

TRAFFIC
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Sign	Roadway/Intersection Characteristics	Sign/Detection Placement	MUTCD Comments
<p>1. Minor Road</p> 	<p>Iowa – Dyersville – US 20 (4-lane; 9,000 ADT) and 7th St (2-lane; 735 ADT)</p> <p>Iowa – Anamosa – US 151 (4-lane; 10,050 ADT) and Old Dubuque Rd (2-lane; 1,385 ADT)</p> <p><i>Problem: Gap acceptance</i></p> <p>Missouri – Lowry City – MO 13 (4-lane; 10,000 ADT) and 1st St (2-lane)</p> <p>Missouri – Osceola – MO 13 (4-lane; 10,000 ADT) and Truman Rd (2-lane)</p> <p>Missouri – 8 other locations</p> <p><i>Problem: Gap acceptance</i></p>	<p>Sign (with yellow flashers): 50-70' to the left of STOP; on major road</p> <p>Detection (loops): 1000' before intersection on major road</p>	<p>No MUTCD conflicts</p> <p>Beacons addressed in Chapter 4L</p> <p>Word Message Warning Signs addressed in Section 2A.06</p>
<p>2. Minor Road</p> 	<p>Minnesota – Goodhue County – US 52 (4-lane; 17,500 ADT) and Co Rd 9 (2-lane)</p> <p>Minnesota – Mille Lacs County – US 169 (4-lane; 11,200 ADT) and Co Rd 11 (2-lane)</p> <p>Minnesota – Lyon County – MN 23 (4-lane; 6,200 ADT) and Co Rd 7 near Marshall</p> <p>Wisconsin – Minong – US53 (4-lane; 4,400 ADT) and WI 77 (2-lane; 2,850 ADT)</p> <p>Posted speed 65 MPH</p> <p><i>Problem: Gap acceptance</i></p>	<p>Sign (DMS): First on far-side, opposite corner from STOP and second on far-side corner from median STOP/YIELD</p> <p>Detection (radar): First approximately 800' and second approximately 150' before intersection</p>	<p>Sign is experimental, additional approval needed if used in other locations. Experimentation Approval Number 2-644(E) applies for MN and 2-656(E) for WI.</p>
<p>3. Minor Road</p> 	<p>Minnesota – Hennepin County – Co Rd 47 (2-lane; 3,150 ADT) and Lawndale Ln (2-lane; 100 ADT)</p> <p>Posted speed 40 MPH</p> <p><i>Problem: Sight distance</i></p>	<p>Sign (with yellow LED arrow-shaped flashers): Far-side corner from STOP</p> <p>Detection (radar): 750' before intersection</p>	<p>LOOK legend reserved for regulatory signs within RR right of way, see Official Interpretation 2(09)-27(I).</p> <p>Cannot combine symbols with special word message signs per Section 2A.06</p>
<p>4. Minor Road</p>	<p>Minnesota – Washington County – Manning Ave/CSAH 15 (2-lane) and McKusick Rd/CR 64 (2-lane)</p>	<p>Sign (8 LED lights on STOP): At STOP</p>	<p>Combining the W1-7 and W4-4P is not a standard</p>

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	<p>Posted speed 55 MPH <i>Problem: STOP running</i></p>	<p>Detection (radar):</p>	<p>warning sign.</p>
<p>5. Minor Road</p> 	<p>Georgia – Gwinnett County – Lester Rd (2-lane; 9,800 ADT) and Cutler Dr (2-lane residential)</p> <p>Georgia – Gwinnett County – 17 other locations with major road and both major/minor road systems</p> <p>Posted speeds 25-45 MPH <i>Problem: Sight distance</i></p>	<p>Sign (with red flashers): Far-side, left from STOP</p> <p>Detection (loops): Approximately 500' before intersection</p>	<p>Red beacon can only be used with STOP, DO NOT ENTER or WRONG WAY signs – Section 4L.04</p>

Sign	Roadway/Intersection Characteristics	Sign/Detection Placement	MUTCD Comments
<p>6. Major Road</p> 	<p>North Carolina – Pender County – US 421 (4-lane; 4,400 ADT) and NC 210 (2-lane; 1,900 ADT) – Category 3</p> <p>Posted speed 55 MPH</p> <p><i>Problem: Gap acceptance</i></p> <p>North Carolina – 21 other locations; variety of 2-lane and 4-lane roadways</p>	<p>Sign (with yellow flashers): May be single or dual placement for multi-lane roads; placed using MUTCD Table 2C-4. Guidelines for Advance Placement of Warning Signs</p> <p>Detection (loops): 250-400' from intersection based on design speed</p>	<p>No MUTCD conflicts</p> <p>Beacons addressed in Chapter 4L</p> <p>Word Message Warning Signs addressed in Section 2A.06</p>
<p>7. Major Road</p> 	<p>Minnesota – Milaca – US 169 (4-lane; 11,200 ADT) and Co Rd 11 (2-lane)</p> <p>Posted speed 65 MPH</p> <p>Michigan – Benzie County – US 31 (2-lane; 8,200 ADT) and Grace/Love Rd (2-lane)</p> <p>Posted speed 45 MPH</p> <p>Michigan – Germfask – M-77 (2-lane; 1,900 ADT)</p> <p>Posted speed 45 MPH</p> <p><i>Problem: Gap acceptance and sight distance</i></p>	<p>Sign (with yellow flasher): 850-1,000' before intersection</p> <p>Detection (magnetic): 400-450' from STOP on minor road; at STOP bar; in median; in major road left turn lane</p>	<p>No MUTCD conflicts</p> <p>Beacons addressed in Chapter 4L</p> <p>Word Message Warning Signs addressed in Section 2A.06</p>
<p>8. Major Road</p> 	<p>Missouri – Tunas – Missouri 73 (2-lane; 2,100 ADT) and Routes E/D (2-lane; 400 ADT)</p> <p>Posted speed 55 MPH</p> <p>Missouri - Louisburg – US 65 (2-lane; 5,100 ADT) and Missouri 64 (2-lane; 1,200 ADT)</p> <p>Posted speed 45 MPH</p> <p><i>Problem: Sight distance</i></p> <p>Missouri - 7 other locations</p>	<p>Sign (with yellow flashers): 600-800' before intersection</p> <p>Detection (loops): Actuated at minor road STOP</p>	<p>No MUTCD conflicts</p> <p>Beacons addressed in Chapter 4L</p> <p>Word Message Warning Signs addressed in Section 2A.06</p>

Sign	Roadway/Intersection Characteristics	Sign/Detection Placement	MUTCD Comments
<p>9. A-Major Road B-Minor Road</p> 	<p>North Carolina – Brassfield – NC 96/Brassfield Rd (2-lane; 1,300 ADT) and NC 96/Horseshoe Rd (2-lane; 4,000 ADT) – Category 1</p> <p>Posted speed 55 MPH</p> <p><i>Problem: Gap acceptance</i></p> <p>North Carolina – 46 other locations; variety of 2-lane and 4-lane roadways</p>	<p>Sign (with yellow flashers): May be placed at or before intersection on major or minor road</p> <p>Red flashers in conjunction with STOP</p> <p>Detection (loops): 250-400' from intersection based on design speed</p>	<p>No MUTCD conflicts</p> <p>Beacons addressed in Chapter 4L</p> <p>Word Message Warning Signs addressed in Section 2A.06</p>
<p>10. A-Major Road B-Minor Road</p> 	<p>Minnesota – St. Louis County – W Tischer Rd/Co Rd 2 (2-lane; 980 ADT) and Eagle Lake Rd/Co Rd 246 (2-lane; 550 ADT)</p> <p>Posted speed 45-55 MPH</p> <p><i>Problem: Sight distance</i></p>	<p>Sign-Major (with spot LED flashers): 525' before intersection</p> <p>Sign-Minor (with spot LED flashers): Far-side corner from STOP</p> <p>Detection (radar and passive infrared): 2 radar detectors on minor road installed at STOP; 2 passive infrared detectors on major road 460' and 645' before intersection</p>	<p>No MUTCD conflicts</p> <p>Beacons addressed in Chapter 4L</p> <p>Word Message Warning Signs addressed in Section 2A.06</p>

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<p>11. A-Major Road</p> 	<p>B- Minor Road</p> 	<p>Minnesota – Wright County:</p> <ul style="list-style-type: none"> • CSAH 8 @ CSAH 35 (2-lane; 1,850 ADT) • CSAH 6 @ CSAH 35 (2-lane; 1,125 ADT) • CSAH 9 @ CR 107 (2-lane; 1,113 ADT) <p>Posted speed 55 MPH</p> <p><i>Problem: Gap acceptance</i></p> <p>Minnesota – Scott County – CSAH 42 @ CSAH 17</p>	<p>Sign-Major (with yellow flashers): 600-800' before intersection</p> <p>Sign-Minor (with yellow LED arrow-shaped flashers): Far-side corner from STOP</p> <p>Detection (radar): 600' before intersection on major road</p>	<p>LOOK legend reserved for regulatory signs within RR right of way, see Official Interpretation 2(09)-27(I).</p> <p>Cannot combine symbols with special word message signs per Section 2A.06</p>
<p>12. A-Major Road</p> 	<p>B-Minor Road</p> 	<p>Pennsylvania – Butler County – S.R. 38 (2-lane; 3,200 ADT) and S.R. 138/North Washington Rd (2-lane; 825 ADT)</p> <p>Posted speed 35 MPH</p> <p>Pennsylvania – Butler County – S.R. 38 (2-lane; 3,200 ADT) and S.R. 1010/Hooker Rd (2-lane; 950 ADT)</p> <p>Posted speed 35 MPH</p> <p><i>Problem: Sight distance</i></p> <p>Virginia – Prince William County – Fleetwood Dr and Aden Rd/S.R. 646</p>	<p>Sign-Major (with DMS): 200-500' from intersection</p> <p>Sign-Minor (DMS): Far-side corner from STOP</p> <p>Detection (loops): 300-1,000' before intersection</p>	<p>Changeable message signs shall not use animation per Section 2L.04</p>

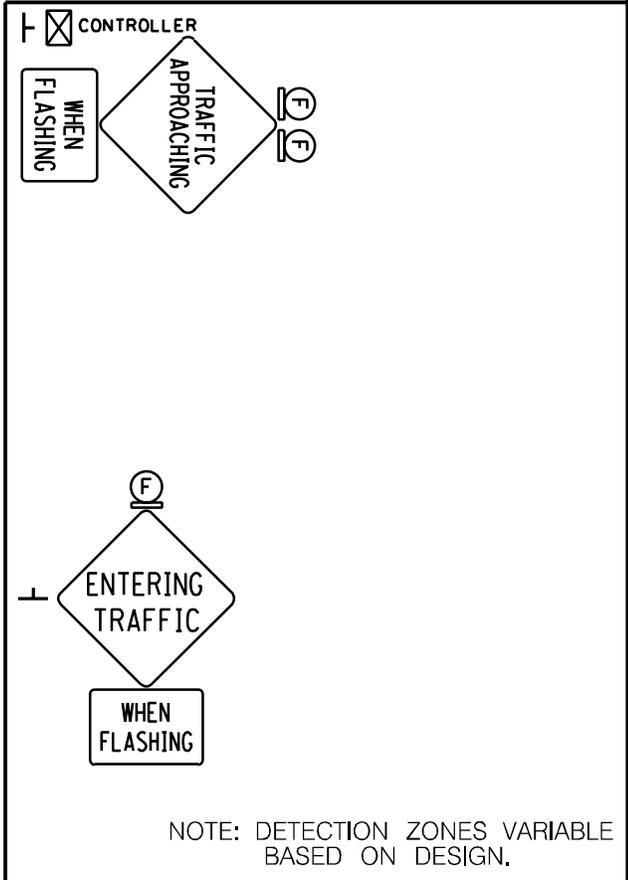
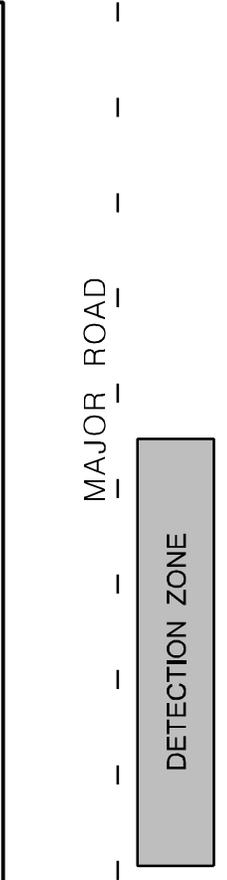
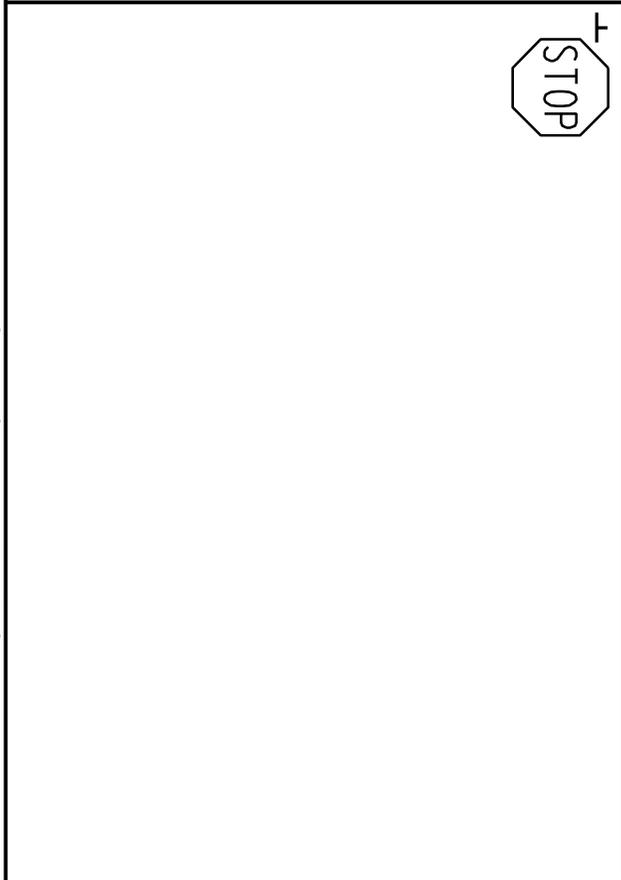
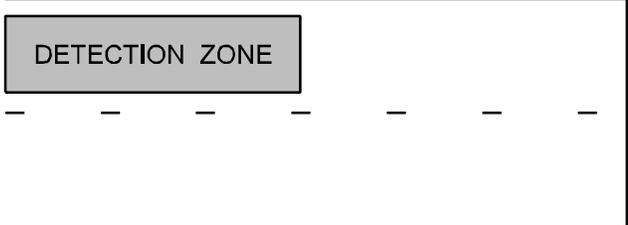
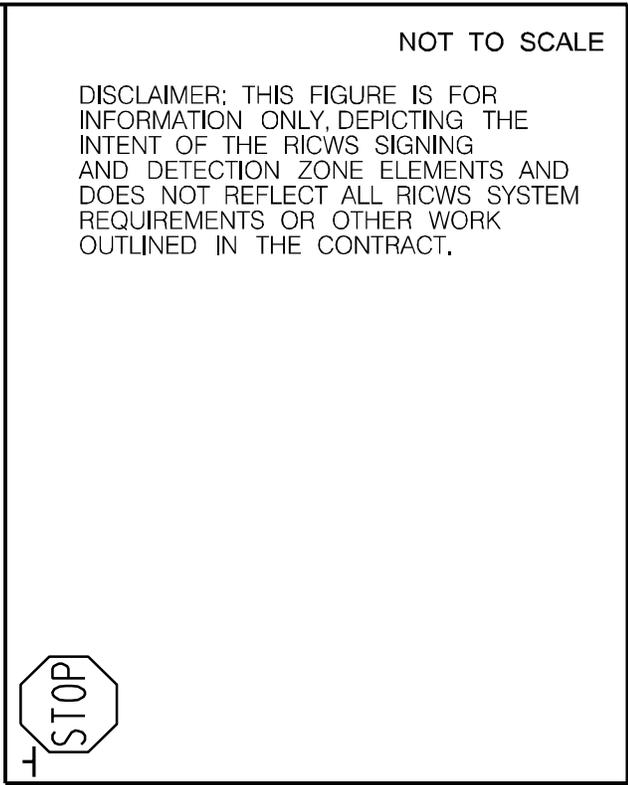
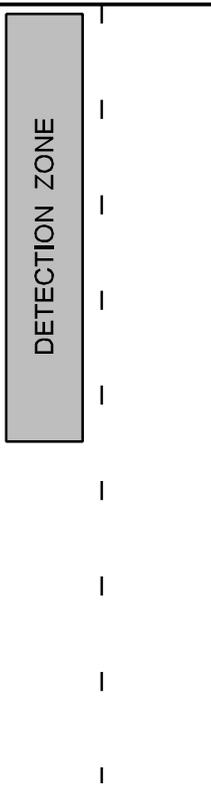
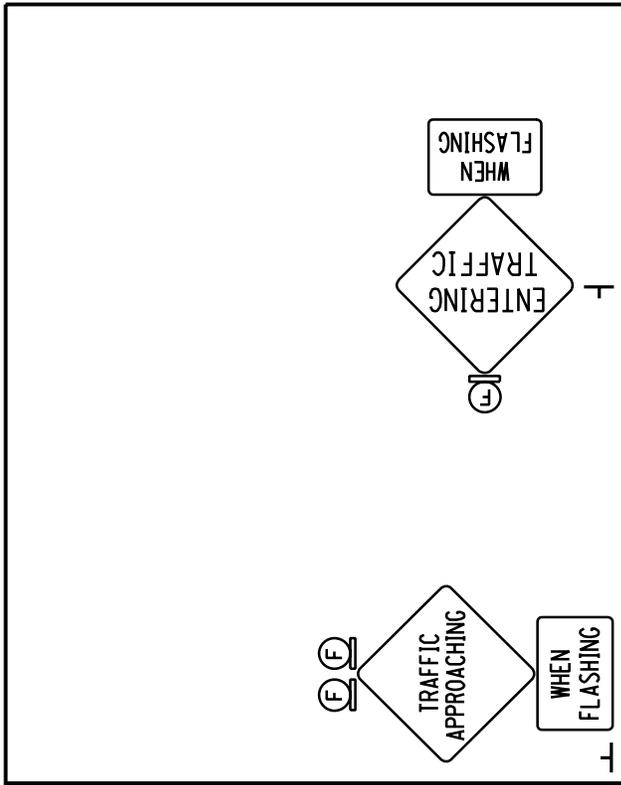
<p>13. A-Major Road B-Minor Road</p> 	<p>Maine – Norridgewock – Route 201A (2-lane; 5,000 ADT) and Sophie May Ln/River Rd (2-lane; 3,000 ADT)</p> <p>Posted speed 25 MPH</p> <p><i>Problem: Sight distance</i></p>	<p>Sign-Major (with yellow flashers): On bridge, north of intersection</p> <p>Sign-Minor (with DMS): Far-side corner from STOP</p> <p>Detection (loops): Based on the time of travel required for a vehicle traveling at the speed limit (using 85th percentile speeds) to reach the intersection</p>	<p>The red and green vehicle symbol colors on the minor road sign violate the color coding requirements for warning signs – Section 2A.09</p>
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14. Major Road-Unknown Location



NOT TO SCALE

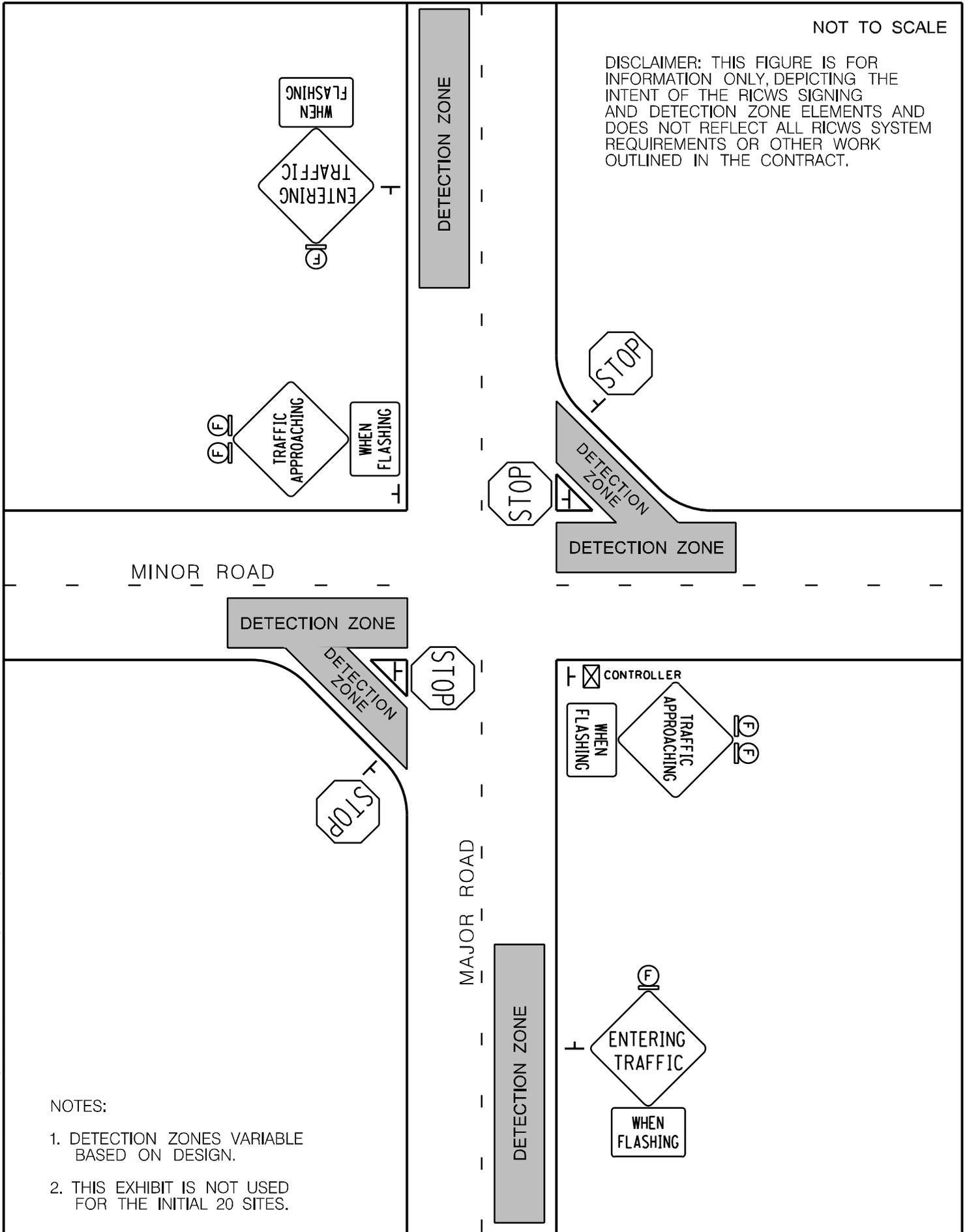
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NOTE: DETECTION ZONES VARIABLE BASED ON DESIGN.

NOT TO SCALE

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NOTES:

- 1. DETECTION ZONES VARIABLE BASED ON DESIGN.
- 2. THIS EXHIBIT IS NOT USED FOR THE INITIAL 20 SITES.

FILE NO.
120543
DATE:
9/11/2012



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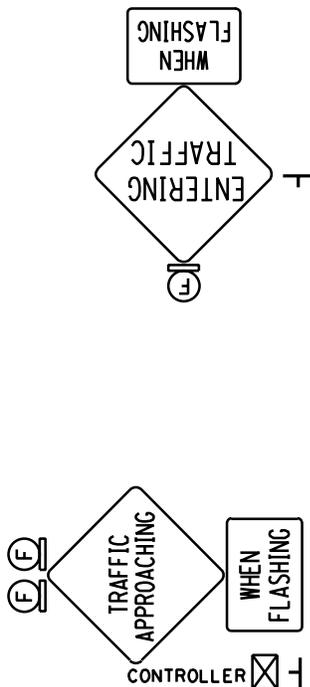


RICWS CONCEPT LAYOUT
4-WAY INTERSECTION WITH ISLAND

EXHIBIT
1-B

NOT TO SCALE

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DETECTION ZONE

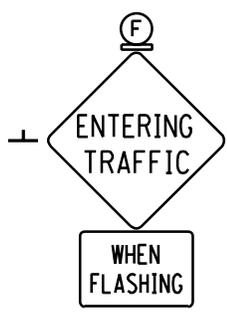


DETECTION ZONE

MINOR ROAD

MAJOR ROAD

DETECTION ZONE



NOTE: DETECTION ZONES VARIABLE BASED ON DESIGN.

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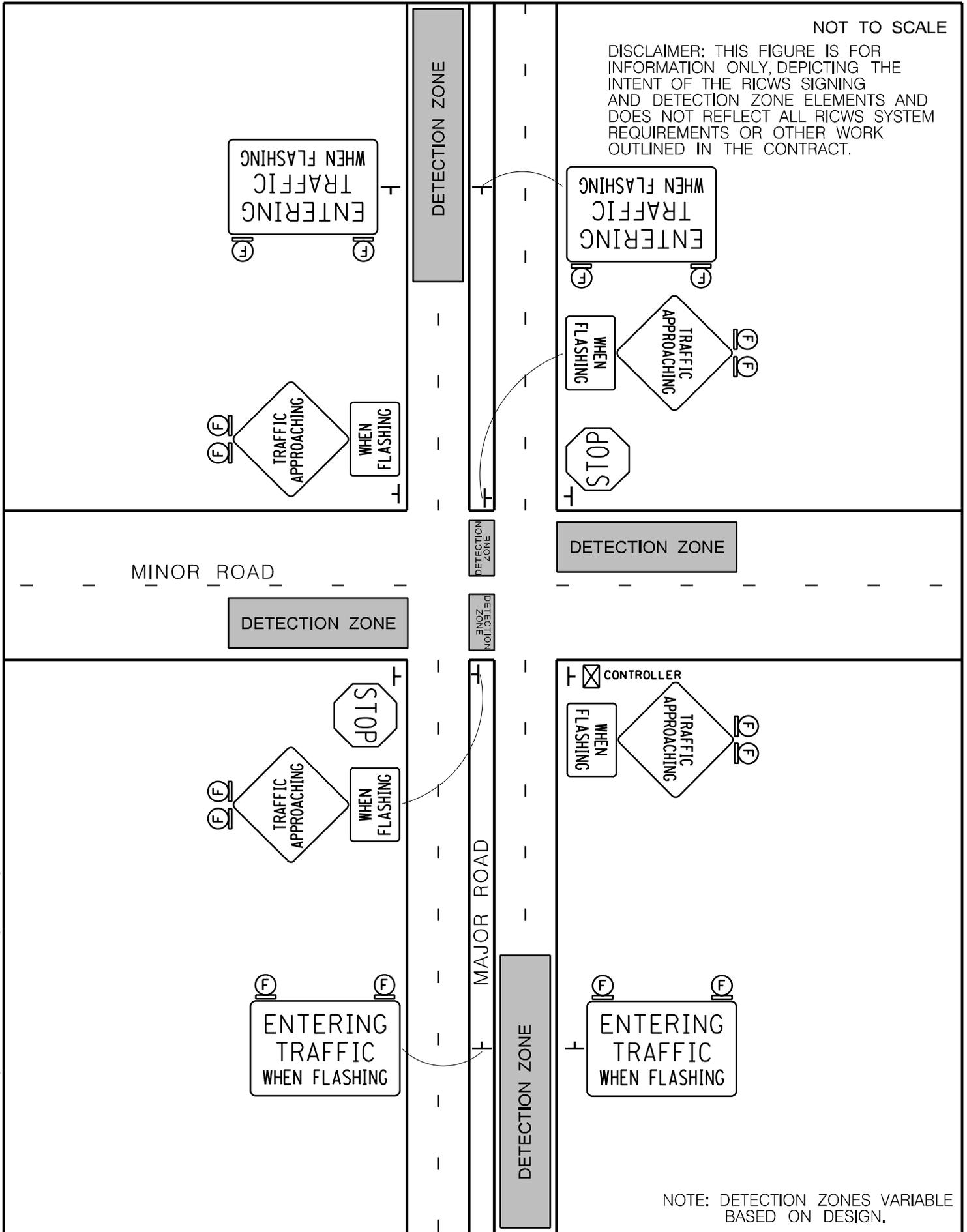


**RICWS CONCEPT LAYOUT
'T' - INTERSECTION**

**EXHIBIT
1-C**

NOT TO SCALE

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RICWS CONCEPT LAYOUT
4-WAY DIVIDED INTERSECTION

EXHIBIT
1-D