



Geo-processing tools



Geo-processing tools allow you to work with your data bases on spatial relations.

Buffer

Creating an area around features...

... at a specified distance



... with distances from attribute table



... with multiple ring buffer



Tools:

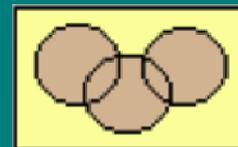
 Buffer

Dissolve barriers between buffers

yes



no





Geo-processing tools

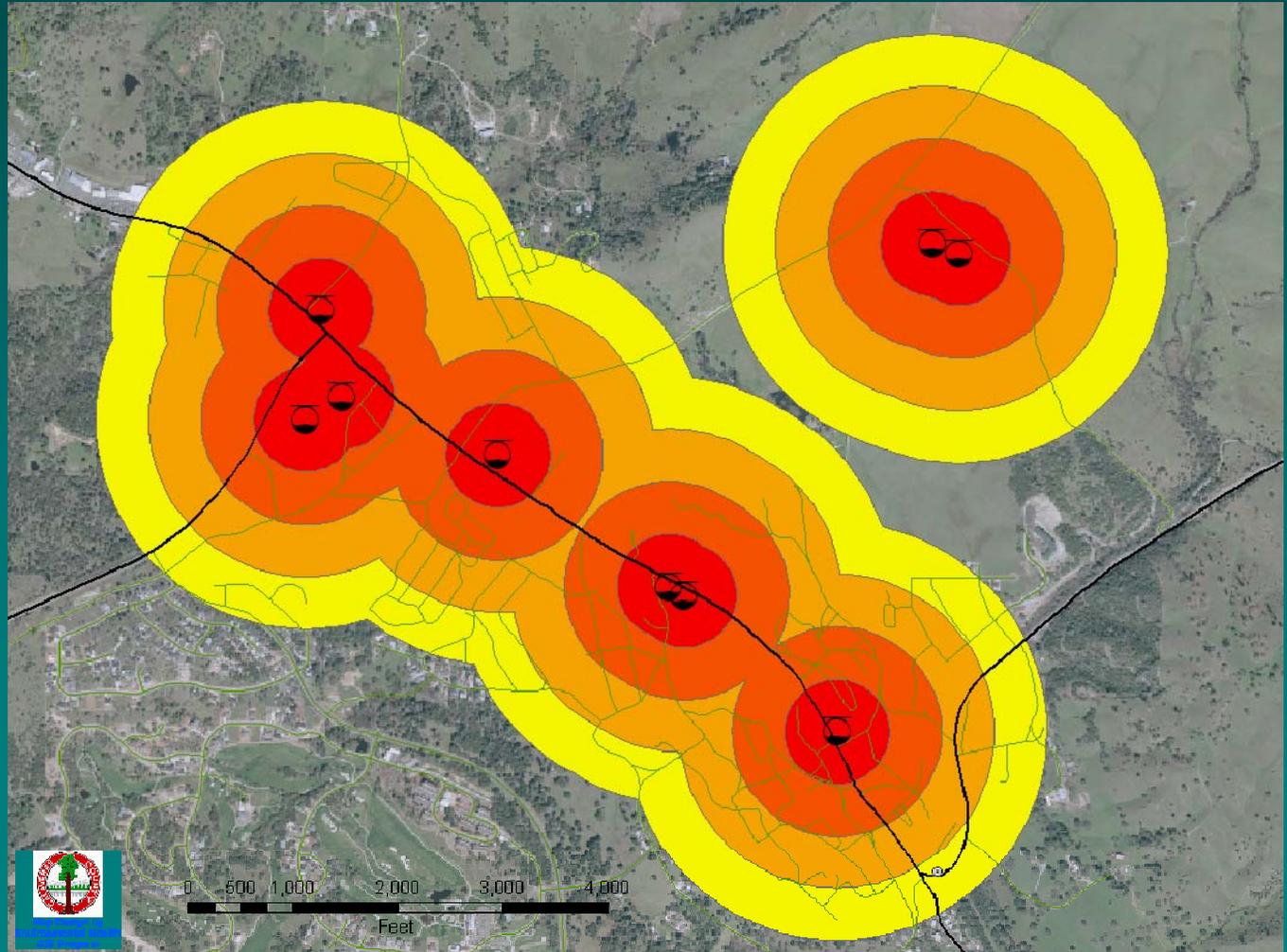
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Buffer

Example:

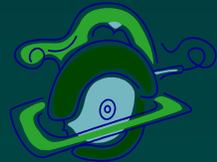
Tools:

 **Buffer**





Geo-processing tools



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Clip

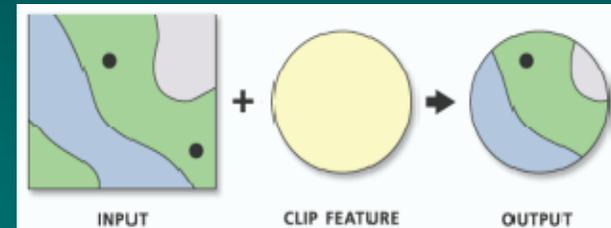
Cutting the extend of one feature with another feature

Example: You have obtained a state wide data set, but you only want to cover your county...

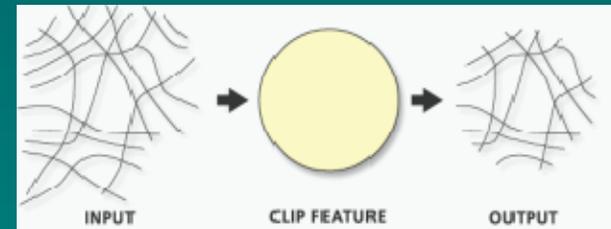
Tools:

- Buffer
- Clip

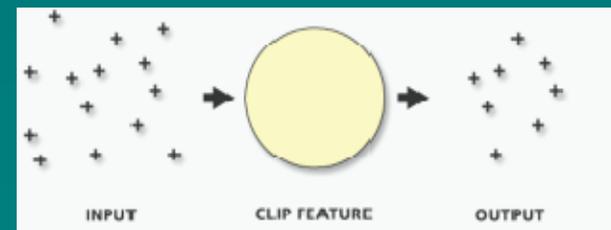
Polygon,



Line or



Point feature





Geo-processing tools



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Merge

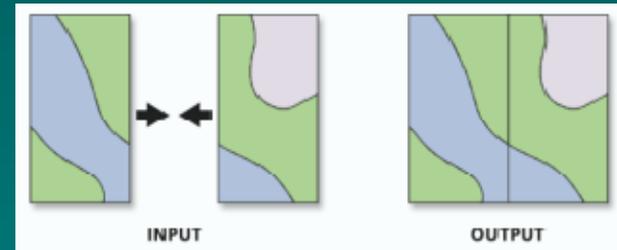
Combine features with same feature class (point to point, line to line etc.)

Example: You have a road layer for your county, and now you need to add a layer with recently built roads ...

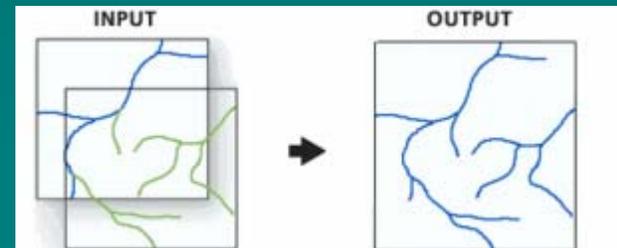
Tools:

- Buffer
- Clip
- Merge

Datasets can be adjacent



or overlapping.





Geo-processing tools



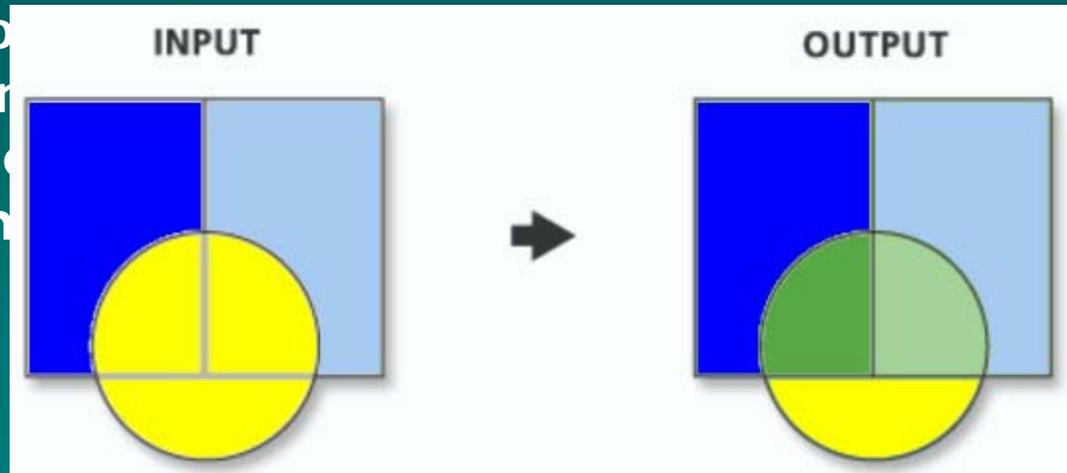
Geo-processing tools allow you to work with your data bases on spatial relations.

Union

Combining two polygon features intersecting all polygons

Example:

You
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Tools:

- Buffer
- Clip
- Merge
- Union



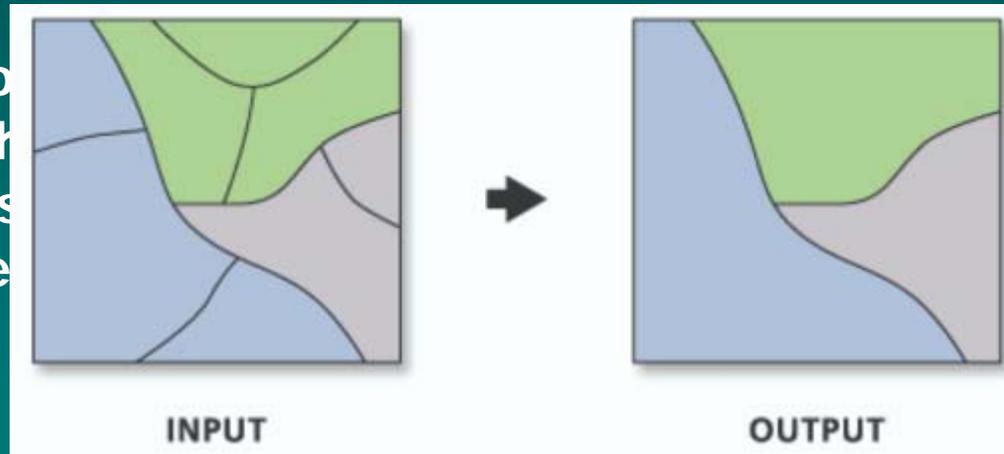
Geo-processing tools

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Dissolve Aggregate your data based on the value of a field

Example:

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Tools:

- Buffer
- Clip
- Merge
- Union
- Dissolve



Geo-processing tools



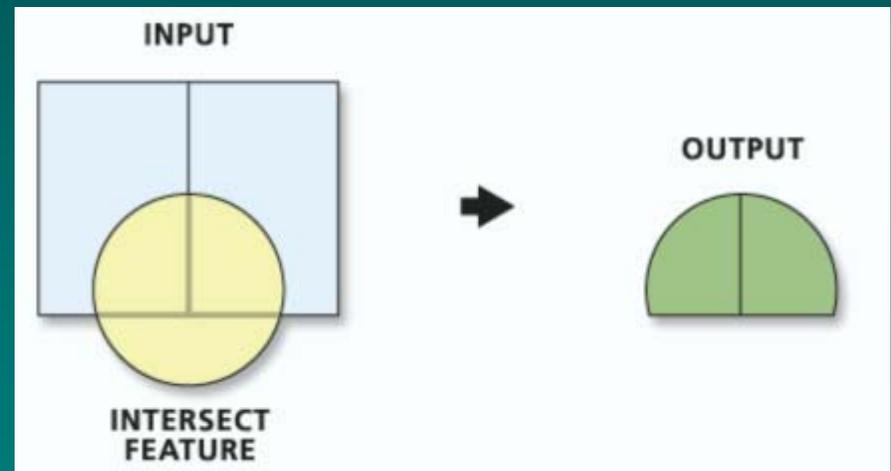
Geo-processing tools allow you to work with your data bases on spatial relations.

Intersect Eliminates areas where two polygon features DO NOT overlap

Example: The new landfill should be located within x miles of the two transfer stations ...

Tools:

- Buffer
- Clip
- Merge
- Union
- Dissolve
- Intersect





Geo-processing tools



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Tools:

- Buffer
- Clip
- Merge
- Union
- Dissolve
- Intersect



Create new datasets/layers



-  Create Layer from x,y Data
-  Geo-referencing images
-  Adding a CAD



Create new datasets/layers



Create Layer from x,y Data

Requirements:

- Create a table with the coordinates and any additional info.
- The coordinates have to be either decimal degrees or map units

	A	B	C	D	E	F	G	H
1	ID	APN	TYPE	LOCATION	DD_LAT	DD_LONG	EASTING	NORTHING
2	SW2001001	02014001	BS	Wolfboro - Upper	38.41500	-120.09798	6676861.64212	2338075.12177
3	SW2001005	10019018	BS	Wilseyville	38.36900	-120.52187	6555419.92787	2321255.25458
4	SW2001004	16004034	BS	Paloma	38.23900	-120.78939	6478571.80273	2274075.14936
5	SW2001003	16009009	BS	San Andreas	38.25000	-120.72011	6498471.51326	2277803.71640



Create new datasets/layers



Create Layer

Requirements:

- Create a table with the coordinates and any additional info.
- The coordinates have to be either decimal degrees or map units

Steps:

- Open the map, load the table with x,y data
- Under "Tools" click "Add X,Y data"
- Select the table and the fields with the coordinates.



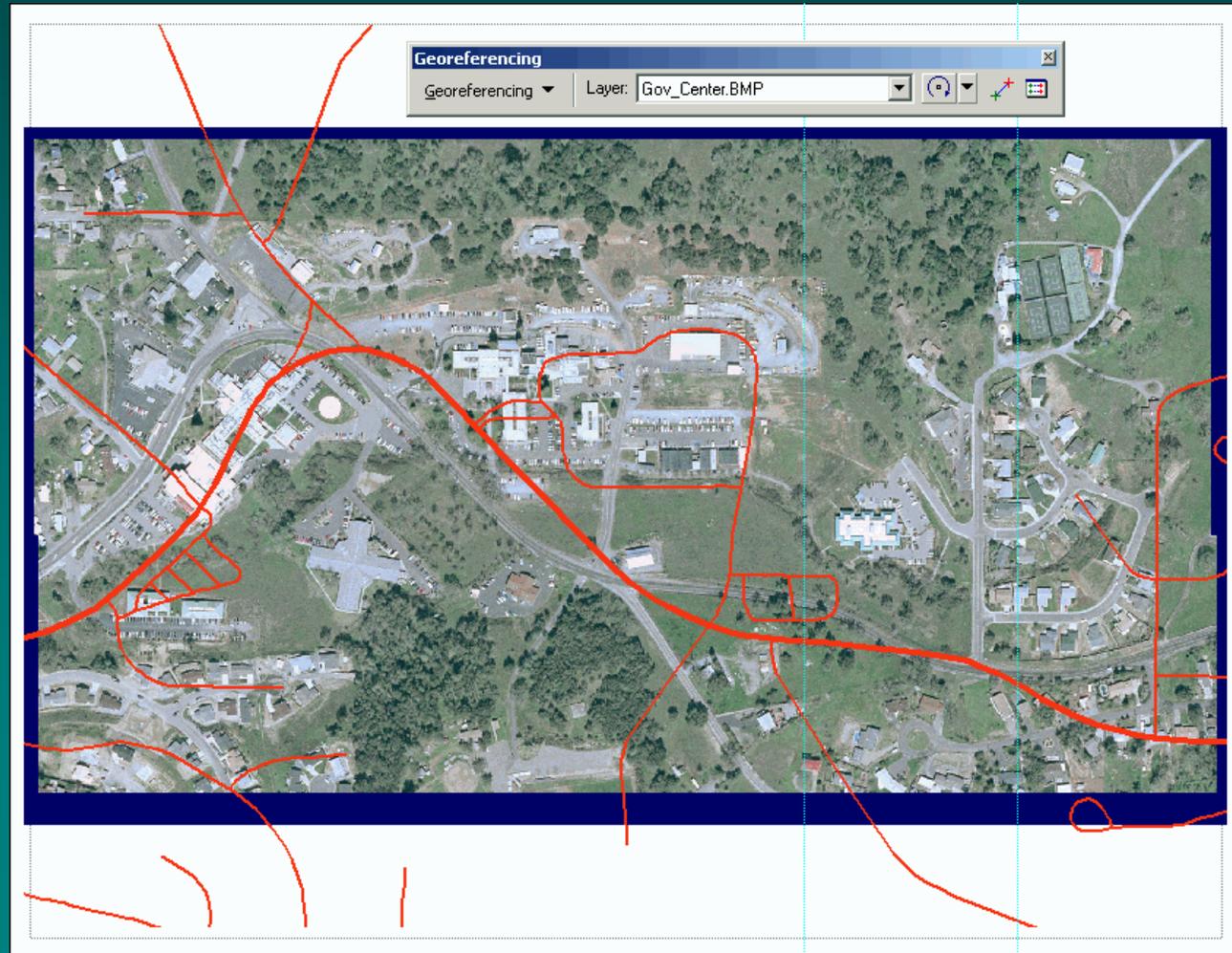


Create new datasets/layers



Geo-referencing images

- Open the map and load the image
- Zoom to the extend on your map
- Select the image, click on "Georeferencing" and "Fit to Display"





Create new datasets/layers



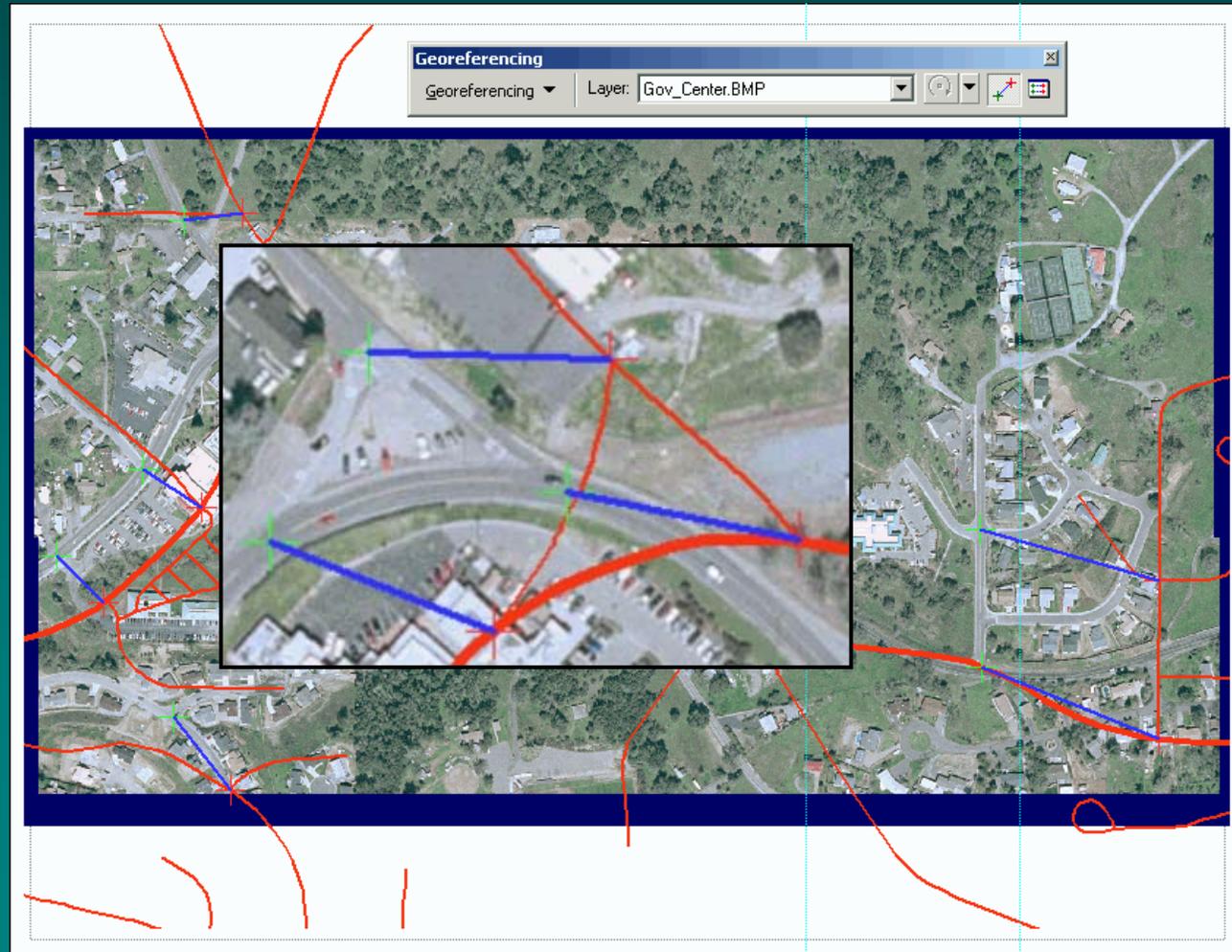
Geo-referencing images

- To add Control Points clic on:



Add Control Points:

- Click on a known position on the image
- Click on the position on the map





Create new datasets/layers



Geo-referencing images

- To view Control Points clic on:



Verify results:

- Click on "Auto Adjust" to move image
- Click on "Update Georeferencing" to finalize

Georeferencing

Georeferencing Layer: Gov_Center.BMP

Update Georeferencing
Rectify...
Fit To Display
Flip or Rotate
Transformation
Auto Adjust
Update Display
Delete Control Points
Reset Transformation

Link	X Source	Y Source	X Map	Y Map	Residual
1	3405172.514563	-263	6515085.317723	2255566.225718	
2	3501023.364077	-195	6515085.317723	2255939.780135	
3	1287740.111649	-965	6513213.528929	2256449.902832	
4	947905.281551	-547	6513213.528929	2256694.922395	
5	703921.300968	-202	6513213.528929	2255887.562851	
6	189812.199028	-254	6513213.528929	2255626.476431	
7	886909.286406	-350	6513213.528929	2255112.337019	
8	5696879.189320	-320	6513213.528929	2255252.922015	
9	5688165.475725	-2385897.3325...	6515085.317723	2255686.727143	
10	2159111.470871	-1601663.1092...	6513213.528929	2256112.498843	

Auto Adjust Transformation: 1st Order Polynomial (Affine) Total RMS Error:

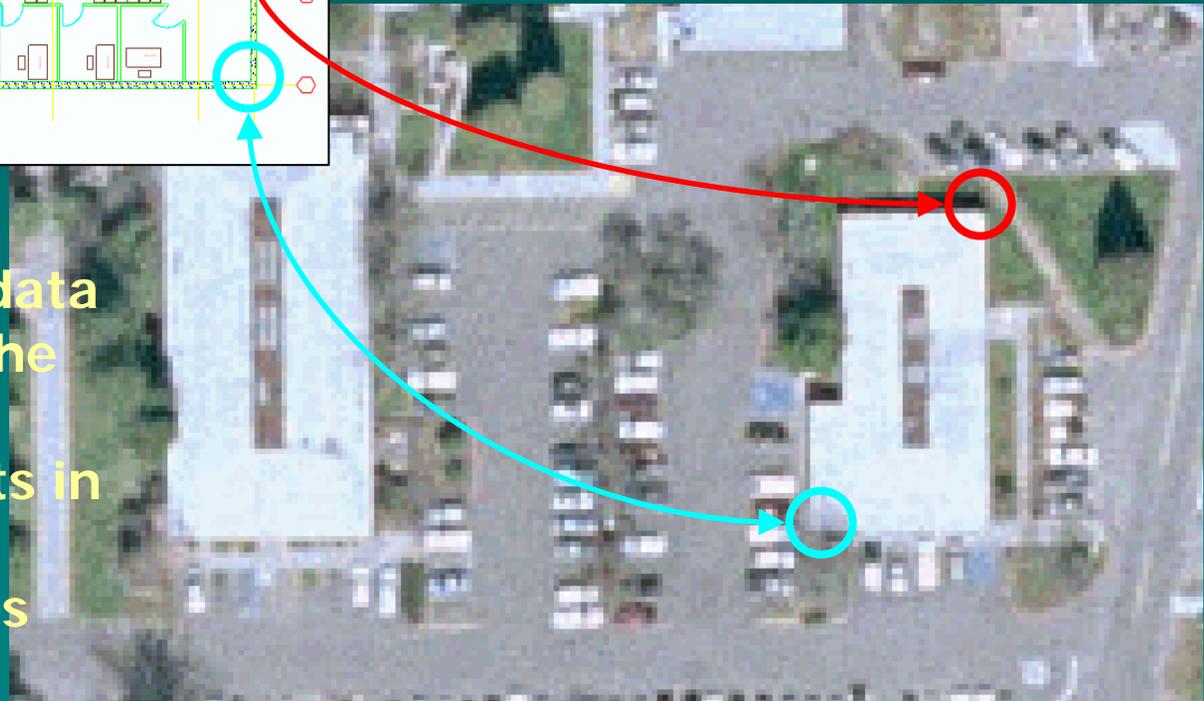
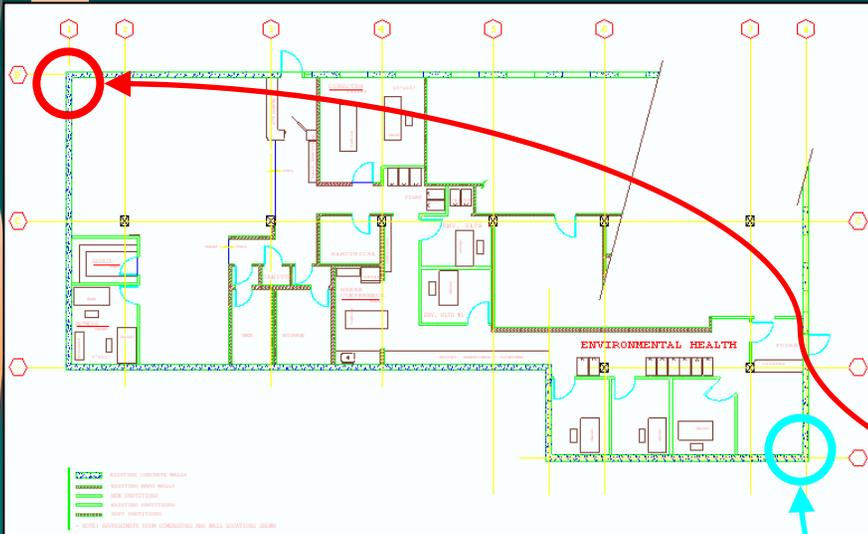
Load... Save... OK



Create new datasets/layers



Adding a CAD



Steps:

- 1. Load GIS and CAD data
- 2. Select 2 points on the CAD
- 3. Identify those points in GIS data
- 4. Note x,y coordinates for all points



Create new datasets/layers



Adding a CAD

Steps:

- 1. Open "Layer Properties" of the CAD
- 2. Select: "Transformations" "Enable Trans..." "Coordinates"
- 3. Fill in the coordinates of the 4 points

Layer Properties

General | Source | Display | Drawing Layers | Transformations

Enable Transformations

Transform By :

- World File
- Coordinates
- Rotate, Scale, Translate

	From :	To :
x :	25.92561	513889.92
y :	987.25537	256100.01
x :	307.92566	513826.01
y :	317.2554	255986.00



Create new datasets/layers



Adding a CAD

```
TSD23.wld - Notepad
File Edit Format View Help
25.92561,987.25537 6513889.92,2256100.01
1307.92566,317.25540 6513826.01,2255986.00
```



Steps:

- 1. Create a txt file with coordinates
- 2. Select: "World File"
- 3. Browse to the txt file

Layer Properties

General | Source | Display | Drawing Layers | Transformations

Enable Transformations

World File Name :

Transform By :

- World File
- Coordinates
- Rotate, Scale, Translate



Create new datasets/layers



Do it!

