



**Esri International User Conference | San Diego, CA**  
**Technical Workshops | Thursday July 13, 2011**

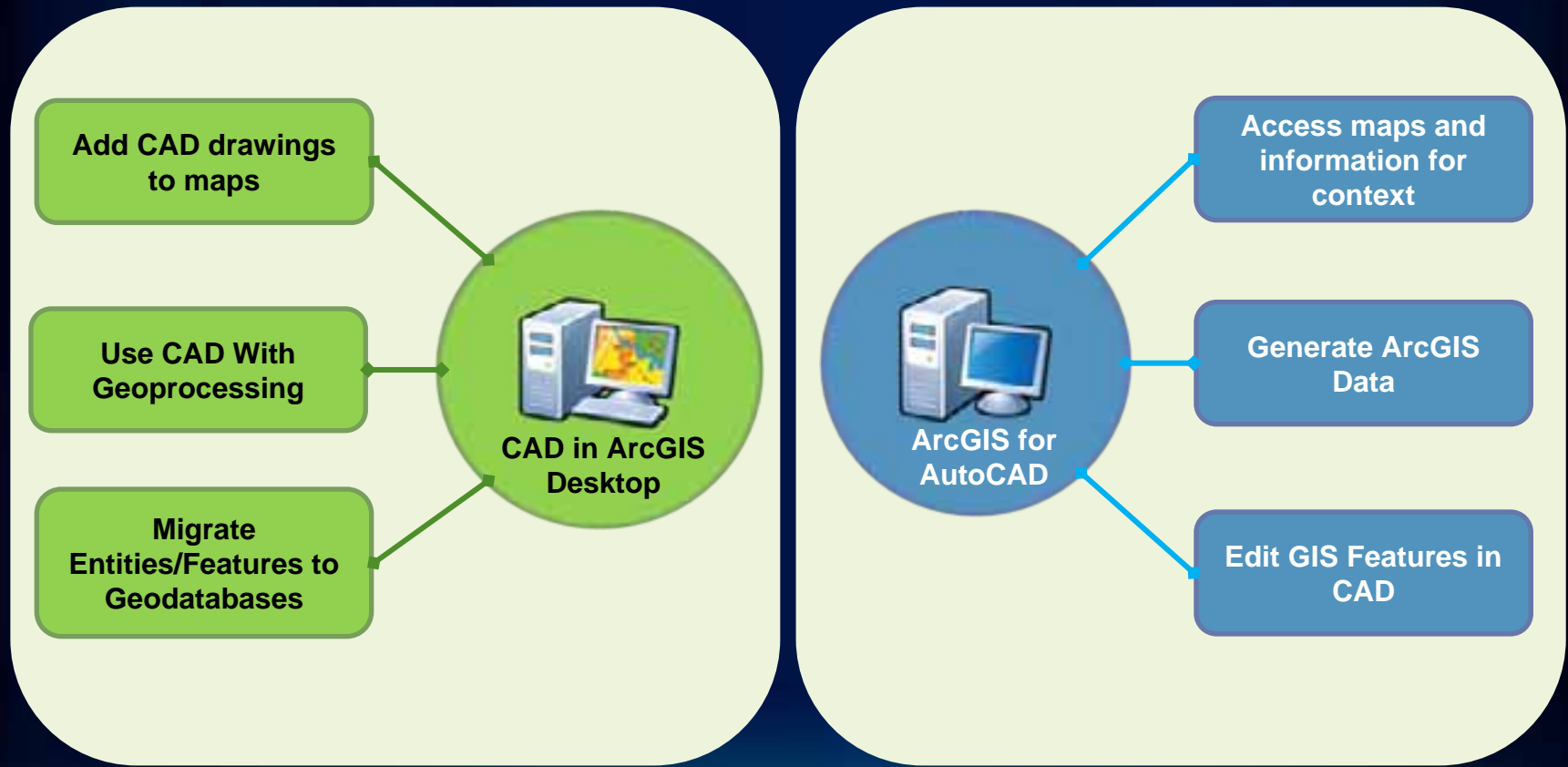
# **ArcGIS for AutoCAD:**

## **Plugging CAD Users into the ArcGIS System**

Don Kuehne

# Esri GIS / CAD Interoperability

**CAD in GIS, and GIS in CAD**





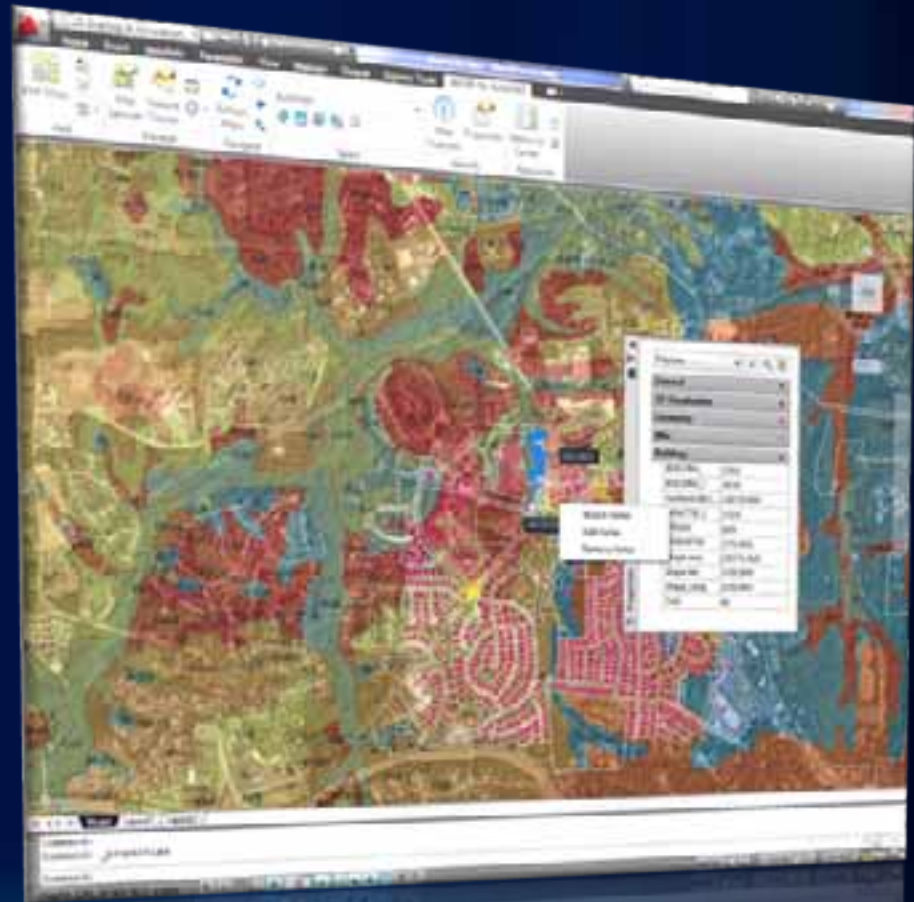
# WARNING:

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*ArcGIS for AutoCAD, easier than you think...*

# What is ArcGIS for AutoCAD ?

- **Edits GIS Data...**
- **Uses ArcGIS Services...**



# Who is it for ?

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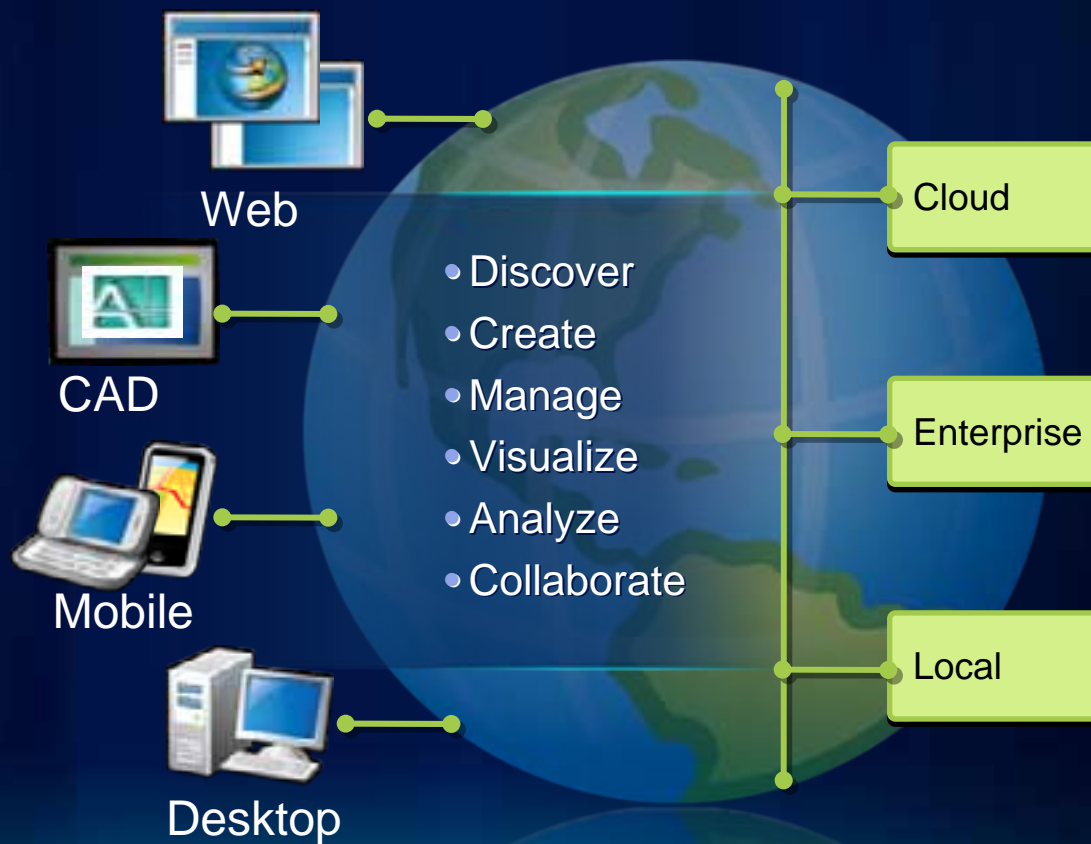
...largest source  
of GIS data

...largest group  
of potential  
new GIS  
contributors



# ArcGIS

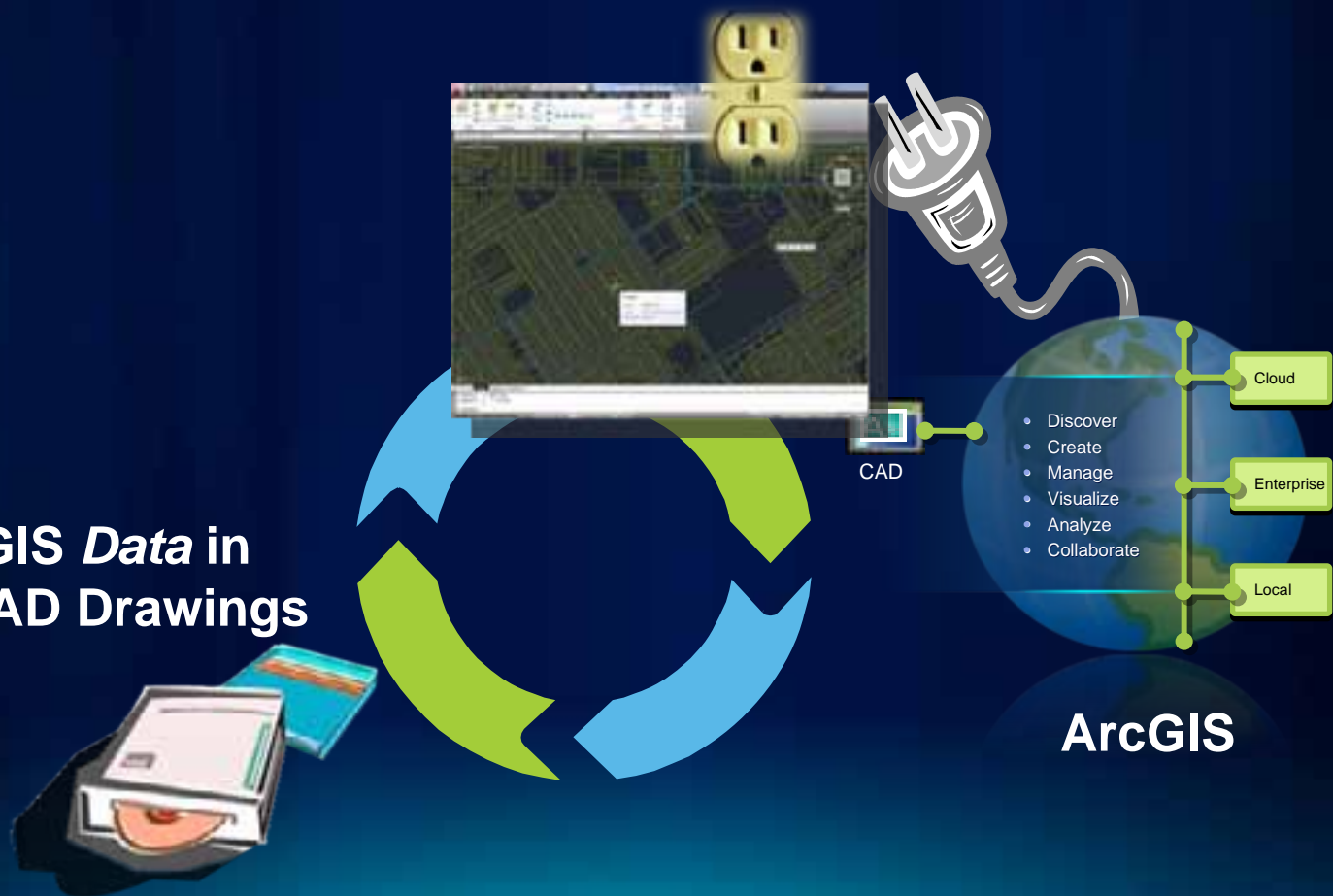
## A Complete System for Geographic Information



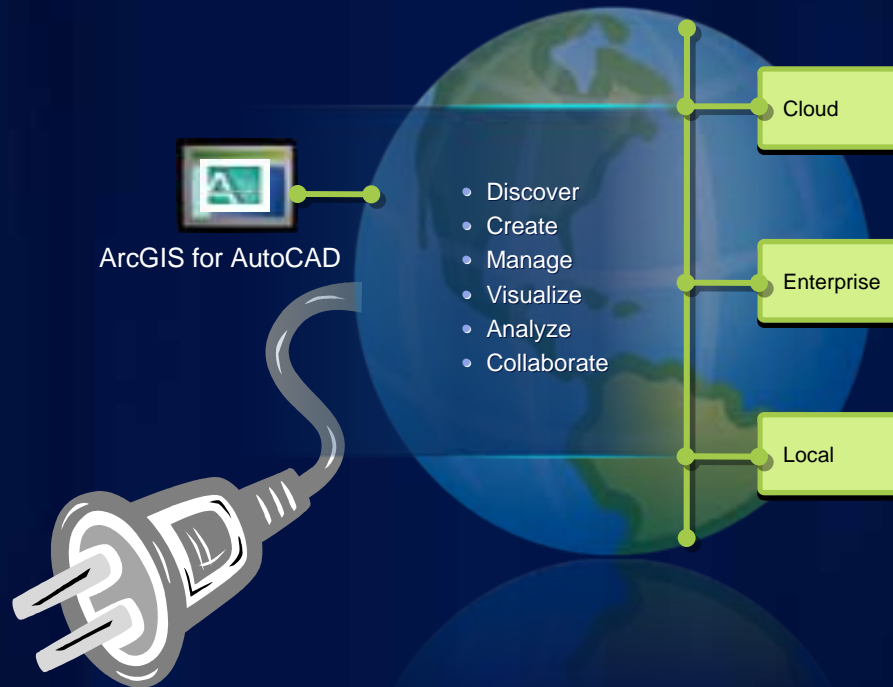


# ArcGIS for AutoCAD

**ArcGIS *Data* in  
AutoCAD Drawings**



# ArcGIS Services

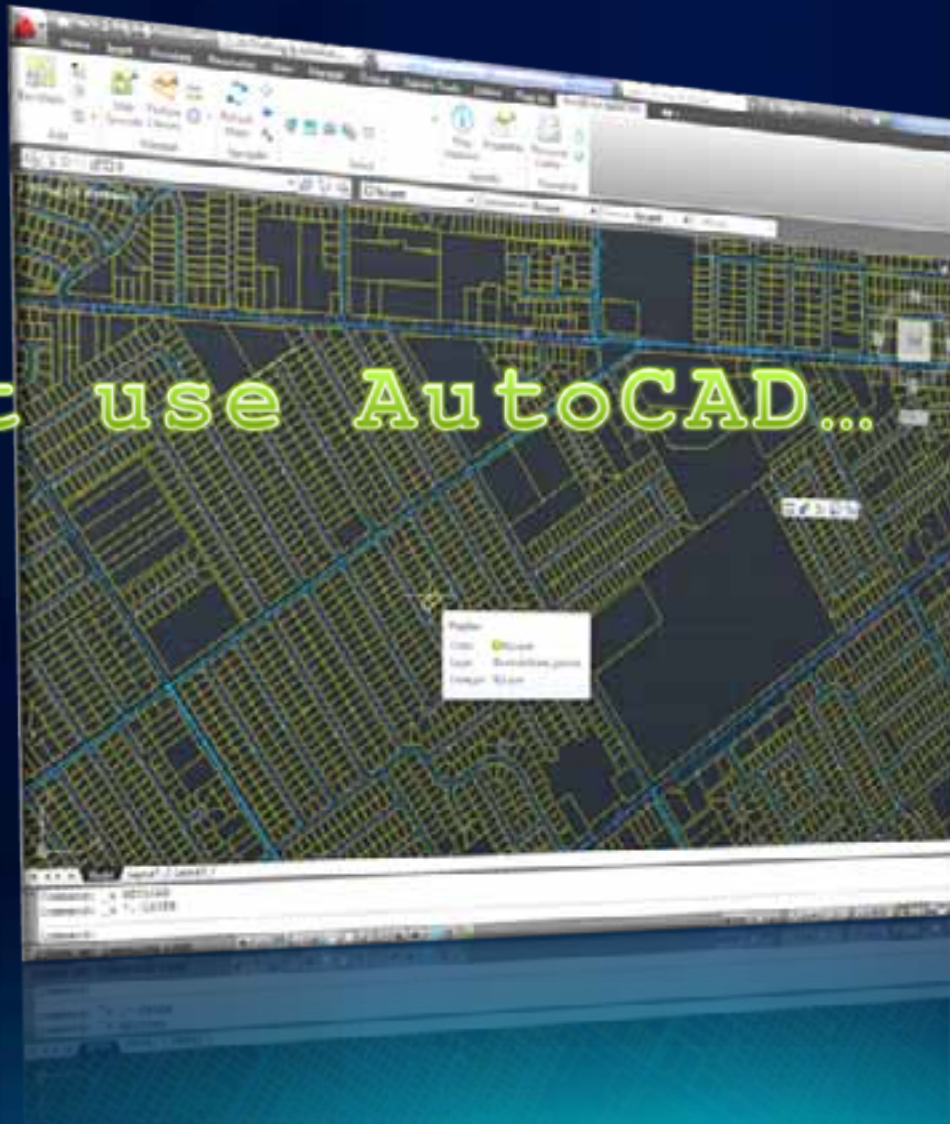


MAP



# Editing ArcGIS Data

Just use AutoCAD...



Cloud

Enterprise

Local

# GIS / CAD Use Patterns

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- Create CAD files with ArcMap
- **Use ArcGIS Services in *ArcGIS for AutoCAD***
- **Edit ArcGIS Data in *ArcGIS for AutoCAD***
- Use CAD Drawings in ArcMap

...Pre-view of ArcGIS for AutoCAD 300

- ***Extracting Features from GIS Services***
- ***Feature Services as a External Reference***
- ***Editing Enterprise GIS Data within AutoCAD***
  - ***Short /Long Transactions***

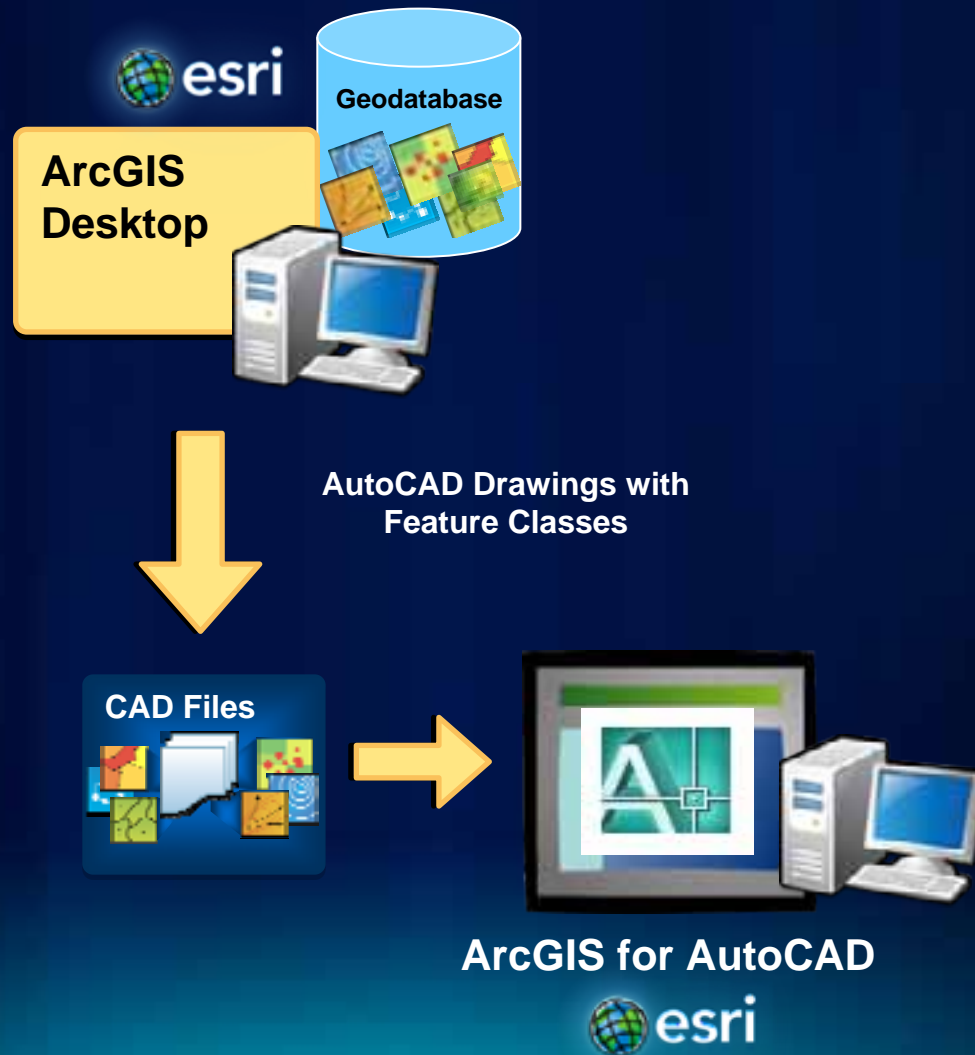
# ArcGIS Creates CAD Files

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Export to CAD

# ArcMap Creates Smart AutoCAD Files

## Drawings with Feature Classes







## Table Of Contents



- Layers**
- ☒ chkvalve
  - ☒ airvalve
  - ☒ facility
  - ☒ hydrant
  - ☒ valve
  - ☒ manhole
  - ☒ meter
  - ☒ Laterals
  - ☒ service
  - ☒ Water Mains
  - ☒ parcels
  - ☒ Riverside.DBO.hydrliczn
  - ☐ parcels Outline Only



# ***Esri Maps In AutoCAD for Design Context***

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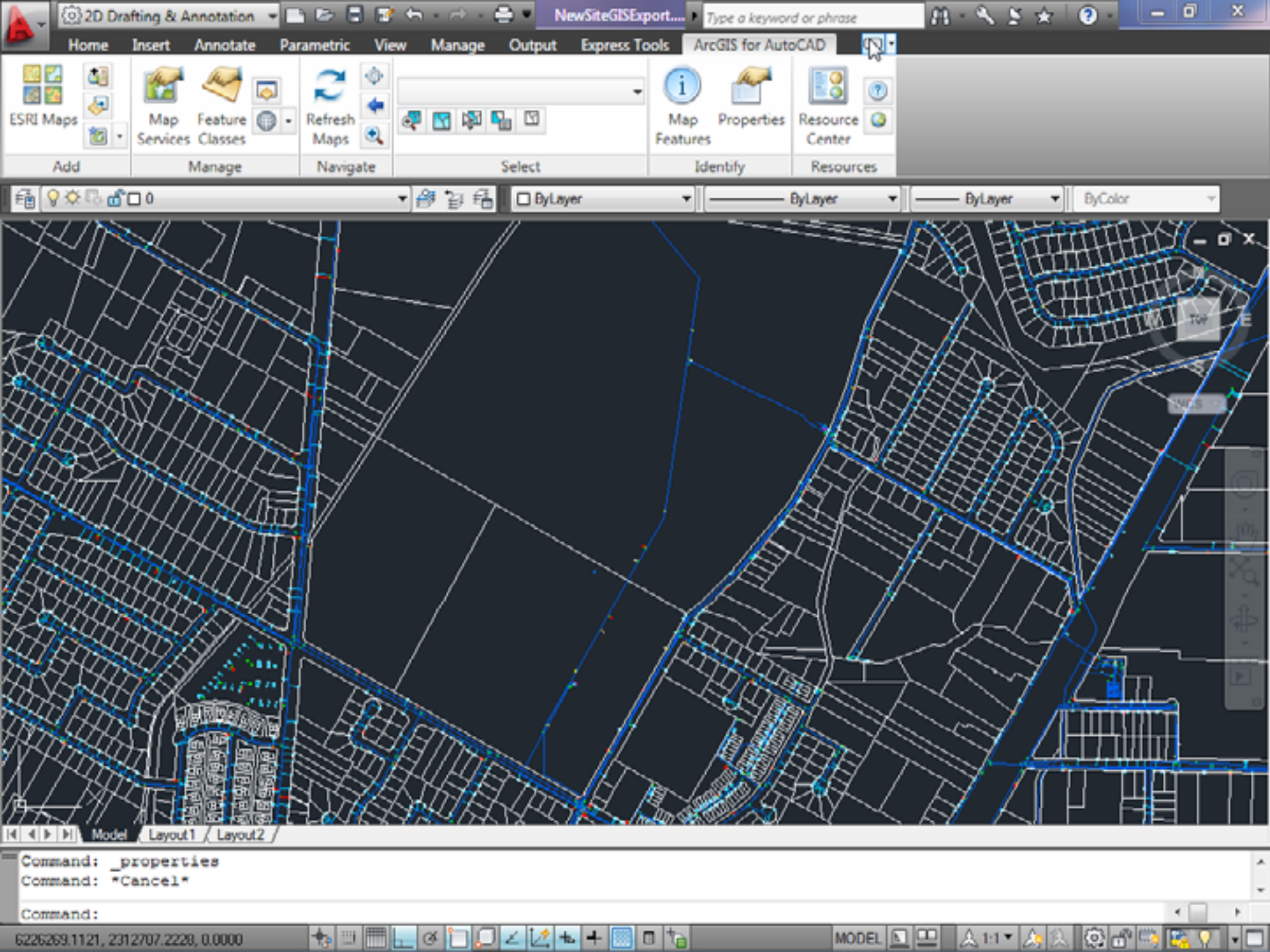
Maps from the Cloud



# ArcGIS for AutoCAD

## Accessing Maps from the Cloud





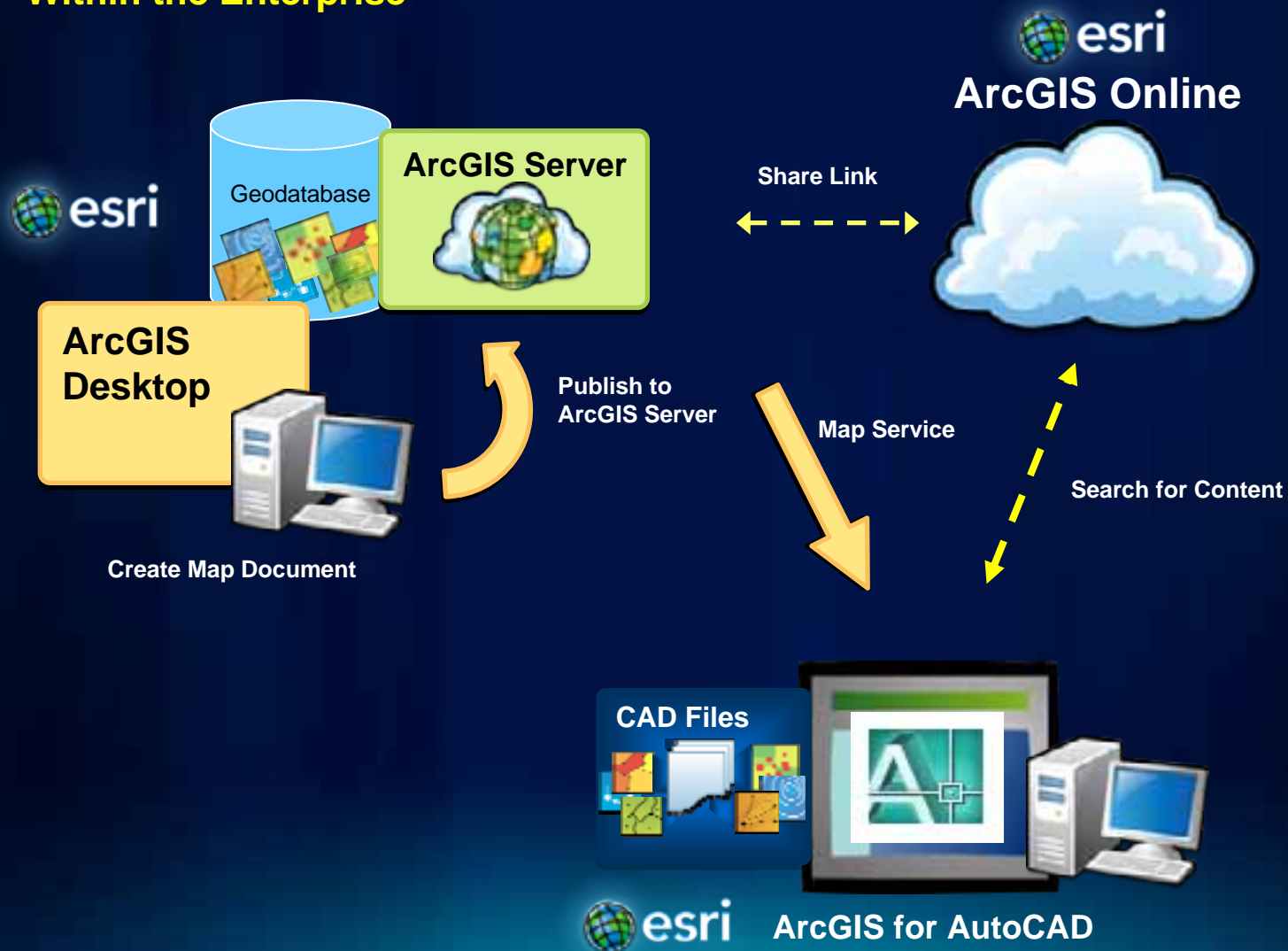
# Authoritative Maps as Design *Constraints*

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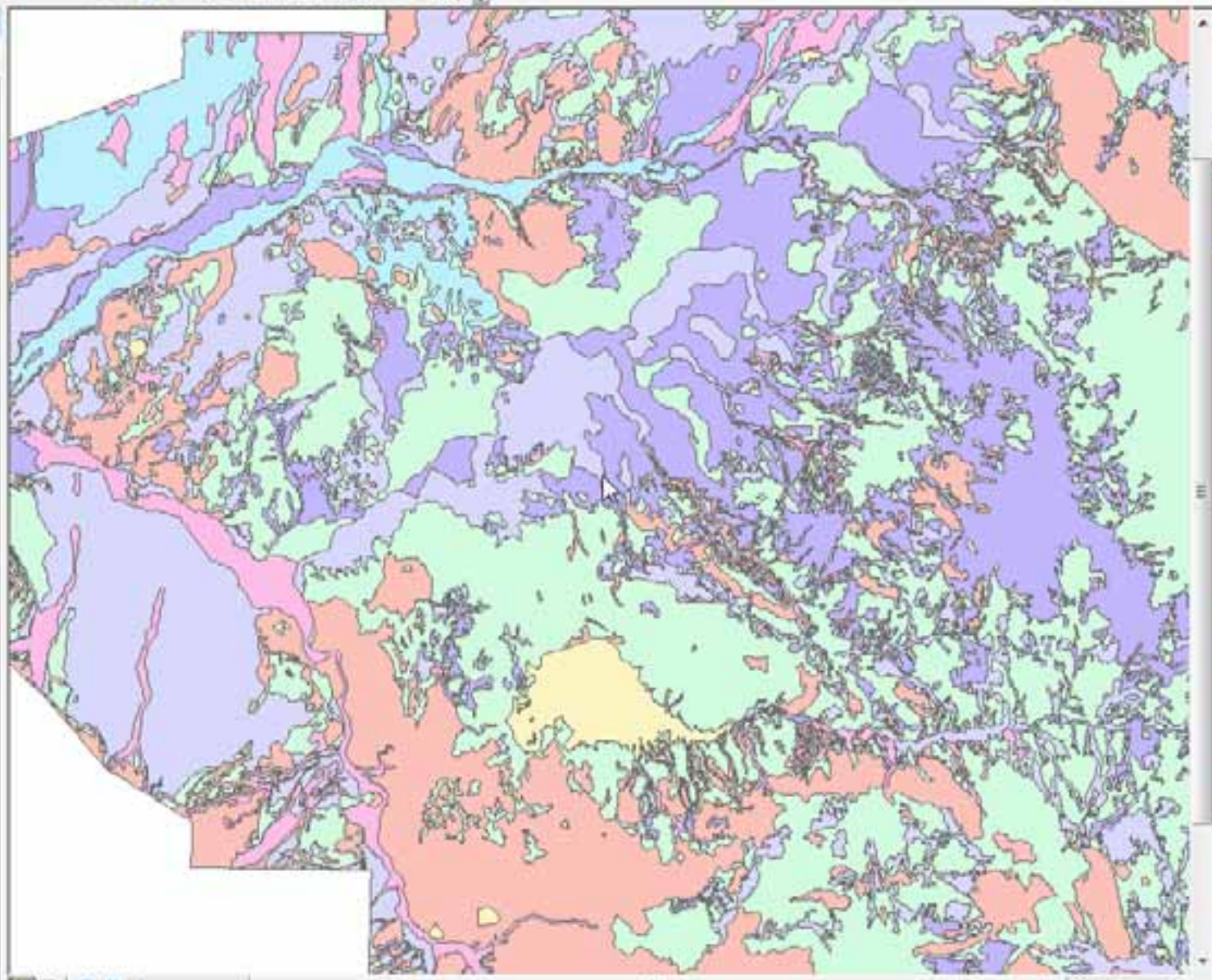
Using Your GIS Maps

# Publishing Your Maps

Within the Enterprise







# Create ArcGIS Data in AutoCAD

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GIS Features in .DWG Files



# Creating GIS-Ready Drawings

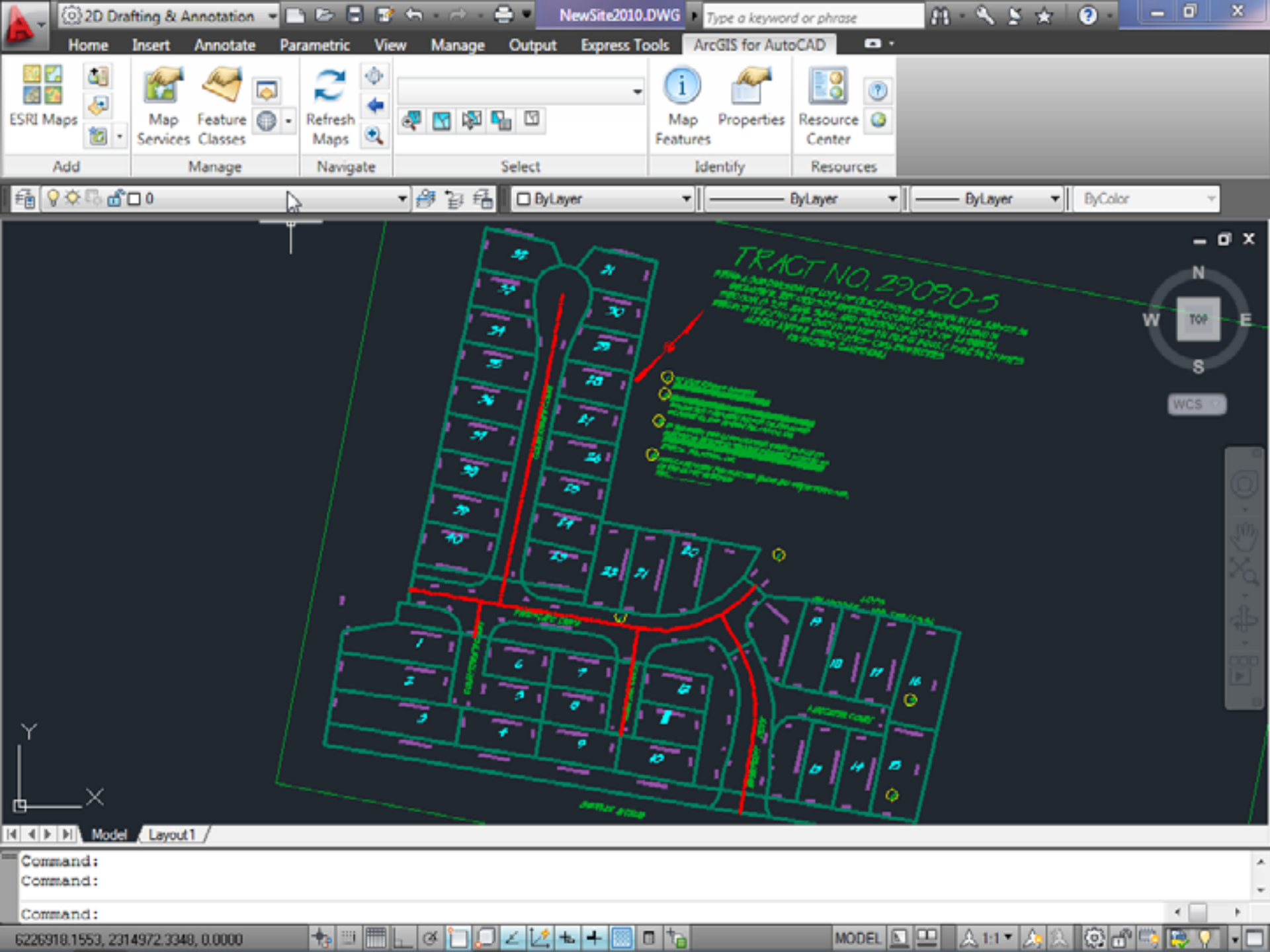
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**Attributed Feature Classes Inside AutoCAD Drawings**



**ArcGIS for AutoCAD**





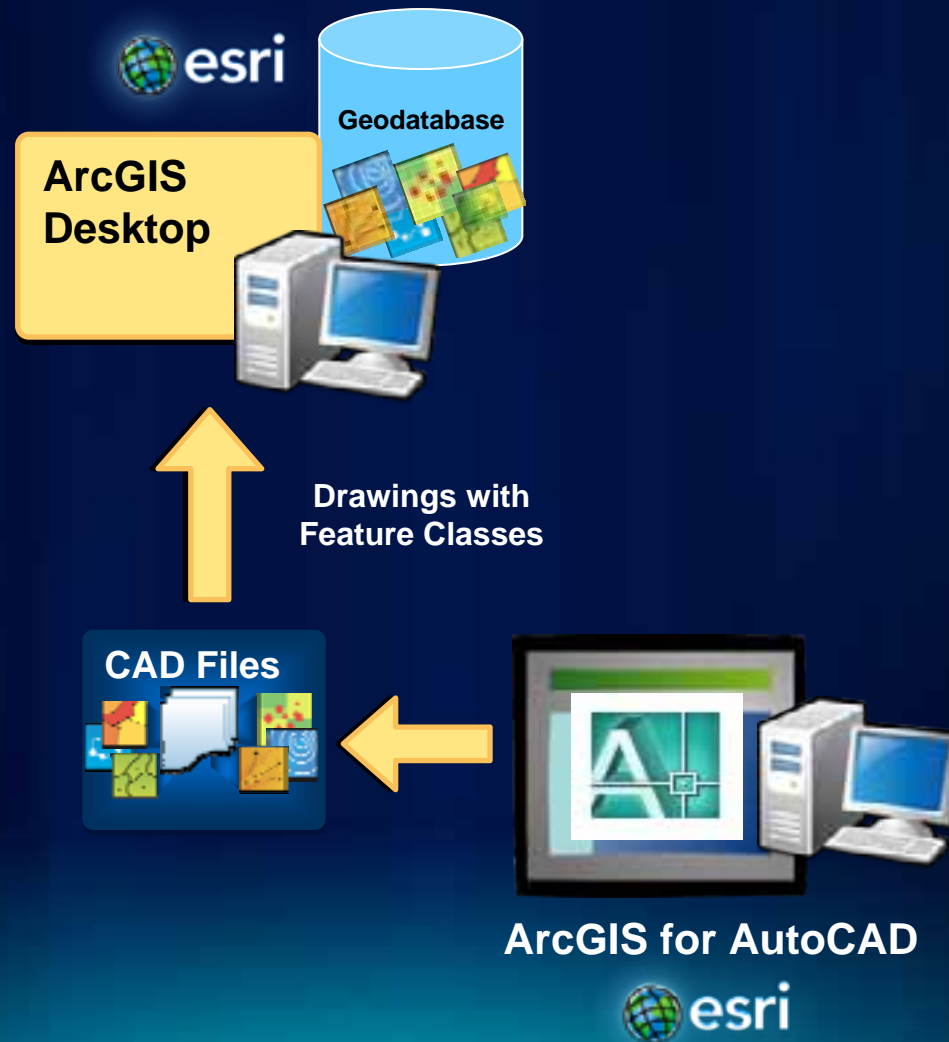
# Using CAD Drawings in ArcGIS

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ArcGIS Uses CAD Files without Conversion

# Using GIS-Ready Drawings in ArcMap

## CAD Datasets



# Filtering, Interpretation, Translation, and Conversion



- Filtering Content



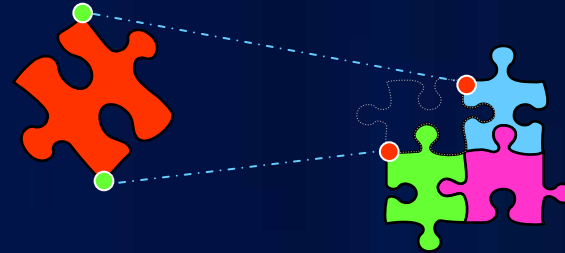
- CAD text inside polygons



- CAD text near lines



- Line segments to polygons



- Repositioning data



- Append to existing Geodatabase



- Merge with other CAD layers



Table Of Contents



- Layers**
- ☒ Basemap
  - ☐ Boundaries and Places
  - ☐ Transportation
  - ☒ Imagery





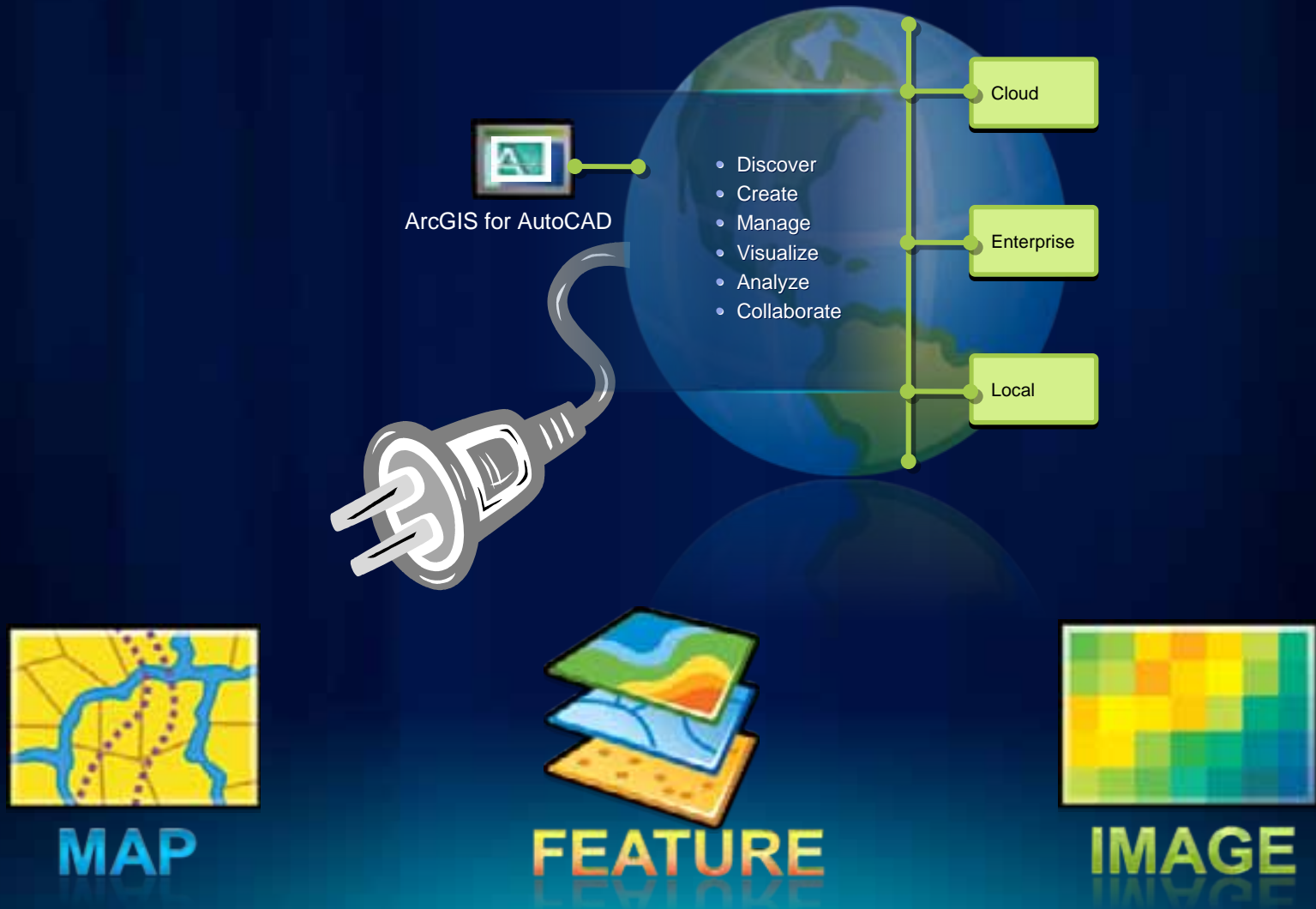
# ArcGIS for AutoCAD 300

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**Incremental technology, revolutionary functionality**

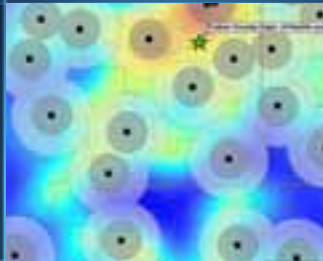
- **Feature Services**
  - Editing Enterprise Geodatabases
  - ArcGIS Data as an External Reference
- **Image Services**
- **Feature Extraction**
  - Map Service
  - Feature Service
- **Localization**
- **New Table of Contents User Interface**

# New ArcGIS Services and Capabilities

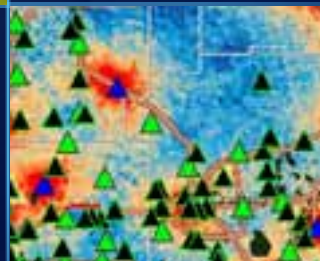


# ArcGIS for AutoCAD 300

## Preview Demo



- GIS Features as *External Reference*
- GIS *Data Extraction* from ArcGIS Services
- Direct Geodatabase *Editing!*

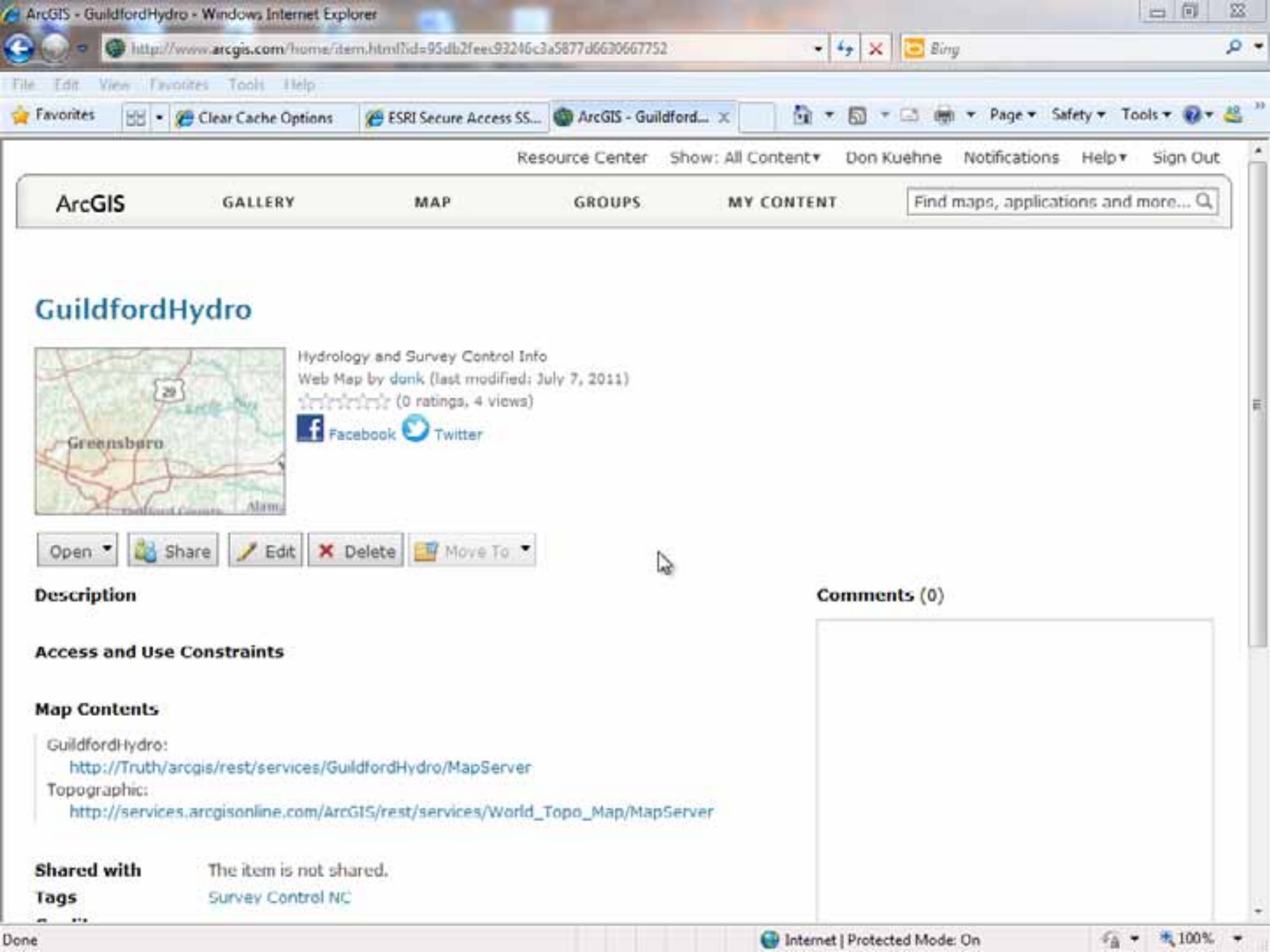


# Spatially Orienting a Drawing

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*Feature Service* as External Reference

Map Service Feature Extraction



## GuildfordHydro



Hydrology and Survey Control Info  
Web Map by dunk (last modified: July 7, 2011)  
(0 ratings, 4 views)  
Facebook Twitter

Open Share Edit Delete Move To

### Description

### Access and Use Constraints

### Map Contents

GuildfordHydro:  
<http://Truth/arcgis/rest/services/GuildfordHydro/MapServer>  
Topographic:  
[http://services.arcgisonline.com/ArcGIS/rest/services/World\\_Topo\\_Map/MapServer](http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer)

### Shared with

The item is not shared.  
Survey Control NC

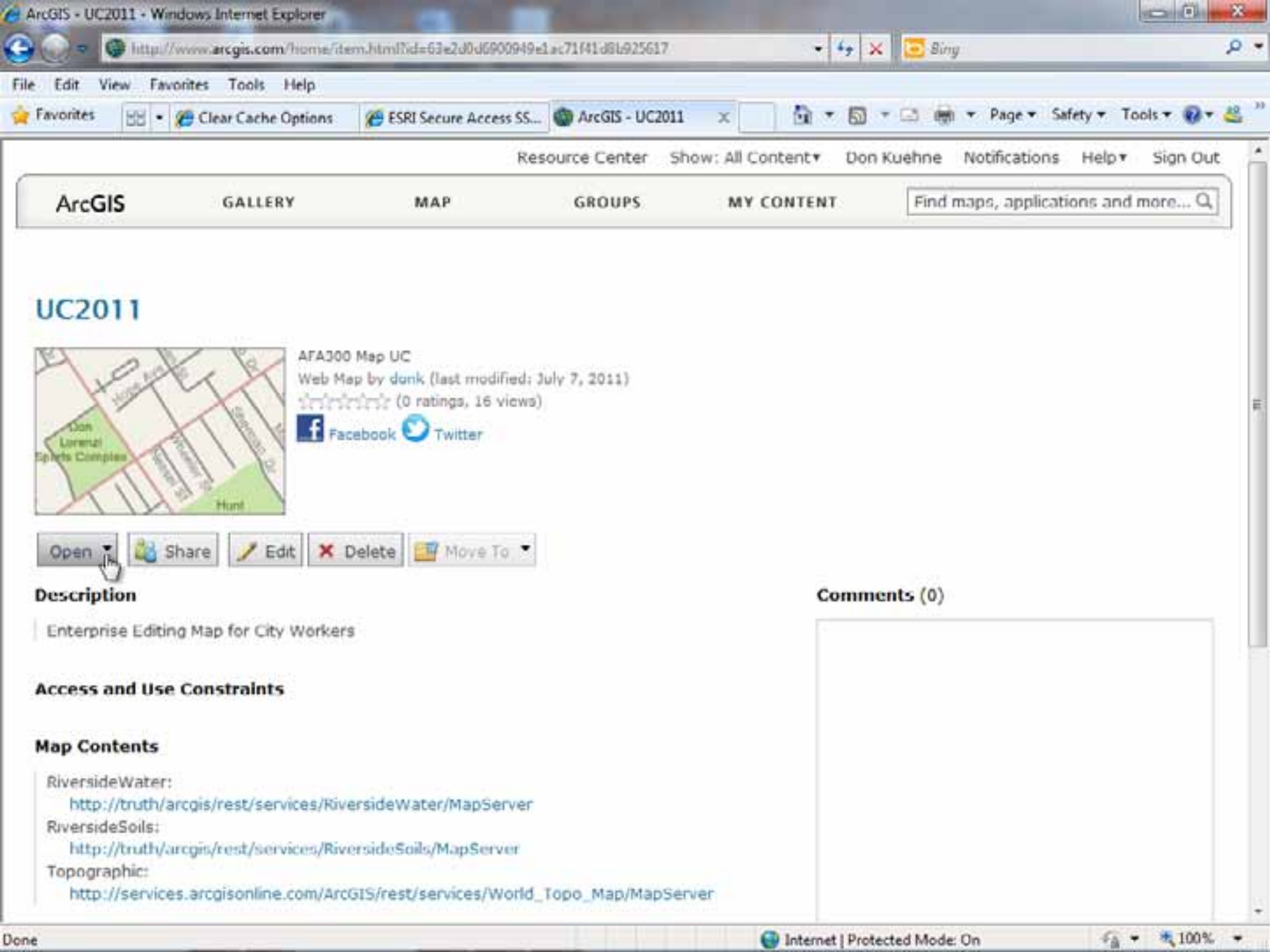
### Comments (0)

# ArcGIS Geodatabase Editing in AutoCAD

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New Feature Services in AutoCAD





# ArcGIS for AutoCAD

## Use Pattern Summary



# Download It Now

## ArcGIS for AutoCAD 250

- Create ArcGIS data Inside AutoCAD files
- Display and Query *Map Services*

## **New** in ArcGIS for AutoCAD 300

- *Image Services*
- Extract Feature Classes from *Map Services*
- *Feature Service* Editing

## FAQ

**Yes, it is important**

**AutoCAD versions 2010-2012 (64&32 bit)**

**ArcGIS Server version 10.0 and above**

**Summer 2011**

**WORKS IN BUT NOT WITH AUTOCAD MAP/CIVIL 3D**

**Not WMS/WFS/WFT...**

**YES, IT IS FREE**