

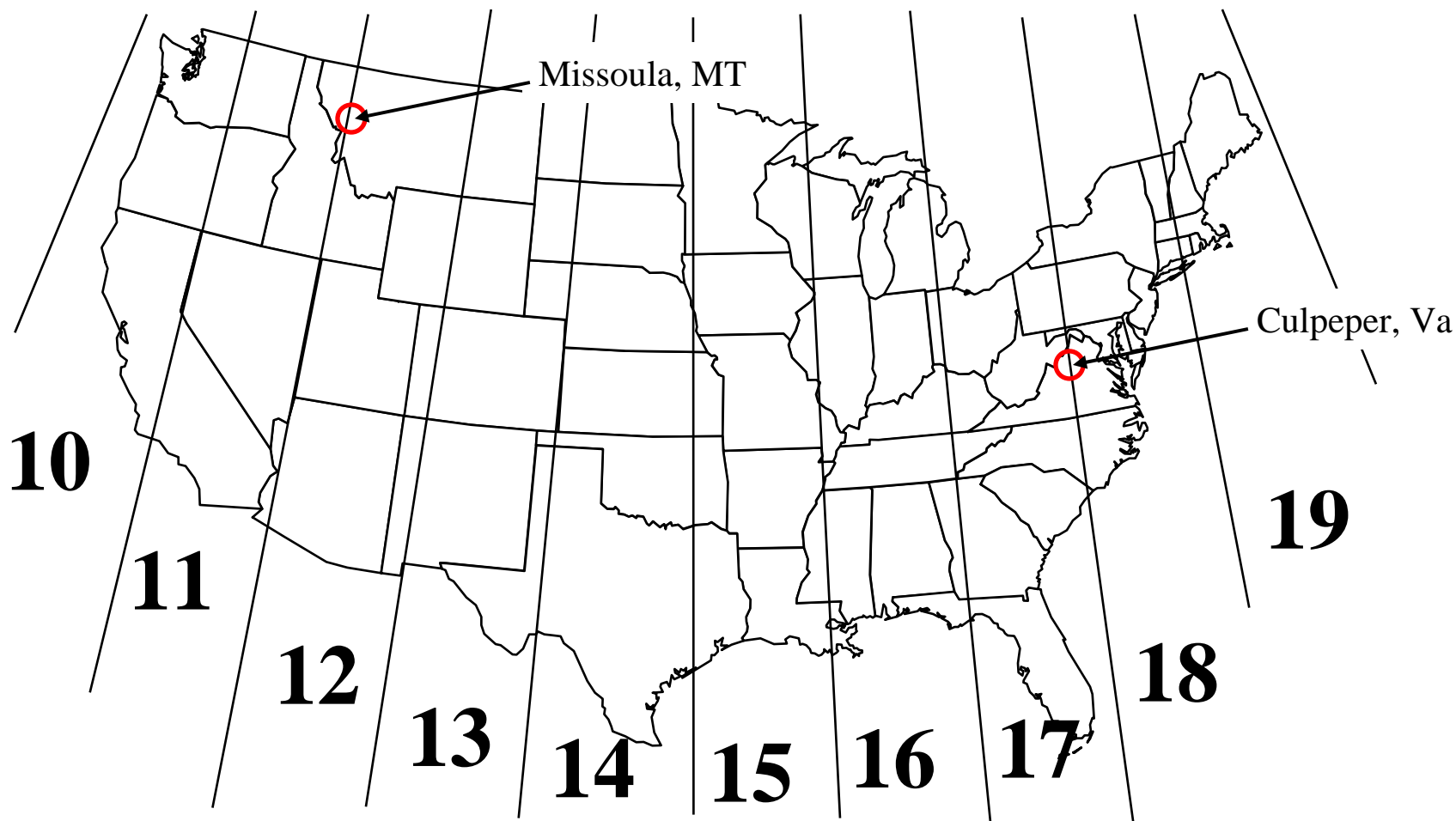
US National Grid (USNG)

Grid Zone Junction and Truncation/Abbreviation Illustrations

Missoula, MT & Culpeper, VA

UTM Grid Zones

126° 120° 114° 108° 102° 96° 90° 84° 78° 72° 66°



All plane coordinate systems have zone junctions. A characteristic of the UTM system is the minimum number of uniform zones that cover the US while retaining desired attributes. The figures in this brief illustrate how zone junctions do not pose a problem to US National Grid users. This is because the grid is overlaid on the lat/long graticule, and while digital systems (i.e. GPS receivers and GIS) display USNG values for our ease of use, the underlying calculations are using lat/long.

Missoula, MT

**820 Emma Ct.
12T TS 7148 9714**

**1723 Ethel Lane
11T QM 2854 9714**

GZD 12T

GZD 11T

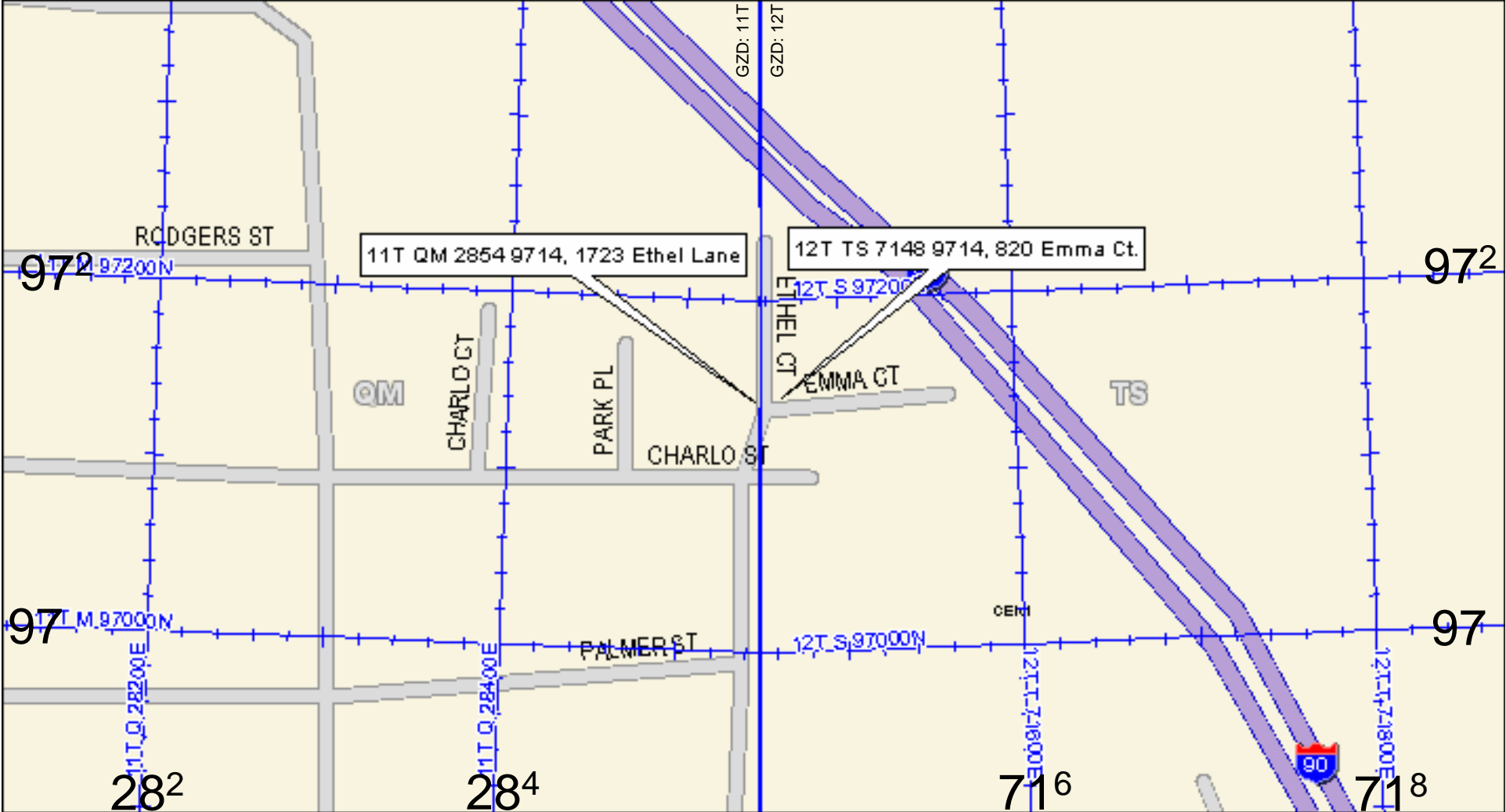
**114° W.
Longitude**

(Looking due South.)

28²

USNG: 11T QM 114° W USNG: 12T TS 716

718



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 www.delorme.com

USNG:
 11T QM



USNG:
 12T TS



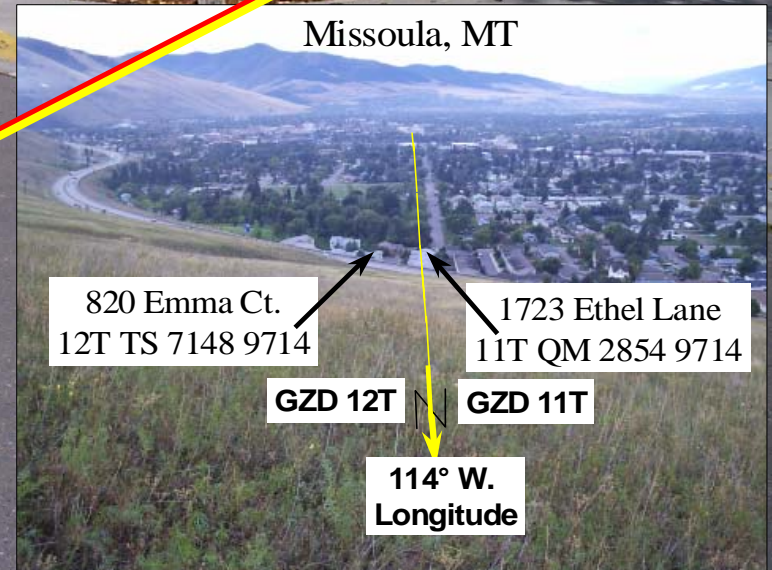
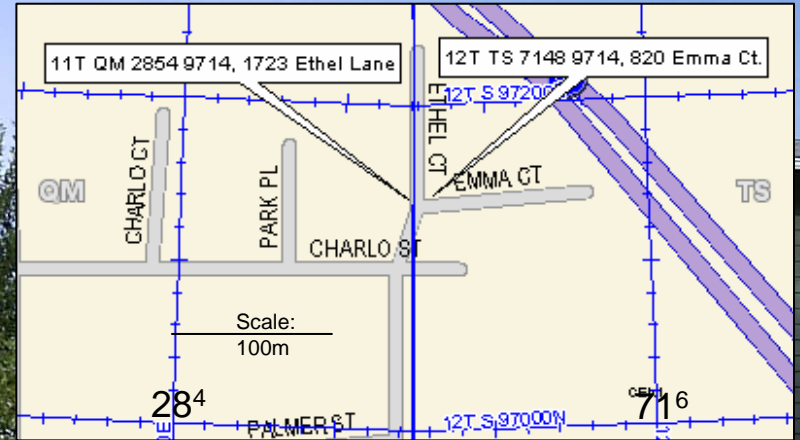
Data Zoom 15-0

**1723 Ethel Lane
11T QM 2854 9714**

**GZD 11T
114° West
Longitude
GZD 12T**

**820 Emma Ct.
12T TS 7148 9714**

Missoula, MT



While adjacent, within feet of the zone junction,
each business has its own absolute geaddress.

501 W. Broadway
11T QM 2857 9552

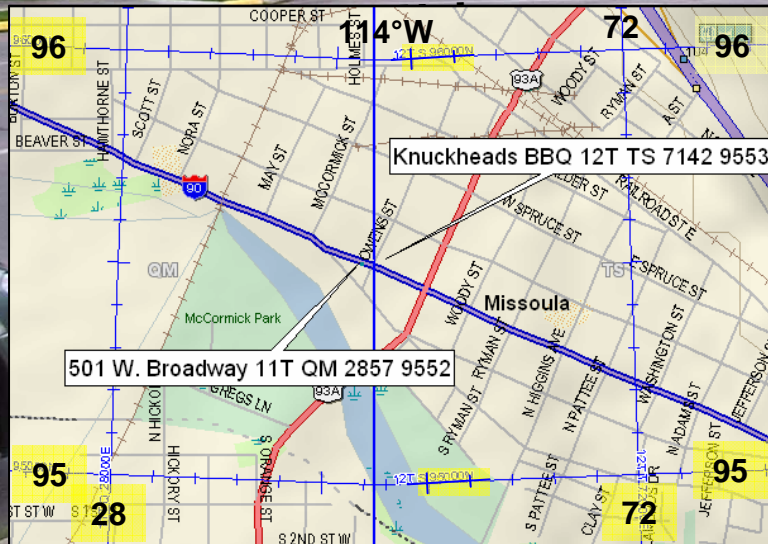
GZD 11T

GZD 12T

Knuckleheads BBQ
450 W. Broadway
12T TS 7142 9553

Missoula, Montana

Grid Zone junction between Zones 11 and 12



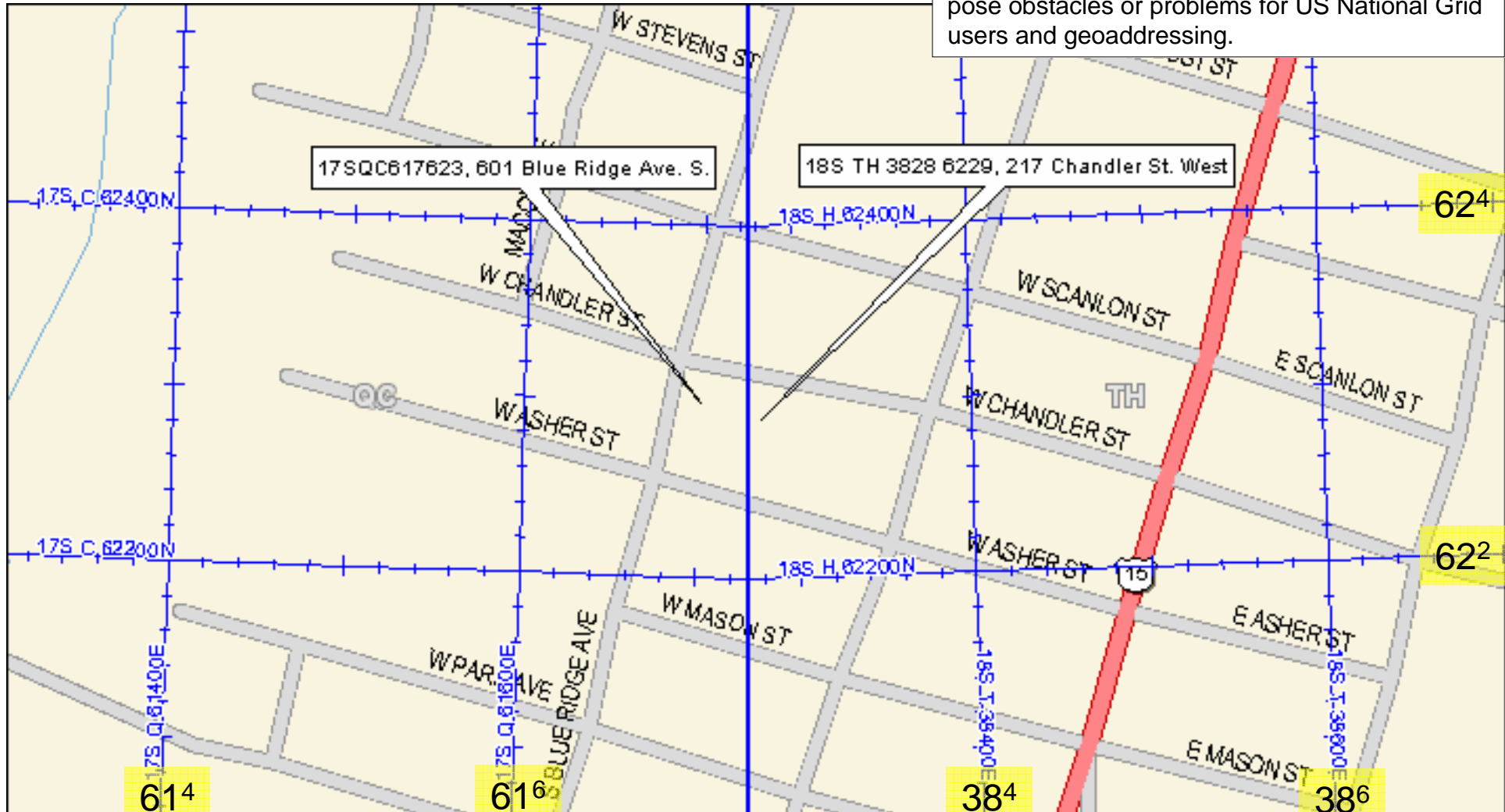
US National Grid at Zone Junctions



If you were to walk east and west along Chandler Street with a GPS receiver, crossing the 78° West meridian, you would see the Grid Zone Designation change automatically between 17S and 18S. This is because the location calculations are being made in lat/long, and translated on the fly for presentation as USNG values which are easier to use on maps at larger scales.

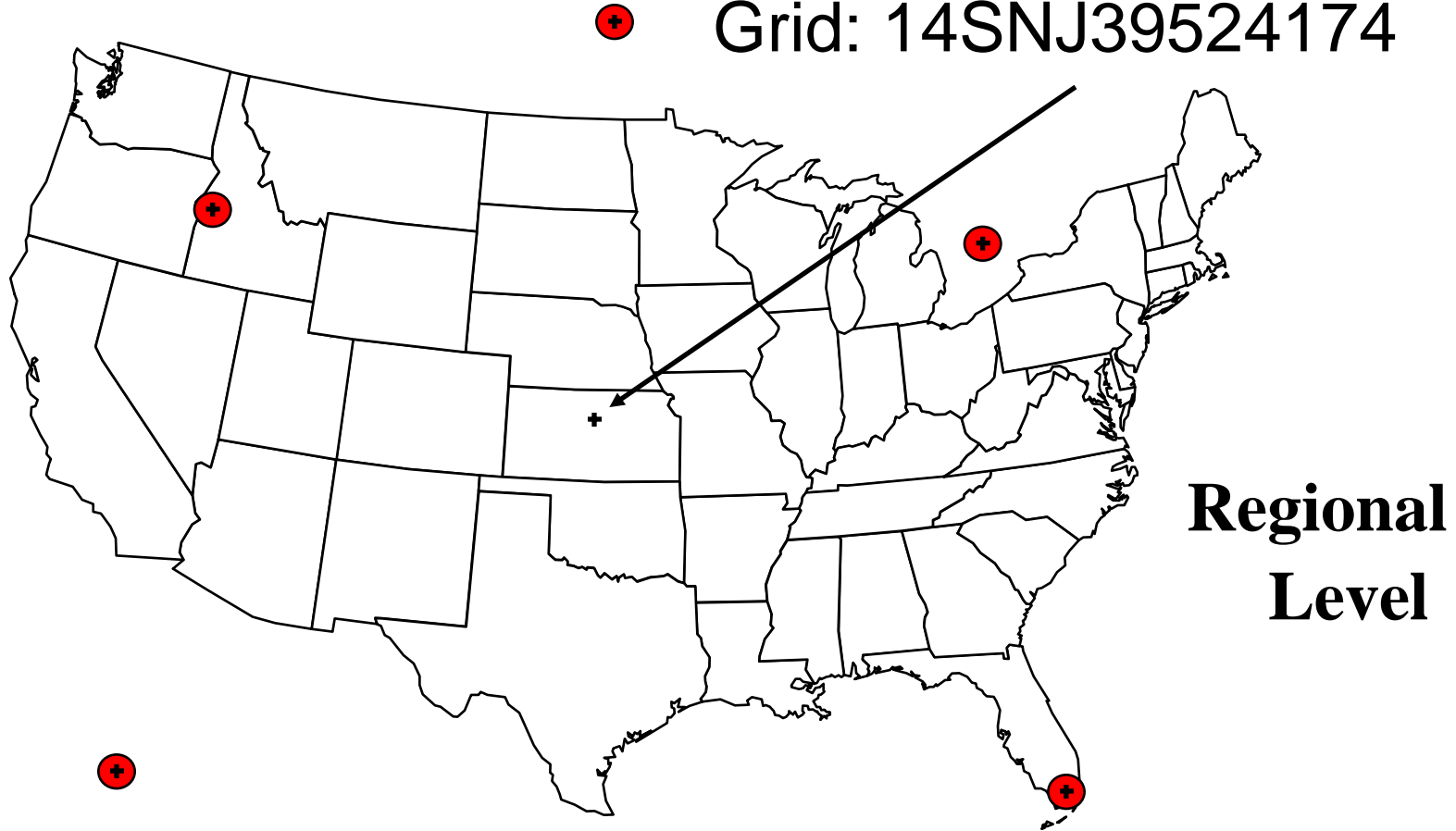
Culpepper, VA 78° W

GPS receivers, like the software this map was displayed with, automatically present the correct zone in the coordinate readout when users cross zone junctions. Thus a junction, while offering a 'zipper-like' appearance on maps, does not pose obstacles or problems for US National Grid users and geocoding.



The Power of Truncated UTM/USNG Values

Meades Ranch, KS;
Grid: 14SNJ39524174



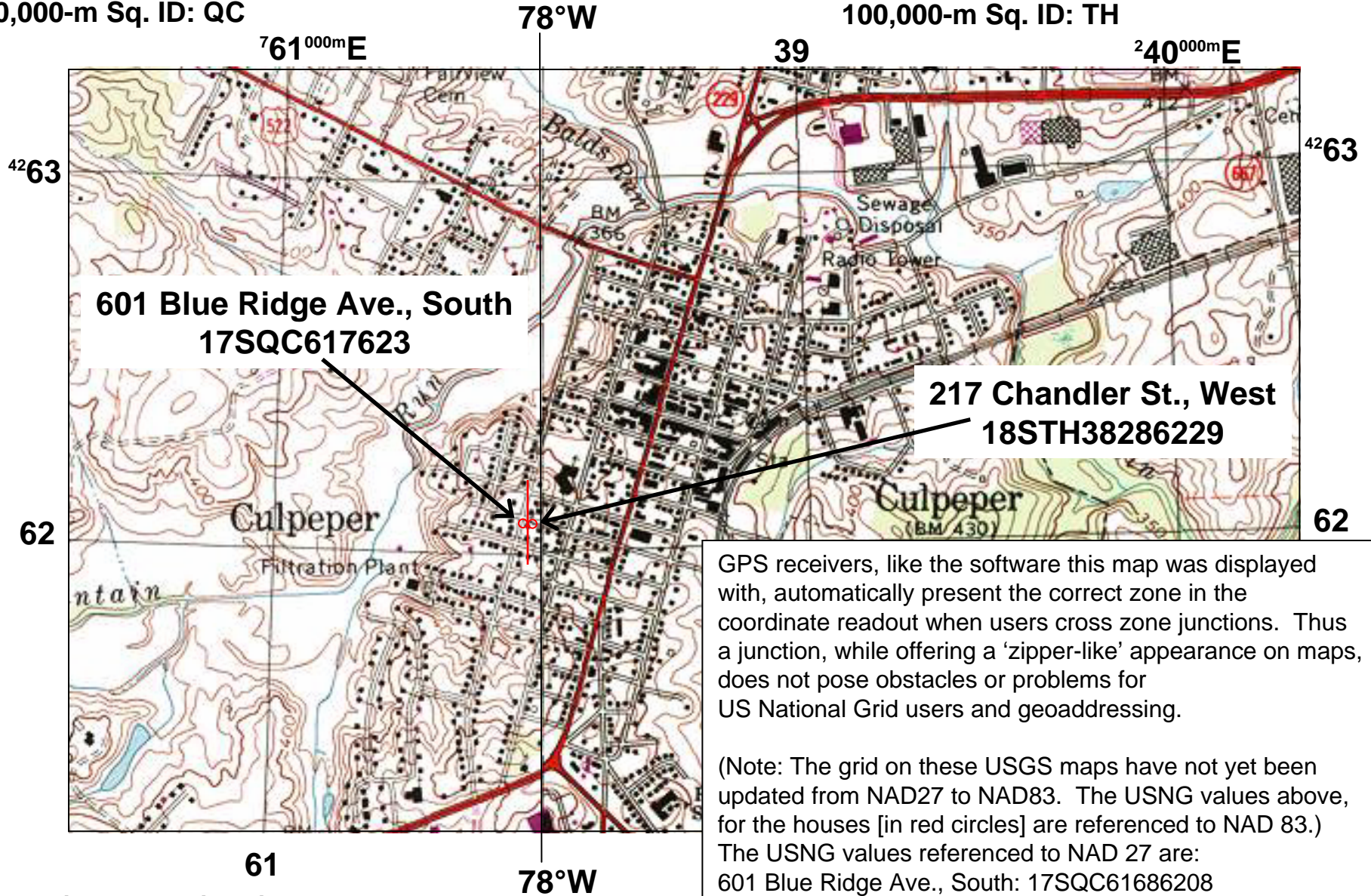
⊕ = Approximate locations of nearest points that have the value NJ39524174

Back Up Slides

US National Grid (USNG), Geaddressing, and Zone Junctions.

GZD: 17S
100,000-m Sq. ID: QC

GZD: 18S
100,000-m Sq. ID: TH



GPS receivers, like the software this map was displayed with, automatically present the correct zone in the coordinate readout when users cross zone junctions. Thus a junction, while offering a 'zipper-like' appearance on maps, does not pose obstacles or problems for US National Grid users and geaddressing.

(Note: The grid on these USGS maps have not yet been updated from NAD27 to NAD83. The USNG values above, for the houses [in red circles] are referenced to NAD 83.)
The USNG values referenced to NAD 27 are:
601 Blue Ridge Ave., South: 17SQC61686208
217 Chandler St., West: 17SQC61716207

Grid Zone Designation = GZD
Grid: NAD 27