

Memo to: Staff  
From: J. Eric Schuster *JES*  
Subject: The Culver system  
Date: January 6, 1988

The Division uses a modified version of a coded township-range-section location system that was developed by Harold Culver--thus the name. The system was originally used as follows:

1.) Each county was assigned a one- or two-letter code as shown below.

|              |    |              |    |
|--------------|----|--------------|----|
| Adams        | A  | Lewis        | L  |
| Asotin       | An | Lincoln      | Ln |
| Benton       | B  | Mason        | M  |
| Chelan       | Cn | Okanogan     | Ok |
| Clallam      | Cm | Pacific      | Pf |
| Clark        | Ck | Pend Oreille | P  |
| Columbia     | Ca | Pierce       | Pe |
| Cowlitz      | C  | San Juan     | SJ |
| Douglas      | D  | Skagit       | St |
| Ferry        | F  | Skamania     | Sa |
| Franklin     | Fn | Snohomish    | Sh |
| Garfield     | G  | Spokane      | Se |
| Grant        | Gt | Stevens      | S  |
| Grays Harbor | GH | Thurston     | T  |
| Island       | I  | Wahkiakum    | Wm |
| Jefferson    | J  | Walla Walla  | WW |
| King         | K  | Whatcom      | W  |
| Kitsap       | Kp | Whitman      | Wn |
| Kittitas     | Ks | Yakima       | Y  |
| Klickitat    | Kt |              |    |

This code is the first segment of a Culver-system location.

2.) Within each county townships were numbered in a manner similar to the sections in a township. Stevens County is shown as an example (see Figure 1). Notice that not every partial township got a number. Instead, some were labeled E, W, N, or S, and would be listed under the number of the neighboring township with the E, W, N, or S suffix. In Stevens County T.40N., R.36E., for example, would be listed as township 06W.

The township number is the second segment of a Culver-system location. Most counties require only two digits, but Okanogan and Yakima Counties require three. Maps showing the township numbers for all counties are in two ledger books, kept with the field notebooks, in the Division library. Maps showing township numbers for individual counties are frequently found in individual field notebooks in the library.

3.) The two-digit section number is the third segment of a Culver-system location.

4.) The final segment, preceded by a decimal point, gave the location within a section as follows. The section is divided into ten equal parts east-west and ten equal parts north-south. Starting at the southwest corner of the section these parts are numbered zero through nine. Location within the section is given by first listing the distance (0 through 9) east from the west line of the section and then the distance (0 through 9) north from the south line of the section.

The system can be used to specify locations within sections even more precisely by dividing the section into 100 equal parts instead of 10. Then the first two digits following the decimal point represent the distance (00 through 99) east from the west line of the section, and the second two digits the distance (00 through 99) north from the south line. This level of detail appears occasionally in field notes in the library.

As examples, some locations in section 1, T.37N., R.40E, Aladdin 7 1/2 minute quadrangle are listed below. A map of this section is shown as Figure 2.

- 1.) Hill 4374 in the NW quarter of section 1 is S2101.39.
- 2.) Hill 3971 in the south end of the NE quarter of section 1 is S2101.75.
- 3.) Hill 4204 in the SW quarter of section 1 is S2101.03.

The Culver system conveyed lots of information in a compact code, but it proved difficult to use because the code could not be translated back into a conventional section-township-range location without the appropriate county township index map.

The original Culver system is no longer used except to read old field notes in the Division library. Instead, the Division uses what is informally called the "modified Culver system". The modifications are as follows:

- 1.) Omit the one or two letter county code.
- 2.) Instead of a two or three digit township code, use the actual township and range numbers. List the two-digit "township North" number (1 through 41) first (no N is written because all townships in Washington are north of the Willamette base line). Next list the two-digit range number and specify either E or W for east or west (16W through 47E).

The example locations listed above become the following in the modified Culver system:

- 1.) Hill 4374 is 3740E01.39,
- 2.) Hill 3971 is 3740E01.75, and
- 3.) Hill 4204 is 3740E01.03.

Finally, since sections are not all square and 5280 feet on each

side, a transparent square template of fixed size does not work very well to determine locations within a section. Instead, a transparent template such as the one shown in Figure 3 works much better. In use, to find the distance east of the west line of the section, place the template on the section so that the outside line of the "0" side of the template intersects the west line of the section and the "9" outside line intersects the east line of the section and the point you are trying to locate falls on a straight line between the two. Make sure the template is square with the section lines and read and record the "tenth" in which the point falls. Repeat to find the distance north of the south line of the section, but placing the outside lines of the template so they intersect the north and south lines of the section. The lines on the template labeled 1:62,500 and 1:24,000 are the correct lengths for ideal sections at those map scales.

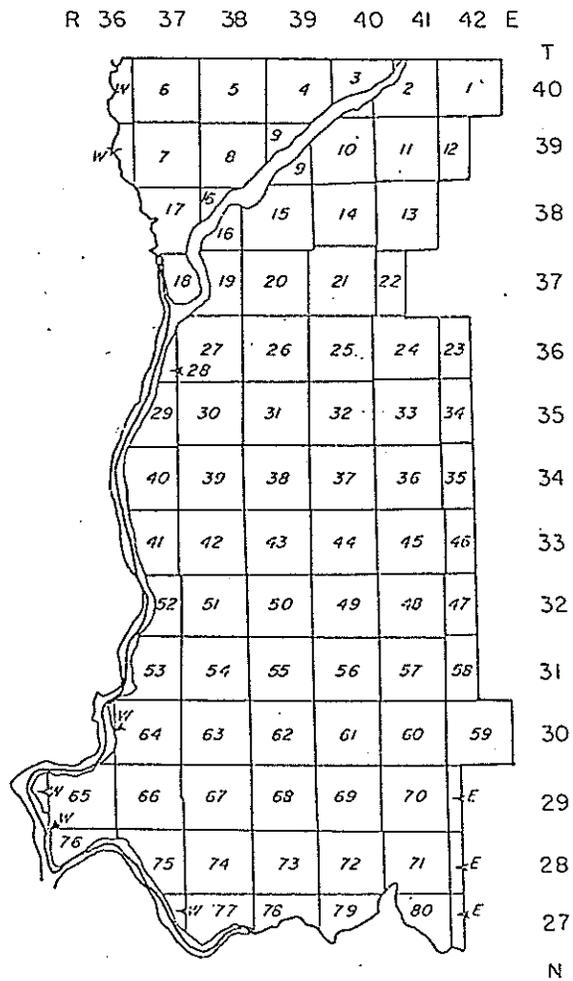


Figure 1. Culver system township index for Stevens County.

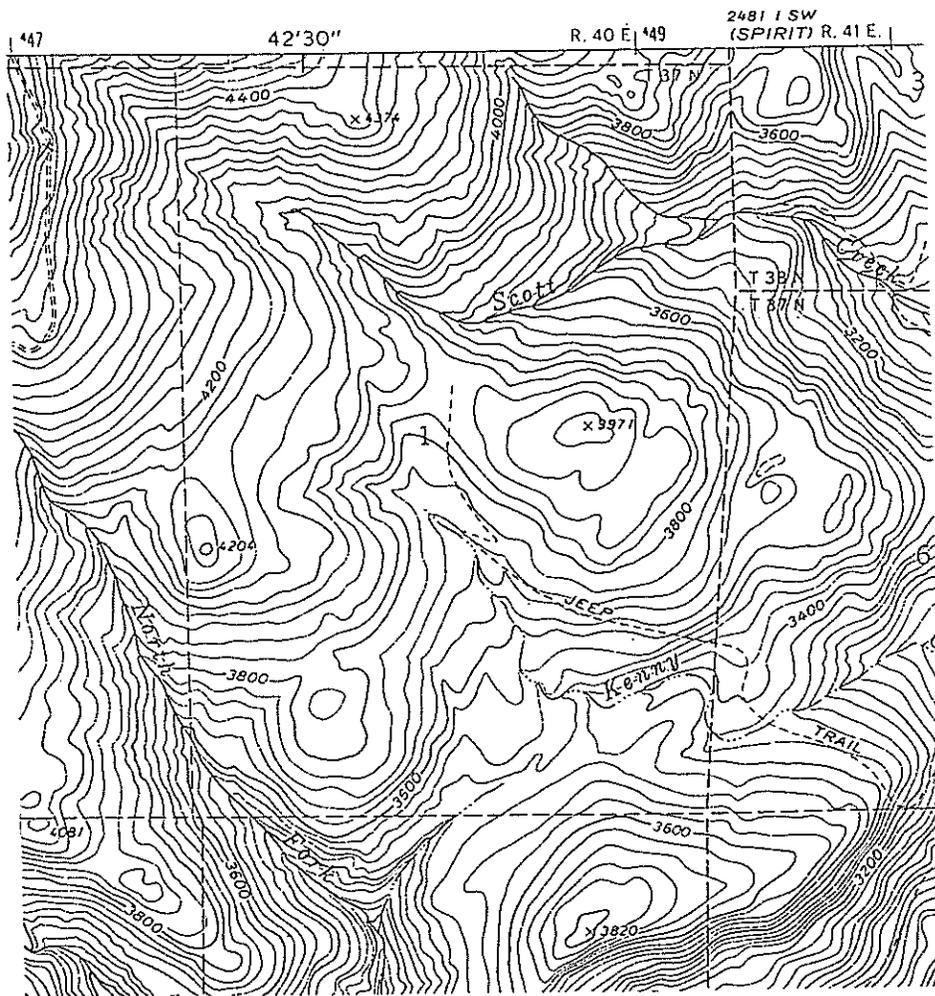


Figure 2. Part of the Aladdin 7 1/2 minute quadrangle, Stevens County.

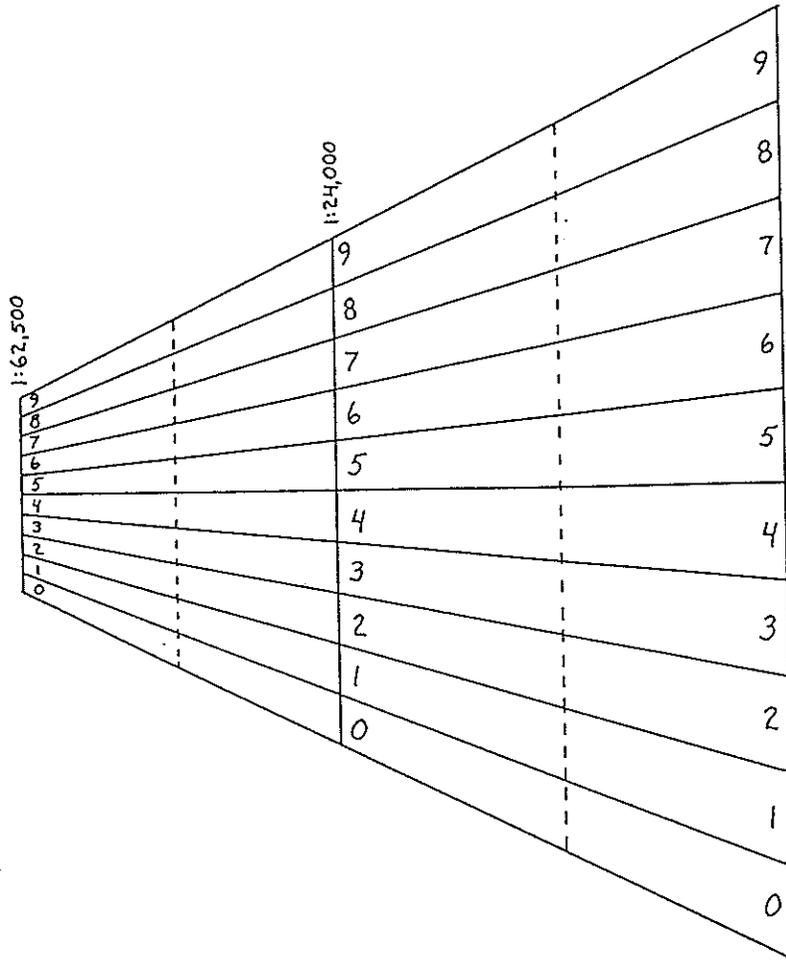


Figure 3. Culver system section template.