



**VECTORWORKS<sup>®</sup>**

A NEMETSCHEK COMPANY

# VECTORWORKS KUNG FU: TRANSFORM YOUR SITE + URBAN DESIGN WORKFLOWS

Troy Diamond | Technical Support Specialist | RAIA



# LEARNING OUTCOMES

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- Identify publicly available GIS-based data sources that can be applied to landscape and urban design workflows.
- Convert site and planning data into analysis models.
- Identify and model site adjacent structures.
- Identify potential planning challenges.
- Share the georeferenced model for collaboration with the project team via IFC.



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Turn tasks that can take weeks,  
into hours



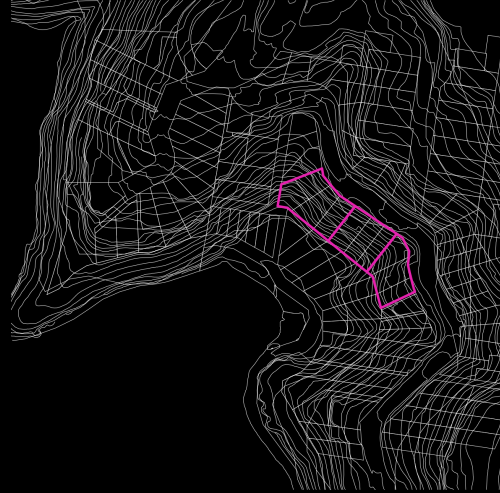
ARCHITECTURE, LANDSCAPE  
+ URBAN DESIGN WORKFLOWS

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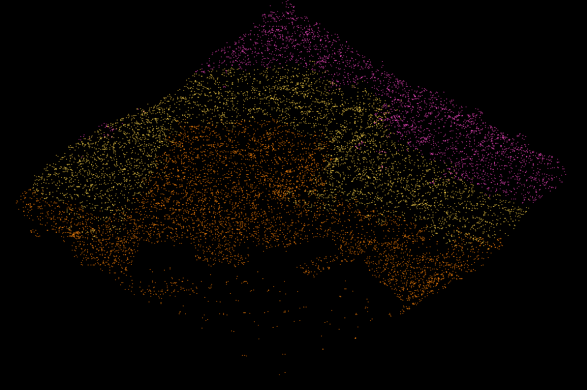
AERIAL PHOTO +  
PLANNING MAPS



GIS TOPOGRAPHY  
+ CADASTA



SITE MODEL WITH GIS  
AERIAL PHOTO



H.O.B. LIDAR  
POINT CLOUD

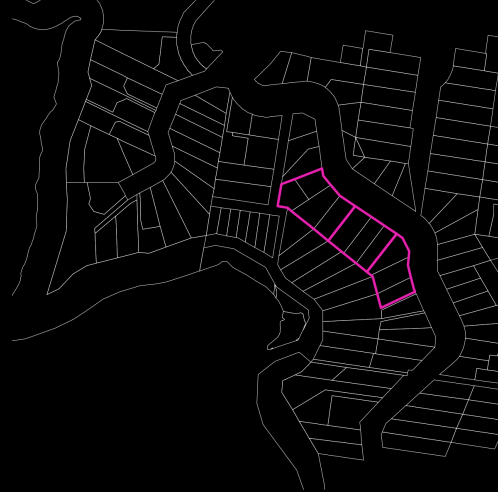
# URBAN DESIGN WORKFLOWS

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PLANNING MAPS



SITE DEVELOPMENT  
OPTIMISATION

```
#WS_IF((AREA<2500),  
CONCAT(ROUNDDOWN  
(2+1.5*((AREA-  
1000)/1500),  
3), ':1'), '3.5:1')#
```

DATA TAGS,  
WORKSHEET FORMULA

SITE AREA:  
2013.7M2  
H.O.B.: 45M  
F.S.R.: 3.013:1  
MAX. G.F.A.:  
6068.6M2

FLOOR AREA TO SITE  
AREA RATIOS

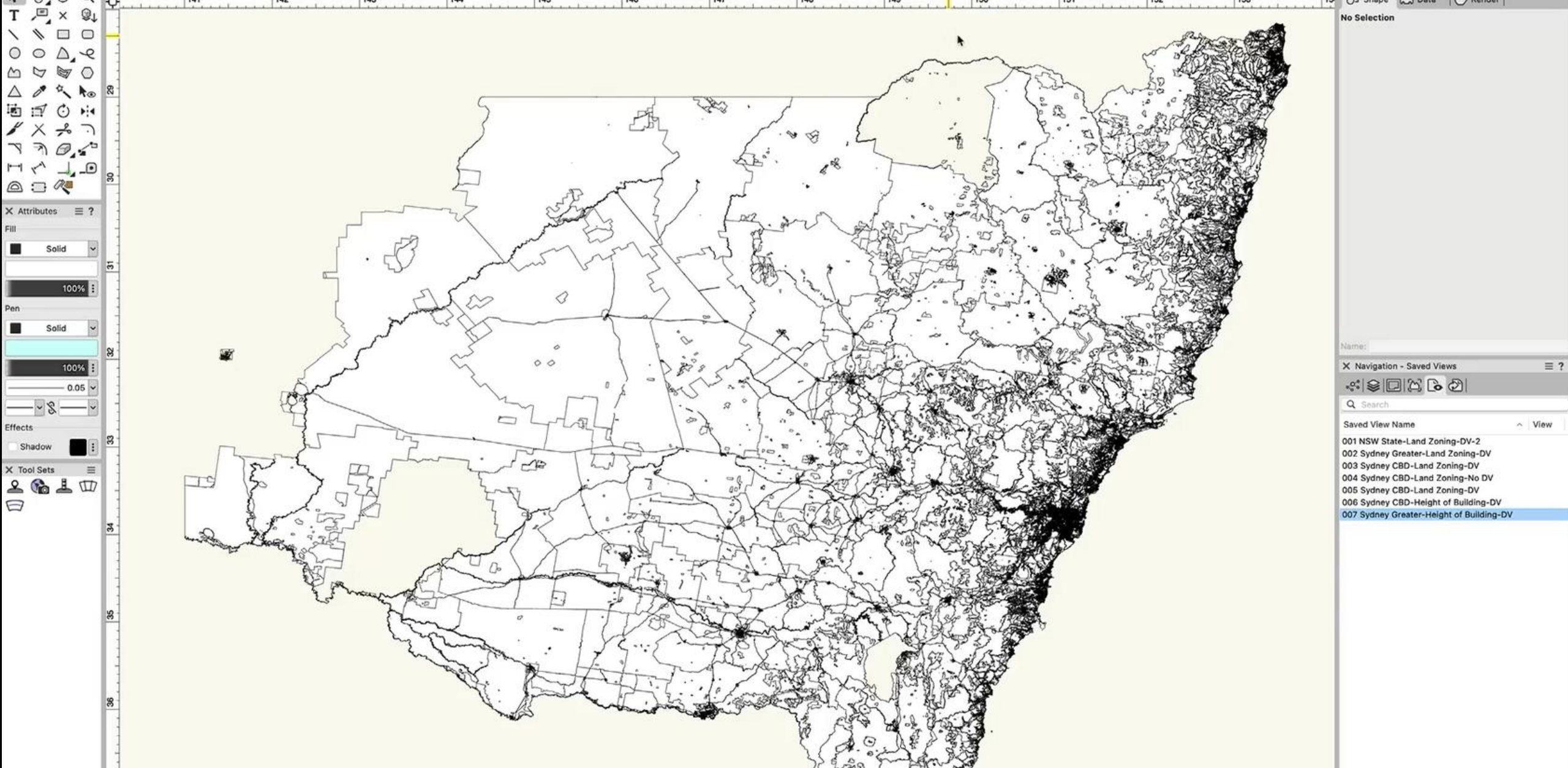
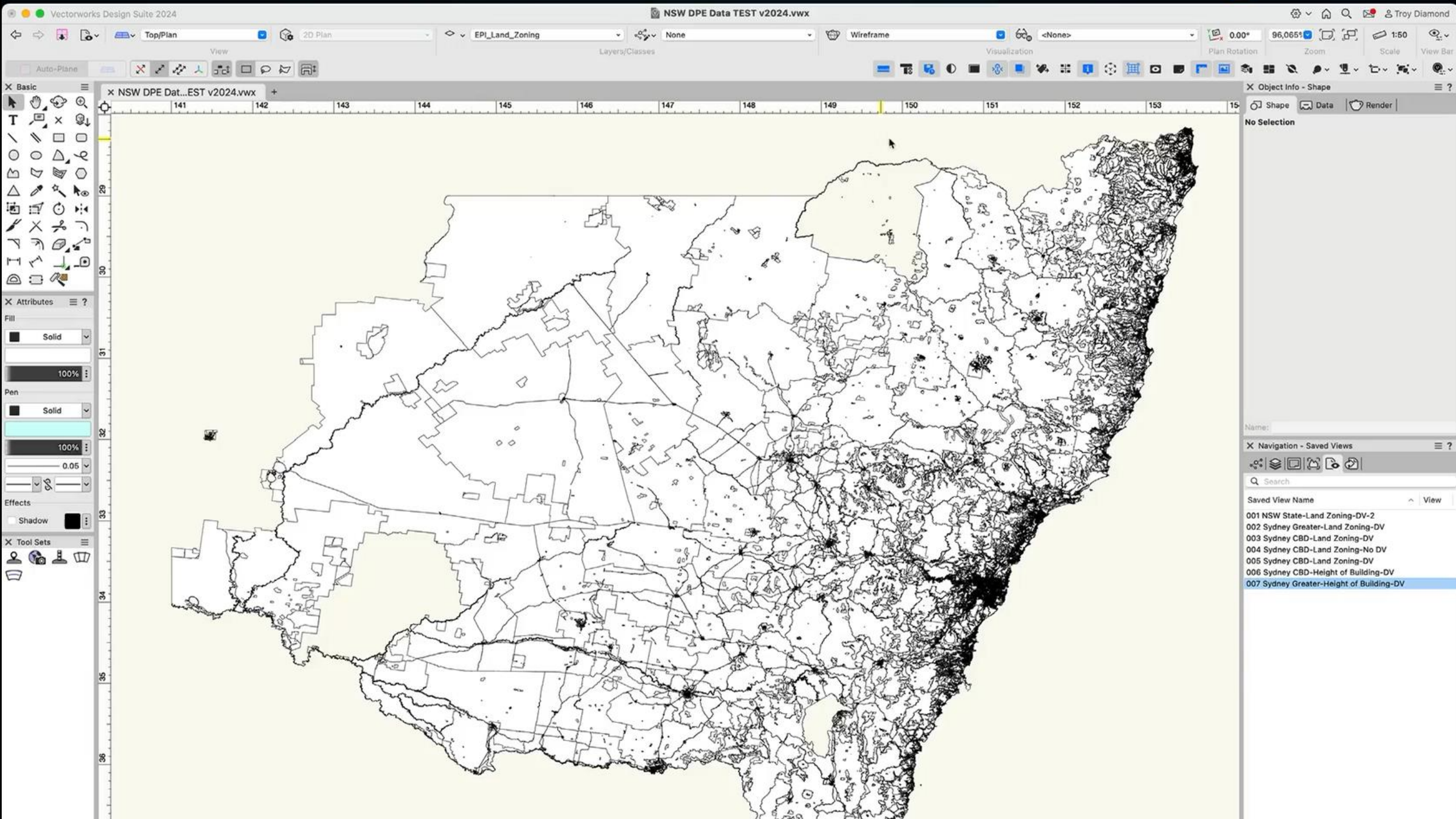




# DATA VISUALISATION CONTEXT ANALYSIS

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**Basic**

- Selection tools: Arrow, Lasso, Window, Polygon
- Creation tools: Line, Circle, Rectangle, Ellipse, Polygon, Polyline, Text, Image, Block, Group, Unlink, Link, Copy, Paste, Undo, Redo, Erase, Hide, Show, Lock, Unlock, Freeze, Unfreeze, Refresh, Reset, Clear, Close, Save, Print, Export, Import, Open, New, Quit

**Attributes**

Fill: Solid, 100%

Pen: Solid, 100%, 0.05

Effects: Shadow

**Tool Sets**

- Navigation: Home, Previous, Next, Find
- View: Top/Plan, 2D Plan, 3D View, Wireframe, Visualization
- Layers/Classes: None
- Object Properties: Shape, Data, Render

**Object Info - Shape**

Shape Data Render

No Selection

Name:

**Navigation - Saved Views**

Search

Saved View Name	View
001 NSW State-Land Zoning-DV-2	
002 Sydney Greater-Land Zoning-DV	
003 Sydney CBD-Land Zoning-DV	
004 Sydney CBD-Land Zoning-No DV	
005 Sydney CBD-Land Zoning-DV	
006 Sydney CBD-Height of Building-DV	
007 Sydney Greater-Height of Building-DV	



Let's look at how that is  
brought together in Vectorworks



# NSW DATA SOURCES


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portal.spatial.nsw.gov.au

Home Gallery Map Scene Groups Sign In

## NSW Imagery Basemap Service Overview



The NSW Imagery web map service provides spatial imagery covering the extent of NSW. It depicts a cached imagery map of NSW

Web Map by ss-sds  
Created: 4 Apr 2019 Updated: 12 Sep 2022 View Count: 62,446

[Open in Map Viewer](#)

### Description

#### NSW Imagery Basemap Service

*Please Note*  
This dataset has spatial reference [WGS 84 = GDA94] which may result in misalignments when viewed in GDA2020 environments. A similar service with spatial reference GDA2020 is also available with a "GDA2020 suffix" (e.g. 'NSW\_Imagery' => 'NSW\_Imagery\_GDA2020').

The NSW Imagery web map service provides spatial imagery covering the extent of NSW. It depicts a cached imagery map of NSW which includes the following data sets:

- LandSat 2014@ satellite imagery
- Spatial Services standard coverage ADS sensor orthorectified imagery
- Spatial Services high resolution ADS sensor town imagery
- Spatial Services high resolution ADS sensor project imagery
- AAM 2012 Tweed orthorectified imagery
- AAM 2012 Sydney conurbation 10cm GSD orthorectified imagery
- Jacobs 2009 Upper Hunter AUSIMAGE® orthophoto imagery
- Jacobs 2004 Queanbeyan AUSIMAGE® orthophoto imagery
- Jacobs 2006 Yass AUSIMAGE® orthophoto imagery
- Jacobs 2002 Goulburn AUSIMAGE® orthophoto imagery
- Jacobs 2014 AUSIMAGE® orthophoto imagery
- Jacobs 2016 AUSIMAGE® orthophoto imagery
- Spookfish 2018 imagery

This web service allows users to easily integrate a geographical index of the features described above. When used in conjunction with other mapping datasets, it can be an excellent referencing tool for determination of imagery coverage and approximate dates over any given area in NSW. This service allows the user to enquire on any point in NSW and have imagery coverage and approximate dates returned.

This web service is updated when new information is captured or sourced by DFSI Spatial Services.

Details  
Size: 1 KB  
★★★★★  
[f](#) [t](#)

Share  
[🔗](#)

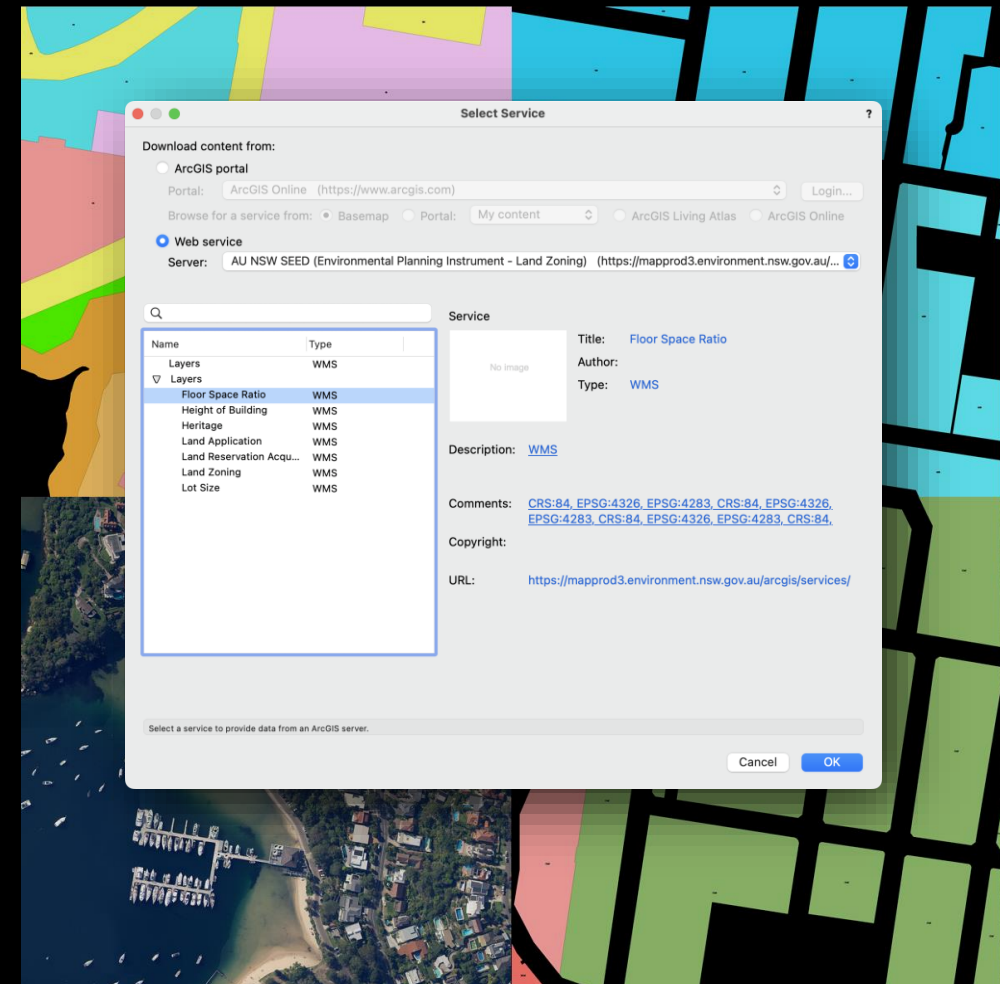
Owner  
ss ss-sds

Categories  
Imagery

Tags  
NSW, Basemap, Imagery, NSW imagery, ADS

Credits (Attribution)  
No acknowledgements.

## NSW SPATIAL AERIAL + PLANNING SERVICES



### Select Service

Download content from:


ArcGIS portal  
Portal: ArcGIS Online (https://www.arcgis.com) [Login...](#)

Browse for a service from:  Basemap  Portal: My content  ArcGIS Living Atlas  ArcGIS Online

Web service  
Server: AU NSW SEED (Environmental Planning Instrument - Land Zoning) (https://mapprod3.environment.nsw.gov.au/...)

Search:

Name	Type
Layers	WMS
Layers	
Floor Space Ratio	WMS
Height of Building	WMS
Heritage	WMS
Land Application	WMS
Land Reservation Acqui...	WMS
Land Zoning	WMS
Lot Size	WMS

Service:  Title: Floor Space Ratio  
Author:  
Type: WMS

Description: [WMS](#)

Comments: [CRS:84, EPSG:4326, EPSG:4283, CRS:84, EPSG:4326, EPSG:4283, CRS:84, EPSG:4326, EPSG:4283, CRS:84](#)

Copyright:

URL: <https://mapprod3.environment.nsw.gov.au/arcgis/services/>

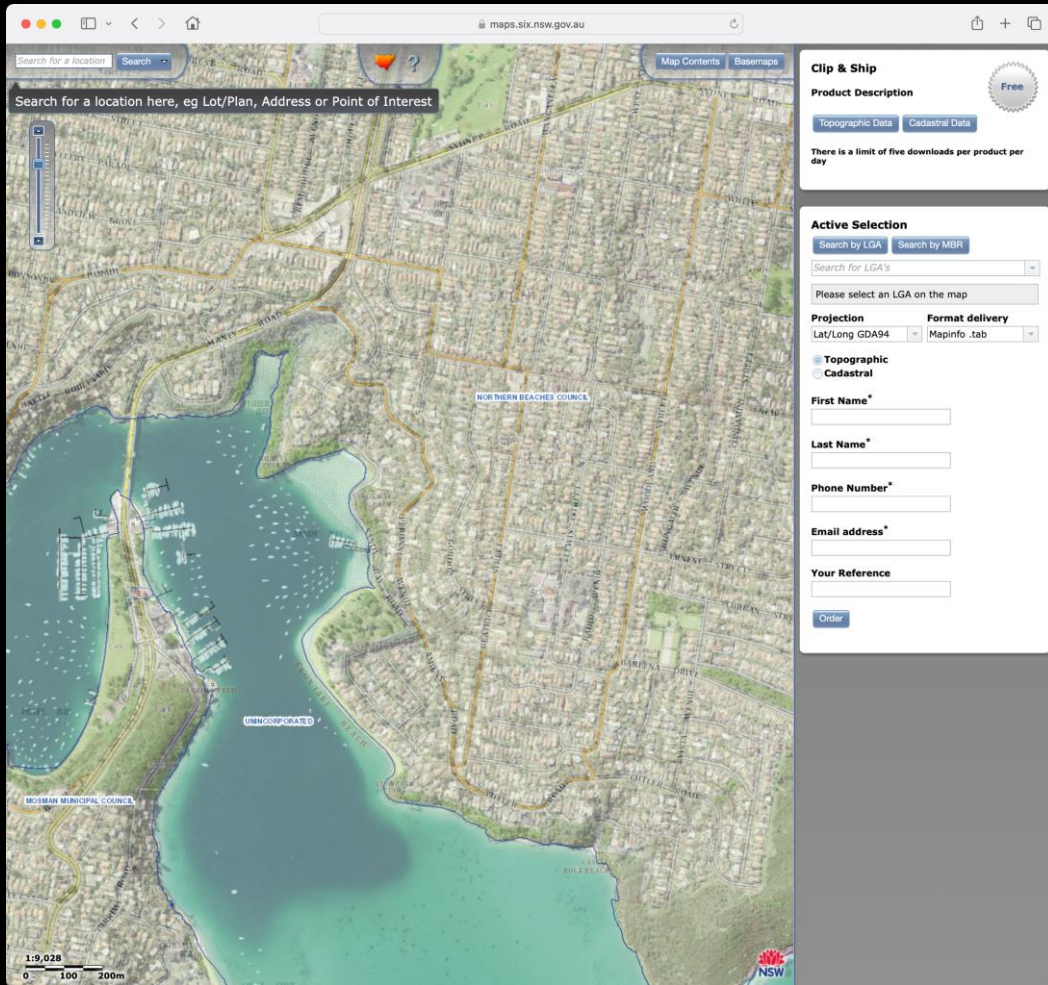
Select a service to provide data from an ArcGIS server.

[Cancel](#) [OK](#)

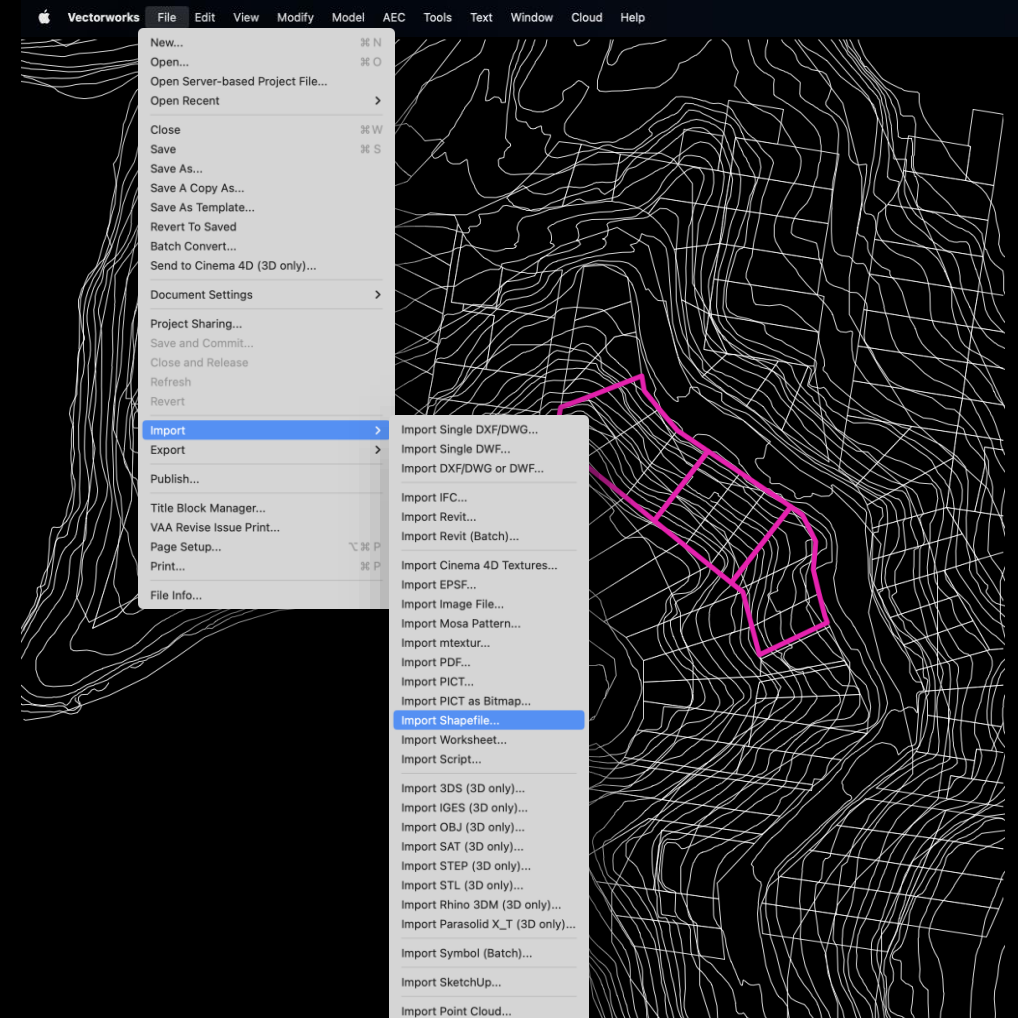
## GEOIMAGE TOOL WEB SERVICE LAYERS





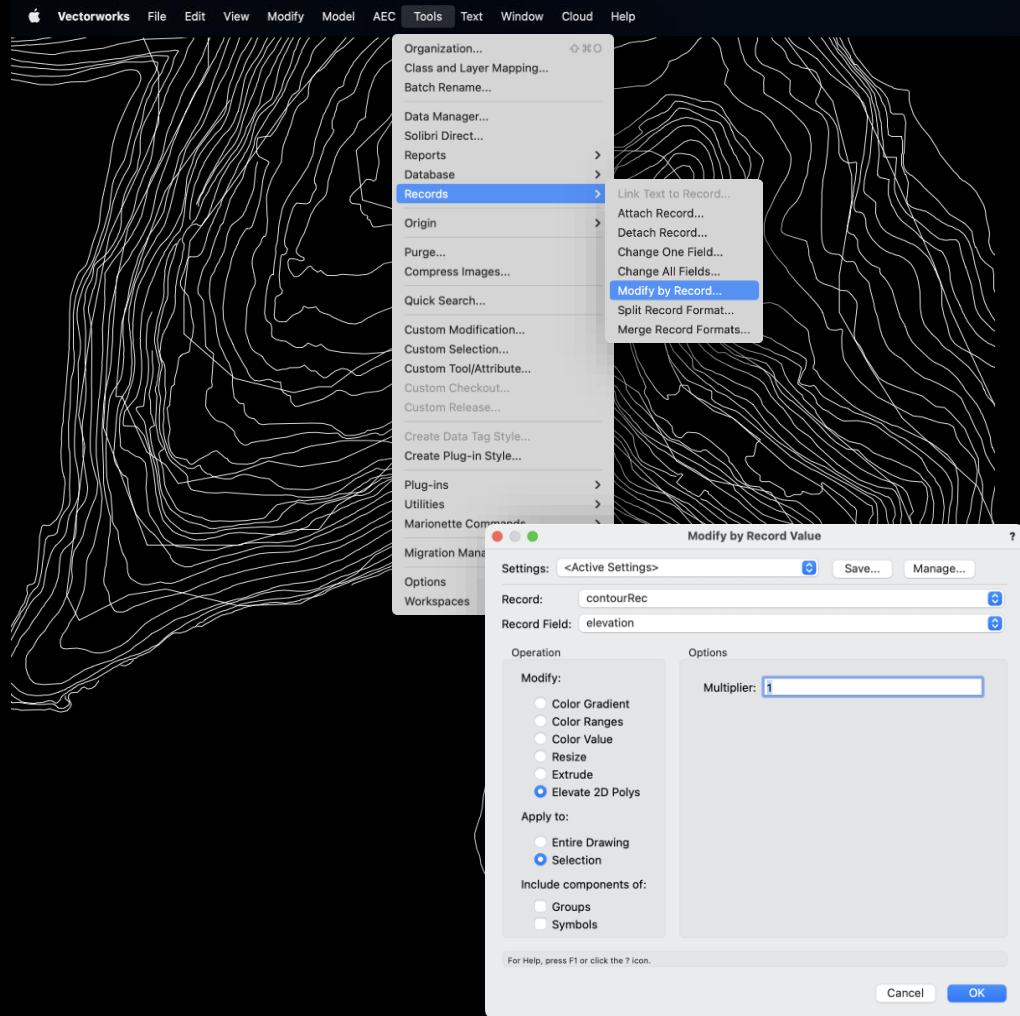


NSW SPATIAL CLIP'N'SHIP SERVICE

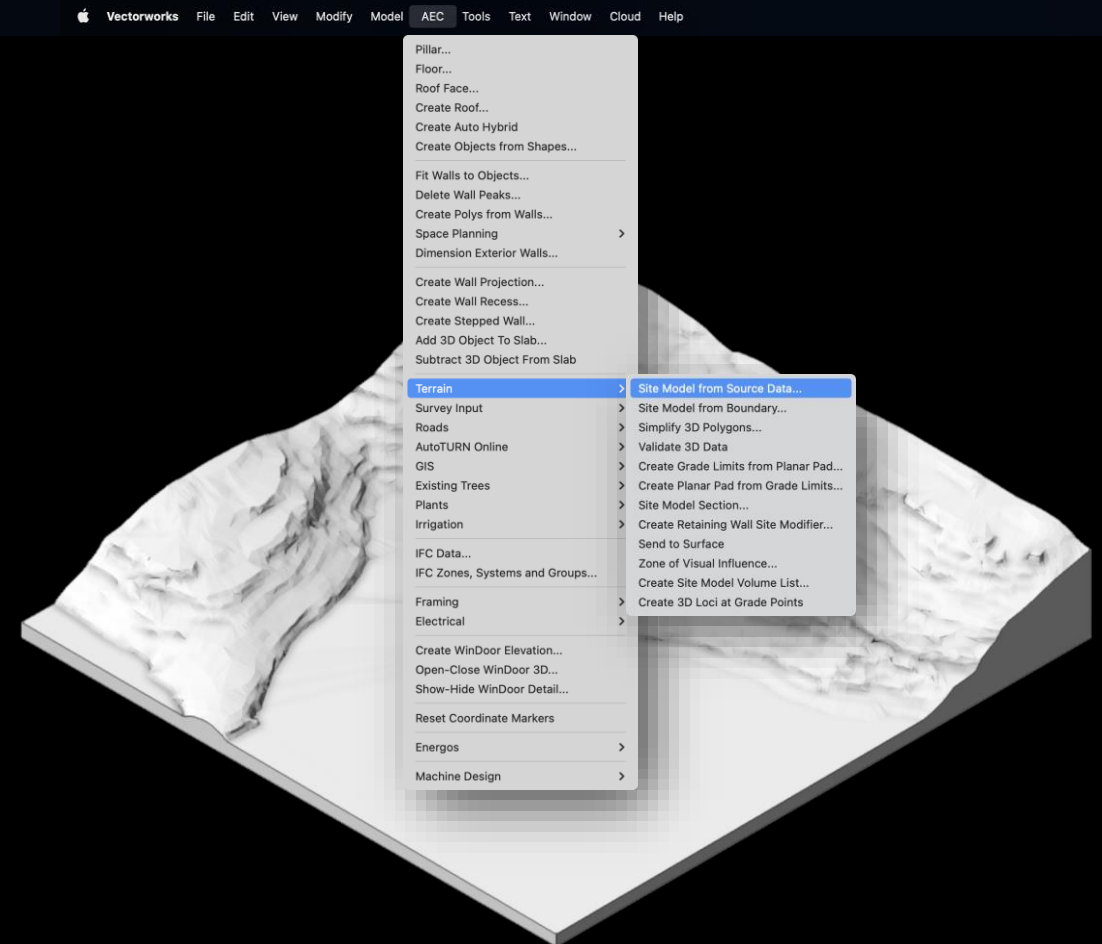


GEOMETRY FROM GIS SHAPEFILES



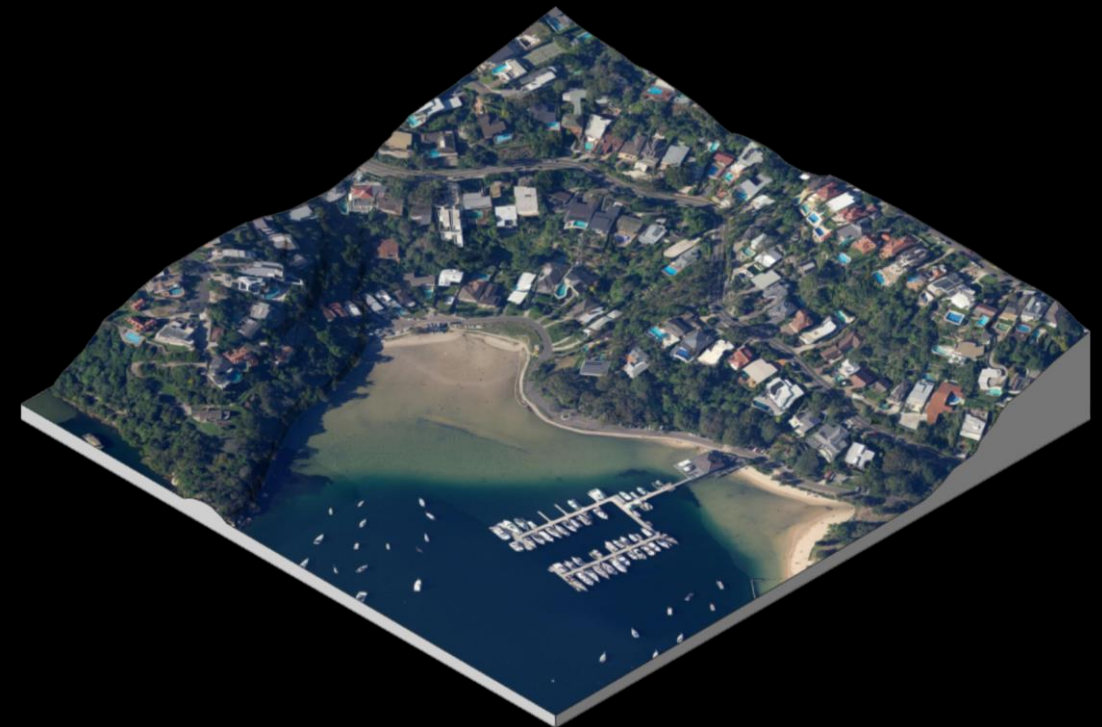
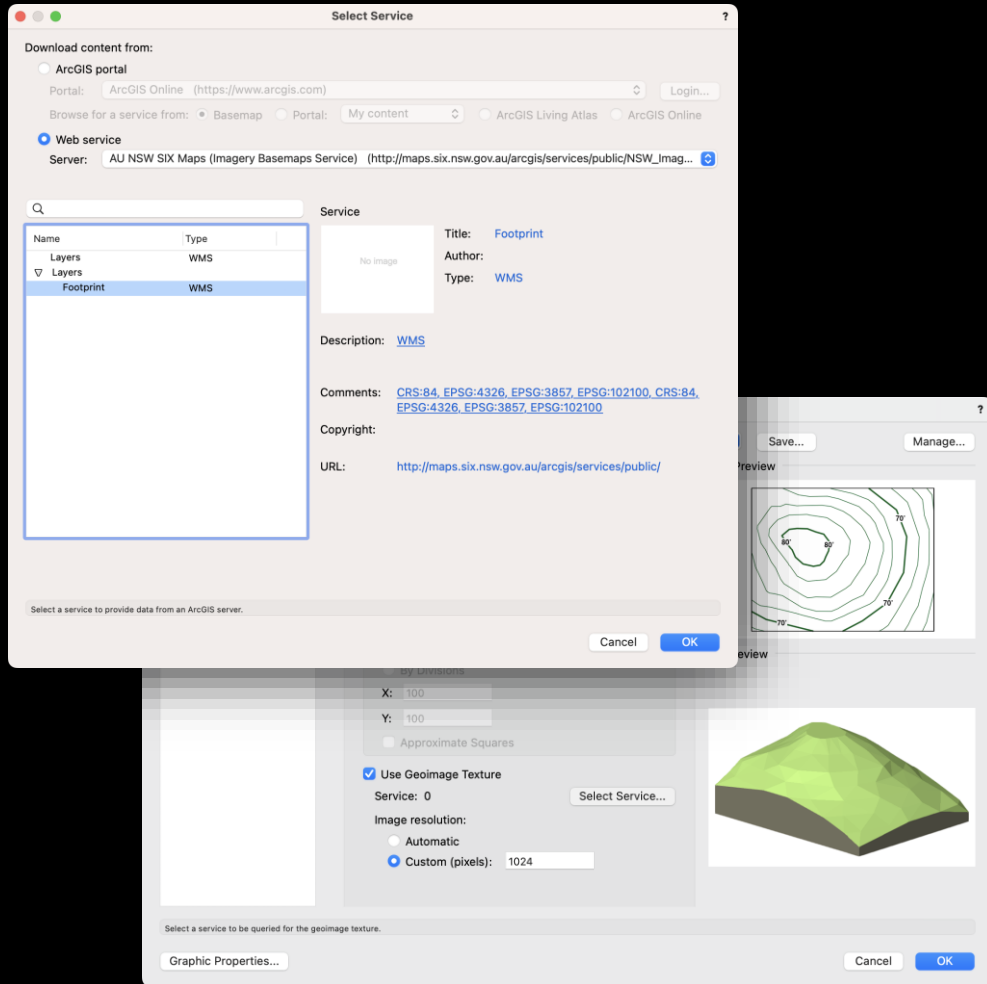


ELEVATE CONTOUR GEOMETRY



CREATE SITE MODEL FROM SOURCE DATA



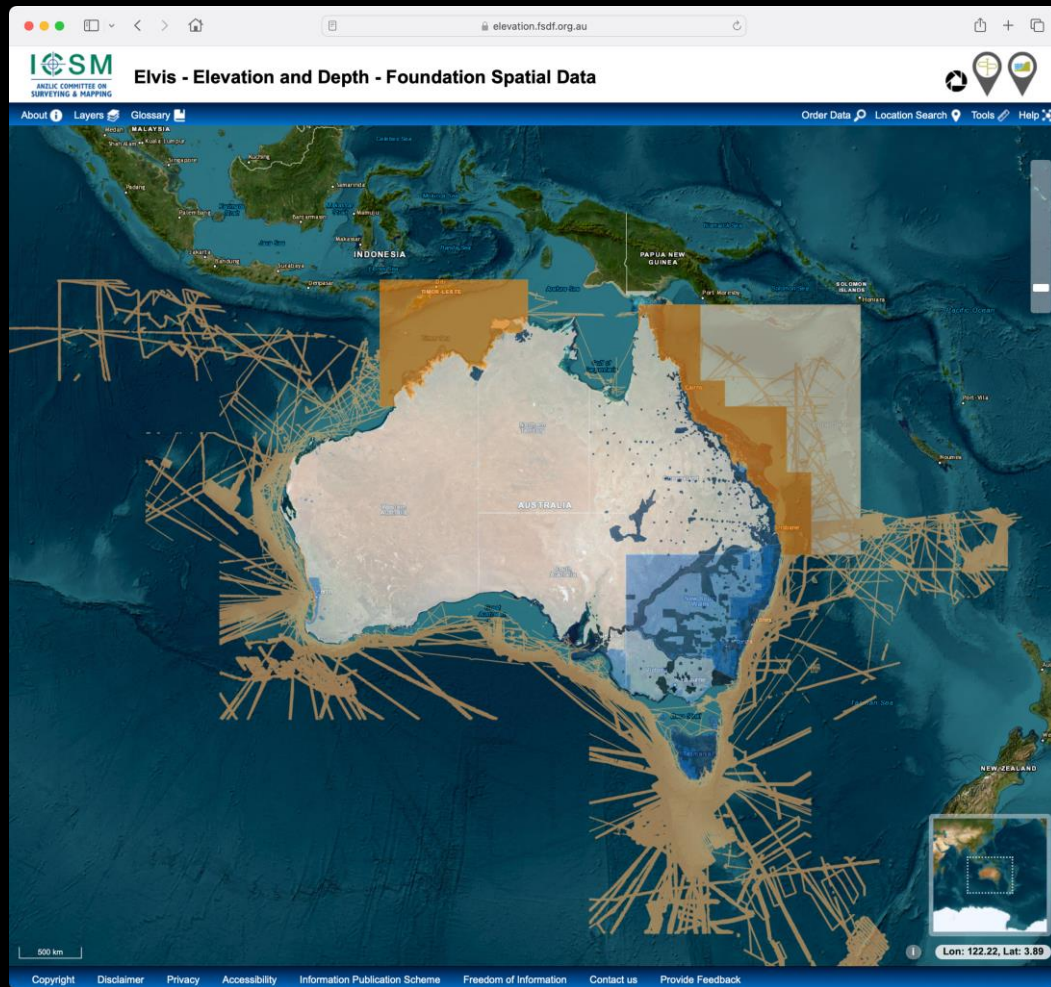


SITE MODEL GEOIMAGE SETTINGS

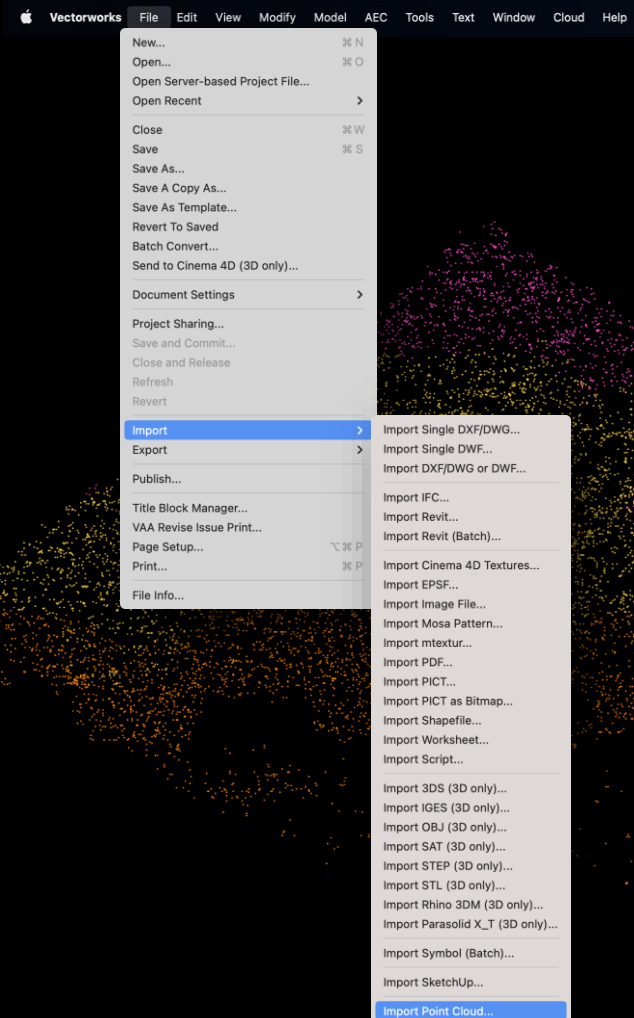
SITE MODEL WITH GEOIMAGE TEXTURE







ELVIS ELEVATION DATA



POINT CLOUD SPOT LEVEL CHECK



# CONTEXTUAL CONCEPT MODELLING

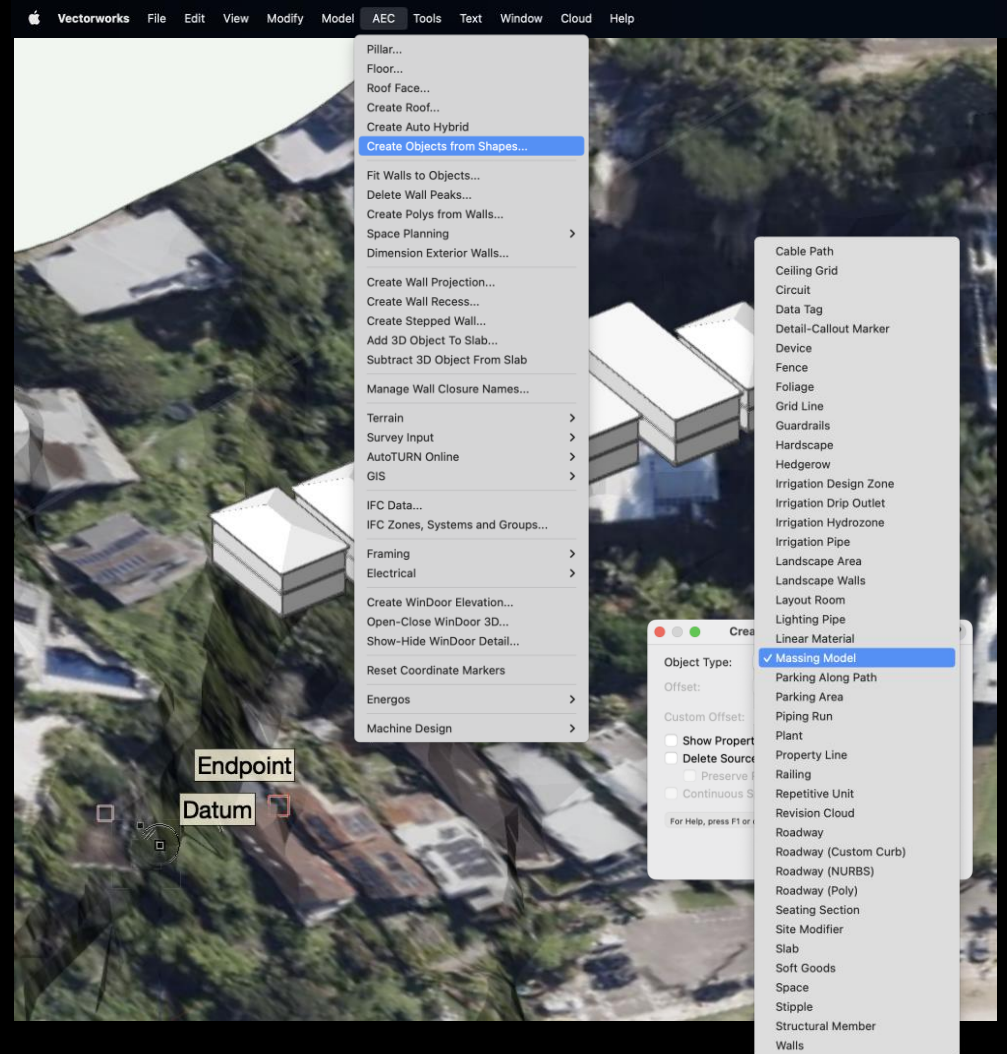
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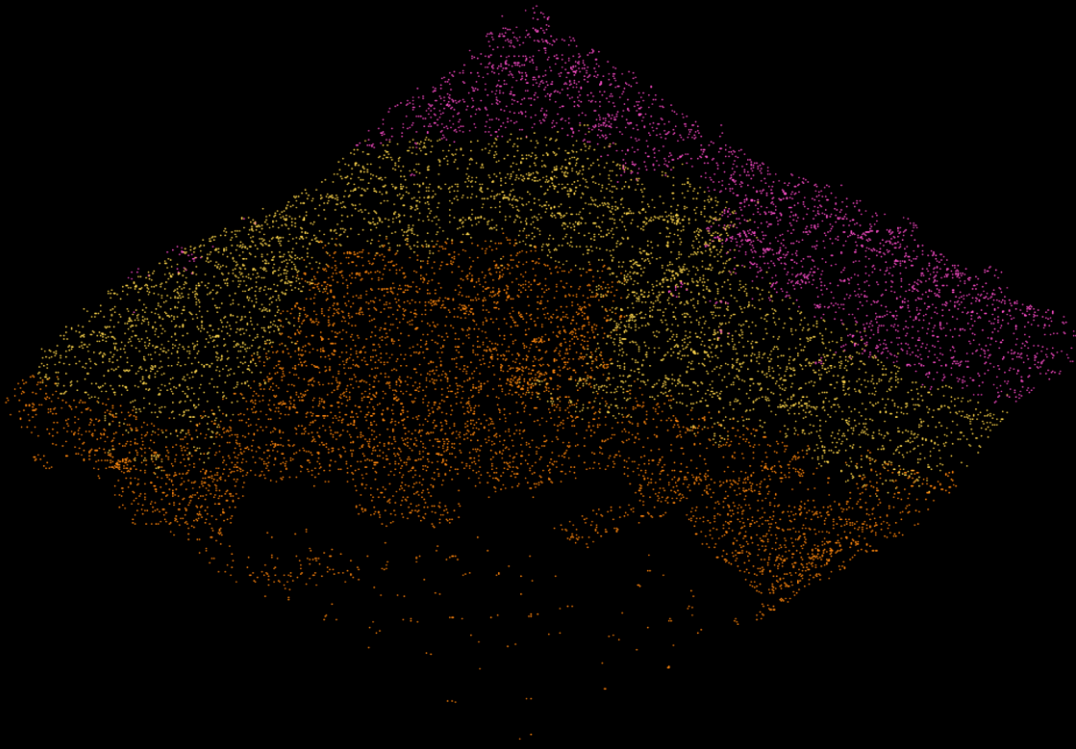


TRACE ADJACENT STRUCTURE OUTLINES

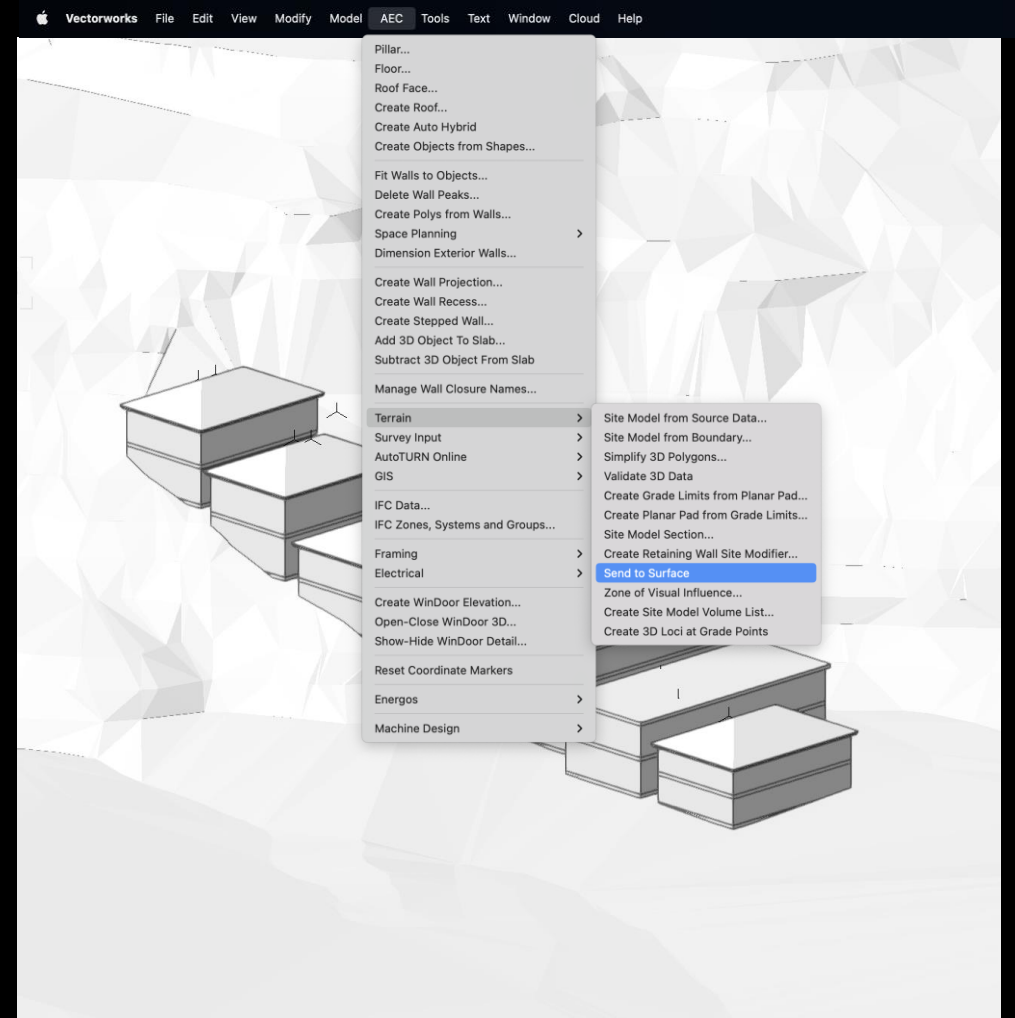


CREATE MASSING MODELS VIA  
'CREATE OBJECTS FROM SHAPES' COMMAND





ISOLATE H.O.B. SPOT LEVELS



ELEVATE MASSING MODELS

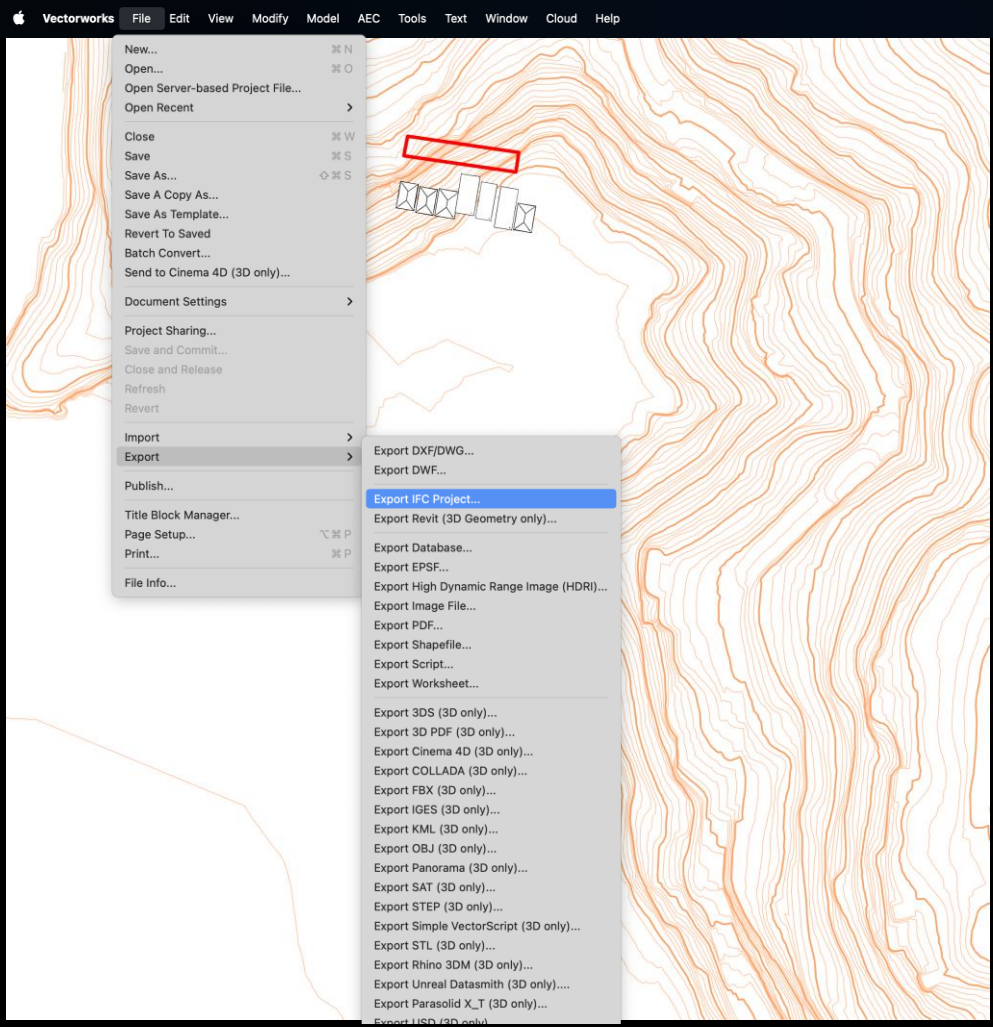


# EXPORT IFC MODEL

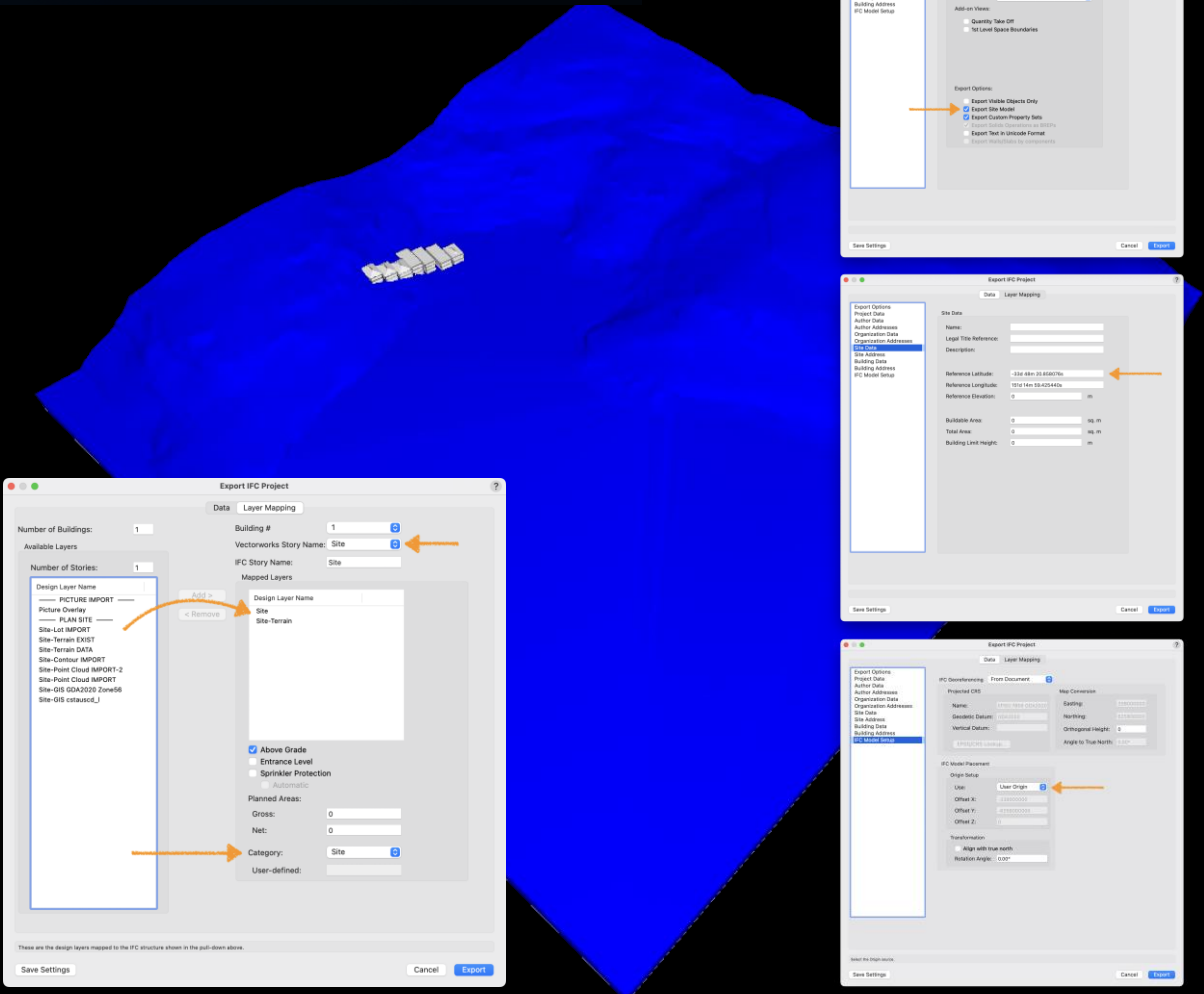
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EXPORT IFC MODEL



EXPORT LAYER MAPPING / SETTINGS





Reminder: 31<sup>st</sup> July – Formal CPD  
webinar

'AU GIS Workflows Using Publicly  
Accessible Data'



# CONTACT

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