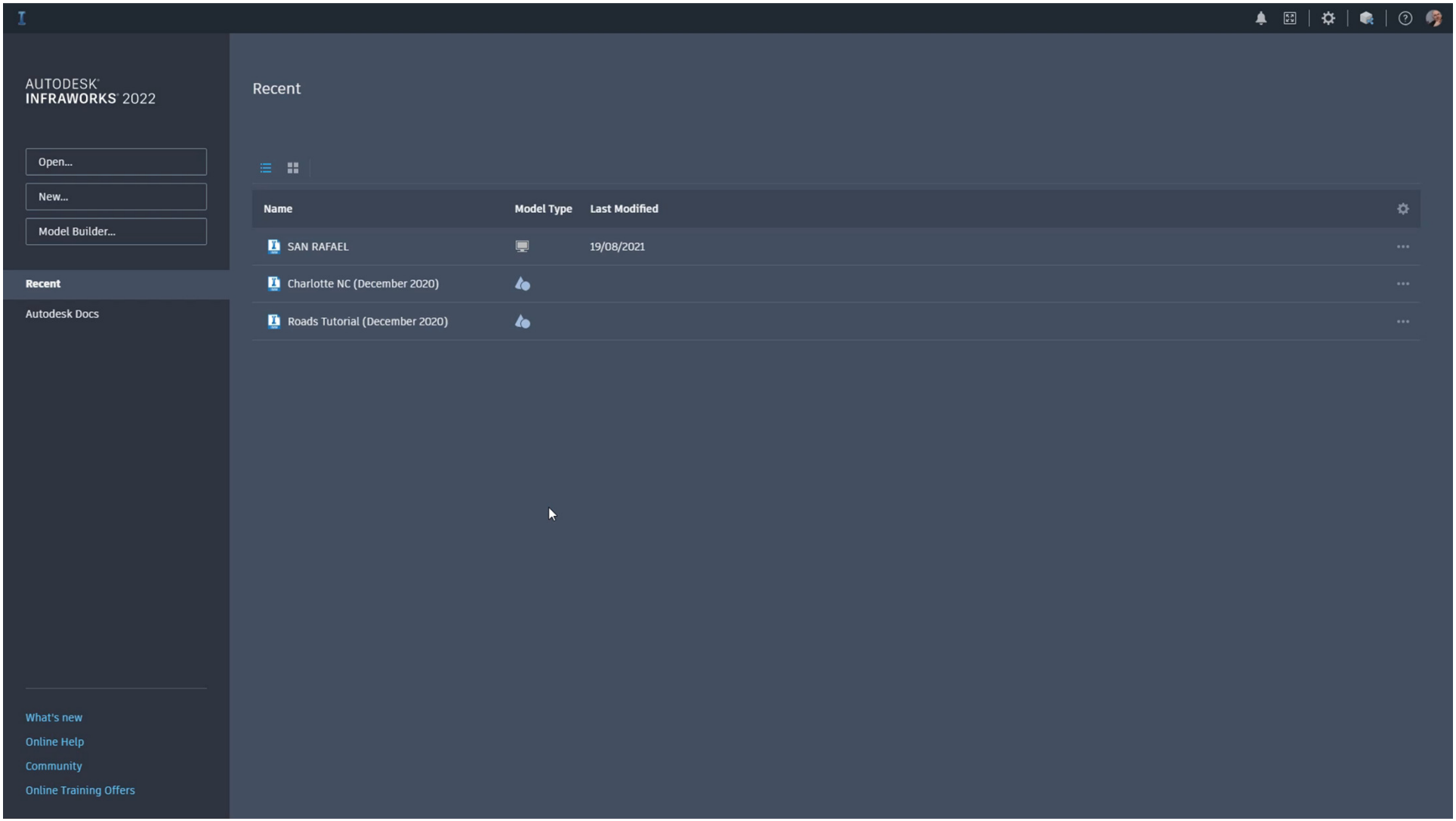
https://earthworks.stanford.edu/catalog/stanford-nh236hj3673

- **stanford-sanrafael-geotiff.tif**

Find Spatial Data

https://apps.nationalmap.gov/downloader/#/

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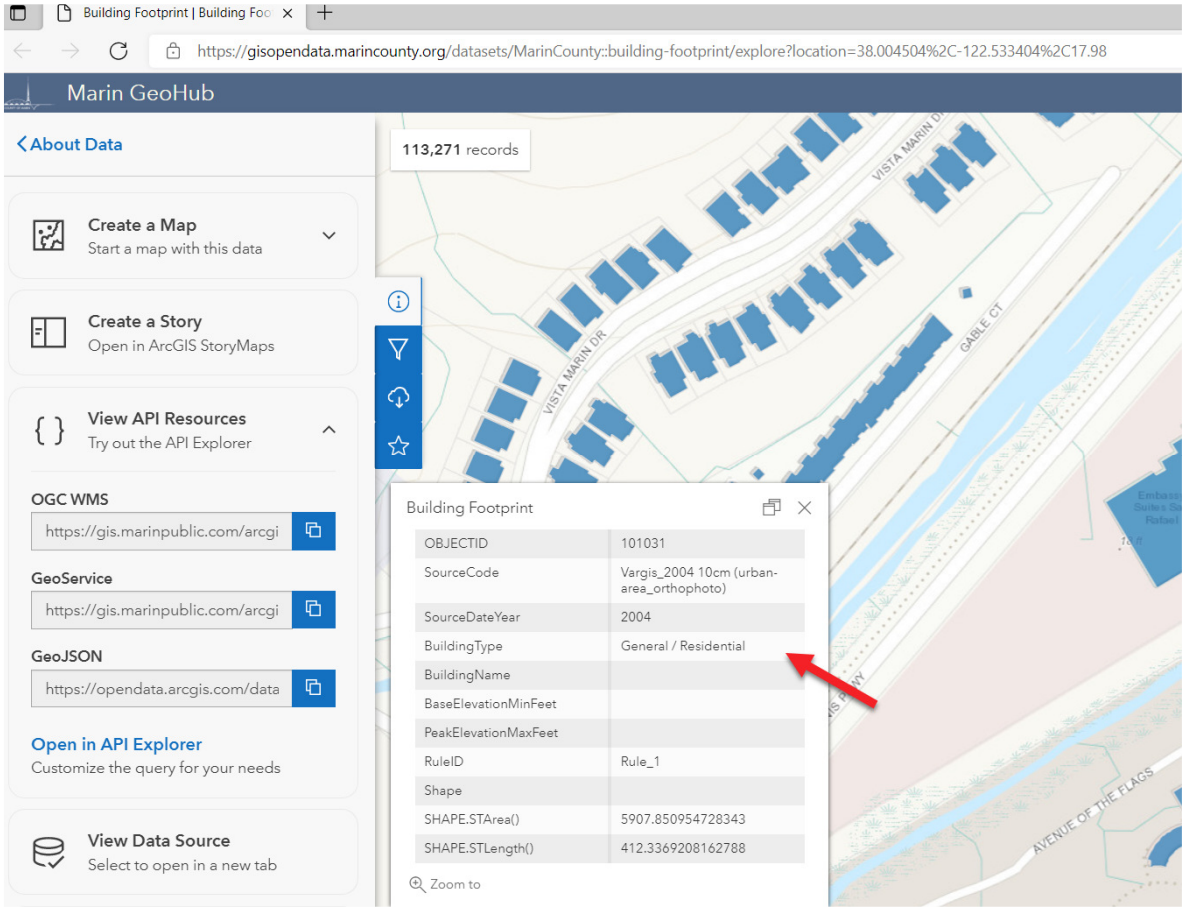
19/08/2021
Charlotte NC (December 2020)
Roads Tutorial (December 2020)

Customize with Style Rules

Marin OpenData

Building Footprints

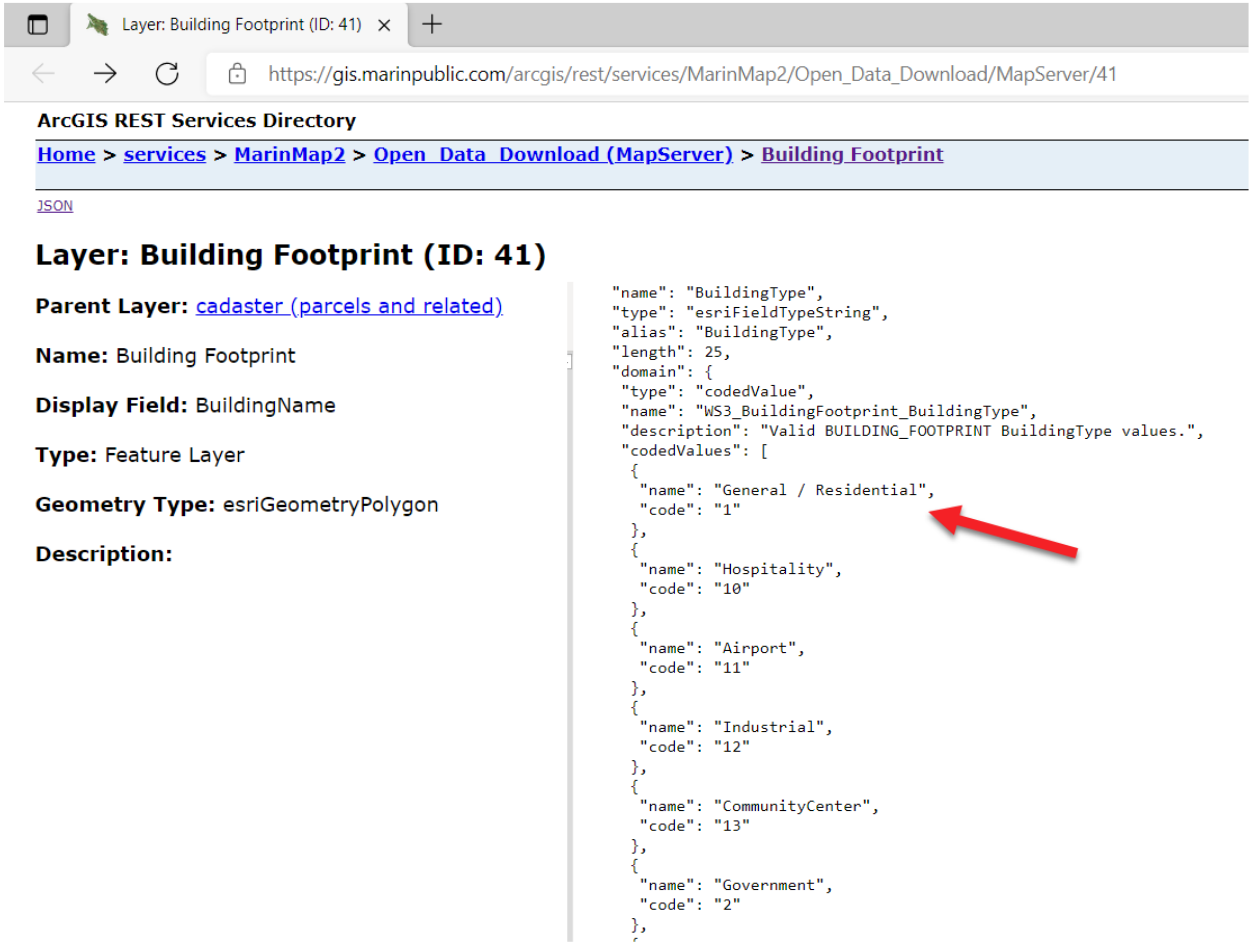
Building Types..

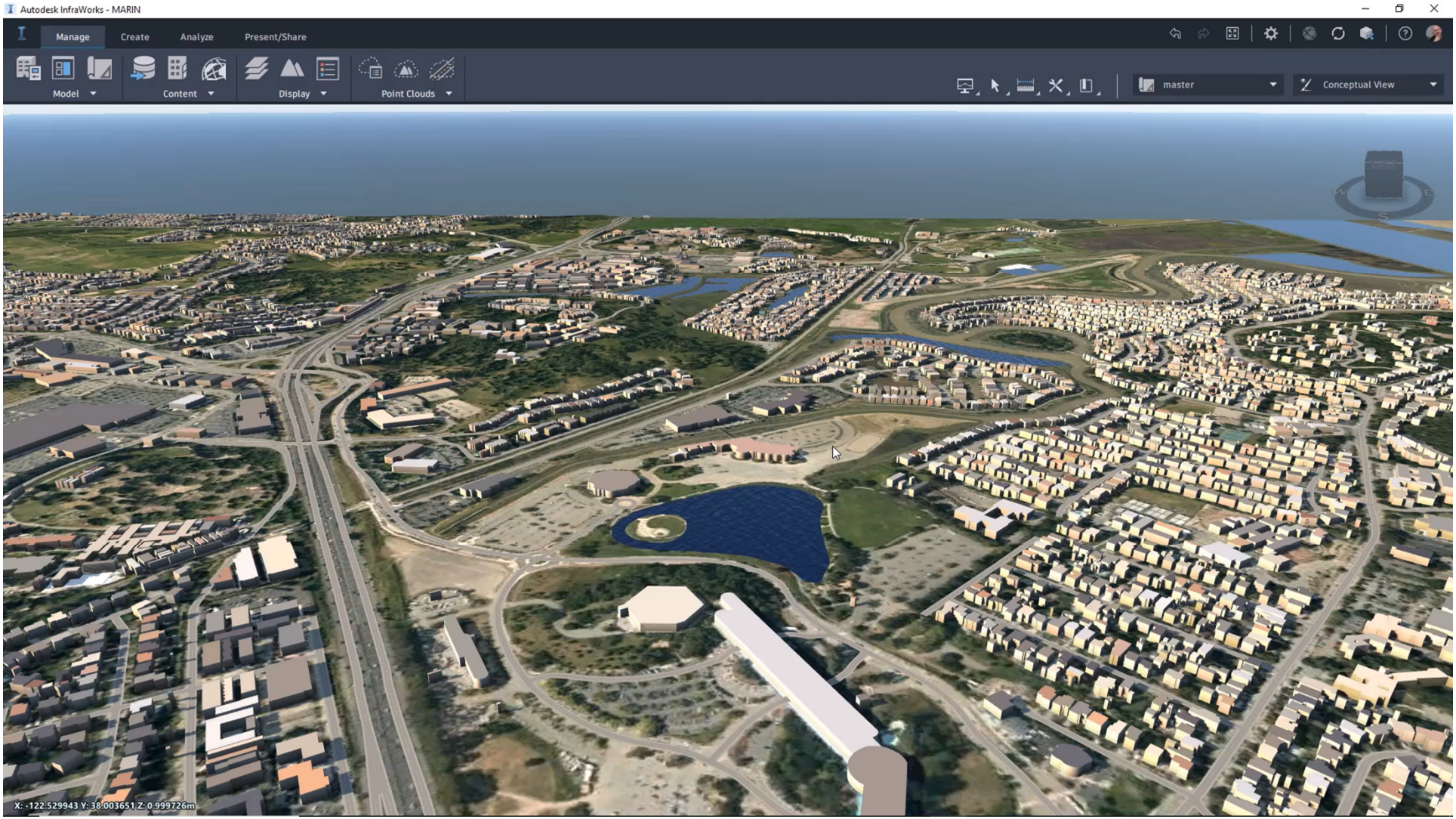


Marin OpenData

Building Footprints

Building Types..

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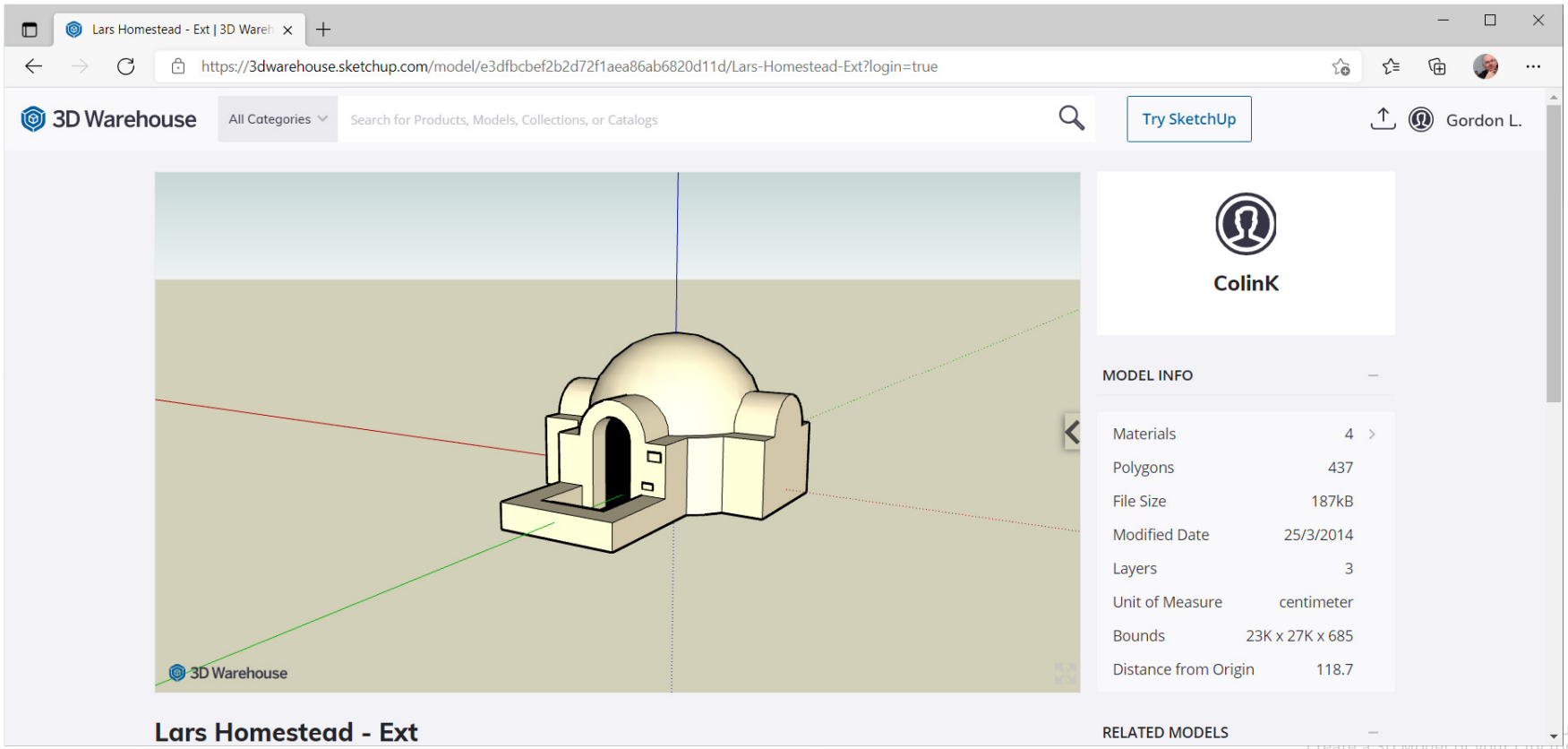
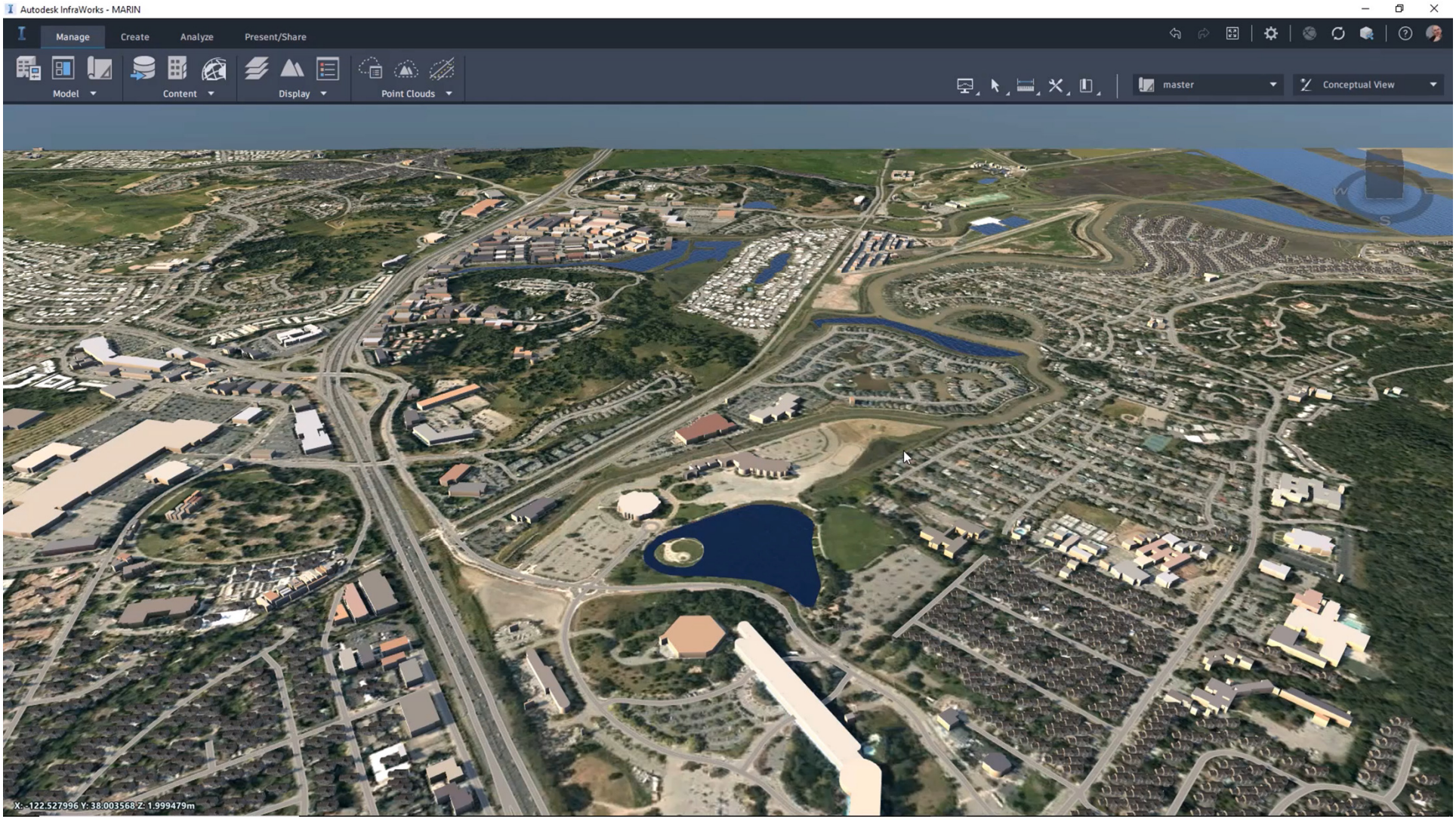
Manage
Create
Analyze
Present/Share
Model
Content
Display
Point Clouds
master
Conceptual View
X: -122.529943 Y: 38.003651 Z: 0.999726m

Add Sketchup 3D Model

Finding Free Models

3dwarehouse - free




Autodesk InfraWorks - MARIN
Manage
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Conceptual View
X: -122.527996 Y: 38.003568 Z: 1.999479m

Summary

Summary

- **Model Builder – easiest (much data from OpenStreetMap and Bing)**
- **Find your own free data at County and Government Sites (such as Marin GIS or USGS)**
- **Import own data into InfraWorks**
- **Use Style Rules to alter many features**
- **Import individual models from free sites like 3dwarehouse**


Thanks!