



SURVEYORS / GIS

TWO SIDES OF THE SAME COIN



RIGIS

Thirty Chapters of Amen-em-Ope son of Kanakht

Chapter 6 : Steal No Land And Eat From Your Own Field

- *Do not move the markers on the borders of fields.
Nor shift the position of the measuring-cord.
Do not be greedy for a cubit of land.
Nor encroach on the boundaries of a widow.
The trodden furrow worn down by time,
he who disguises it in the fields,
when he has snared (it) by false oaths,
he will be caught by the might of the Moon.*
- *And also from the same chapter:*
 - *Beware of destroying the borders of fields,
lest a terror carry You away.
One pleases god with the might of the Lord,
when one discerns the borders of fields.*





Three Surveyors and some other guy

THE TOOLS HAVE CHANGED



- Technology and the available tools have changed the way we gather and use survey data.
- Surveying as defined by state statutes similar from state to state.
- The legal definition of what surveying is in Rhode Island has not changed.
- NCEES Model Laws and Rules address Technology changes with a redefinition of surveying.



Construction

Hydrographic

Boundary



Geodesy

Photogrammetry

Forensic

GIS

RATIO :: SCALE



1:120

1"=10'

1"=20'

1"=30'

1:500

1"=40'

1"=50'

1"=60'

1"=80'

1:1,200

1"=100'

1:2,400

1"=200'

1:5,000

1"=400'

1:10,000

1"=800'


1:16,000

1"=1,000'



BOUNDARIES

NOT RESPONSIBLE FOR BREAKAGE THROUGH TRANSPORTATION OR FOR GOODS S



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Order No. *Sold to Tenn...*

OK Van O

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3	Col
1	12" S
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1	Box
2	Er
1	Box
1	Met
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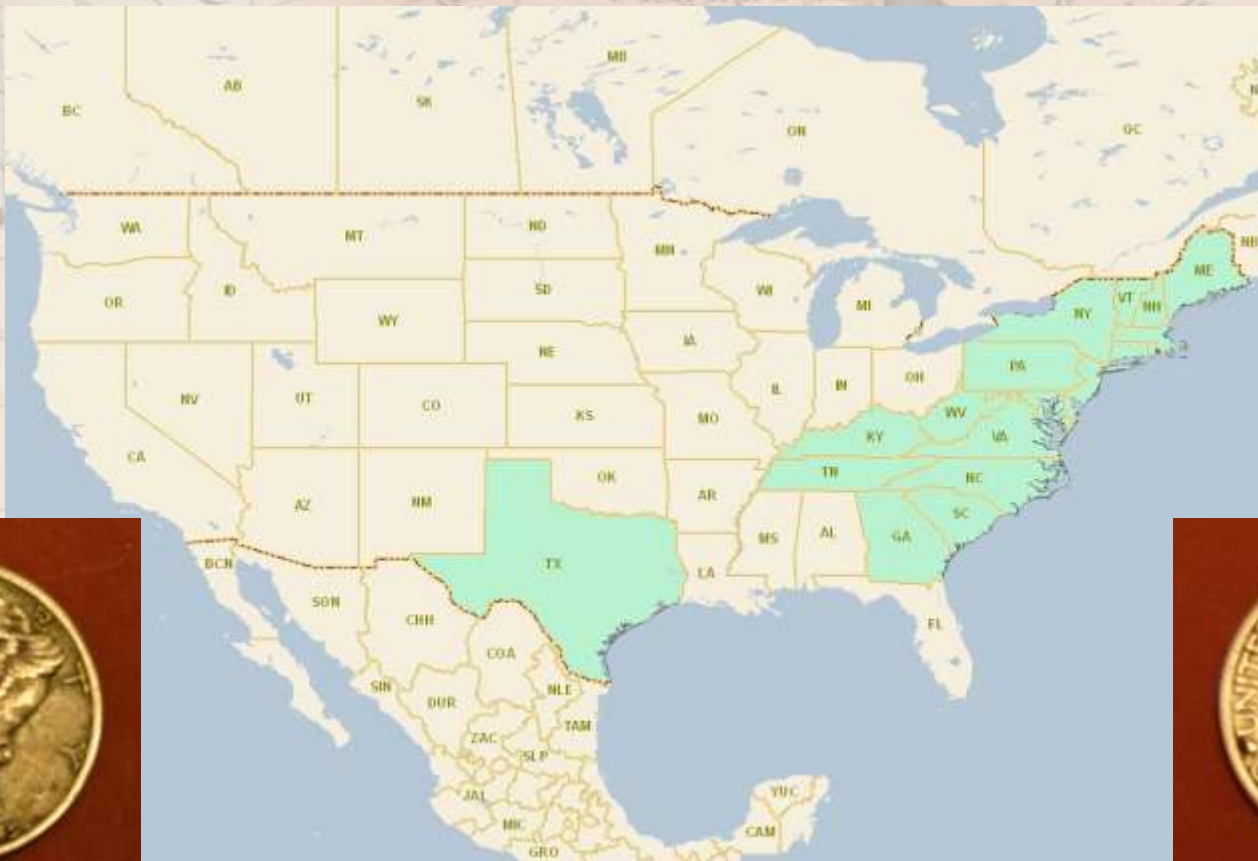
off. 10/75

10%



Twenty states do not use the Public Land System

Connecticut, Delaware, Georgia, Hawaii, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, and West Virginia-

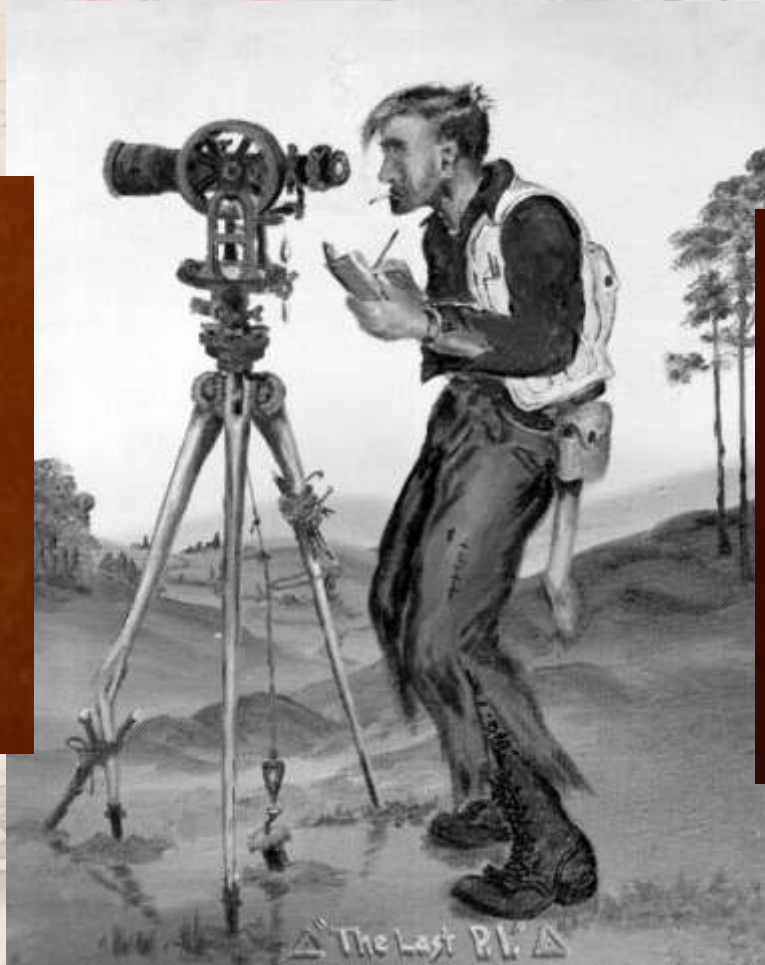


Proprietors, Land Companies, & Indians

Four Colonies (Massachusetts Bay, Plymouth, Rhode Island, & Connecticut) united to defeat the Narragansett Encampment here December 19, 1675



Accuracy –vs- Precision



The Last P.I.

“Authoritative”

For the purpose of this MOU we define:

“Authoritative” as:

Components or elements which:

1. Carry a PLS Stamp & Signature or are *explicitly declared or represented* as being equivalent or superior in accuracy to similar data depicted in any surveying activity referred to in RIGL Chapter 5-8.1;
2. Are *intended* to be used for any aspect of engineering design;
3. Are *intended* to be used for the determination of property boundaries, the location of fixed works, or topography;
4. Are *intended* to be utilized relative to any regulations, including but not limited to permit applications, that pertain to the location and bulk of improvements or fixed works;
5. Are to be utilized for the certification or declaration of positional accuracy of any spatial data.



Authoritative Locations Require a Survey

Zoning map is authoritative statement about
what can be done on either side of a boundary
...not about the location of the boundary itself

**There is a subtle difference between compiled survey
information from record documents and an accurate
boundary retracement survey.**

**The electronic compilation of existing survey plans of
record is not “Authoritative” to the boundary lines.**



Recording of Surveys Not Required Surveyors Proprietary Information

- Surveyors are the ones responsible by law for the *Vector Component* of Boundaries and at the moment there is not a coherent system in place to utilize the electronic data surveyors produce.
- The “authoritative” delineation of boundaries is currently a hodgepodge of recorded documents to include survey maps.





Actions necessary to minimize misuse of geospatial data:

Authoritative Geospatial Data will ***always*** include the stamp and signature of a RI Registered Professional Land Surveyor.

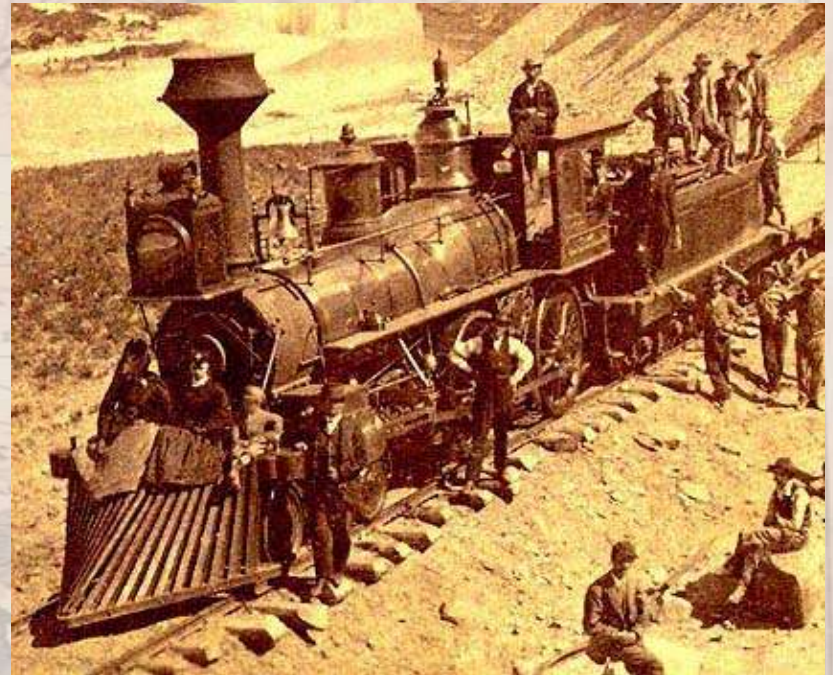
Non-Authoritative data will ***always*** include a disclaimer to be prominently displayed on maps (including paper, digital files such as pdf, jpg, tif, gif, etc, and web pages. The intent of the disclaimer is to make it abundantly clear to the user that the data are non-authoritative in terms of definitive location, elevation, depth, area or volume of any natural or man-made feature depicted.





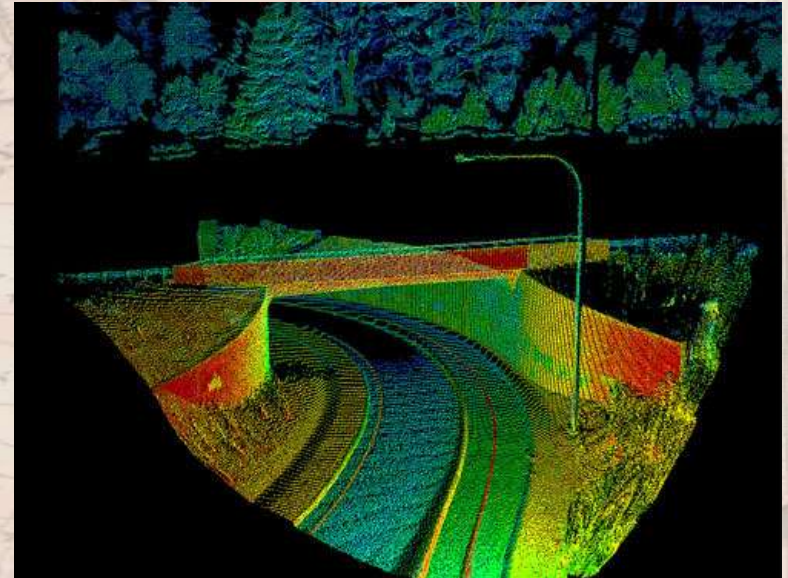
EXISTING PARADIGM

- Transit – Tape
- Total Station – EDM
- Paper – Mylar – Plans & Reports
- Line of Sight Surveying



PARADIGM SHIFT

- ELECTRONIC MEDIA
- GPS
- GIS



COORDINATES

• UNDISTURBED MONUMENTS CONTROL



1846	42°-01'-08.60"	71°-23'13.26"
1883	42°-01'-07.26"	71°-22'54.26"
1898	42°-01'-08.35"	71°-22'54.51"
1905	42°-01'-08.35"	71°-22'54.51"
1927	42°-01'-08.15"	71°-22'54.64"
1983	42°-01'-08.17"	71°-22'52.78"
2004	42°-01'-08.18"	71°-22'52.78"

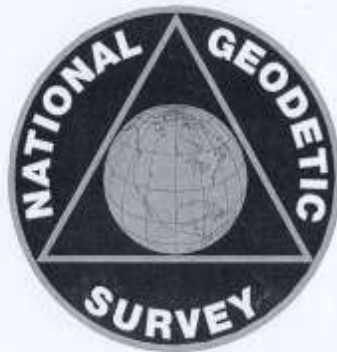


BURNTSWAMP CORNER

• BURNT SWAMP CORNER SET IN 1883
5'3"x9"x9" SET IN RUBBLE MASONRY
FOUNDATION 6'x6'x2' THE BOTTOM
BEING 5'-0" BELOW MEADOW AND ON
BLUE CLAY.

A MESSAGE FROM NOAA

**GOOD COORDINATION BEGINS WITH
GOOD COORDINATES**



GEOGRAPHY WITHOUT GEODESY IS A FELONY

A “Domesday” approach to creating an “Authoritative Cadastral Geodatabase” would create an economic stimulus equivalent to the infrastructure construction projects of FDR’s Works Projects Administration (WPA) in the 1930’s.

This century’s infrastructure is Geospatial ~ the Spatial Data Infrastructure (SDI). The building and restructuring of the SDI has the potential to lift us out of the current economic depression. The relevant multipurpose uses and economic benefits that would be derived from modeling our world in such a manner are enormous.

The building of an “Authoritative Cadastral Geodatabase” is this centuries WPA sidewalks. Can we afford not to do it?



- TRI-STATE - STATE LINE BOUND -
N42° 00' 28.98816" / W071° 47' 57.04736"



THANK YOU!

THAT'S BOTH SIDES OF MY TWO CENTS

**ED OBRIEN, PLS
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