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MEMORANDUM

TO: Dirk Jablonski, P.E.
Director of Public Works

FROM: John Less, P.E.
Traffic Engineer

SUBJECT: W. Main Street and S. Berry Pine Road
W. Main Street and Pinedale Heights Drive
Evaluation of Existing Traffic Control

DATE: April 5, 2007

At the March 14, 2007 Public Works Committee Meeting, staff was directed to review the existing traffic control at the intersection of W. Main Street and S. Berry Pine Road and at the intersection of W. Main Street and Pinedale Heights Drive. Staff has conducted traffic volume counts on the subject approaches and reviewed the available crash data and has the following comments:

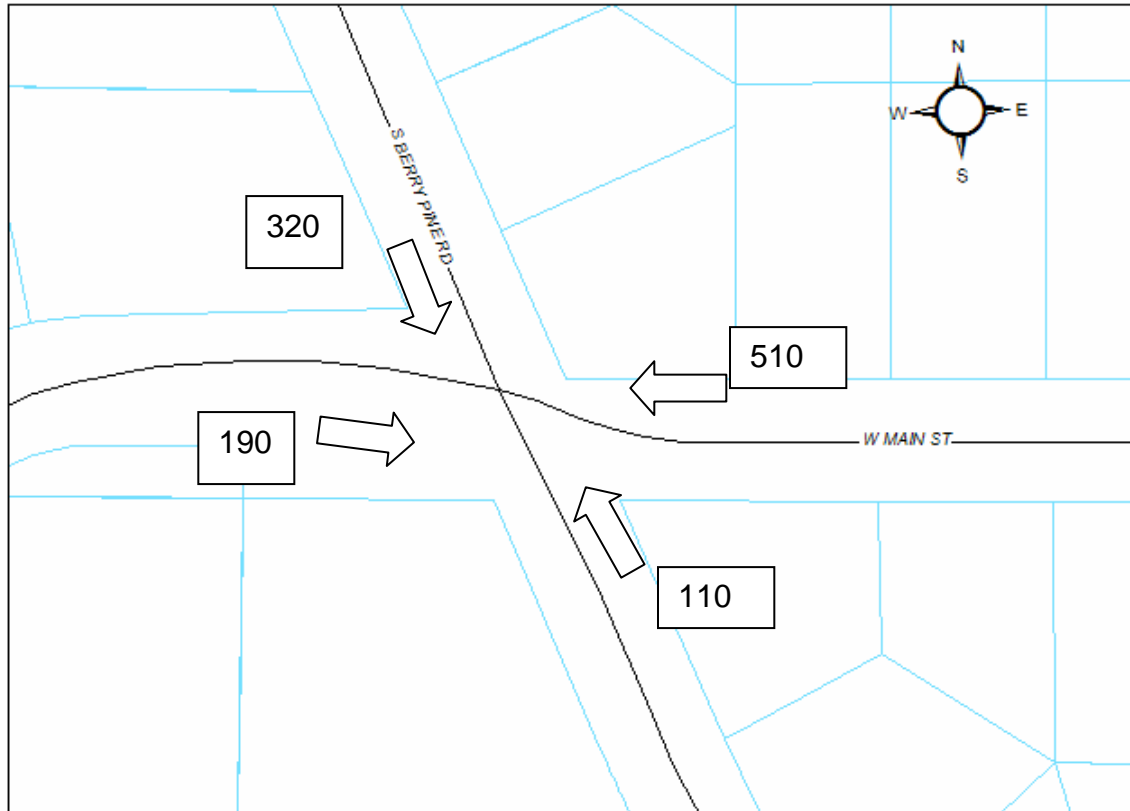
W. Main Street and S. Berry Pine Road

- 1) The intersection presently operates as an all-way STOP.
- 2) There is a marked crosswalk on the east approach of W. Main Street. Eight school-age pedestrians were observed using this crossing between and.
- 3) There was one crash between 01/01/2004 and 12/31/2006. The crash was a single vehicle crash that occurred under icy road conditions.
- 4) Approach counts were collected on 03/27/2007 and are shown below:



EQUAL OPPORTUNITY EMPLOYER

April 5, 2007
Page 2 of 6



The existing volume distribution pattern is atypical of cross intersections where approach volumes are either equally distributed or where the preponderance of traffic is on one road.

- 5) The existing volumes do not meet the all-way STOP control volume warrants suggested in the Manual on Uniform Traffic Control Devices 2003 (MUTCD).
- 6) Sight distance from the north and south approaches is restricted by vegetation and the skewed configuration of the intersection. Photographs taken from the drivers perspective at the STOP bar are shown below:

April 5, 2007
Page 3 of 6



Northbound S. Berry Pine Road, looking east



Southbound S. Berry Pine Road, looking east

April 5, 2007
Page 4 of 6



Southbound S. Berry Pine Road, looking west

The MUTCD suggests that all-way STOP control be considered at, "locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop."

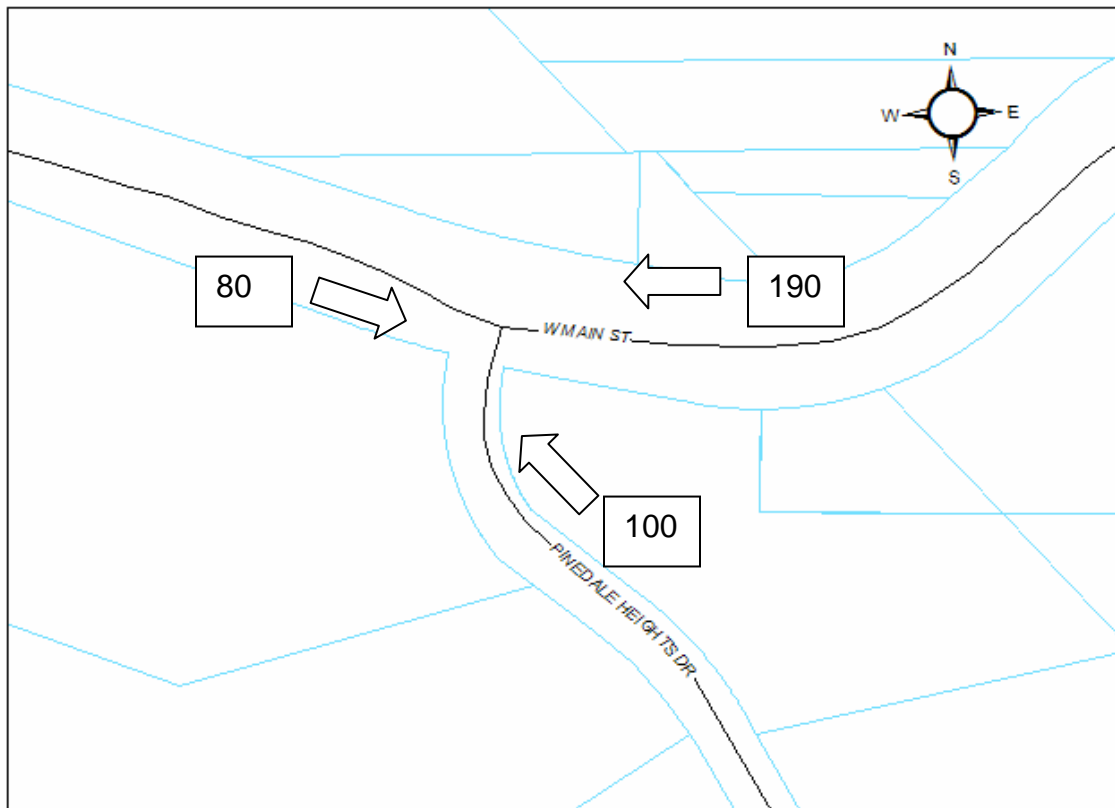
- 7) The east and west approaches are not aligned.
- 8) The approach grades are not excessive.

W. Main Street and Pinedale Heights Drive

- 1) The intersection presently operates as an uncontrolled intersection. State law requires that, "When two vehicles approach or enter an intersection at approximately the same time, the driver of the vehicle on the left shall yield the right-of-way to the vehicle on the right" (SDCL 32-26-13).
- 2) There were no reported crashes between 01/01/2004 and 12/31/2006.

April 5, 2007
Page 5 of 6

- 3) Approach counts were conducted on 03/27/2007 and are shown below:



The existing volumes do not meet the all-way STOP control volume warrants suggested in the MUTCD.

- 4) The grade of the south approach is significantly downhill approaching the intersection. The intersection itself is warped to accommodate the slope.

CONCLUSIONS

W. Main Street and S. Berry Pine Road

- 1) The restricted intersection sight distance from S. Berry Pine Road merits having W. Main Street traffic continue to STOP at the intersection.

W. Main Street and Pinedale Heights Drive

- 2) The existing traffic volumes on both approaches of the W. Main Street and Pinedale Heights Drive are very low.
- 3) There is no crash history at the intersection.

April 5, 2007

Page 6 of 6

- 4) Existing State traffic law governs the assignment of right-of-way at the intersection and favors right turning traffic from Pinedale Heights Drive (on the downhill).
- 5) The majority of drivers entering the intersection are regular users.

RECOMMENDED ACTION

- 1) The existing all-way STOP control at Main Street and S. Berry Pine Road should remain in place.
- 2) No traffic control devices should be installed at this time at W. Main Street and Pinedale Heights Drive.