

Montana Department of Transportation PO Box 201001 Helena MT 59620-1001



Memorandum

To: Right of Way Design Supervisors - Glendive, Butte, Billings, Great Missoula, Helena

James R. Mullins
Design Manager
Right-of-Way Bureau

August 11, 2005

Subject Retracement Surveys – A guideline for R/W plans

(Calculated Points)

Consultant Design

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As designers and supervisors we see retracement surveys from District, Headquarters and Consultant Surveyors. Generally there are two theories when it comes to retracement of the existing r/w:

- 1. Hold the found monuments. Using this approach, calculated points generally are not created; the record r/w widths and curve data are not maintained. Historically r/w was obtained relative to the centerline and not relative to r/w monuments.
- 2. Using the found monuments, a best-fit centerline is determined for a geometrically correct alignment. The r/w is then determined relative to this centerline. This procedure may create a calculated point. A calculated point is generally the calculated position of the r/w in close proximity of a found monument.

If these calculated points are based on a proper retracement of the ex. r/w by a PLS, these points can and should be used to establish the station and offset distance of a r/w = ex. r/w location.

For example: A COS may show a found r/w monument as well as a calculated point where the Surveyor believes the location of the monument should be, based on a geometrically correct alignment. For right of way design purposes, the ex. r/w line should pass through the calculated point, as shown on the COS. A new cell called CALC

has been developed for use on right of way plans to show the location of the calculated point.

The CALC cell is an open diamond similar to the found r/w monument cell 'RWMON'.

When referencing the calculated point on the right of way plans – the callout should give a station, an offset distance and a note (CALC).

158+17.43

This will clarify that the calculated point was used for defining the ex. r/w. When using a calculated point, the corresponding found monument should not be shown. The plan sheet should also have the 'EXRW' cell referring to the retracement survey and recording data turned on.

If you have any questions please advise Thank you

JRM:jrm

Copies

Dave Davis, PLS

Photogrammetry & Survey Section

Mick Brown, PLS

District Land Surveyor - Great Falls

Tom S. Martin, P.E.

Consultant Design Engineer