Walk-in Slide: AU 2014 Social Media Feed

1. Click on the link below, this will open your web browser

http://aucache.autodesk.com/social/visualization.html

2. Use “Extended Display” to project the website on screen if you plan to work on your computer. Use “Duplicate” to display same image on screen and computer.

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AutoCAD Map GIS Source Drawings and Vault

Jim Williams
Senior IT Systems Analyst – CAD | SA Power Networks
Email: jim.williams@sapowernetworks.com.au

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Key learning objectives

At the end of this class, you will be able to:

- Appreciate some key features of **AutoCAD Map 3D**
- Understand what an AutoCAD Map **source drawing** is
- See what **GIS data** can be captured in a **source drawing**
- Appreciate **how we connect** to an AutoCAD Map **source drawing**
- See how to **produce a design drawing** from a source drawing
- How I **build my set** of AutoCAD Map **source drawings**
- The process of **“Vaulting”** the AutoCAD **design drawings**

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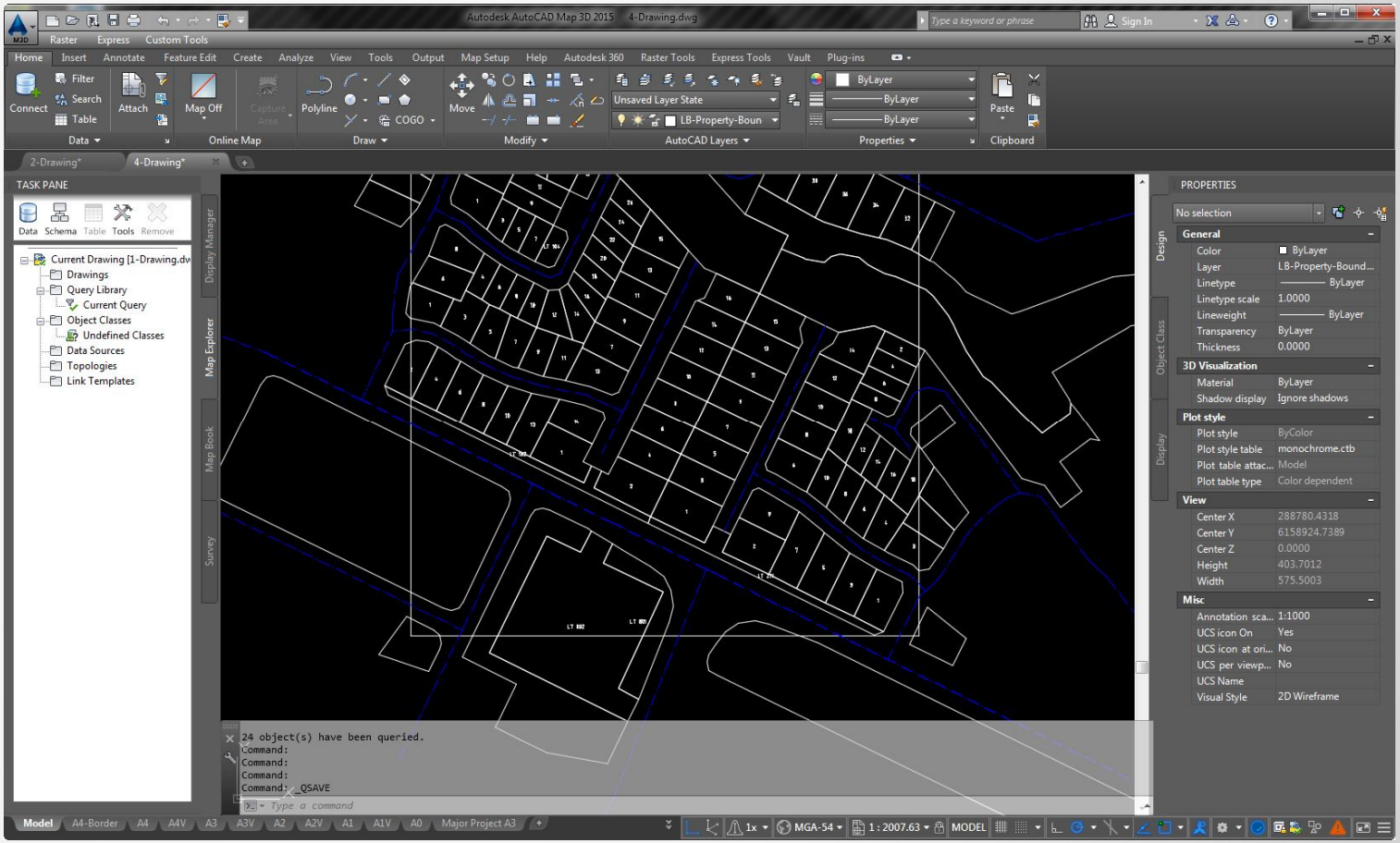
AutoCAD Map 3D Features



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AutoCAD Map 3D Features

Collect Information here from the ASCENT Training Manual and list the key features:

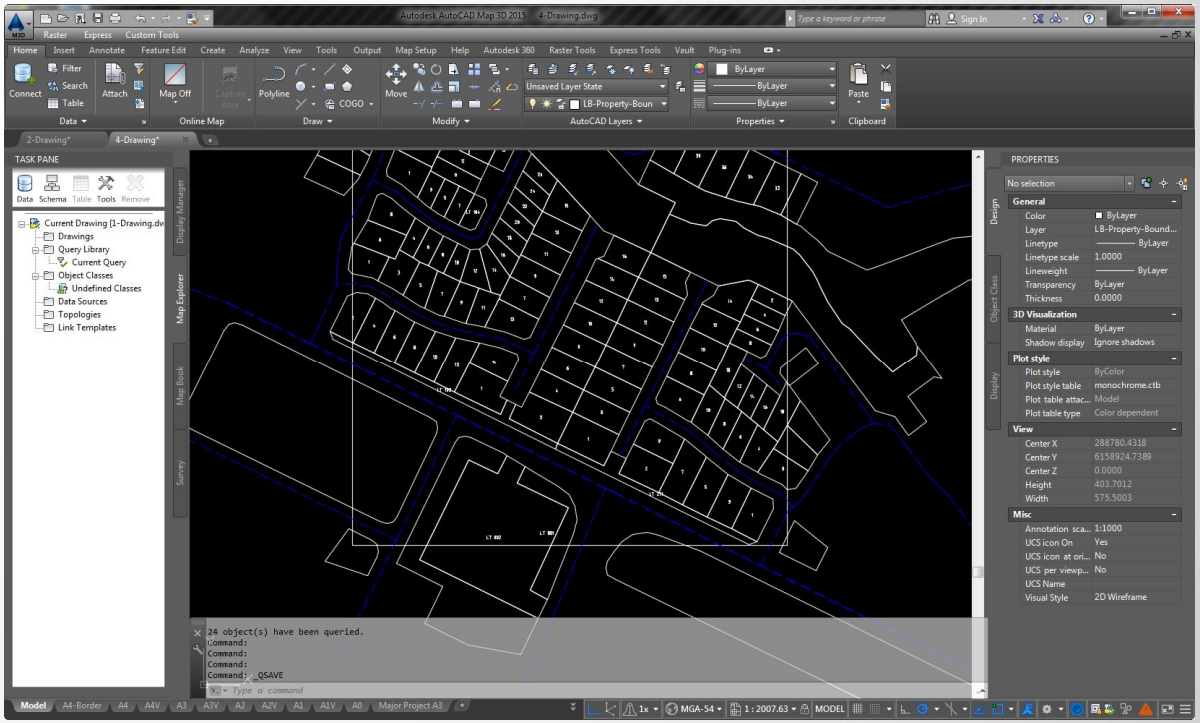
Appreciate some key features of **AutoCAD Map 3D**

Understand what an AutoCAD Map **source drawing** is

See what **GIS data** can be captured in a **source drawing**

Appreciate **how we connect** to an AutoCAD Map **source drawing**

See how to **produce a design drawing** from a source dra



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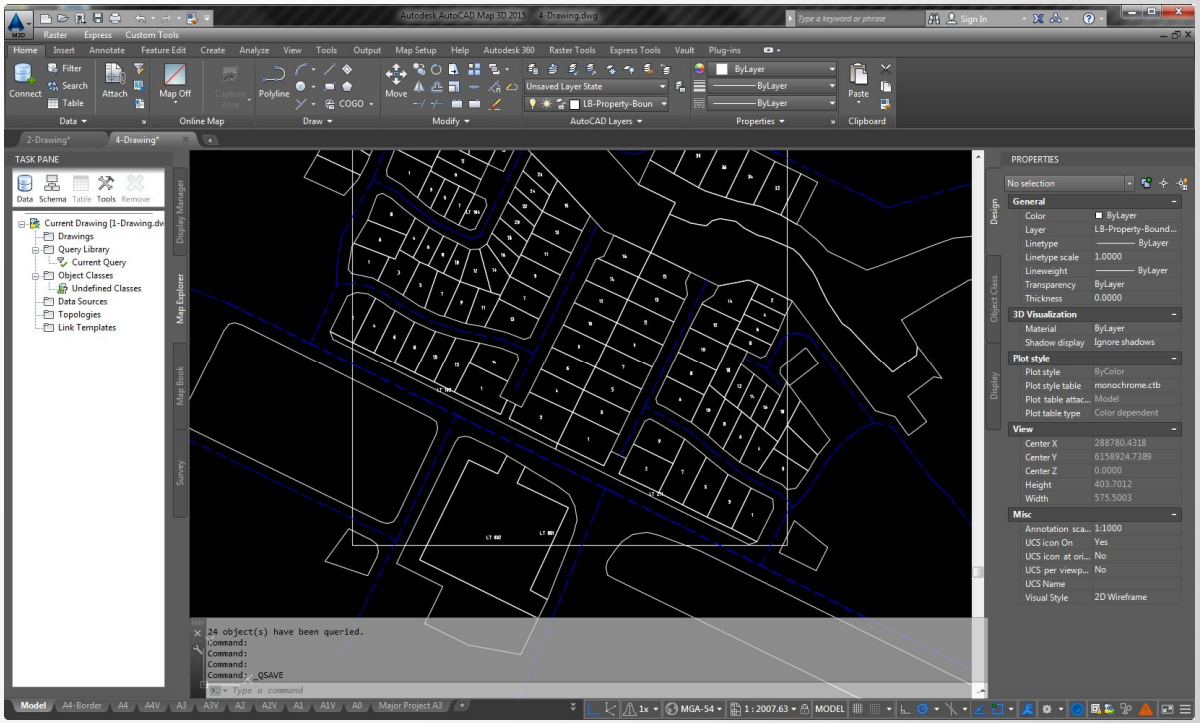
What is an AutoCAD Map 3D Source Drawing?

Answer:

It’s an AutoCAD .Dwg file, combining **standard AutoCAD Dwg geometry** with **GIS metadata** extracted from a GIS system

The GIS metadata extracted from the GIS system is called **“Object Data”** in AutoCAD Map 3D



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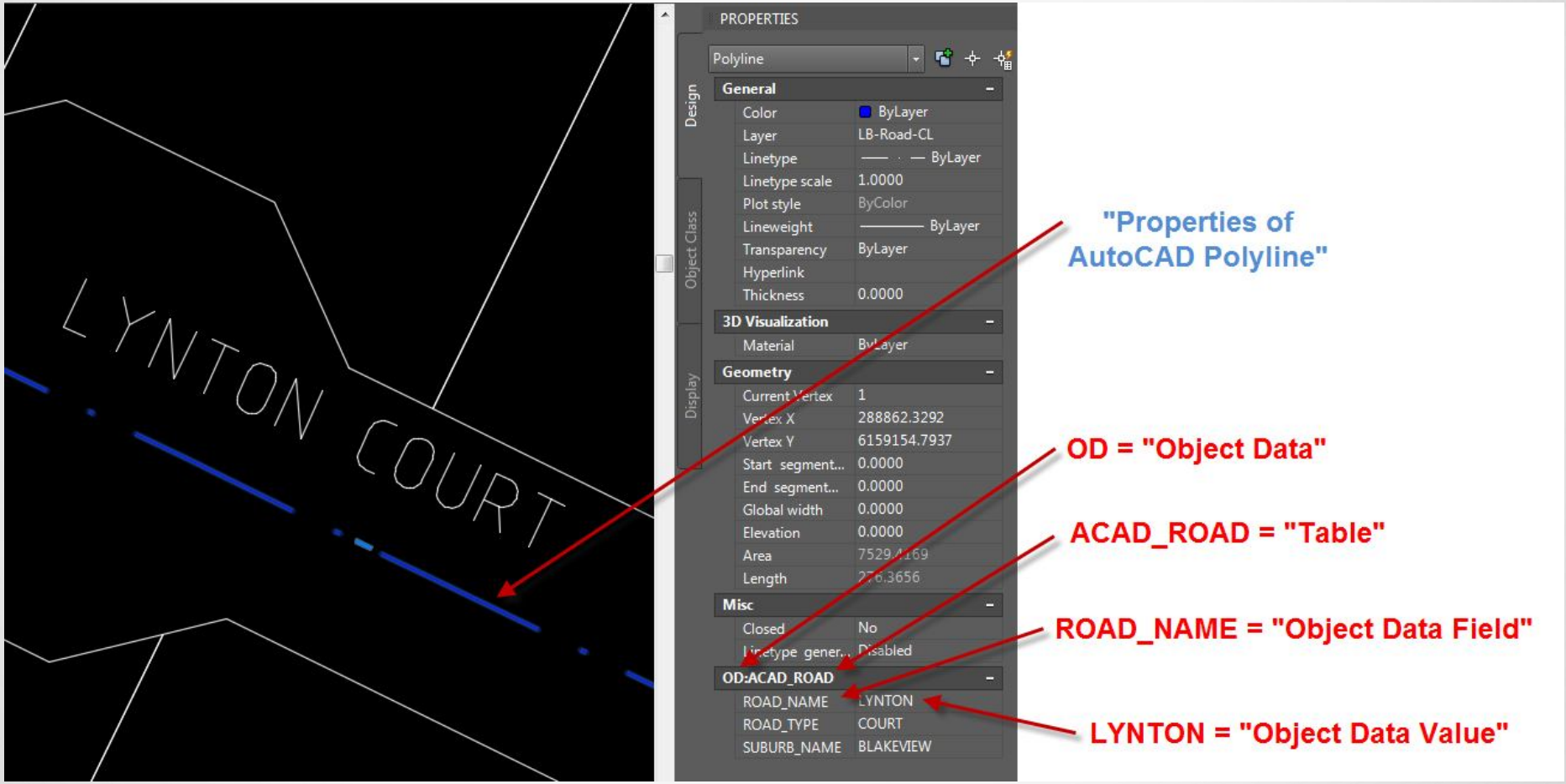
AutoCAD Map 3D Object Data “OD:”



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AutoCAD Map 3D
Source Drawings Data Set – Features

The AutoCAD Map “Source Drawings” data set distributed every 90 days to all CAD staff across our state on South Australia give the AutoCAD users the following features:

- Geometry is delivered in the correct co-ordinate system and scale
- Geometry is available from a single source
- GIS reference data is automatically refreshed to the user’s CAD PC
- All Cadastral data is provided to CAD users in native AutoCAD .dwg format suitable for AutoCAD Map and AutoCAD Civil 3D

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AutoCAD Map 3D
Source Drawings Data Set – Features (cont)

The AutoCAD Map “Source Drawings” data set distributed every 90 days to all CAD staff across our state on South Australia give the AutoCAD users the following features:

- Full CAD Layer support
- Improved Parcel geometry with AutoCAD Closed Polylines
- Reference Data (Bush Fire risk areas etc) available as native CAD Data
- All Network AutoCAD designs will be fully geo-referenced

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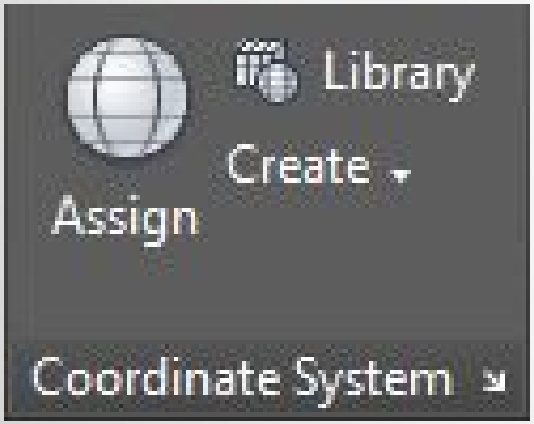
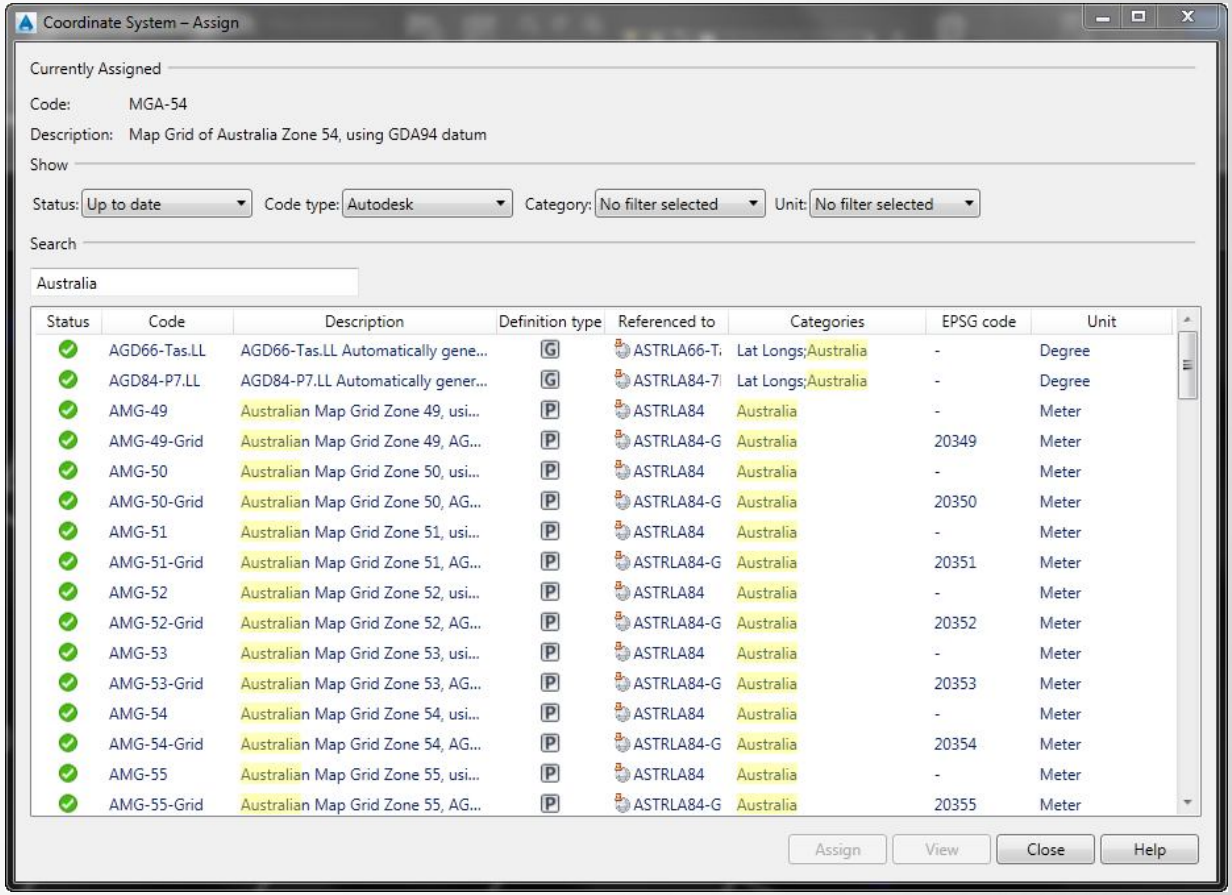
Correct Coordinate System & Scale

All SA Power Networks, Network design drawings must be correctly “Geo-referenced” for the “Zone” in which the assets will be constructed”

AutoCAD Map 3D Command:
“Mapsetup” Ribbon **>**
Coordinate System > Assign





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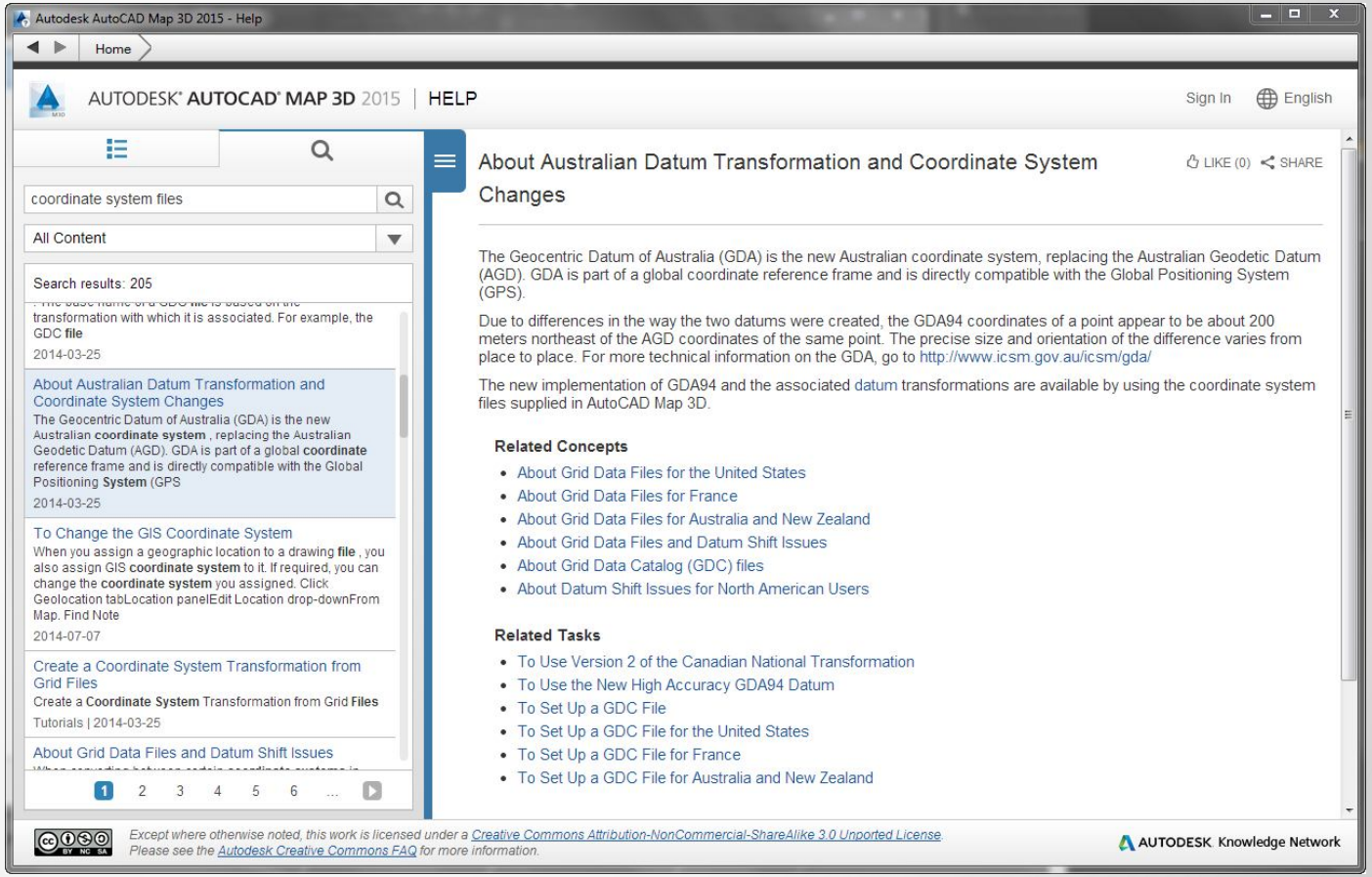
AutoCAD Map 3D Coordinate System Files

AutoCAD Map 3D's coordinate system files are based on global standards:

To better understand the coordinate system files AutoCAD Map 3D uses do the following …

Run a Help search in the AutoCAD Map 3D help for "coordinate system files" to return results similar to that shown here … >



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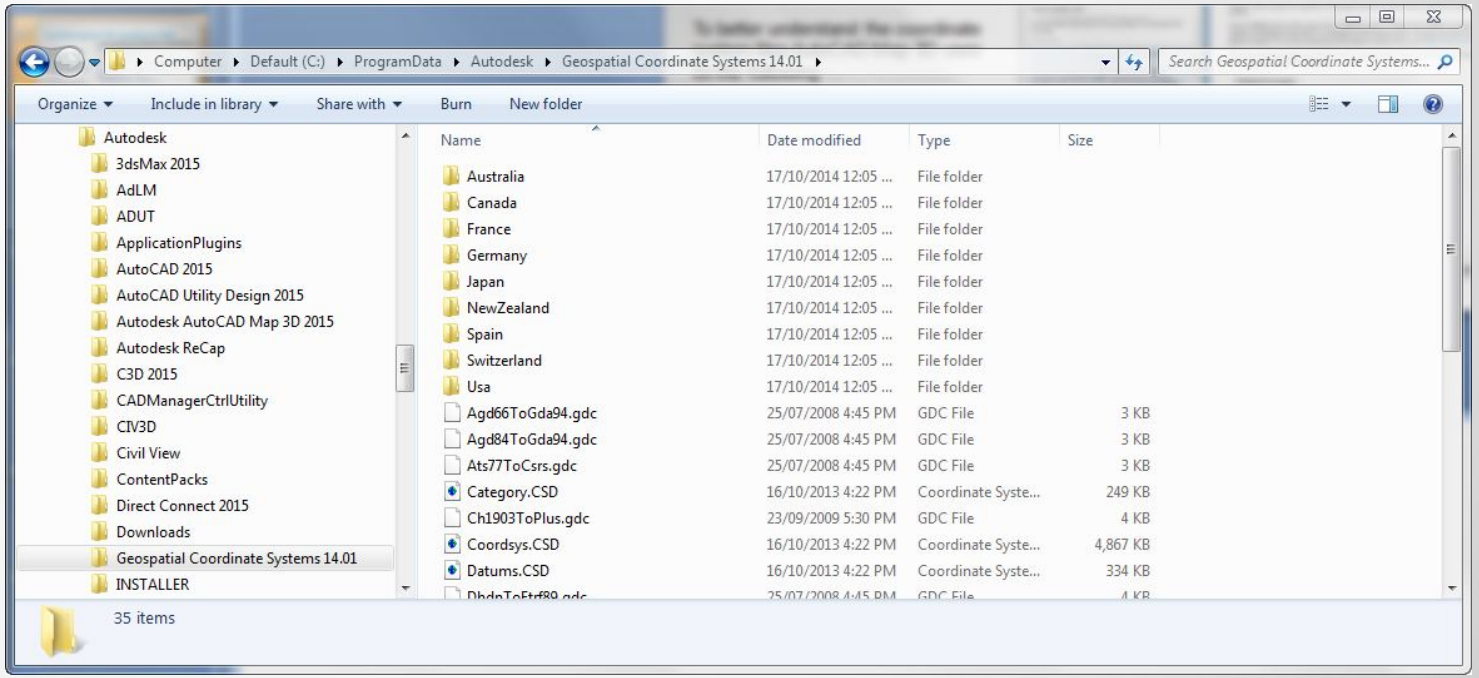
AutoCAD Map 3D – 2015
Coordinate System File Locations on Disk

C:\ProgramData\Autodesk\Geospatial Coordinate Systems 14.01\Australia
Or
C:\ProgramData\Autodesk\Geospatial Coordinate Systems 14.01\Usa



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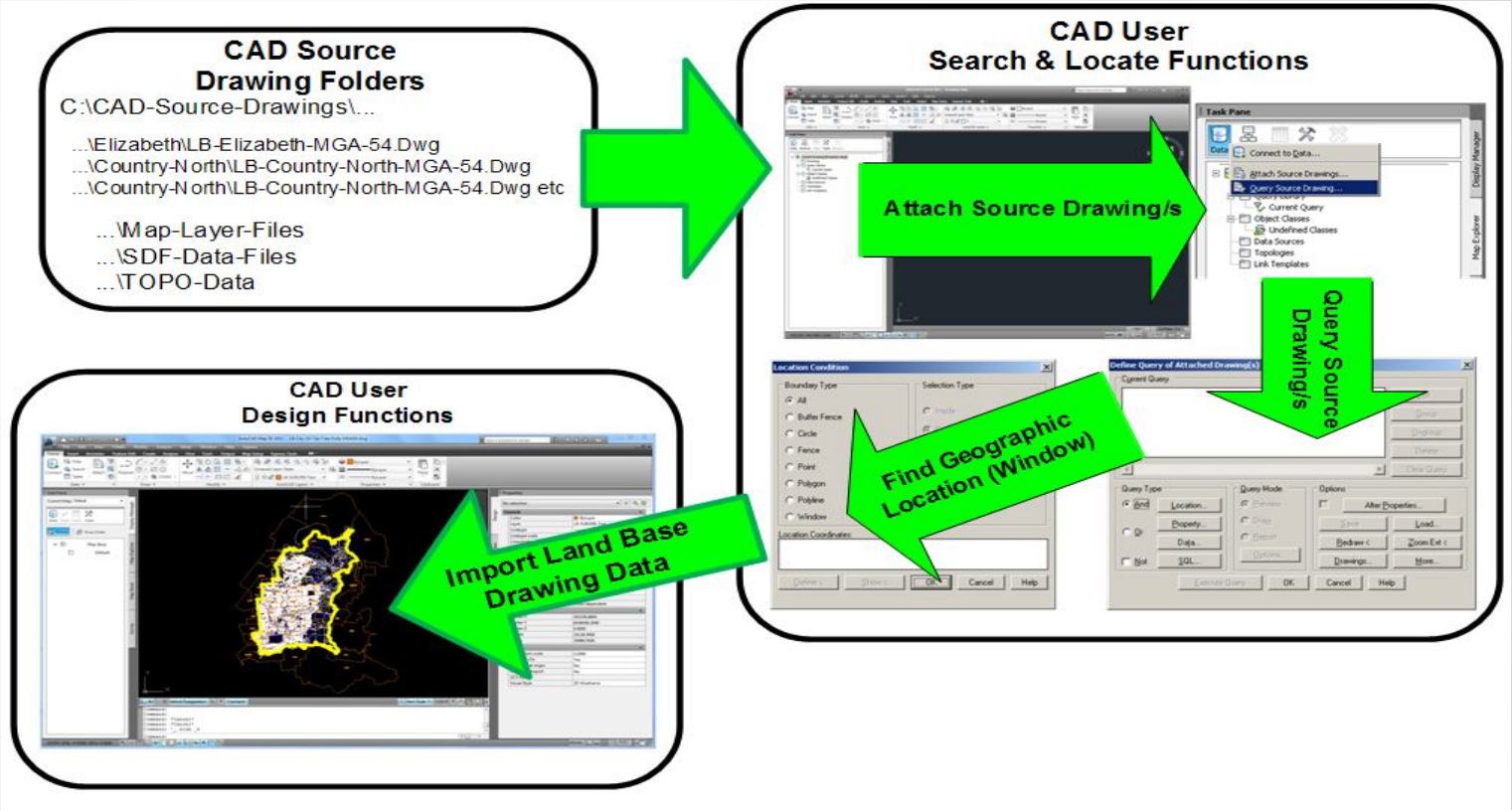
AutoCAD Map 3D Data Flow
Source Drawings to Design Drawings

This illustration shows the manner in which the data is captured by an AutoCAD Map 3D user, to create a design drawing from an AutoCAD Map 3D source drawing, available at SA Power Networks via our “CAD-Source-Drawings” dataset.

This dataset is distributed to each CAD Workstation



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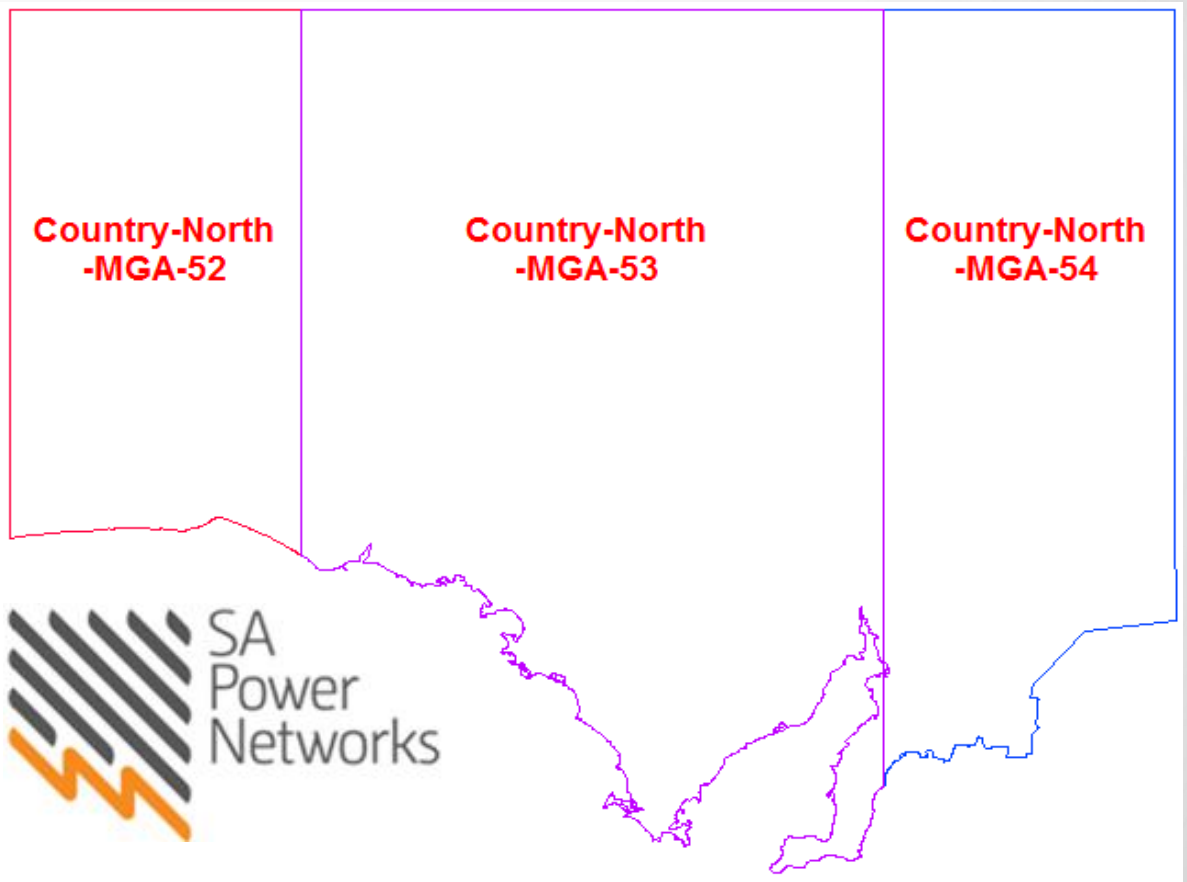
SA Power Networks
Source Drawings of South Australia

The state of “South Australia” is broken up into a series of grid coordinate zones across from west to east, based on the “Map Grid of Australia” (MGA) system.

Each geographical area is broken up for the purposes of our field staff, based out of field depots, and illustration below shows the zones across our large state of South Australia.



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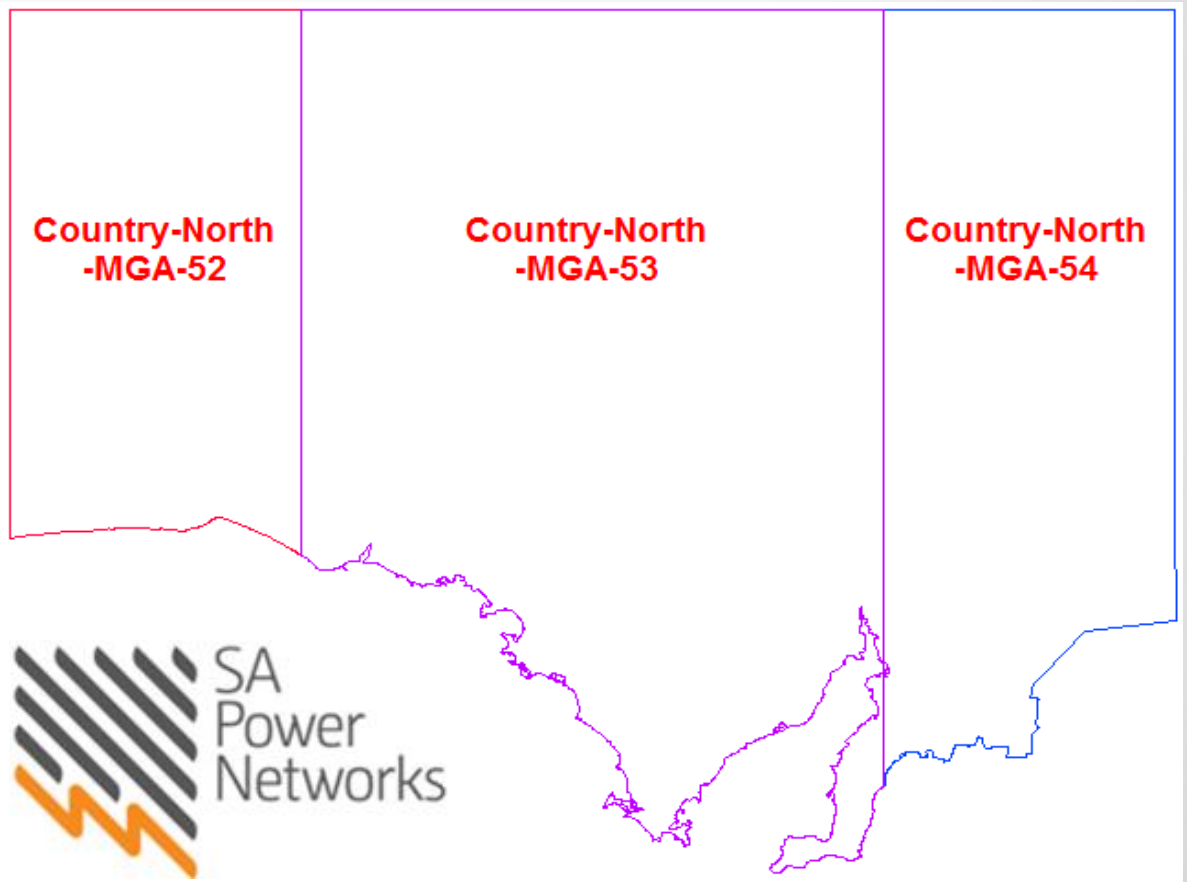
SA Power Networks
Brief facts about South Australia

South Australia covers some of the most arid parts of the Australian continent, and is the fourth-largest of Australia's States and Territories, spreading across 983 482 km2. It is bordered to the north by the Northern Territory, to the east by Queensland, New South Wales and Victoria, to the west by Western Australia and along the south by the Great Australian Bight and the Southern Ocean.

South Australia spreads across 983,482 km2. South Australia is almost the same size as Egypt, one and a half times bigger than Texas, and five times the size of the UK.

The size of these zones from west to east is approximately 1,850km



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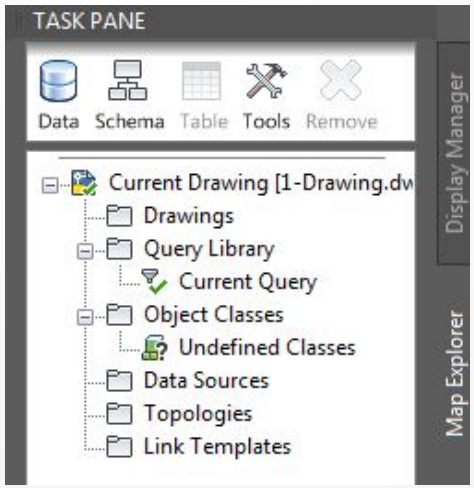
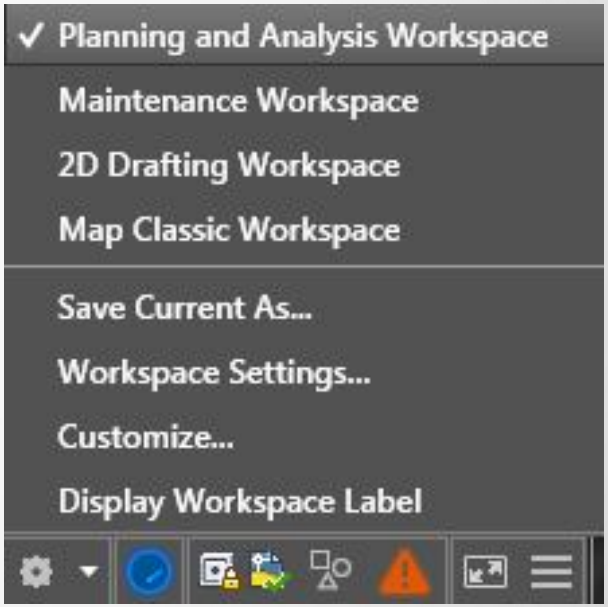
AutoCAD Map 3D
Selecting the Planning and Analysis Workspace

To ensure we access the AutoCAD Map 3D functions and menu system, we must select the **“Planning and Analysis Workspace”** as shown here

This specifically allows us access to the **“Map Explorer”** TAB of the **“Map Task Pane”** shown here:





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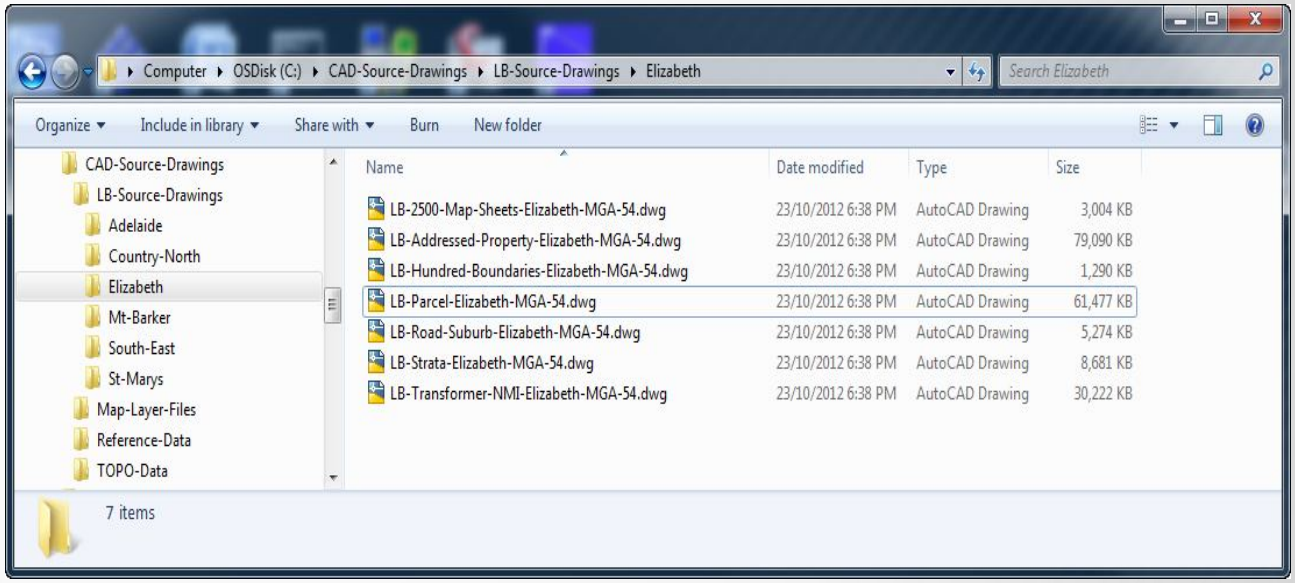
AutoCAD Map 3D – Source Drawings
Typical Asset Manager Area for SA Power

At SA Power Networks, for the purpose of Network Design and management in the field, we divide the state of South Australia into a series of “Asset Manager Areas”

For each “Asset Manager Area”, we have a data set of AutoCAD Map 3D Source Drawings containing different data types for the same Geographic area as shown in the illustration here



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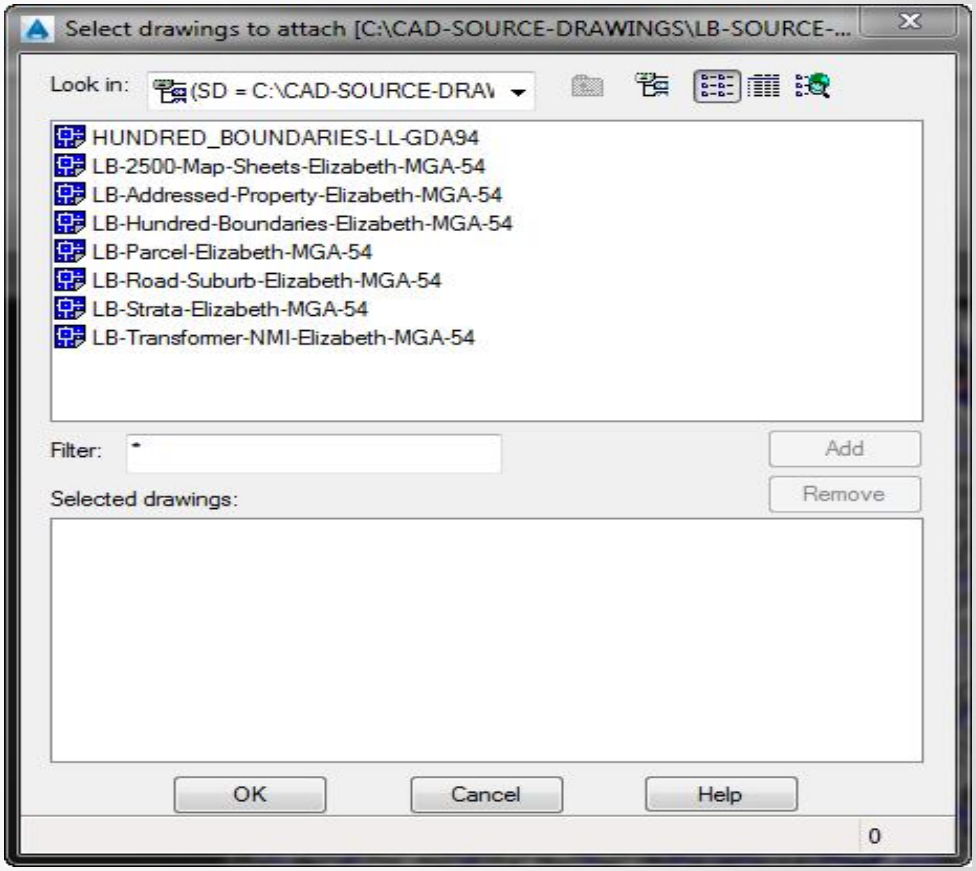
AutoCAD Map 3D
Setting up our “Drive Alias”

To connect to the source drawing of any of these geographical zones, we setup what is known to AutoCAD Map 3D as a “Drive Alias”.
When a “Drive Alias” has been setup the AutoCAD Map 3D software provides a fast and efficient way of accessing these drawings through an interfaces which is “fit-for-purpose” as shown below:



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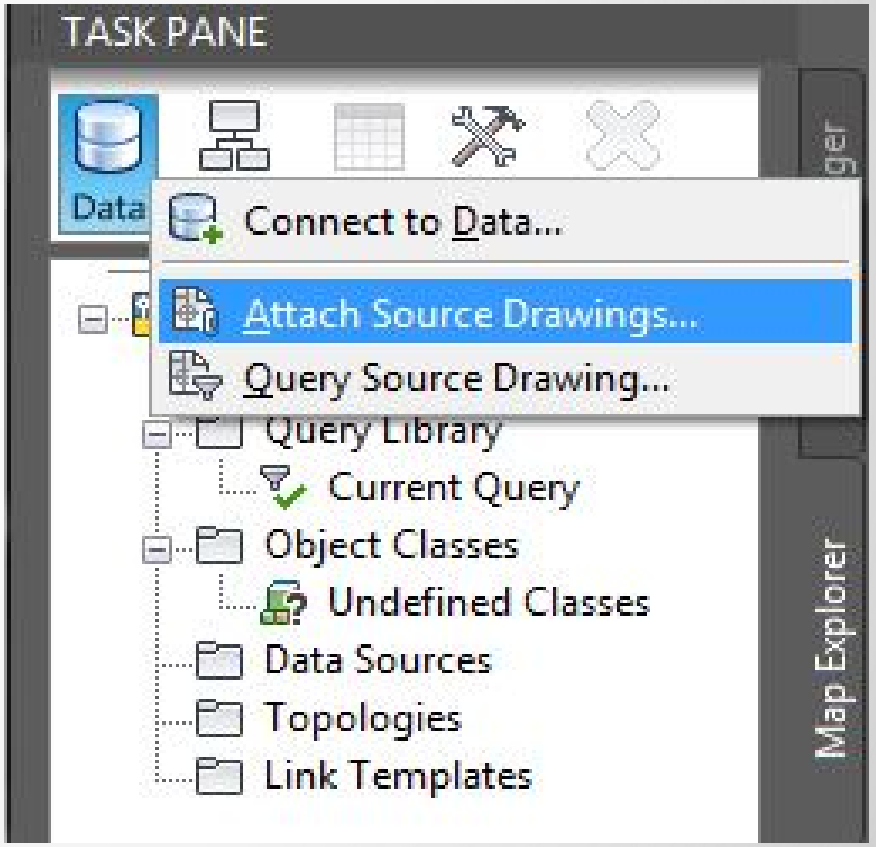
AutoCAD Map 3D
Attaching “Source Drawings”

To attach to a set of source drawings via an AutoCAD Map 3D “Drive Alias”, we select the “Attach Source Drawings...” command from the “Data” area on the “Map Explorer” TAB of the Map Task Pane as shown:



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AutoCAD Map 3D
Attaching “Source Drawings”

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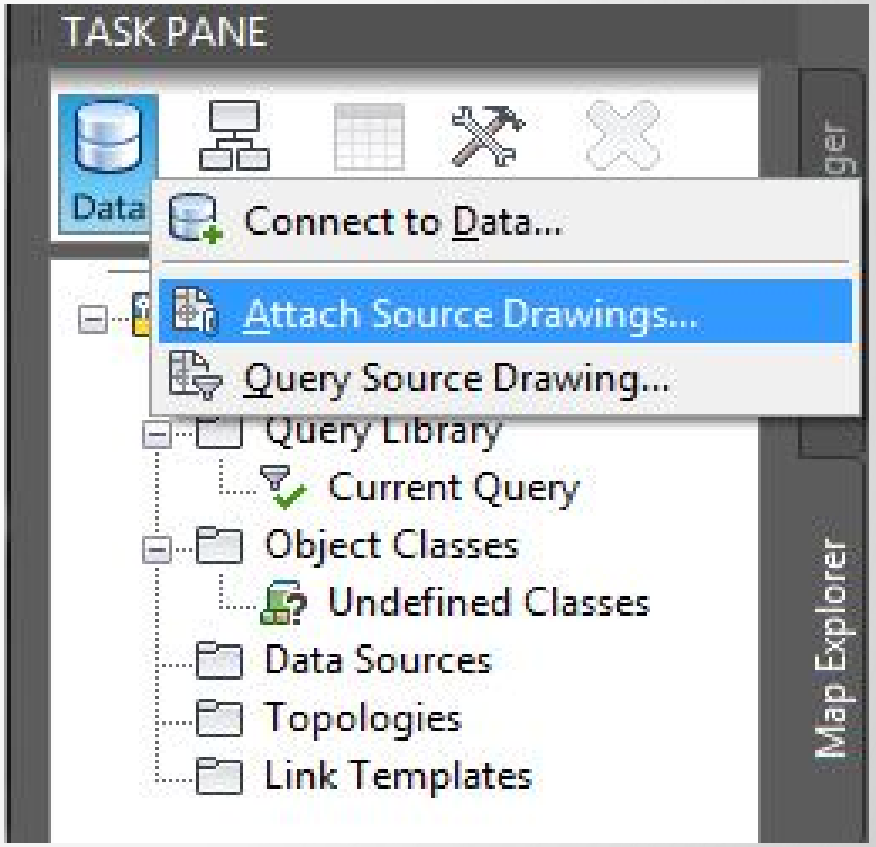

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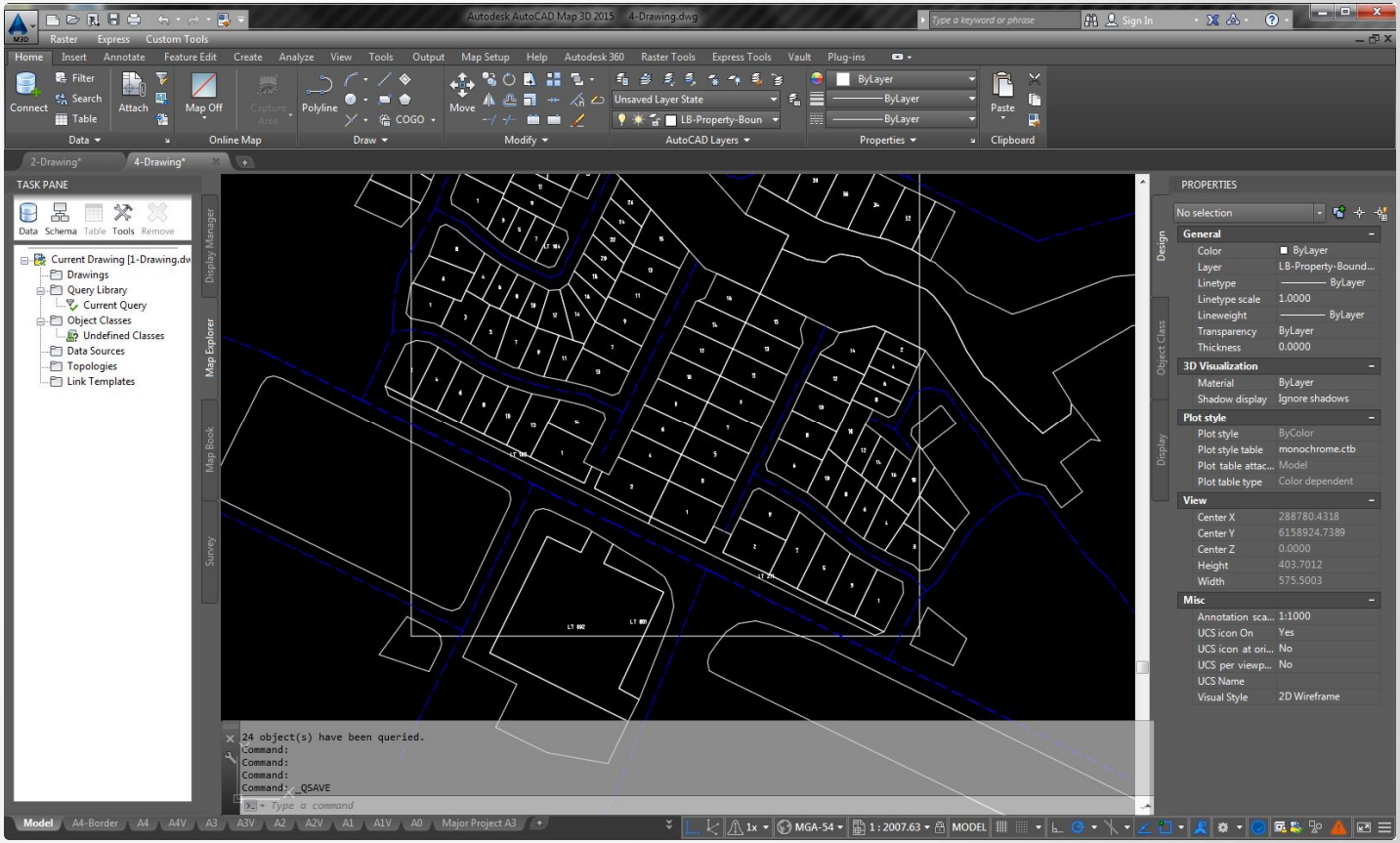
AutoCAD Map 3D
Live Presentation - Design Drawing Process



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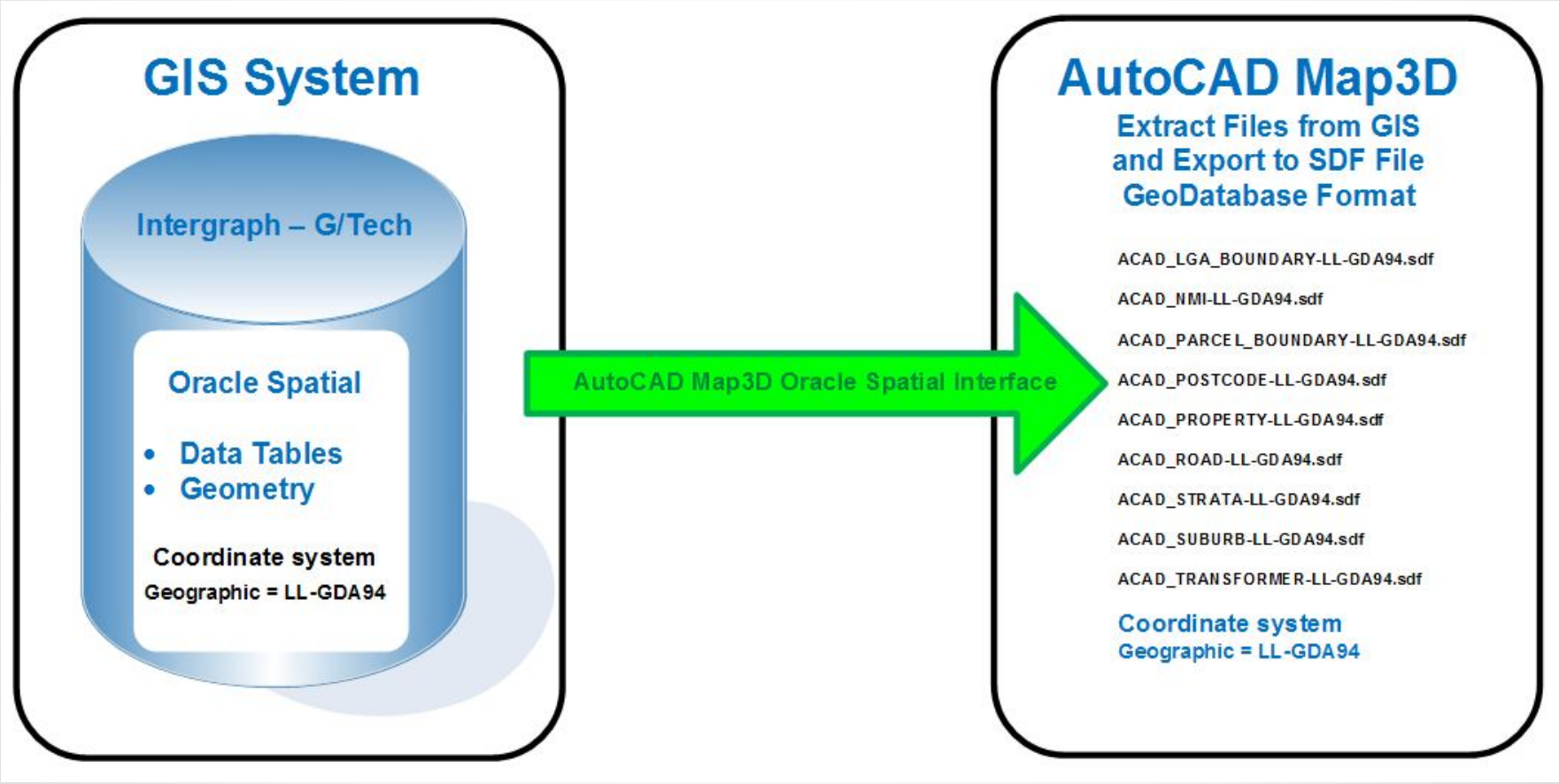
AutoCAD Map 3D
Building Source Drawings



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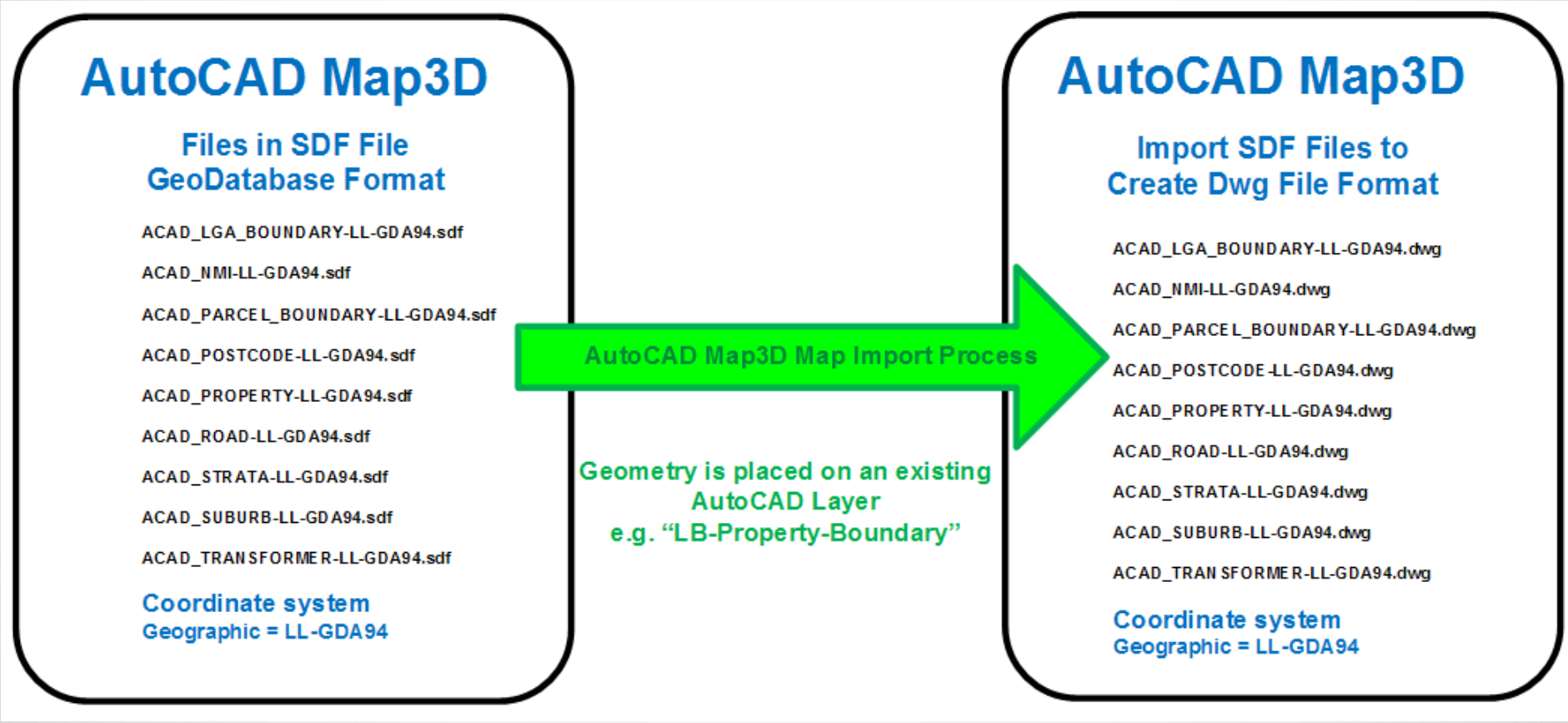
AutoCAD Map 3D
Building Source Drawings



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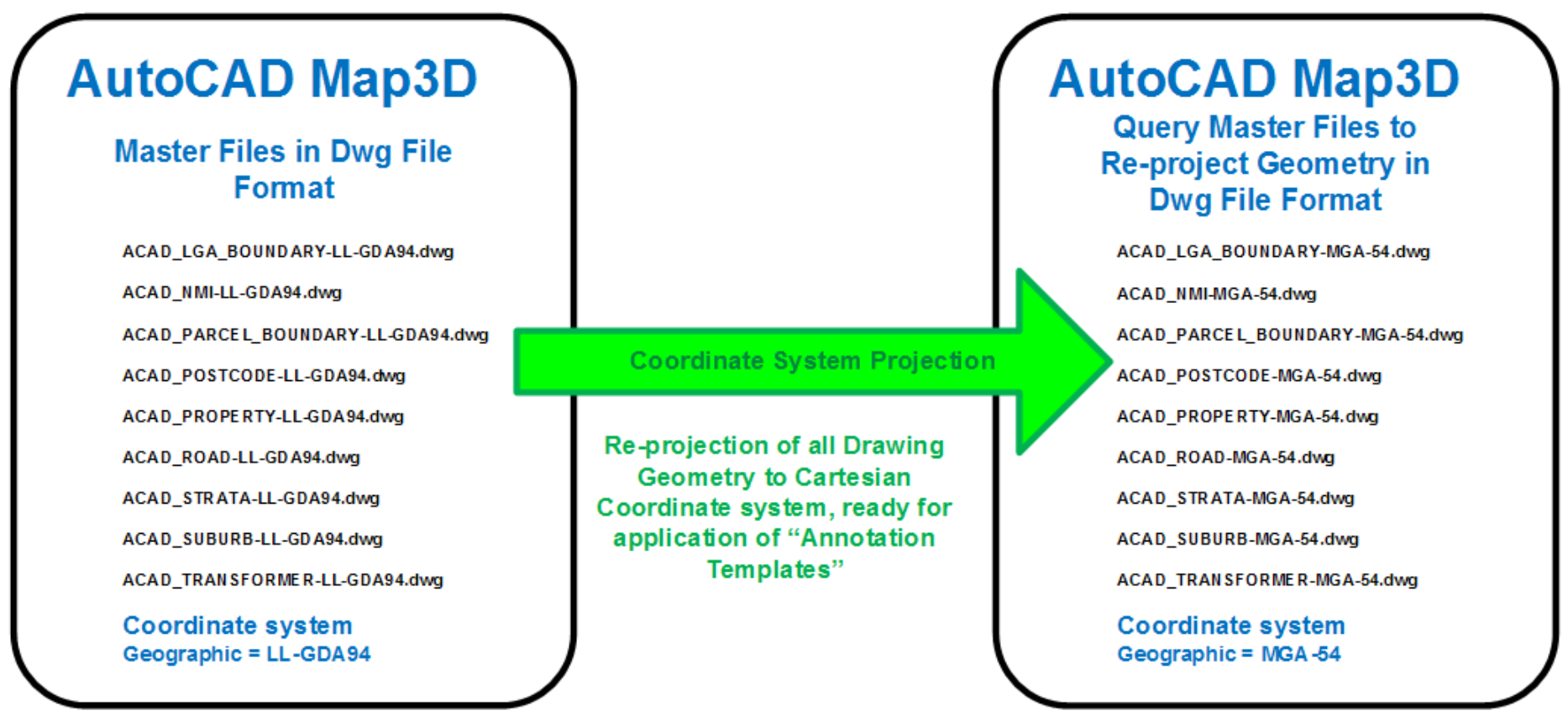
AutoCAD Map 3D
Building Source Drawings



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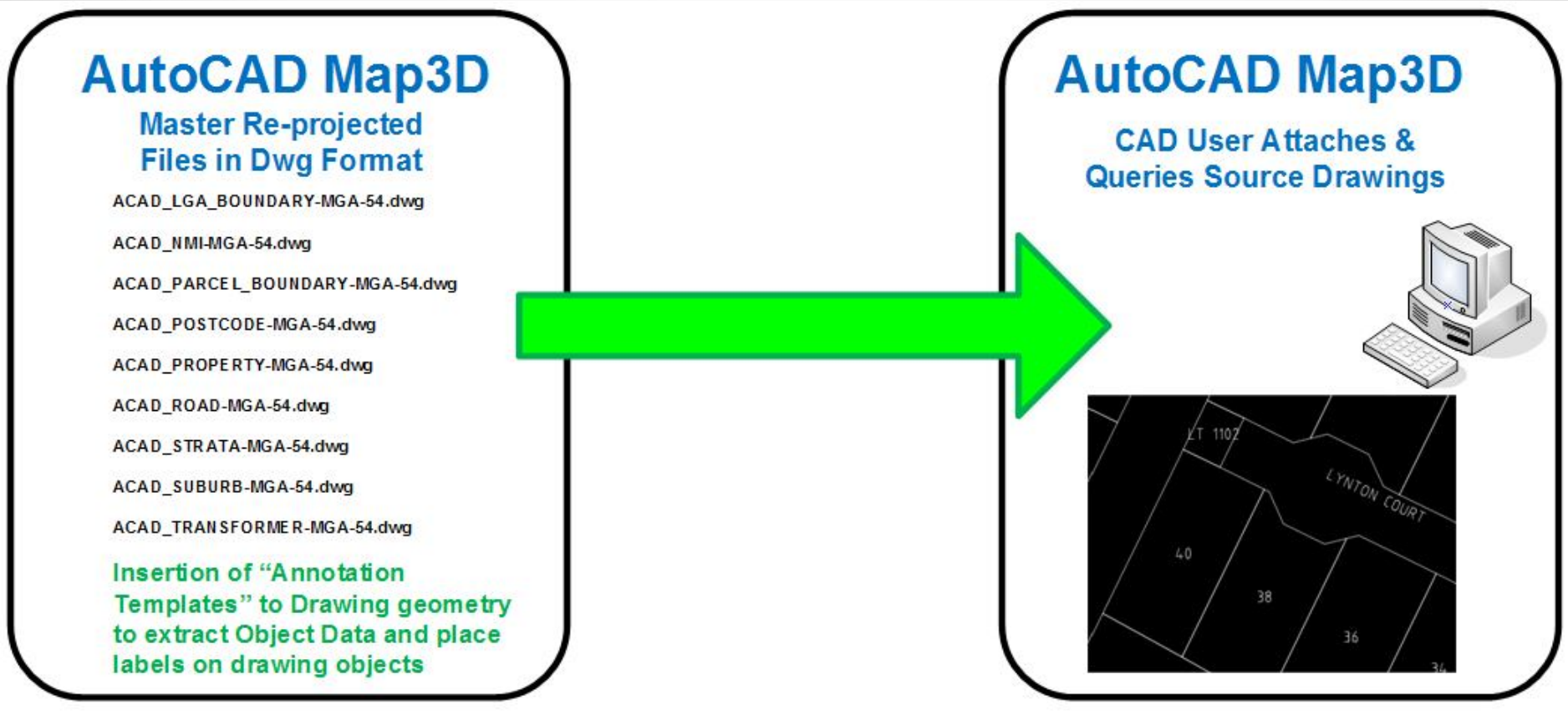
AutoCAD Map 3D
Building Source Drawings



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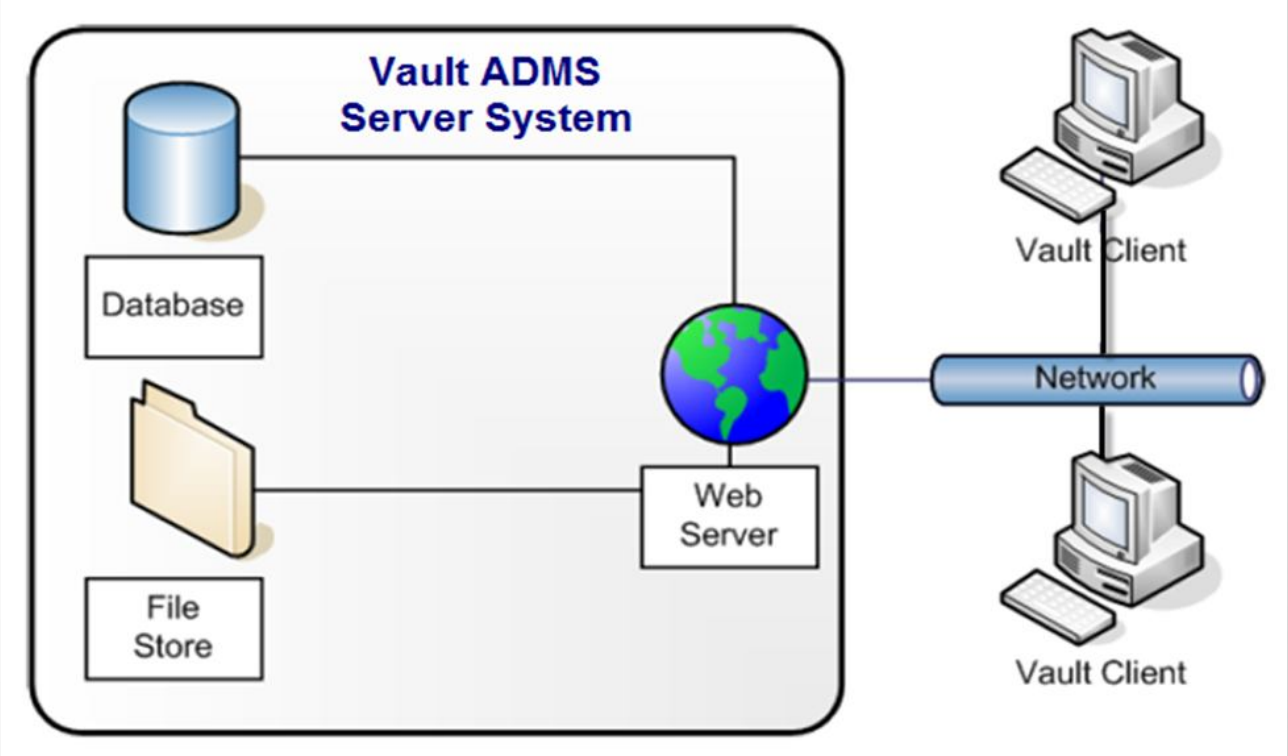
Storing AutoCAD Map 3D Drawings in Autodesk Vault

Question:

What is Autodesk Vault?

Answer:

A secure repository for AutoCAD Drawing files



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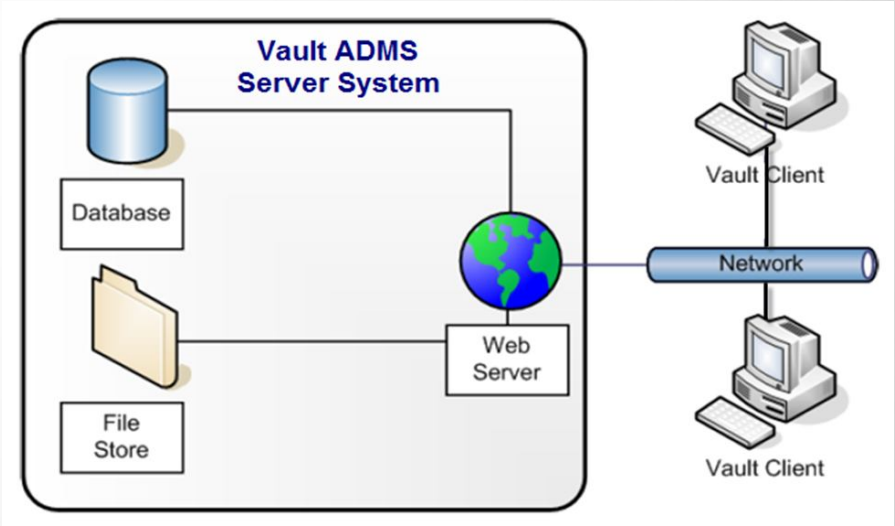
Storing AutoCAD Map 3D Drawings in Autodesk Vault

The Autodesk **Vault Drawing repository** provides secure database access to Drawing files, which will be stored within the **Vault ADMS Server** system

The Vault ADMS Server system is based on a **Microsoft SQL Server** Database system, where each Drawing is indexed within this Database, and references to the actual drawing file are maintained



The Drawing files are stored and encrypted within the **File Store** which is unique to the individual Vault Database

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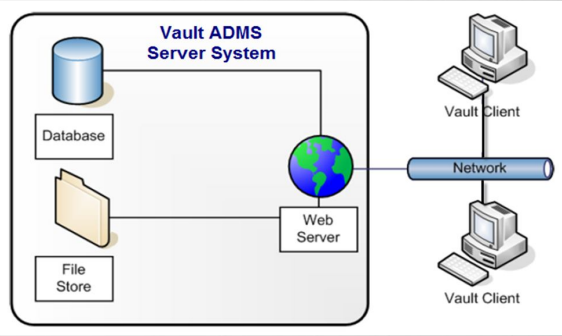
SA Power Networks – Business Drivers for Autodesk Vault

- Ensures best CAD performance for Drawing file access
- **Version Control** and **history** of Drawing changes
- CAD **File relationship management** for ease of access by all
- **Unique Drawing Filename Enforcement** to eliminate file duplication
- **Searchable Drawing Title Block Attributes** for Fast access to Drawing files
- **File Security** for Work-In-Progress Drawings
- Search Tool for locating files
- Replaces the SA Power Networks internal "Master Outbox" system



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SA Power Networks – Other IT Drivers for Autodesk Vault

- Ensures best CAD performance for drawing file access
- Minimise IT network traffic where possible
- Minimal IT LAN network dependency for best CAD user performance
- Access to the Vault from within AutoCAD
- Automatic publishing of Drawing viewable Files for Non-CAD users
- Off-Line Access to drawing files for “mobile” users off the IT network
- Effective Control of all AutoCAD drawings via Secure Database Access

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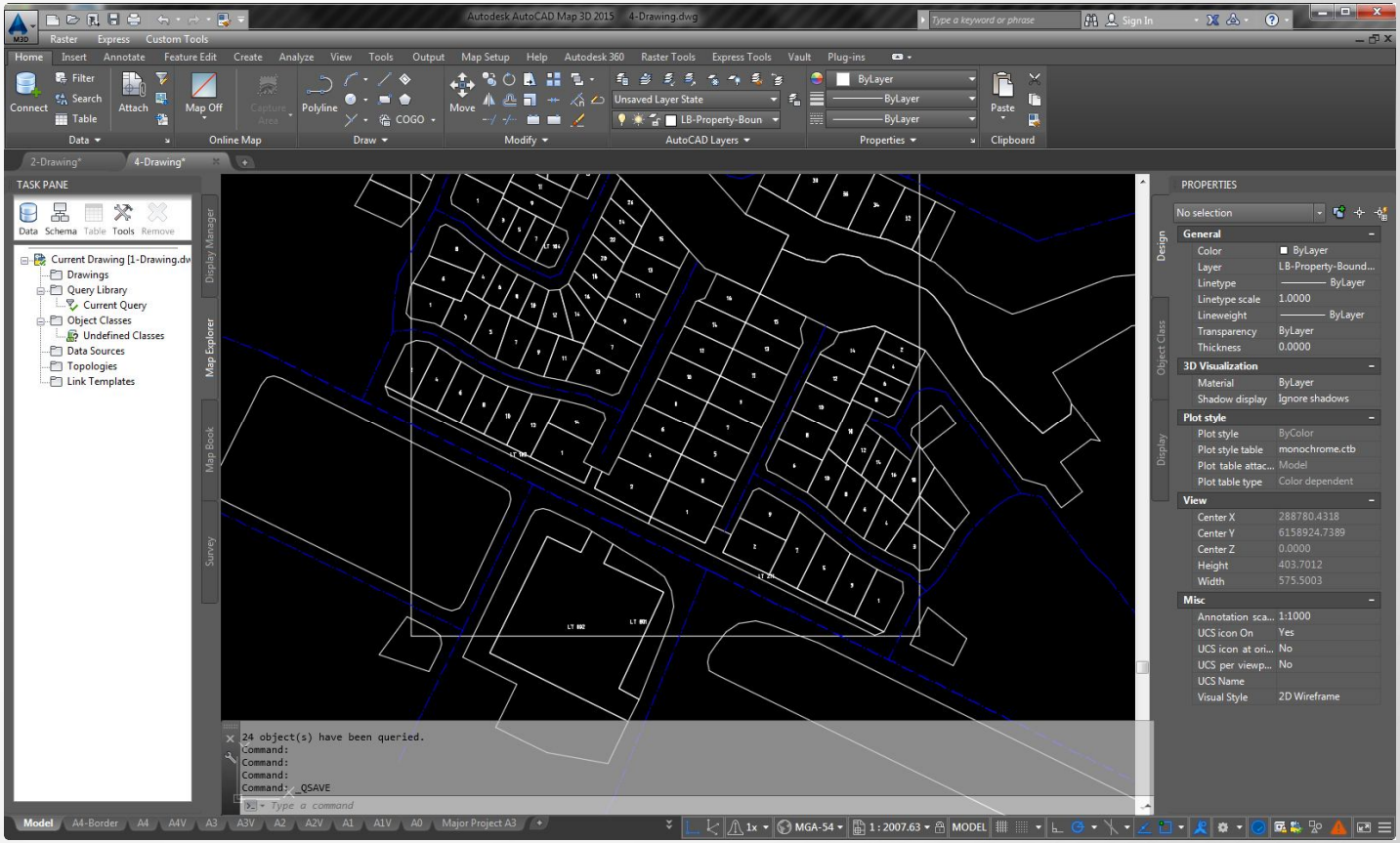
AutoCAD Vault Professional
Live Presentation – Vaulting Design Drawings



SA Power Networks

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Class Summary:
AutoCAD Map GIS Source Drawings and Vault

I trust you now have a better appreciation of the following:

- What an AutoCAD Map **Source Drawing** is
- Understand what **GIS data** can be captured in a Source Drawing
- Appreciation of how we **connect** to an AutoCAD Map Source Drawing
- Can identify the process for **extracting** GIS Data from Source Drawings to produce a design drawing
- Know how I **build** my set of AutoCAD Map **Source Drawings**
- The process of “Vaulting” the AutoCAD design drawing

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Further Contact Information:

- **Contact Info**
- Jim Williams @ SA Power Networks
- jim.williams@sapowernetworks.com.au

Read Yourself Rich!:

- **ASCENT Training Materials**
- AutoCAD Map3D Essentials Student Guide – Rev 1.0

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Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2014 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time

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