

December 5, 2003

Geodetic Framework and ISPLS GIS/LIS Workgroup Meeting Minutes from November 13, 2003

Attendees

Lorraine Wright, INGISI and IN Dept. of Environmental Management
Tom Mahon, IN Society of Professional Land Surveyors (ISPLS) and Woolpert
Bob Wilkinson, IN Dept. Natural Resources
Karen Like, Indiana Geological Survey (IGS)
Perry Cloyd, ISPLS and Midwest Surveying & Mapping, Inc.
Betty Kiechle, Lake Co. GIS Coordinator and representative for Lake County Surveyor's Office

Next meeting - December 18, 2003 from 2:00 to 4:00 PM,

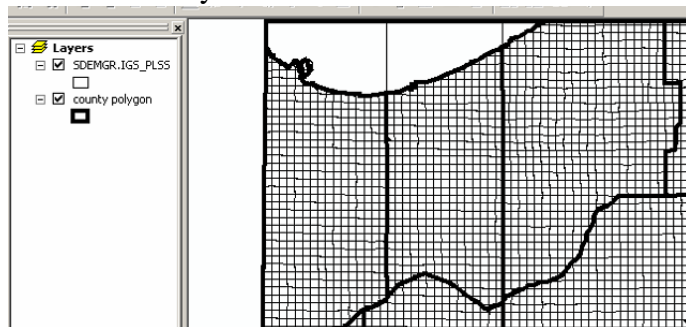
Indiana Government Center North Building
100 N. Senate, 11th floor, Conference Room C (through the east end, double doors)
Indianapolis, IN 46203
RSVP to Lorraine Wright 317-234-0618 or lwright@dem.state.in.us

Public Land Survey System – Digital map

The Indiana Geological Survey (IGS) volunteered to work with the workgroup to help create the digital map that can be used to link to the scanned section corner tie cards. There are several things that need to be decided to determine how to link the tie cards to the map. Karen Like, IGS, helped us to understand how the scanned tie cards could be organized so they could be tied to the map.

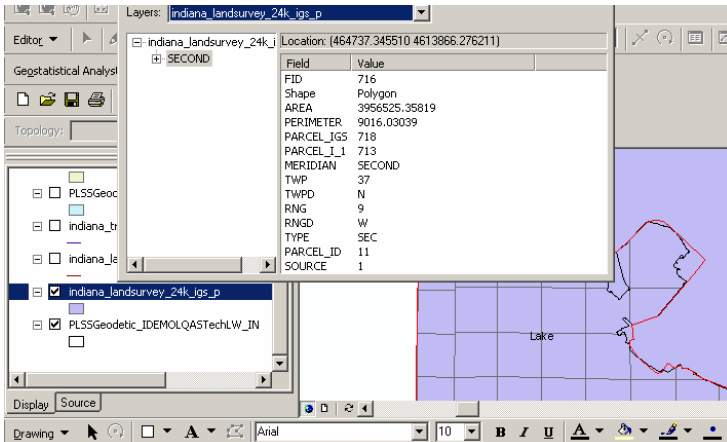
There are several different ways the information can be linked to the map.

- 1) Link all section corner tie cards that relate to a particular section by clicking on the digital map in the T, R, and section of interest that the tie cards are related to.
Ex: Zoom into Lake Co section corner map (PLSS GIS layer). Click within the boundary of a section and all tie cards that relate to that section would be listed.



You could then select the point of interest and look at the tie card (scanned image).

Select a section of interest: T37NR9Wsec11. Click and that section and the file names for the scanned images would appear. Click on the tie card file name and it would link to the tie card image.

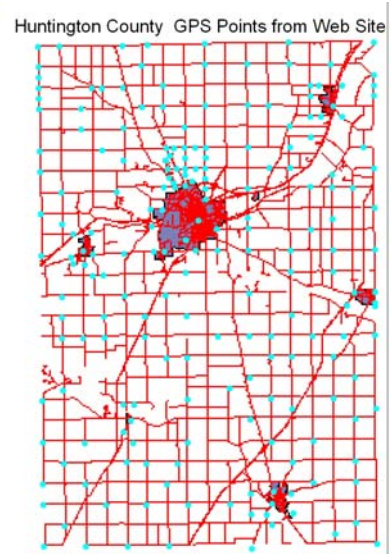
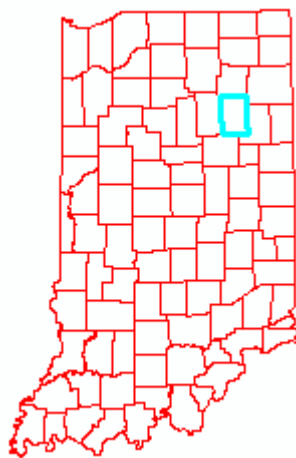


List file names for tie card scanned images
 Link to image of tie card of interest.

2) Link the county's web site (via the Internet) to the county's outline on the digital map.

Some counties already have their own web site with section corner tie card images, GPS coordinates, and/or other representations.

Click within a county outline and the county website with the section corner info opens. One would be working within the county's site.

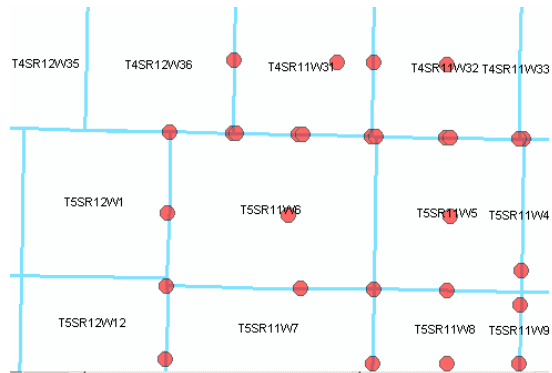


- 3) Link each section corner tie card image to a point on a map that represents its location.
One point may have up to four different tie cards (potentially relating to four different sections).

Each section corner would be represented by a point on a map. There would be a link from that point on a map to a database (spreadsheet) that listed all the section corner tie cards (by file name) to that point. In GIS terms, the database would be a lookup table that listed the tie card image file names. The file name could be hot linked to the tie card scanned image. Each point could potentially link to four separate file names and four tie card images.

- 4) link the section corner tie card images to the GPS coordinates collected by the surveyor

Vanderburgh County



Attributes of VanderburghGPSPOINTS.txt Events								
	PT_ID	NORTH_y	EAST_x	ELEV_z	SEC_TWP_R	PT	PT_TYPE	MATE
▶	1001	942289.6372	2791722.965	363.977	8/11/2015	A	SEC	STONE
	1002	944952.1272	2791816.697	356.181	8/11/2010	H	SEC	REBAR
	1003	947616.2412	2791918.816	352.127	8/11/2010	A	SEC	REBAR

Record: 1 Show: All Selected Records: (0 out of *2000 Selected.) Options

The tie card image file name could be incorporated into the database. Then you could click on the file name and open up the tie card image file.

- 5) Create a statewide database with the surveyor's survey quality GPS coordinates. This would be a long term goal. The database would be populated as the surveyor's collected the GPS coordinates for the section corners.

Bulletin Board concept

A proposal was made to have a bulletin board that surveyors could use to discuss relevant items. It was suggested that counties could use the bulletin board to post new section corner tie cards and/or coordinates to an ISPLS bulletin board and discuss solutions, issues or problems that arise.

How do you connect the scanned tie card to the map?

Possible ways to connect:

- 1) Use an ISPLS bulletin board to store the scanned tie cards
- 2) County computer IP address (this may result in security problems)
- 3) County server name - dedicated to storing section corner tie cards (GIS could link to the server name)
- 4) INGISI server – counties save files to computer disk or send files via the Internet to INGISI server
- 5) IN-Map server - IUPUI library server

Short term versus long term goals of getting section corner information digitally

Short term goal –

Surveyor's Goal –

- 1) to provide a digital map (on the internet) where you could click on that map and link to the county contact information that can provide section corner tie card information

GIS and Surveyor Goal to have a digital map showing the section corners for the state of Indiana (IGS

digitized the section corners boundaries from the USGS topographic maps and created the PLSS GIS layer. This PLSS GIS layer is not adequate for survey quality surveying but will be used by surveyors and the GIS community for reference purposes until a survey quality GIS layer is available).

Intermediate Goal –

Surveyor's Goal

- 2) Be able to click on a map and see scanned section corner tie card images for all the section corners in the area of interest.

Long Term Goal -

GIS and Surveyor's Goal Have a statewide map with one coordinate system and one datum (would be able to change the map so you could see different horizontal datum's) that you could click on and get survey quality accurate coordinates for the section corners in the state.

Need to survey Counties to see what they have

Active GIS County

- 1) Can link directly to County GIS web site?
- 2) Is surveyor tie cards or coordinate information available on the web?

Non GIS County

- 1) Define what the county has
- 2) Map – link county contact info to counties on a map
- 3) Need cookbook to define process for scanning and naming tie cards files
- 3) Need index of county's and/or surveyors
- 4) Need accurate coordinates
- 5) Metadata needed – set up template to be used (define where the information came from, who owns the data, datum, date the info was submitted)

Discussion of file naming convention

We need to add the prime meridian number to the file naming convention.

We need to add the township and range directions to the file names to accommodate a statewide dataset.

How do you handle the odd shaped section file names within grants, etc.?

USGS Benchmarks

Bob Wilkinson, DNR, volunteered to provide paper copies of the USGS bench mark data sheets to each county so the surveyor's office could scan the USGS benchmarks for their county during the time they are scanning the county section corner tie cards. The County Surveyor should contact Bob in advance to let him know when the bench mark data sheets would be needed.

Scanners to be purchased

There are two potential avenues for acquiring scanners for the purposes of scanning tie cards. The scanners to be purchased should include an automatic sheet feeder.

- 1) INGISI funds acquired through various grants to purchase scanners that could be checked out for surveyors to scan their tie cards.
- 2) ISPLS grant proposal – request to purchase scanners and computers for ISPLS. The county surveyors could check these scanners out to scan their tie cards.

Indiana Grid

Lorraine is to check and see what is being put together for the Indiana Grid for First Responders in emergency situations to make sure there is no duplication of efforts.

The INGISI Standards committee dropped the concept of a statewide grid (Indiana Grid) for emergency response applications. The resulting grid would be difficult to reference

without a numbering system that would be more cumbersome than an existing coordinate system like UTM. The GIS software has the ability to develop a grid as needed.

Processes to accomplish tasks

- A) Develop a list showing: 1) types of data that need to be accessible, 2) owner of data, 3) location of data, 4) status of data (paper or digital)
- B) Begin scanning/imaging tie cards

Source Table

Lorraine is to develop a Source Table of section corner and benchmark contact information.

Section Corner Pilot Case – to be shown at Dec. 18, 2003 meeting

Tom Mahon is to provide scanned tie cards and Lorraine will link the tie cards to the map to show an example of how the process will work.

Regional Planning Commissions (Transportation)

Contact the Regional Planning Commissions and let them know what this workgroup is doing so they can help the counties or participate if they would like to.