PUBLIC LAND SURVEY SYSTEM (PLSS)
Ross Workman
Land Surveyor
History

• How history lead to the creation of the Public Land Survey System (PLSS)
• Revolutionary War –began 1775- ended 1783
• Declaration of Independence –July 4, 1776
• In 1784 Congress discussed issues, real problems
  • Country was broke
  • Borrowed money
  • Needed to pay soldiers
Vast Lands to the West

- People moving West
- U.S. wanted to secure ownership
- Unsure of how much land there was
- U.S. could sell the land to pay the debt
- Land was given to soldiers
Surveyors Input

• Several surveyors in Congress
• Land needed to be surveyed
• Do something different than Metes & Bounds
Andrew Nelson, Shown sighting through a Gurley transit.
Metes and Bounds

- Has a lot of Inherent problems
Sequential Conveyances
SIMULTANEOUS CONVEYANCE
Committee 1784

- Headed by Thomas Jefferson
- People from each of the colonies
  - Many ideas
  - Survey it first
  - Create a grid, ten miles, seven miles then six miles
    - Land ordinance of May 20, 1785
LAND ORDINANCE

• May 20, 1785
• The basic principles have not changed since 1785
• The beginning point
  • Where the west boundary of Pennsylvania crosses the north bank of the Ohio River.
112 feet south of this spot was the “point of beginning” for surveying the public lands of the United States there, on September 30, 1785, Thomas Hutchins, first geographer of the United States, began the geographers line of the seven ranges. This inscription was dedicated September 30, 1960, in joint action of the East Liverpool Historical Society and the American Congress on Surveying and Mapping.
Plan for numbering sections of a township adopted May 20, 1785
The act of May 18, 1796 began the contract system and the plan for numbering sections of a standard surveyed township was changed to the BOUSTROPHEDONIC system, which we use today.

Figure 1-2. A regular township.
April 25, 1812 the General Land Office was created as part of the Treasury Department to handle and dispose of the public lands.

The Act of March 3, 1849, created the Department of the Interior. The GLO was then transferred to the new department.
• The Act of May 18, 1796 begin the contract system; contracting with county and local surveyors.

• The Act of June 25, 1910, ended the contract system and established the direct system. All surveys are now made by appointed surveyors employed by the Federal Government.

• On July 16, 1946, the General Land Office was merged with the U.S. Grazing Service to form the new Bureau of Land Management.
Manual of Surveying Instructions

- Previous editions
  - 1855 first edition
  - 1871
  - 1881
  - 1890
  - 1894
  - 1902
  - 1930
  - 1947
  - 1973
  - 2009 (present edition went into effect September 24, 2009)

Prior to the publication of the Manual of 1855 the Secretary of the Treasury issued directions to surveyors in manuscript or in printed circulars. From these directions the Manual of Surveying Instructions evolved.

THERE IS AN ERRATA SHEET FOR THE 2009 MANUAL. IT CAN BE FOUND AT (www.blmsurveymanual.org/errata.asp)
A dividend of working in the wilds - fresh fish for dinner. This photo shows two members of Ted VanderMeer’s party in Covelo, California, Eel River, 1937.
PUBLIC LAND STATES

- THIRTY (30) States have been created out of the public domain.

**NON-PUBLIC LAND STATES**

- 18 Eastern States, District of Columbia, Hawaii and Texas

- UTAH- ceded by Mexico in 1848, and became part of the United States.
  - Became a state, January 4, 1896
  - Survey records-State Office-Salt Lake City
    - Records from original 1855 to the present are in our plat room on the 5th floor.
    - Now they are on the Utah BLM internet.
THE RECTANGULAR SYSTEM

FIRST GUIDE MERIDIAN

FIRST STANDARD

24 MILES NORTH

24 MILES SOUTH

PARALLEL NORTH

PARALLEL SOUTH

24 MILES WEST

24 MILES EAST
THE RECTANGULAR SYSTEM

Initial points
- The beginning point for the surveys of a given area.

Principal meridians
- They are intended to conform to the true meridian, extending north and south from the initial point.

Base lines
- They extend east and west from the initial point on a true parallel of latitude.
• **Standard parallels/Correction lines**
  - They extend east and west from the principal meridian at intervals of 24 miles north and south from the Base line.

• **Guide meridians**
  - They extend north from the base line, or standard parallel, at intervals of 24 miles east and west from the principal meridian.
THE INITIAL POINT FOR THE SALT LAKE BASE AND MERIDIAN
THE INITIAL POINT FOR THE UINTAH SPECIAL BASE AND MERIDIAN
“It’s dry enough to hold us,” Roger Wilson predicted before their truck became stuck in a wash after a cloudburst. The men are in the Borrego Valley in April 1938.
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WEST ON THE LATITUDINAL CURVE

NORTH 480.00

PARALLEL WITH THE EAST BOUNDARY

NORTH 480.00

WEST ON THE LATITUDINAL CURVE

80.00
THE RECTANGULAR SYSTEM OF SURVEYS
SHOWING CHRONOLOGICAL BREAK-DOWN OF Land Description

TOWNSHIP DIAGRAM
T. 2 N., R. 3 E.

BASE & MERIDIAN DIAGRAM

BASE & MERIDIAN DIAGRAM

SECTION DIAGRAM

Sec. 36
Sec. 31
Sec. 14
Sec. 6

N ½
320 Acres
Sec. 14

SW ¼
160 Acres

NE 1/4
SE ¼
40 Acres

10 Acres

SE SW SE

BASE
R4W, R3W
R2W, R1W
R1W

LINE
R4E, R3E
R2E, R1E
R1E

PRINCIPAL
R4S, R3S
R2S, R1S
R1S

MERIDIAN
T4N
T3N
T2N
T1N

TOWNSHIP
DIAGRAM

BASE
R4W, R3W
R2W, R1W
R1W

LINE
R4E, R3E
R2E, R1E
R1E

PRINCIPAL
R4S, R3S
R2S, R1S
R1S

MERIDIAN
T4N
T3N
T2N
T1N

SEC. 14

N ½
320 Acres
Sec. 14

SW ¼
160 Acres

NE 1/4
SE ¼
40 Acres

10 Acres

SE SW SE