

NO. 369871

**COURT OF APPEALS, DIVISION III
OF THE STATE OF WASHINGTON**

JAMES WALKER, et ux,

Appellant,

v.

WASHINGTON STATE DEPT. OF TRANSPORTATION, et al,

Respondents/Cross-Appellants.

APPENDIX

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WALKER v. DOT

Court of Appeals, Division III, No. 369871

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IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
FOR THE COUNTY OF SPOKANE

JAMES WALKER and BARBARA WALKER,)
husband and wife and the marital)
community comprised thereof,)
Plaintiffs,)

vs.

Case No. 16-2-00708-7

THE WASHINGTON STATE DEPARTMENT)
OF TRANSPORTATION, DIVISION OF)
HIGHWAYS, a State agency, STEVENS)
COUNTY, DEPARTMENT OF PUBLIC)
WORKS,)
Defendants.)

DEPOSITION OF JAMES FLOTT

Taken at the instance of the Defendants

August 20, 2018
1:30 p.m.
103 E. Indiana Avenue
Spokane, Washington

BRIDGES REPORTING & LEGAL VIDEO
Certified Shorthand Reporters
1312 N. Monroe Street
Spokane, Washington 99201
(509) 456-0586 - (800) 358-2345

1 from 2003? I think it is Number 4.

2 A. (Witness complied).

3 Q. Where is the tree in that picture?

4 A. It is just to the right of the sign, the sign
5 right here (indicating). It is kind of hard to see right
6 there.

7 Q. I'm going to hand you my pen. Would you circle
8 where that tree is in 2003?

9 A. (Witness complied).

10 Q. What you're circling, could you tell me what
11 you think the height of that tree was in 2003?

12 A. It's very difficult to tell, because it blends
13 in with the other trees and vegetation behind it. But my
14 best estimate would be approximately maybe 10 to 12 feet
15 in height.

16 Q. And these are considered fast growing trees?

17 A. Yes, they are.

18 Q. And the low end of fast growing is about two
19 feet a year?

20 A. Yes.

21 Q. Is that true for Siberian elms?

22 A. Yes.

23 Q. And then the fast end of fast growing is up to
24 six feet a year?

25 A. Yes, it could be.

29

1 Q. And is that for height of a tree?

2 A. That's for branch extension.

3 Q. So that can include both height --

4 A. And spread.

5 Q. -- and spread?

6 So, I am going to give you a different pen,
7 which I hope makes it easier to mark, if you would just
8 recircle that for me, where you say the 10 to 12-foot tree
9 is at?

10 MR. SWINDLER: Let me get a red pen.

11 (Pause in the proceedings).

12 Q. (BY MR. WARRING:) So, looking at Mr.
13 Swindler's computer screen, which is a digital image of
14 this, is there any way for you to describe for us the
15 location of where that tree is in the picture? Is it
16 directly behind the first white post?

17 A. Yes. It's right behind the white post.

18 Q. And is there any way for you to say within a
19 reasonable degree of probability in your field of
20 expertise what the spread of the tree was in 2003?

21 A. It looks, from the photo that I'm looking at,
22 probably in the neighborhood of 10 to 15 feet wide.

23 Q. And is there anything other than the photograph
24 that you're relying on for the opinion that in 2003 the
25 spread of that tree was 10 to 15 feet wide?

30

1 A. No. There's nothing else other than the
2 photo.

3 Q. When you were out there in May or in September,
4 did you do any measurements to determine how far this tree
5 was from any other point of reference; street, signs,
6 anything like that?

7 A. No, I did not.

8 Q. If I asked you to answer within a reasonable
9 degree of probability in your field of expertise, could
10 you tell me how much that tree grew in the year 2013?

11 A. Yes. I'm averaging the growth of the two
12 measurements that I made, roughly 20 inches per season.

13 Q. Is that how an elm grows, pretty much the same
14 every season, or can it vary?

15 A. That can vary quite a bit.

16 Q. Do we know if it varied quite a bit with this
17 elm?

18 A. I was able to go back several years on the
19 stem -- or branches of the tree and actually measure the
20 growth between seasons. There's clear markings that you
21 can use. If you're a forester, they are clear markings.

22 Q. Where did you capture that data at?

23 A. On page 3 in the photo it shows an example of
24 what I'm talking about, page 3 of my report.

25 The yellow arrow is pointing at an origin of

31

1 growth from last year where the terminal growth ceased
2 last year, and this year's growth started.

3 So, that would have been 2017, ended at that
4 arrow, and 2018 started at that arrow.

5 And there are points along the branch that you
6 can find those markings on. And you can go back several
7 years in some cases and that's indicative of the annual
8 incremental twig growth that occurs on a tree.

9 Q. So what did it grow in 2016 and '17?

10 A. I was only able to go back one year, and the
11 measurement was roughly the same, averaged 20 inches.

12 Q. So, when you say you were only able to go back
13 one year, do you mean that between '17 and '18, you were
14 able to measure the growth as illustrated in your report?

15 A. This is the growth for 2018 in the report. I
16 was able to go back to 2017, start. End of 2016, start of
17 2017.

18 But I could not go further back in the tree.
19 And that is sometimes the case. It just depends on the
20 species of tree you are talking about. It is not always
21 evident.

22 Q. Where did you capture your data for how much it
23 grew between '16 and '17?

24 A. I made the measurements just like in the photo
25 for '16, from '16 to '17. I did not record anything. I

32

1 just made the measurements.

2 Q. Okay. You made the measurement, you didn't
3 take a picture?

4 A. No, I did not.

5 Q. And it's not in your field notes?

6 A. No, it is not.

7 Q. And was the measurement you made for '16 and
8 '17 the same as the measurement for '17-'18?

9 A. Not exactly the same.

10 Q. What was it for '16-'17?

11 A. 19 inches.

12 Q. Did you attempt to measure the spread of the
13 elm when you were out there in '18?

14 A. I did not measure the spread using any type of
15 measuring device.

16 Q. Why not?

17 A. I was able to pace it off, and I have a pretty
18 rough approximation of it. Did not measure it exactly,
19 though.

20 Q. Is there a way to measure it exactly?

21 A. Typically, you would take two measurements, an
22 east/west, and a north/south, and average it for spread.

23 Q. And how would you do that normally?

24 A. I would take a measuring tape and find what is
25 nearly the center of the trunk axis, and measure out to

33

1 the reasonable end of the drip line, which can vary.

2 There's no set drip line.

3 I'd measure out one direction. And then turn
4 perpendicular and measure the other direction. That's the
5 radius measurement. Double that. That's my diameter.
6 And then average those two figures.

7 Q. And was there any reason you didn't perform
8 that measurement while you were out there in 2018?

9 A. I felt my visual measurement or eyeballing it
10 was accurate enough.

11 Q. So, what'd your eyeball tell you the spread was
12 in 2018?

13 A. 20 feet.

14 Q. Was the 20 inches a year that you're using as
15 your estimate for the growth rate of this tree for both
16 height and spread?

17 A. Yes.

18 Q. Is there a way that you can measure -- Sorry.
19 That is probably a bad question.

20 The methodology that you illustrate on page 3
21 for measuring the growth of the tree, the 21 inches in
22 17-'18, could you have done that for prior years on this
23 elm tree if you had wanted to during one of your site
24 visits?

25 A. No, I couldn't. Because those markings weren't

34

1 as evident past the 2016-'17 growing season.

2 Q. What else did you learn from inspecting the
3 tree in either May or August, other than coming up with
4 the average growth rate and your estimates of height, if
5 anything?

6 A. Nothing more that was not in my report.

7 Q. Did you examine the tree to see if it looked
8 like anyone had ever been trying to maintain it, like
9 evidence of pruning or anything along those lines?

10 A. There was evidence of a couple of the trunk
11 stems that had been removed recently. But no other
12 indications of any type of maintenance.

13 Q. So, I want to make sure I have your methodology
14 correct for estimating the size of the tree as we work
15 backwards.

16 So, if we start with your estimates in 2018
17 regarding height and spread, if we are going to work our
18 way back for estimates of the size of the tree for each
19 year we just deduct 20 inches from height and from
20 spread?

21 A. That's a good average approximation to work
22 with.

23 Q. Did you come to the -- I'm sorry. Earlier you
24 used the word "under." It wasn't undergrowth?

25 A. Understory.

35

1 tree is that you inspected when you went out there in
2 2018?

3 A. Yes. I can see it.

4 Q. Now is your chance to have Geof's fancy pen, if
5 you don't mind circling it again.

6 A. It is circled.

7 Q. Thank you, sir.

8 A. You are welcome.

9 Q. And would you flip to the next page? Same
10 drill, if you don't mind.

11 A. It is circled.

12 Q. I apologize for jumping around, but would you
13 take a look at Number 2, please.

14 A. Yes.

15 Q. In the second paragraph of the first e-mail it
16 reads, "There are two issues: 1) what would the
17 visibility have been in 2004 when they installed the stop
18 sign."

19 A. Yes.

20 Q. "And 2) what was the visibility on the day of
21 the accident?"

22 Were you able to determine within a reasonable
23 degree of probability in your field of expertise what the
24 visibility of that stop sign would have been in 2004 when
25 it was initially installed?

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1 A. Well, I am basing that on what I saw in 2003
2 and what the potential growth may have occurred over the
3 year 2004.

4 So, the visibility would have been good, I
5 believe, in 2004.

6 Visibility on the day of the accident, from
7 seeing the tree in May and looking at the annual
8 incremental twig growth, the visibility would have been
9 blocked, or partially blocked, because of the tree, as the
10 branches grew, it would have partially, not entirely, but
11 partially blocked some of the stop sign.

12 Q. In 2013?

13 A. Yes.

14 Q. Okay. And when you say "the way the branches
15 grew," are you talking about not the height but the
16 spread?

17 A. A combination of both. Siberian elm has a
18 branch habit that has drooping, weeping-type branches, not
19 like willows that you would think of. But they do arch
20 over and droop.

21 So, their habit, they grow upright, and then
22 they droop as they extend. So, that's what I'm referring
23 to as far as the spread.

24 Q. Is it primarily the spread that would have
25 concerned you with regard to visibility in 2013?

39

1 A. Yes.

2 Q. But in terms of 2004, it's your opinion that
3 there wouldn't have been any issues with visibility of
4 that stop sign as you are approaching from Ford-Wellpinit
5 Road towards the intersection related to either the
6 understory or the elm that you examined?

7 A. From the photos I have seen, right. Correct.

8 MR. WARRING: Would you mark this as our
9 next exhibit, please?

10 (Deposition Exhibit Number 8 was
11 marked for identification).

12 Q. (BY MR. WARRING:) Do you recognize what Number
13 8 is?

14 A. Yes, I do. It's a fact sheet from the Forest
15 Service regarding Siberian elm.

16 Q. And is this the type of information you would
17 normally rely on in your profession?

18 A. Yes.

19 Q. Okay. And if you don't mind, just take a look
20 at Number 8 for me and tell me if there's any details in
21 there that, you know, you disagree with as a matter of
22 general principle.

23 (Pause in the proceedings).

24 A. No, there isn't anything that I would disagree
25 with in here.

40

1 MR. WARRING: Would you mark this, please?

2 (Deposition Exhibit Number 9 was

3 marked for identification).

4 Q. (BY MR. WARRING:) Have you seen Number 9
5 before?

6 A. It looks like it might be one of the photos
7 included in the Uli batch.

8 Q. Would you flip to the second page of Number 9.
9 And I'm going to represent to you that these are
10 photographs taken by the Washington State Patrol on the
11 day of the accident.

12 A. Okay. I'm on page 2.

13 Q. All right. On page 2 can you tell me, do you
14 see any of the spread from that Siberian elm interfering
15 with the visibility of the stop sign, at least from the
16 angle that this picture is taken?

17 A. No, I do not.

18 Q. Would you flip to the next page?

19 A. (Witness complied).

20 Q. Again, do you see any of the spread from that
21 Siberian elm interfering with the visibility of the stop
22 sign, at least from the angle at which this picture is
23 taken?

24 A. No, I do not.

25 Q. The next page, same question.

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1 A. No, I do not.

2 Q. Okay. Next page, same question.

3 A. No, I do not.

4 Q. Okay. And finally, the next page, same

5 question.

6 A. It looks like the sign post is in the picture

7 but not the stop sign. Is anybody else not seeing that?

8 Q. I think it might just be a little vertical?

9 A. Okay. No, there's no indication.

10 MR. WARRING: Would you mark this?

11 (Deposition Exhibit Number 10 was

12 marked for identification).

13 Q. (BY MR. WARRING:) Would you take a look at

14 Number 10 for me?

15 A. Yes.

16 Q. Have you seen those pictures before?

17 A. These also look like they might be part of the

18 Uli photos.

19 Q. I'm going to represent to you that these

20 pictures were taken in 2014. Do you recall whether or not

21 you've seen any pictures from 2014?

22 A. I have seen this photo, or photo very similar

23 to this. I don't know if it was from 2014.

24 MR. SWINDLER: Carl, were these the

25 Skelton photos?

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MR. WARRING: These are?

MR. SWINDLER: Yeah. I mean, Skelton was out there in 2014. So I'm asking, are those his?

MR. WARRING: I thought these were the photos you produced from your client in 2014 when he made his visit.

MR. SWINDLER: That may be from him. Because Skelton was also out there in 2014.

MR. WARRING: With your client?

MR. SWINDLER: No. I don't think so. I think when Skelton was out there, I think he was out there by himself. But then Walker was also out there in 2014.

MR. WARRING: Okay.

MR. SWINDLER: I think he was out there within a day or so of the accident, July or August of 2014.

MR. WARRING: Okay. The lawyers will sort out who took the photos.

But what I want to know from you is, with regard to the pictures that we see in Number 10, if these are taken in 2014, based upon what you know of the growth rate of that tree, the visibility of the stop sign would have been improved from these pictures a year earlier in time, correct?

1 A. Correct.

2 Q. And how much it is improved will depend on how
3 much the spread of the tree had grown between 2013 and
4 2014?

5 A. Yes, that's correct.

6 Q. And that's not actually a number you can tell
7 us definitively?

8 A. That's correct.

9 Q. If you will go back to Number 6, please.

10 A. Yes.

11 Q. And then with regard to the attachment to
12 Number 6, which was your August 10th, 2018 report.

13 A. Yes.

14 Q. Did you perform any other measurements or
15 testing that aren't captured in this report or that we
16 haven't already talked about today?

17 A. No, I did not.

18 Q. And have you formed any other opinions that
19 aren't captured in this report or that we haven't already
20 talked about today?

21 A. No, I have not.

22 Q. And would you flip to page 5 of your report,
23 please.

24 A. (Witness complied).

25 Q. At the top of page 5 there's a reference to the

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1 A. Yes.

2 Q. But you've never used them in the capacity of
3 employment with the Department of Transportation or a
4 project in conjunction with the Department of
5 Transportation?

6 A. That's correct.

7 Q. I noticed in that first paragraph it ends "In
8 my opinion the Siberian elm tree impacted visibility of
9 the stop sign negatively."

10 And it sounds like from our conversation today
11 you're limiting that to the 2013 and beyond?

12 A. Yes.

13 Q. And I don't see any description in here that
14 would help me understand the severity with which the
15 visibility was negatively impacted.

16 Are you able to describe for me the severity of
17 the impact?

18 A. No, I'm not.

19 Q. In your capacity as a city employee, have you
20 ever coordinated on any projects with WSDOT?

21 A. No.

22 Q. Have we covered all of your sources of
23 information that you are relying on for the opinions that
24 you have expressed in your report and here at your
25 deposition today?

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1 So, what I'm trying to get at is do you know
2 if, as you were looking at that stop sign in 2018, you
3 subtract a hundred inches off of every branch that was in
4 front of the stop sign, whether there would be visibility
5 issues with that stop sign?

6 A. Losing a hundred inches off that tree probably
7 would have cleared it from the stop sign.

8 Q. And other than what you've told me about your
9 own observation in 2018, is there anything else upon which
10 you rely to say that there were visibility issues caused
11 by the elm in 2013?

12 A. No, there isn't.

13 Q. Can you look, sir, at Exhibit 10?

14 A. Okay. Yes.

15 Q. All right. On that first page you can see the
16 stop sign, yes?

17 A. In part, yes.

18 Q. All right. And around that stop sign, the
19 green area around that stop sign, is that the elm that you
20 inspected?

21 A. Yes.

22 Q. Can you just draw a circle around that?

23 A. (Witness complied).

24 Q. And so if I understand your testimony
25 correctly, if this picture, the first page of Exhibit 10,

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1 was taken sometime during the summer of 2014 --

2 A. Uh-huh.

3 Q. -- we should anticipate that those branches
4 that we see on the tree you circled on the front page of
5 Exhibit 10 would be, at a minimum, 20 inches shorter?

6 A. Yes. If we are using the average. Remember,
7 that's an average. It could vary from season to season as
8 far as weather conditions go with the tree.

9 Q. Sure.

10 A. But that's a good average, yes.

11 Q. What would it vary between? What would you
12 expect to be the most growth and the least growth in any
13 one year?

14 A. The least growth could be as little as 12
15 inches, and maximum growth could be as much as maybe 30
16 inches.

17 Q. And when you were driving down Ford-Wellpinit
18 Road approaching the stop sign in question and you said
19 that it was partially obstructed, do you know how far back
20 from the stop sign you were when you first noticed the
21 stop sign and saw that it was partially obstructed?

22 A. I was crossing, there is a bridge. I had just
23 got across the bridge, and that business I guess is
24 what it is to the right, is where I first picked up the
25 sign.

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1 entail?

2 A. We were looking at the photos that we were
3 discussing as far as the growth was at the 2018 location
4 of the stop sign. In 2014 there was a different location
5 of that stop sign.

6 Q. All right. So, when you were answering my
7 questions, were you referring to the 2013 location of the
8 stop sign or the newer one?

9 A. Newer one.

10 Q. So, let's go back to the beginning of my
11 questions. I'm only interested in the 2013 stop sign.

12 So, you told me earlier that it is your opinion
13 that the Siberian elm we have been talking about partially
14 obstructed the stop sign in 2013?

15 A. Correct.

16 Q. And you've told me that you base that opinion
17 upon yourself having driven down Ford-Wellpinit Road and
18 observed the sign and the limited visibility caused by
19 that Siberian elm?

20 A. That was for 2018. I saw photos of the 2014
21 stop sign. That's what I'm basing this opinion on.

22 Q. Okay. So, then let me go back to my original
23 question. Walk me through how you look at any particular
24 photo and can say that the Siberian elm obstructed the
25 view of that stop sign in 2013?

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1 A. It goes back to the growth rate that we
2 discussed, average growth rate.

3 Looking at the photos from 2014 and
4 extrapolating back the growth rate, my opinion is that the
5 visibility would have still been an issue in 2013.

6 Q. Okay. So, what 2014 photo or photos
7 specifically are you referring to?

8 A. Well, those are part of the package photos that
9 were sent to me, the Uli photos that we have been
10 referring to.

11 Q. And, so --

12 MR. WARRING: Can we clarify? Uli's 2013.
13 So, it's got to be --

14 MR. SWINDLER: Yeah. I will clarify. The
15 accident was July of 2013.

16 I sent Uli's photographs which were taken the
17 day of the accident, Skelton's photographs of 2014 also,
18 Mick.

19 And, remember, Skelton broke them up and had a
20 little chart, how many feet back or where he took them.
21 That's what I sent him.

22 MR. McFARLAND: Did you send him your
23 client's photos from 2014?

24 MR. SWINDLER: Apparently I didn't.

25 MR. McFARLAND: All right.

57

1 Q. So, then your opinions as to any visibility
2 issues in 2013 are based upon looking at the 2014 photos
3 that you've seen and subtracting approximately 20 inches
4 from the various branches of the Siberian elm.

5 Correct?

6 A. Yes.

7 Q. All right. We know, though, do we not, that
8 between 2013 and 2014, that Siberian elm could have grown
9 as much as 30 inches?

10 A. Yes.

11 Q. And did you do any type of measurements to
12 determine what the visibility of the sign in 2013 would
13 have been if you subtracted 30 inches from all of the
14 branches that we see in that Siberian elm in the 2014
15 pictures?

16 A. No, I did not.

17 Q. And you didn't do any type of photographic
18 analysis of the 2014 photos, have you? And by that I mean
19 taken the digital images and actually removed 20 inches of
20 branch from that Siberian elm?

21 A. No, I did not.

22 Q. So, going back to your report, then, the stop
23 sign that we see in that, on the first page, the photo on
24 the first page, is that the new placement of the stop
25 sign?

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1 A. That's the 2018 placement of the stop sign.

2 Q. All right. And did you take any photographs
3 when you were out at the scene of the 2013 placement of
4 the stop sign?

5 A. No, I did not.

6 Q. Was the 2013 stop sign there when you went to
7 the scene?

8 A. Not on May or August.

9 Q. So, when you went up to the site, there was
10 only one stop sign at that location?

11 A. Yes.

12 Q. Going back to Exhibit 10, then, just so that I
13 am -- my record's clear, you already circled the Siberian
14 elm that we're talking about?

15 A. Yes.

16 Q. And assuming that these were taken in 2014, it
17 would be fair, would it not, to assume that that Siberian
18 elm that we see was at least 20 inches shorter in width
19 and height than seen in this picture?

20 A. Yes.

21 MR. McFARLAND: And those are all the
22 questions I have for you, sir. Thank you.

23 THE WITNESS: You are welcome.

24

25

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RE-EXAMINATION

BY MR. WARRING:

Q. The measurement that you came to for the height of 20 feet of the Siberian elm when you first went out in May, was that the full maturity height you think this tree reached?

A. I'm not sure I understand your question, because you're asking, is that the potential full maturity this tree could reach.

Q. No. I'm just trying to sound smarter than I am. This thing was cut, right? When you went out there in May, it had already been cut?

A. Part of it had been cut.

Q. But not the part that would affect your estimate of the total height?

A. Right.

Q. So, what you estimate as 20 feet of height of this tree in 2018 is the tallest you think that tree ever was.

Correct?

A. Correct.

Q. Okay.

MR. WARRING: That's the only follow-up I had.

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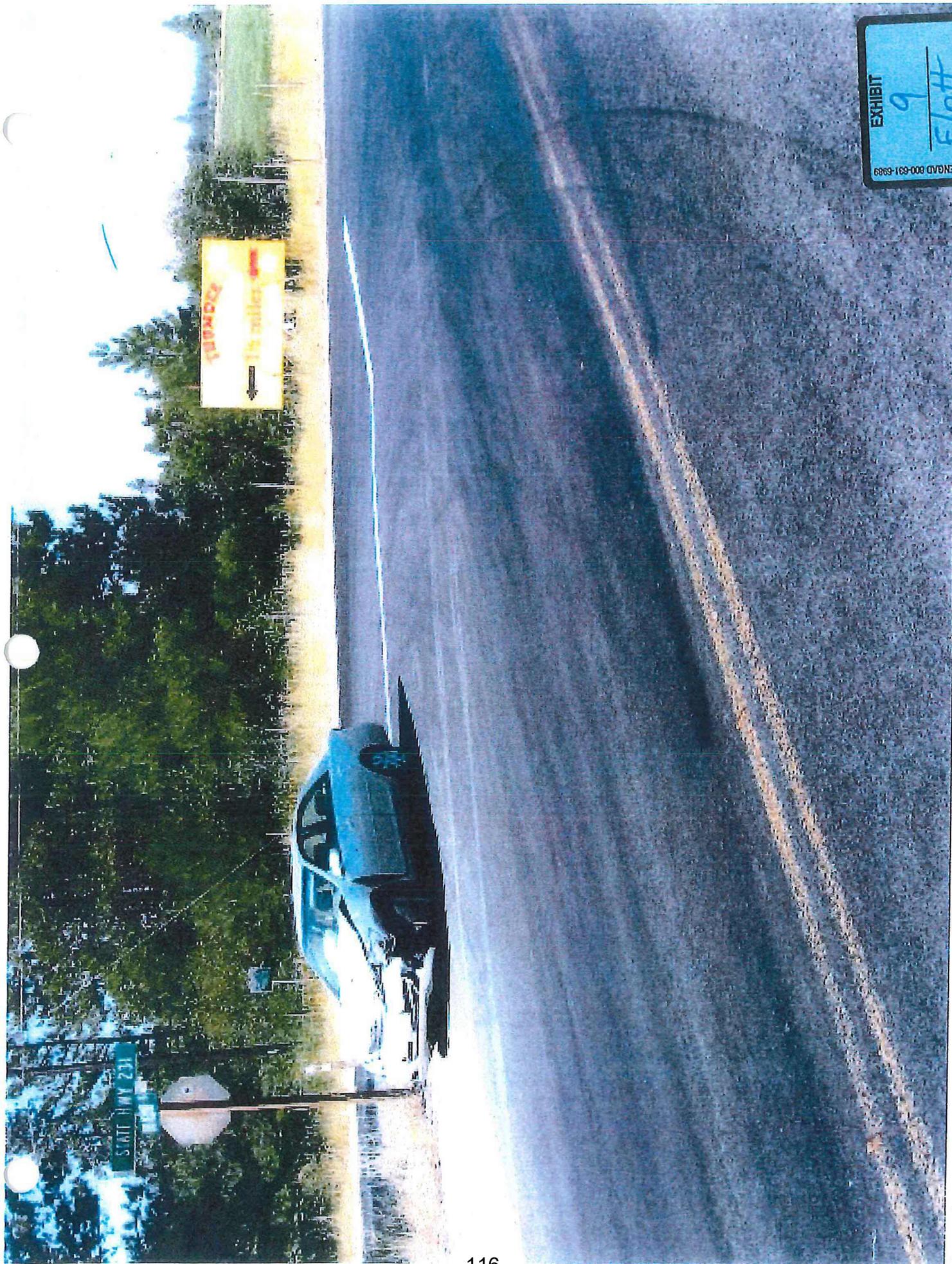
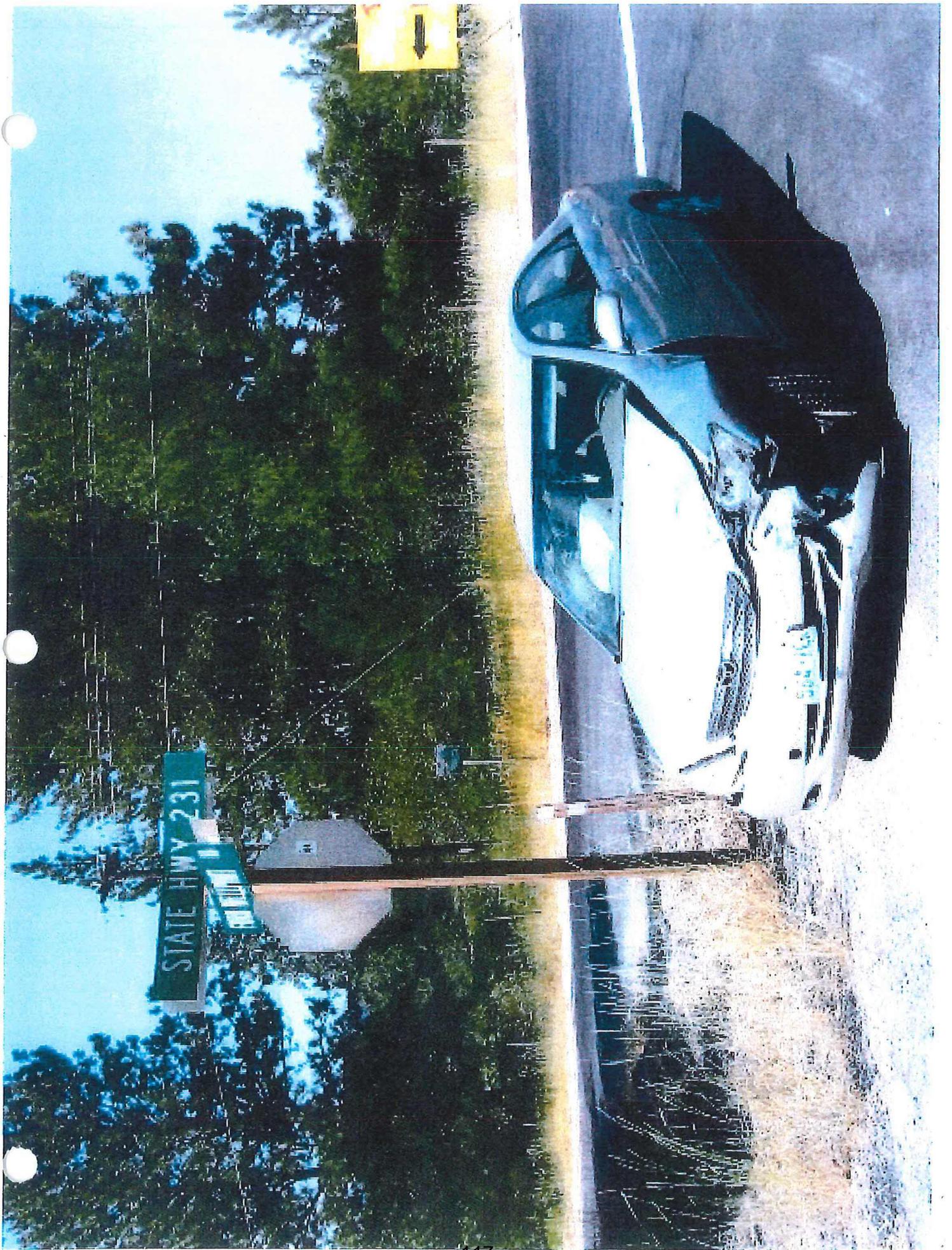
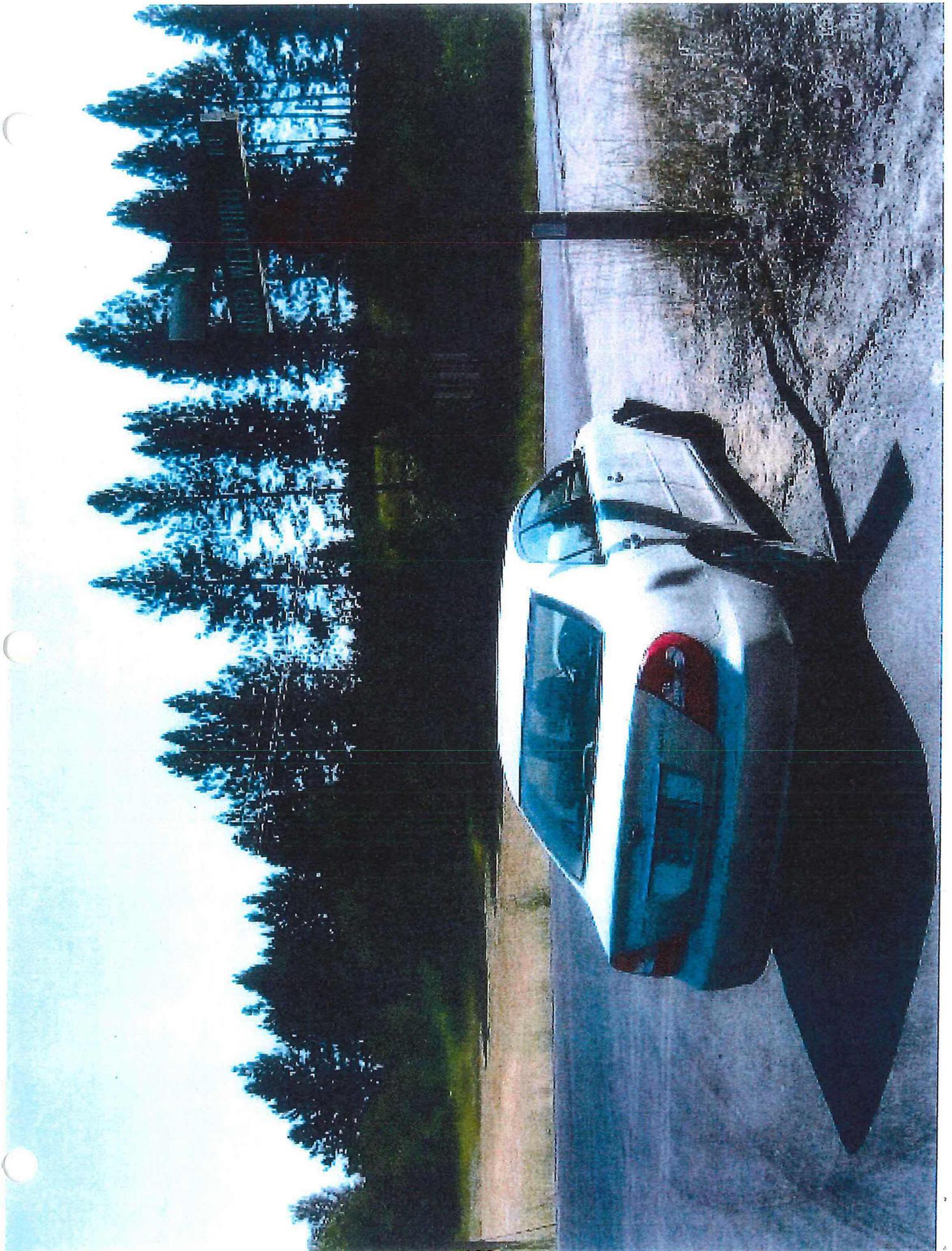


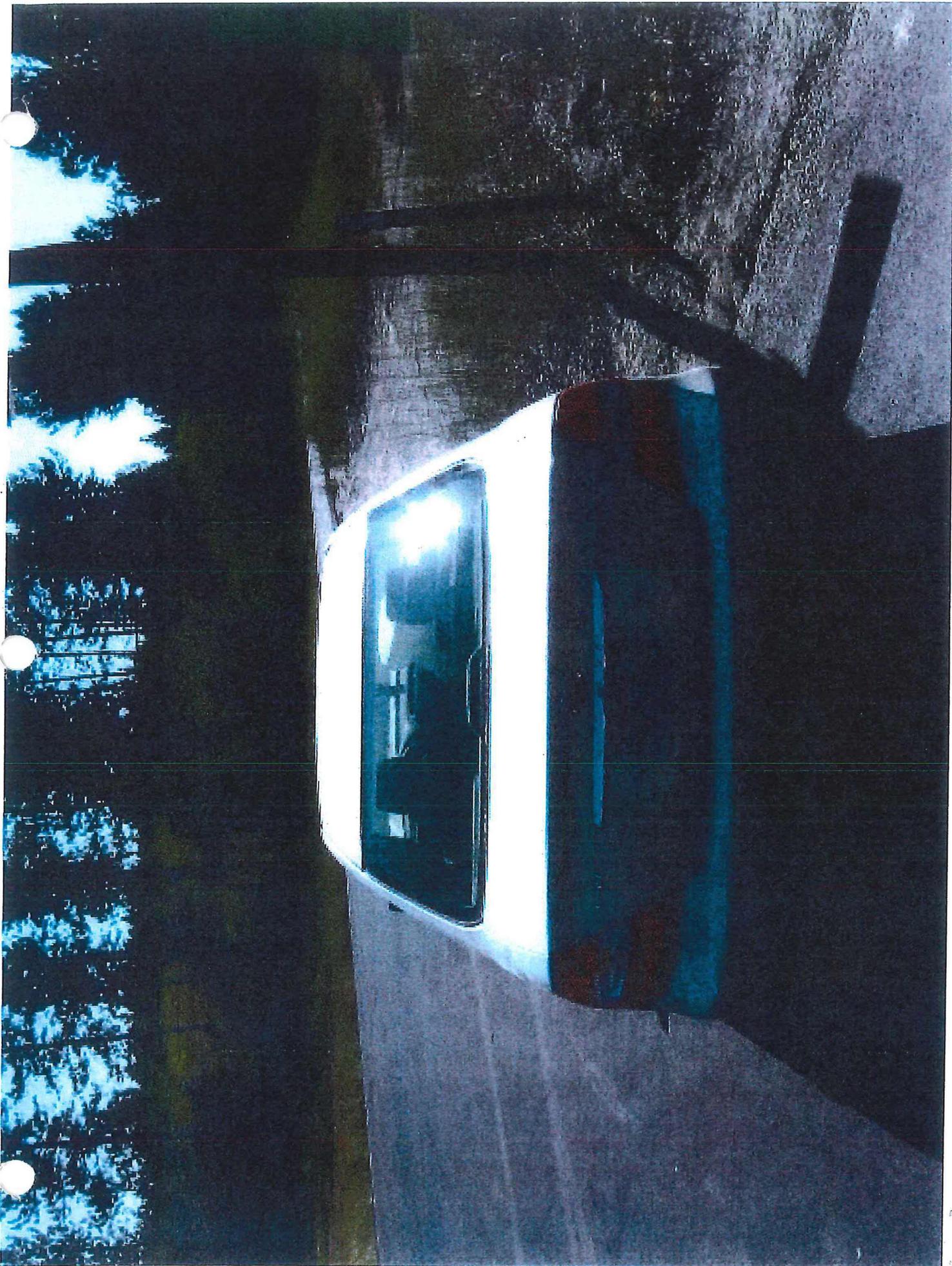
EXHIBIT
9
Flott
PENAD 000-691-6989











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August 11, 2018

Mr. Michael E. McFarland, ESQ.
Evans, Craven & Lackie, P.S.
818 W. Riverside Avenue, Suite 250
Spokane, Washington 99201

RE: James Walker v. WSDOT & Stevens County

Dear Mr. McFarland:

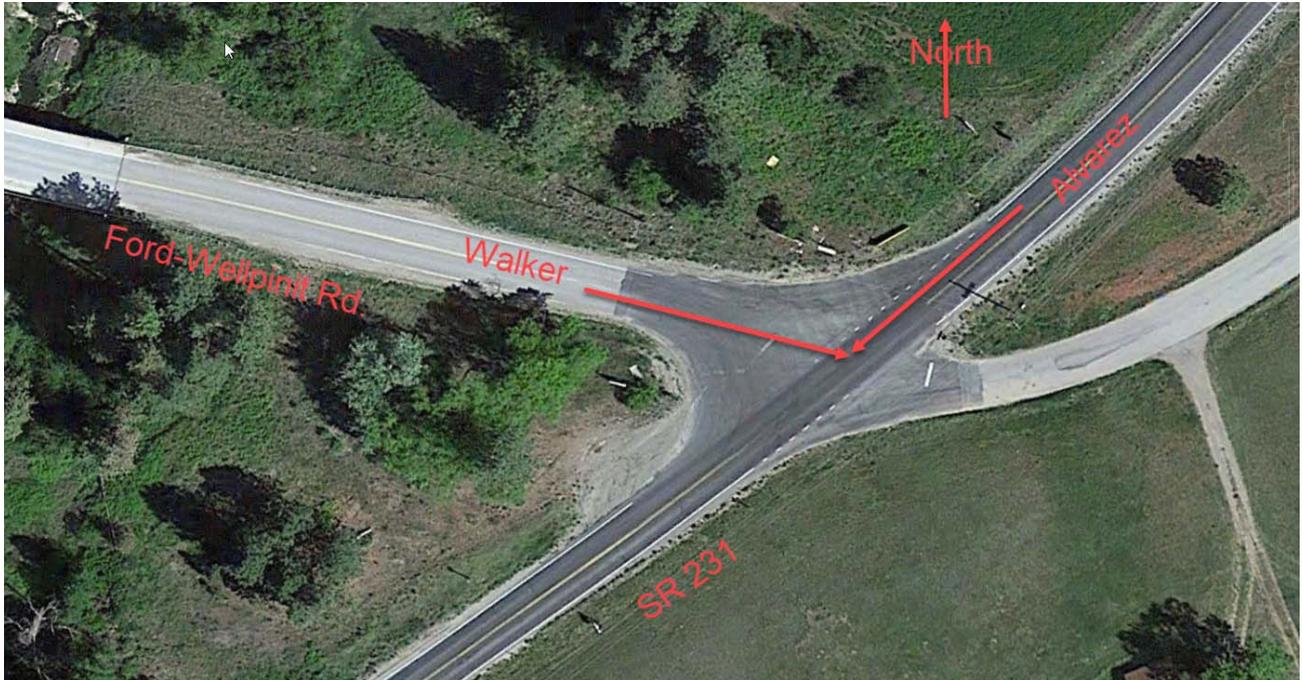
I have completed an analysis of the provided material with the goal of determining the sight distance of the stop sign at the intersection of SR 231 and Ford-Wellpinit Road. I also examined the eastbound approach to the intersection with respect to the operation of a motorcycle. The collision involved two eastbound motorcyclists traveling on Wellpinit Road, one of which failed to stop prior to entering the intersection and was struck by a southbound 2002 Toyota Camry, driven by Jacqueline Alvarez. The collision occurred during daylight conditions at approximately 1:07 p.m. on July 26, 2013. The collision was investigated by Trooper Karre (#723) of the Washington State Patrol.

My analysis involved reviewing the Washington State Patrol investigation material, and scene photographs. I was also provided with a series of photographs taken both before and after the incident. I also reviewed Google Earth images. I contacted the collision site on July 21, 2017 and was assisted with the sight inspection by Eric Hunter. He operated the FARO scanner and documented the environmental conditions at the time of our inspection. I also drove the routes of the vehicles on my motorcycle.

In July 2013, Washington State BMW Riders Association was holding their annual rally in Republic, Washington during the weekend of July 25th to July 28th. James Walker and Ulrich Schildt were both attending the rally and were on a day ride. Walker was operating a 2012 Kawasaki ZX1000 Ninja sport motorcycle and was being followed by Schildt, who was also riding a sport motorcycle.

According to the Police Traffic Collision Report (PTCR), Walker failed to stop for a stop sign at the intersection and entered SR 231 directly into the path of Alvarez' Toyota. The impact occurred in the southbound lane of SR 231. Alvarez was able to brake and slow prior to impact. The description of the event on page three of the PTCR states that Walker "failed to stop for a clearly erected stop sign".

The intersection of SR 231 and Ford-Wellpinit Road is shown in the aerial image below. The posted speed limit on SR 231 was 55 mph. The posted speed limit on Ford-Wellpinit Road was 50 mph. A



vehicle traveling east on Ford-Wellpinit Road,¹ approaching SR 251, has a view of the approaching intersection that allows a driver to see the westbound stop sign, the newly painted stop bar on the westside of the intersection and the eastbound stop sign. The eastbound stop sign was erected near the south asphalt edge of Ford-Wellpinit Road and adjacent to the stop bar as can be seen in the photographs taken at the time of the

event. The aerial above illustrates that an eastbound vehicle would need to steer to the right if it were to continue across the intersection as the westbound lane is offset from the eastbound lane of travel. An eastbound driver has a clear view of the painted stop bar on the



¹ The direction of travel of Walker.

westside of SR 231 and a clear view of a stop sign for westbound traffic that is located across the



intersection.

The image above was taken on August 23, 2014 and is labelled P1020764 from Walker photographs. The location of the photograph appears to be between 210-230 feet west of the stop bar for eastbound traffic.² The image was taken from the right wheel track and both stop signs (eastbound/westbound) and the eastbound stop bar can be observed. When comparing the Walker photographs with the scene images, there appears to be a growth to the bush that is just south of the green sign that was not evident in the scene images.

The image below was taken on September 26, 2014 at 11:15 a.m. with a Panasonic (Lumix) DMC-ZS7 camera using a 4 mm lens and a resolution of 180 dpi. The location of the image was approximately 250 feet west of the stop bar at the intersection of SR231. Even with the wide angle shot, the stop sign can be clearly seen in the image.

A photographic image cannot always represent what the eye actually detects since the eye and the brain function differently than the camera sensor and processing of the image. At least this image will give a minimum value for the ability to detect the stop sign.

² Based on extracting data from the image.



When I contacted the scene of the collision, I measured the dynamic sight distance (for a motorcyclist traveling in the left wheel track) to the stop sign based on the foliage as shown in the scene images and the Walker photographs that were taken over a year later. I determined the sight distance to the stop sign was in the range of 335 feet.

As part of the investigation, a 3-d scan of the scene was completed, and the excess foliage was removed in an attempt to duplicate the visibility of the eastbound stop sign at the time of the collision. A FARO scanner was used to document the roadway environment. The image below illustrates the approximate sight distance from the scan reconstruction. The actual dynamic sight distance was likely in the 325~ 350-foot range based on the simulated event.



It appears from the physical evidence that the stop sign was likely visible to Walker for well over 300 feet. This is consistent with the trooper's evaluation that the stop sign was "clearly" erected and the stop bar was "clearly" painted white.

Walker was operating a sport motorcycle and was unfamiliar with the area, but knew he needed to make a left hand turn as part of his mapped-out route. A motorcycle with an experienced rider can stop from 50 mph in under 200 feet without leaving a tire mark.³ Even if the stop sign was in the condition shown a year later, the sight distance was sufficient for Walker to stop without entering the traveled portion of SR 231.

James Walker was deposed on November 15, 2016 and stated that he rode his Ninja motorcycle "fairly frequently". He apparently was wearing full protective gear and appeared to be an experienced rider. He didn't know his approach speed but assumed he would be traveling near the posted speed limit. He doesn't recall anything after leaving the town of Wellpinit and getting up to highway speeds.⁴ He was the lead motorcycle occupying the left wheel track and was being followed by Ulrich Schildt. He stated that he had "the best visibility there as the leader."⁵

³ This assumes a one second PRT period and a controlled brake application with both brakes.

⁴ Deposition page 41, lines 17~19.

⁵ Deposition page 55, lines 15~16.

Ulrich Schildt was deposed on December 20, 2016. He was riding approximately 50~100 feet behind Walker and the collision “happened right in front of me.”⁶ When asked if he came to a stop, his response was “Oh, I had enough room to stop, yeah.” He brought his motorcycle to a controlled stop prior to the intersection.⁷ He didn’t recall it being a hard stop. He did not know their speed, but assumed they were traveling at or near the 50- mph speed limit prior to slowing. He stated he would have been traveling at a lower speed than the speed limit “because the intersection—going up to the intersection, if I recall, the road we were on was on a slight incline. And so you could see there was something coming up, so we would have slowed down, you know, prior to that.”⁸ Schildt stated “I know he would have slowed down” when discussing Walker’s speed when he entered the intersection.⁹ “...he definitely would have slowed down because, when you approach the intersection, you see something is coming up, so he was not going probably the 50 miles per hour that we were going before, but I could not tell you how fast he was going at that point.”¹⁰ Jim Walker was the lead motorcyclist because he was setting the route and Schildt was simply following him. Schildt stated he wasn’t paying a great deal of attention¹¹ and was not aware of the stop sign until after the collision.

Schildt’s observations was that there was a change in the environment. I drove the approach route on my motorcycle and it was obvious that there was other advanced warning that the environment was changing well before the intersection with SR 231.

Proficient operational skills for a motorcyclist is to be attentive to roadway conditions and approaching changes. There was an image provided that shows the approach route of the two motorcyclists. The image was taken from a seated position in a passenger car. A motorcycle rider typically sits higher than a passenger car driver and would have a little better view of the approaching changes.

The image below was reportedly taken by William Skelton on September 26, 2014 at 11:15 a.m. The image was shot with a Panasonic (Lumix) DMC-ZS7 camera with a 4mm lens (equivalent to a 25 mm lens on a 35 mm full frame camera) at an f:4.5. The image resolution was only 180 dpi. Based on the image information, the photograph was taken approximately 980 feet west of the stop bar at the intersection with SR 231.

In the image (below) an approaching rider can see an intersection and buildings (store) in the immediate foreground that would constitute a potential hazard to a motorcyclist. Beyond the store is a change in surface conditions. The roadway transitions from asphalt to concrete and back to asphalt as the roadway crosses a bridge. Beyond the bridge it is obvious that the roadway terminates and transitions into a grassy field, not to mention the massive forest of trees that stand out in the background. The back of a stop sign can also be seen.

⁶ Deposition page 11, lines 11~25.

⁷ Deposition page 12.

⁸ Deposition page 13, lines 16~25.

⁹ Deposition page 15, lines 7~8.

¹⁰ Deposition page 60, lines 12~22.

¹¹ Deposition page 34, lines 18~21.

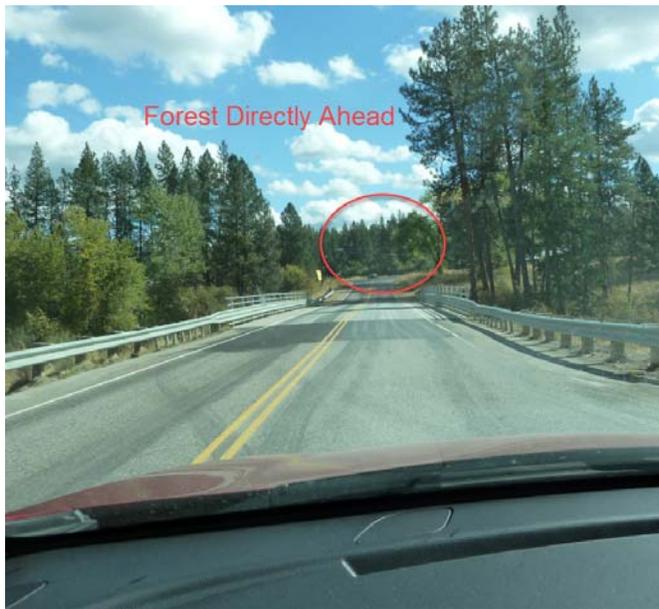


The approach photos show that the roadway is aimed directly at a forest of trees. Experienced motorcyclists are trained to watch tree lines to assist in determining the direction of the roadway. If the motorcycles were traveling at a constant speed of 50 mph. It would take them a little over 13 seconds to travel from the location 980 feet from SR 231, shown in the large photograph, to the stop bar.

I am a retired member of the Washington State Patrol and as a trooper worked the road for many years. I am familiar with the Washington State Patrol training and how troopers work. Washington State Patrol troopers are required to ensure that the roadway is safe after a collision event and are trained not to open the roadway if any safety issues are observed. For instance, if there is a fuel spill or debris on the highway or a sign knocked down or not visible to approaching motorists, the WSP will close the roadway or re-direct traffic until the issue is resolved. In this case, Trooper Karre determined that the stop sign was clearly erected and there was no apparent sight distance problem or any other issue that would have affected traffic safety before leaving the scene.

In my opinion, the sight distance for the stop sign was likely in the 325~350-foot range. At the time of the collision, the intersection was apparent to Schildt as he knew something was coming up and was slowing and was able to stop even though he was not paying close attention to the route.

Schildt stated he did not recall making an aggressive stop but recalled making a controlled stop. A controlled non-aggressive stop would require a stopping distance in the range of 282~352 feet.¹² He was slowing before the collision even though he was not looking for the stop sign or any other traffic control, but simply following Walker. The roadway environment was changing, and he needed to slow and control his speed¹³. This would tend to support a recognition of the approaching intersection by Schildt somewhere in the 300+ foot range.



The most obvious environmental condition I observed when I rode the area was the forest of trees directly ahead. This environmental condition/change should have been detected by a motorcyclist at a significant distance prior to crossing the bridge. Slowing in the area of the bridge would reduce the stopping distance necessary to avoid any potential conflict. If Schildt and Walker had slowed, as suggested by Schildt's deposition testimony¹⁴, their respective stopping distance would be reduced accordingly.

For example, if they had slowed to 40 mph, their stopping distance would have been approximately 135 feet. At 30 mph, it would have been under 90 feet.

¹² Deceleration factor of 0.3~0.4g and one second PRT period.

¹³ A requirement of RCW 46.61.400.

¹⁴ Deposition page 13, lines 24~25; page 15, lines 7~8; page 60, lines 17 to page 61 line 4.

The 12 Second Rule:

“Anyone operating a motor vehicle -- whether its a car, truck or motorcycle -- should be vigilant about watching for upcoming traffic hazards. The 12-second rule is designed to remind motorists that they need room to slow down, stop or take evasive action if something happens on the road in front of them. By watching for possible road hazards 12 seconds ahead, drivers will have more of a chance to avoid a collision. Many collisions are caused by people not looking far enough up the road to determine they need to stop or slow down. Using the 12-second rule can help avoid vehicle damage from accidents. The Nevada Department of Motor Vehicles, like many states, suggests looking ahead even further -- perhaps 20 or 30 seconds -- when driving at highway speeds or during inclement weather.”¹⁵

The Motorcycle Safety Foundation Basic Rider’s Course addresses the 12 Second Rule. “Evaluating your path 12 seconds ahead gives you time to respond to changing conditions, which may help you avoid emergency situations.”¹⁶

The stop sign sight distance, even a year after the collision, was more than adequate for an attentive driver to respond appropriately. The lack of awareness, by Walker, to the changing roadway conditions over an extended period of time (13+ seconds), as illustrated in the image taken 980 feet from the stop bar, would suggest that the “12 Second Rule” was not being used.

Should you need further analysis of the sight distance associated with this collision or any other aspect of this event, please let me know.

Sincerely,



John Hunter, ITS

¹⁵ A modified version of the “12 second rule” reduces the time to 8 seconds under certain conditions; source Kurt Erickson, “What is the 12 Second Rule in Driving?” Motorcycle Safety Tips on the 12 Second Rule by Jerry Palladino. The Washington State Driver’s License Manual recommends a minimum of 10 seconds.

¹⁶ MSF Basic Rider’s Course page 23.

Safety Report Walker v. Washington State Department of Transportation



Figure 1: Location of incident

**Prepared by: Carl Berkowitz, Ph.D., PE
August 27, 2018**

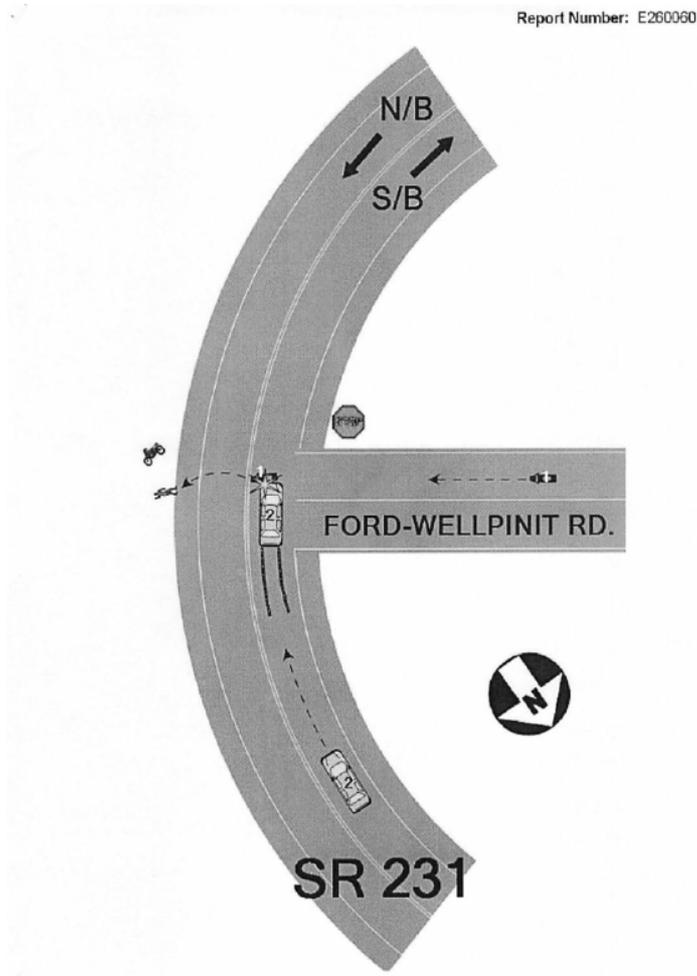
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1. Accident Overview¹

On July 26, 2013 at 1:07pm, Mr. James Walker was driving his Kawasaki motorcycle eastbound on Ford-Wellpinit Road in Ford, Washington. According to the accident report, Mr. Walker failed to stop at the intersection with State Road 231 and collided with a Toyota Camry driven by Ms. Jaqueline Alvarez in the Southbound lane of State Road 231. Ford-Wellpinit Road had a stop sign at the intersection with State Road 231. State Road 231 had no traffic control. The posted speed limit for both roadways was 50 mph. In the accident Mr. Walker was ejected from the motorcycle and sustained severe injuries.

Figure 2: Diagram of accident²



¹ Police report

² Police report

Figure 3: Photos from location of the accident

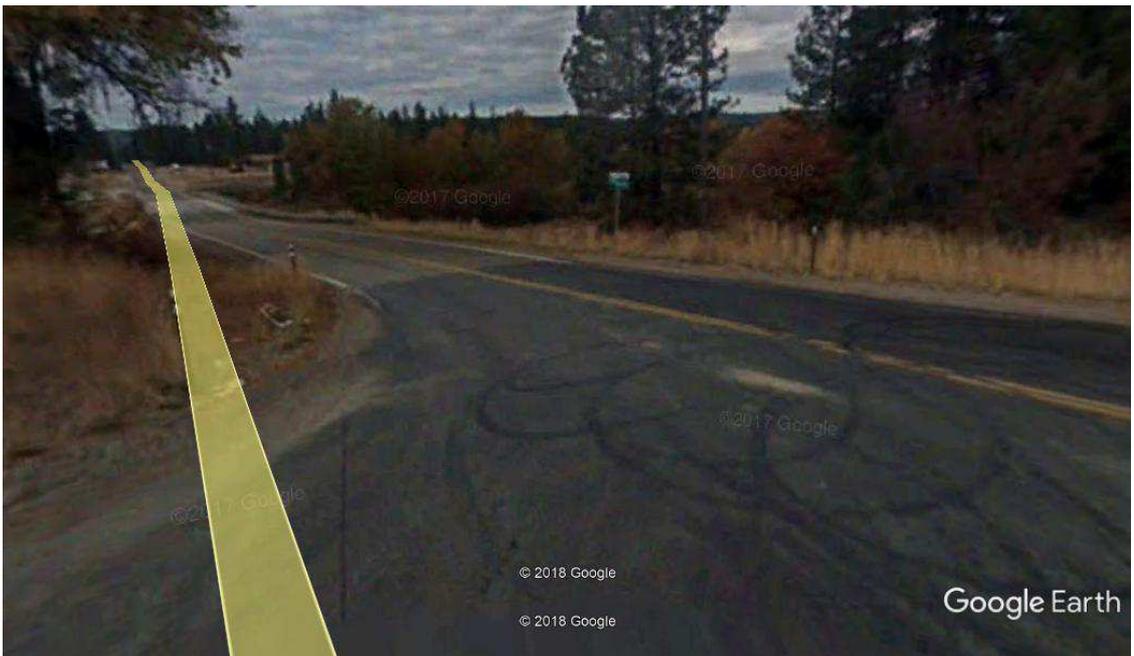


Google Maps Ford-Wellpinit Rd



Image capture: Oct 2008 © 2015 Google





2. Personal Information and Qualifications

As fully laid out in my attached CV, an accurate copy of which is attached and fully incorporated herein, I have extensive experience working in the transportation industry, including the government, private and academic sectors. I have comprehensive multi-modal experience in transportation planning, design, engineering, safety, security, construction, maintenance, operations and management. In addition to my work experience, I have conducted research, consulted, and given presentations on transportation safety, including specifically rail passenger safety. I have worked as a transportation engineer for over fifty-five years, including four years as the highest ranking civil-service engineer in the New York City Transportation Department. I have multiple degrees, including a Ph.D. in Transportation Planning and Engineering from the Polytechnic Institute of New York (NYU-Polytechnic), have held numerous teaching positions, have published academic and news articles, and I am a member of various industry and professional associations.

3. Specific Findings

The findings and opinions in this report are based on information provided by the Attorney for the Defendant and Plaintiff, depositions and technical references listed here and in the Appendices.

Mr. Walker, the driver of the motorcycle, failed to comply with the motor vehicle right of way standards for vehicles entering an intersection. There are two scenarios of the events that transpired on the date of the accident.

Scenario I: Mr. Walker saw the stop sign on Ford-Wellpinit Road at the intersection with State Road 231 but failed to stop as required by law. According to the analysis by the expert witness John Hunter,³ the sight distance to the stop sign for a motorcyclist with the foliage present was between 325 to 350 feet. (figure 4) The plaintiff's expert arborist, Jim Flott, concludes that a "Siberian elm tree impacted the visibility of the stop sign negatively." The analysis of John Hunter takes this tree and other foliage into account in his calculation of a sight distance between 325 to 350 feet to the stop sign. Furthermore, according to Mr. Hunter, a motorcycle with an experienced rider can stop from 50 mph in under 200 feet without leaving a tire mark. This assumes a one second perception-reaction time period and a controlled brake application with both brakes. This stopping distance is consistent with data from Ride Smart Florida, which is based on a study by the NHTSA.⁴ (figure 5) According to Ride Smart Florida, a

³ John Hunter preliminary report dated January 23, 2018

⁴ www.RideSmartFlorida.com, A study of Motorcycle Rider Braking Control Behavior

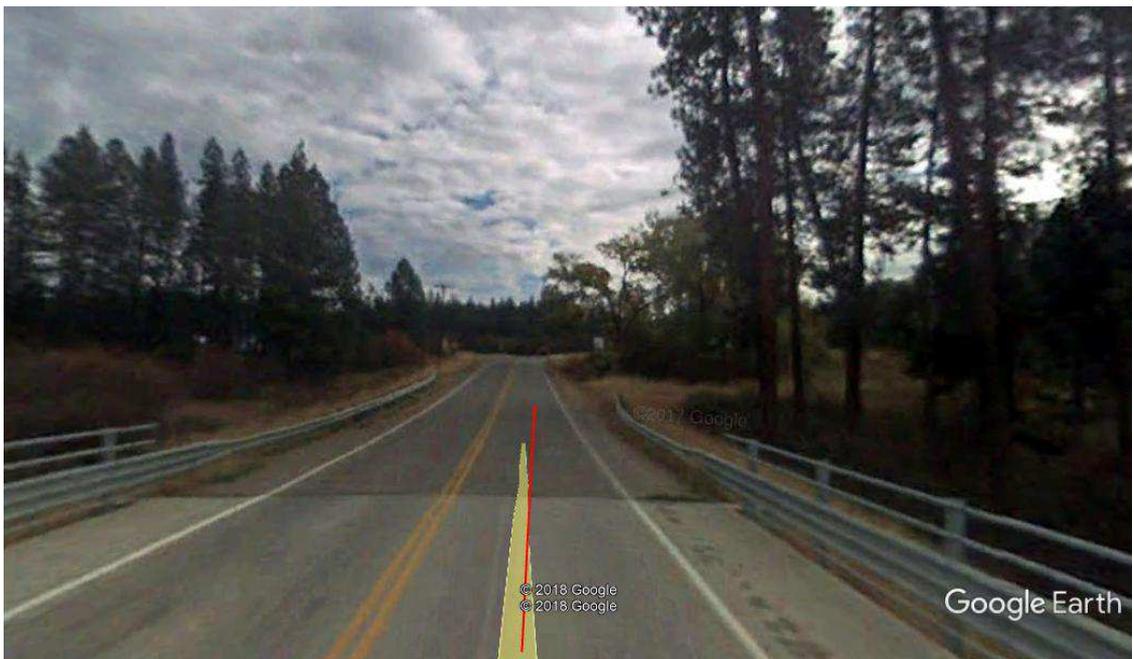
motorcycle traveling at 50 mph needs approximately 143 feet and 3.19 seconds to stop. According to the report this distance includes 55 feet reaction distance and 89.43 feet braking distance. This is consistent with a study by bikesafer.com (with Montreal Promocycle Foundation),⁵ which calculates the braking distance with ABS brakes and reaction time is 141.64 feet and 3.24 seconds to stop. It is possible that Mr. Walker's lack of experience with his high-performance motorcycle contributed to the accident. The operators of this type of motorcycle tend to lean forward over the handle bars for a more aerodynamic profile, which can reduce the sight distance. (see photographs of similar motorcycles in figure 9) However, in each of these scenarios, it is clear that Mr. Walker had sufficient sight distance to stop before entering the intersection. In this case, given the other vehicle was obeying the required traffic laws, Mr. Walker would be at fault for the accident for not complying with the applicable traffic laws.

Figure 4: sight distance of 325 feet from stop sign



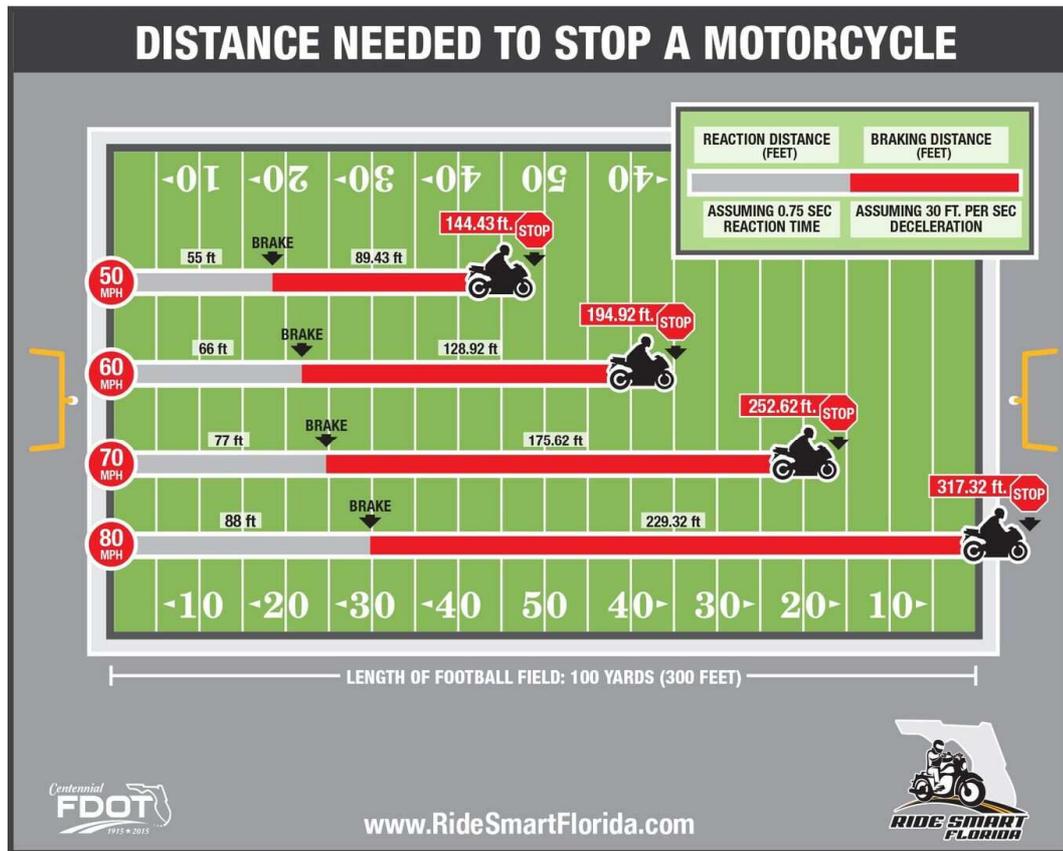
Note: position of 325 feet from stop sign

⁵ <http://bikesafer.com/detail/braketime.html>, Safer Motorcycling in Today's Kill Zone, Stopping Distance Revisited



Note: View 325 feet from stop sign

Figure 5: Motorcycle stopping distance



For more information, please see "A Study of Motorcycle Rider Braking Control Behavior (2011)" by the NHTSA

Note: At 50 mph: reaction brake time is 0.75 seconds, braking stop time is 2.44 seconds. Total time is 3.19 seconds.

Scenario 2: Mr. Walker did not see the stop sign on Ford-Wellpinit Road at the intersection with State Road 231. Mr. Walker may have not seen the stop sign because he was not paying attention to the road signage or alternatively due to his eyesight issue. It was noted in the deposition of Joellen Gill that Mr. Walker has amblyopia⁶ and chose not to wear glasses to correct the deficiency (see figure 6). In addition to the stop sign, Mr. Walker ignored a number of other visual cues that indicated that the road conditions were changing, such as the freshly painted stop bar⁷, stop sign on other side of the road, the white line that divides State Road 231 from Ford-Wellpinit Road, the road seemingly ending in a field and tree line. (see figure 7) Mr. Schildt, Mr. Walker's

⁶ Also called lazy eye, is a disorder of sight due to the eye and brain not working well together. It results in decreased vision in an eye that otherwise typically appears normal.

⁷ Figure 7 shows a very worn stop bar on July 13, 2013, indicating it was freshly painted before the accident on July 26, 2013.

motorcycle driving companion, states that he was aware of the change in road conditions and consequently was able to stop the motorcycle before entering the intersection. (figure 8)

It is not clear whether Mr. Walker planned to go straight, left or right at the intersection of Ford-Wellpinit Road and State Road 231. However, in each of these scenarios Mr. Walker was required to treat the intersection as an uncontrolled intersection. Per the established standards of care regarding rights-of-way of motor vehicles at an uncontrolled intersection, Mr. Walker was required to yield to oncoming cars already in the intersection. As Mr. Walker did not yield to the oncoming car, he would be at fault for the accident for not complying with the established standards of care. See relevant standards of care below in next section.

Figure 6: Deposition of Joellen Gill

Examination of Joellen Gill (Human Factors Engineer, Applied Cognitive Sciences), 5/11/18	
Are you aware of what MR. Walker's eyesight was?	---and he described to me that he had something called amblyopia; that's uncorrectable. And he has his eyes checked every two years. He got some glasses to correct the deficiency, but he struggled driving with them. He thought it was dangerous to ride with them, and so he stopped wearing them. But I can't really comment upon what his visual capabilities were.

Figure 7: Visual cues of intersection



Note: White line that divides State Road 231 from Ford-Wellpinit Road



Note: Freshly painted stop bar⁸

⁸ Deposition of Ulrich Schildt



Note: Freshly painted stop bar



Note: Historic view dated July 13, 2013 (before accident) which shows a very worn stop bar, indicated that the stop bar was freshly painted prior to date of accident on July 26, 2013.

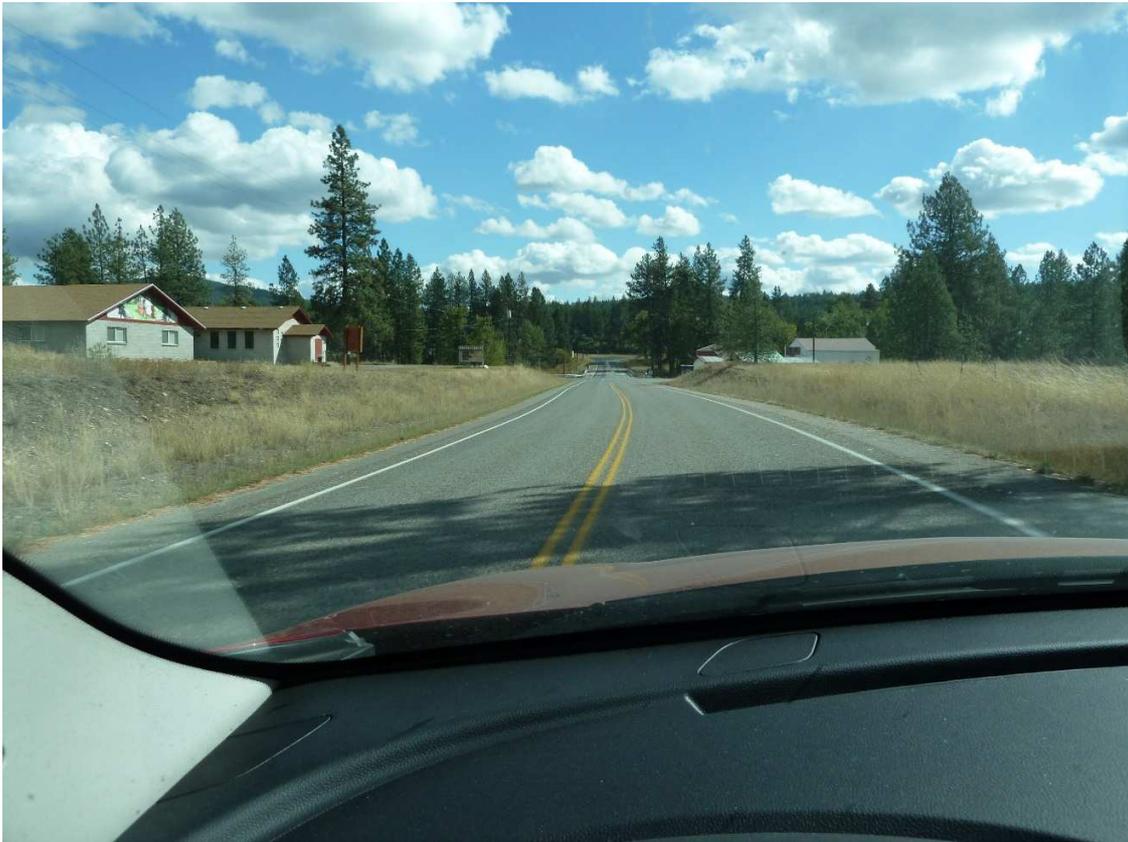


Note: Stop sign and stop bar on opposite side of the intersection⁹

⁹ Google Earth



Note: Aerial view showing position approximately 980 feet from stop sign



Note: Mr. Walker view approximately 980 feet from stop sign

Figure 8: Deposition of Ulrich Schildt

Examination of Ulrich Schildt (Witness), 12/20/16	
Am I supposed to understand that you were going about 50 miles an hour at the point the collision occurred?	It would have been less at that point because the intersection, if I recall, the road we were on was on a slight incline. And so, you could see there was something coming up, so we would have slowed down, prior to that. At that point we were not going 50 miles per hour.
So, I understand the sequence of events, Jim is ahead of you, you're behind him as you approach the intersection. The collision occurs. You're able to stop your motorcycle before entering the intersection, but then you travel through the intersection to park on the other side closer to where Jim is at?	Correct.

Standards of care

Standard of care 1: Washington Drivers Guide¹⁰

A. Right of Way

There will be many times when you will need to slow down or stop your vehicle to allow another vehicle, pedestrian, or bicyclist to continue safely. Even if there are no signs or signals to regulate traffic, there are laws governing who must yield the right-of-way.

The law says who must yield the right-of-way, it does not give anyone the right-of-way. Failure to yield right of way is the number one citation in city collisions. You must do everything you can to prevent striking a pedestrian, on foot or in a wheelchair, or another vehicle, regardless of the circumstances.

- Drivers turning left must yield to oncoming vehicles and pedestrians and bicyclists.
- At an intersection where there is no stop sign, yield sign, or traffic signal, drivers must yield to vehicles in the intersection and to those coming from the right.
- Drivers must not enter an intersection unless they can get through it without having to stop.
- You should wait until traffic ahead clears so you are not blocking the intersection

B. Stop line

Vehicles must come to a full stop at a marked stop line, such as at the stop line at the intersection of Ford-Wellpinit Road and State Road 231.

- Stop sign – An eight-sided sign that is red with white letters. You must come to a full stop at a marked stop line, but if none, before entering a marked crosswalk or, if none, at the point nearest the intersecting roadway where the driver has a view of approaching traffic. You must wait until crossing vehicles and pedestrians have cleared and pull forward only when it is safe.

Standard of care 2: Unsignalized Intersection Improvement Guide (UIIG)¹¹

The UIIG is hosted by the Institute of Transportation Engineers (ITE) under the sponsorship of the Federal Highway Administration (FHWA).

The UIIG contents are based on information obtained from national guides and manuals, most notably the following:

- Manual on Uniform Traffic Control Devices (MUTCD);
- Various design publications of the American Association of State Highway and Transportation Officials (AASHTO);

¹⁰ dol.wa.gov

¹¹ <http://www.ite.org/uiig/uiig-information.asp>

- Publications from the National Cooperative Highway Research Program (NCHRP), FHWA, ITE, universities, and others; and
- Best practices observed across the U.S.

Uncontrolled Intersection

An uncontrolled intersection is one in which the entrance into the intersection from any of the approaches is not controlled by a regulatory (i.e., STOP or YIELD) sign or a traffic signal. Per §11-401 of the Uniform Vehicle Code¹²: "when two vehicles approach or enter an intersection from different highways 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." The driver must also yield to any vehicle that is already lawfully in the intersection and any pedestrian in a marked or unmarked crosswalk. Uncontrolled intersections are usually limited to very low-volume roads in rural or residential areas, as illustrated below.

Standard of care 3: American Association of State Highway and Transportation Officials (AASHTO)¹³

A. Sight distance

According to AASHTO, A Policy on Geometric Design of Highway and Streets, the required stopping sight distance on level roadways at 50 mph is 425 feet (see figure 9). Note that the elevation of Ford-Wellpinit Road approaching the intersection with State Road 231 is negligible, thus a grade = 0% is assumed for this calculation. (see figure 10). According to the analysis by the expert witness Mr. John Hunter, the sight distance to the stop sign for a motorcyclist with the foliage present was between 325 to 350 feet. Therefore, the placement of the sign was in violation of the AASHTO minimum sight distance requirement.

However, note that the required stopping sight distance of 425 feet is based on a stopping sight distance model (figure 11) which calculates the worst-case scenario and thus includes a considerable safety margin. This is discussed further in NCHRP Report 400, Determination of Stopping Sight Distances. (figure 12) The model is based on conservative assumptions with regard to reaction time, pavement friction values, driver visual capabilities, driver skills, and vehicle weight and size. Thus, the minimum sight distance of 425 feet required at a speed of 50 mph is very conservative and the actual required site distance is significantly less for an average reaction time, pavement friction values, driving capabilities as well as lower weight and smaller size of a motorcycle. As discussed earlier in scenario 1, the motorcycle involved in the accident required less

¹² <http://iamtraffic.org/wp-content/uploads/2013/01/UVC2000.pdf>

¹³ AASHTO, A policy on Geometric Design of Highways and Streets, 6th edition 2011, section 3-2

than 150 feet to stop at a speed of 50 mph and thus required a sight distance well below the 425 feet required by the AASHTO or the 325 to 350 feet sight distance calculated by the expert Mr. Hunter.

Figure 9: Stopping Sight Distance on Level Roadways¹⁴

Metric					U.S. Customary				
Design Speed (km/h)	Brake Reaction Distance (m)	Braking Distance on Level (m)	Stopping Sight Distance		Design Speed (mph)	Brake Reaction Distance (ft)	Braking Distance on Level (ft)	Stopping Sight Distance	
			Calculated (m)	Design (m)				Calculated (ft)	Design (ft)
20	13.9	4.6	18.5	20	15	55.1	21.6	76.7	80
30	20.9	10.3	31.2	35	20	73.5	38.4	111.9	115
40	27.8	18.4	46.2	50	25	91.9	60.0	151.9	155
50	34.8	28.7	63.5	65	30	110.3	86.4	196.7	200
60	41.7	41.3	83.0	85	35	128.6	117.6	246.2	250
70	48.7	56.2	104.9	105	40	147.0	153.6	300.6	305
80	55.6	73.4	129.0	130	45	165.4	194.4	359.8	360
90	62.6	92.9	155.5	160	50	183.8	240.0	423.8	425
100	69.5	114.7	184.2	185	55	202.1	290.3	492.4	495
110	76.5	138.8	215.3	220	60	220.5	345.5	566.0	570
120	83.4	165.2	248.6	250	65	238.9	405.5	644.4	645
130	90.4	193.8	284.2	285	70	257.3	470.3	727.6	730
					75	275.6	539.9	815.5	820
					80	294.0	614.3	908.3	910

Note: Brake reaction distance predicated on a time of 2.5 s; deceleration rate of 3.4 m/s² [11.2 ft/s²] used to determine calculated sight distance.

Figure 10: Google Earth elevation calculations



Note: elevation = 1768 ft

¹⁴ AASHTO A policy on Geometric Design of Highways and Streets, 6th edition 2011, section 3-2



Note: elevation = 1776 ft

Figure 11: Stopping Sight Distance model¹⁵

The stopping sight distance is the sum of the distance traversed during the brake reaction time and the distance to brake the vehicle to a stop. The computed distances for various speeds at the assumed conditions on level roadways are shown in Table 3-1 and were developed from the following equation:

Metric	U.S. Customary
$SSD = 0.278Vt + 0.039 \frac{V^2}{a}$	$SSD = 1.47Vt + 1.075 \frac{V^2}{a} \tag{3-2}$
<p>where:</p> <p>SSD = stopping sight distance, m</p> <p>V = design speed, km/h</p> <p>t = brake reaction time, 2.5 s</p> <p>a = deceleration rate, m/s²</p>	<p>where:</p> <p>SSD = stopping sight distance, ft</p> <p>V = design speed, mph</p> <p>t = brake reaction time, 2.5 s</p> <p>a = deceleration rate, ft/s²</p>

Recommended parameters for the model. Note parameters represent common percentile vales from the underlying distributions. Specifically, 90th percentile values:

- One design speed and stopping distance
- Perception-brake reaction time – 2.5 sec
- Driver deceleration – 3.4 m/sec²
- Driver eye height – 1,080 mm
- Object height – 600 mm

¹⁵ AASHTO, A policy on Geometric Design of Highways and Streets, 6th edition 2011, section 3-2

Figure 12: NCHRP Report 400

Determination of Stopping Sight Distances

The current AASHTO stopping sight distance model has two components: (1) perception-reaction time, which is equated to the distance a vehicle travels at a fixed speed while these actions occur, and (2) braking distance, the distance the vehicle travels during the braking maneuver. This model has been altered only slightly since its inception in the 1940s, and it continues to result in well-designed roads. However, the hypothesis that the worst-case scenario- with its conservative assumptions of reaction time and pavement friction values and unproven driver visual capabilities-combined with an assumed below average driver, results in a model that provides a considerable margin of safety but is difficult to justify or defend as representative of either a real-life environment or a safe driving behavior.

Standard of care 4: Manual on Uniform Traffic Control Devices (MUTCD)¹⁶

A. Stop line

Stop Line is a solid white pavement marking line extending across approach lanes to indicate the point at which a stop is intended or required to be made.

According to Section 3B.16 Stop and Yield Lines, Stop lines should be used to indicate the point behind which vehicles are required to stop in compliance with a traffic control signal. See Appendix C for more details on the required specification of stop lines.

Conclusion

Based on the information presented in this safety report and with a reasonable degree of engineering certainty, it is my professional opinion that Mr. Walker, the driver of the motorcycle, failed to comply with the motor vehicle right of way standards for vehicles entering an intersection. This failure occurred whether Mr. Walker saw the stop sign or not. Furthermore, Mr. Walker's motorcycle required less than 150 feet to stop at his speed of 50 mph and thus required a sight distance well below the 425 feet required by the AASHTO or the 325 to 350 feet sight distance calculated by the expert Mr. Hunter.

¹⁶ Manual on Uniform Traffic Control Devices for street and highways 2009 edition, revisions May 2012

4. Motorcycle background

A. Specifications of Mr. Walker's motorcycle

- Kawasaki 2012
- VIN Number: JKAZXCH19CA003294
- Make: KMCU
- Model: ZX1000
- Style: MC
- Front Brakes: Dual 300 mm petal-type rotors with radial-mount four piston Calipers
- Rear Brakes: Single 250 mm petal-type rotor with single-piston caliper
- A high-performance motorcycle often driven at excessive speeds by their owners. The bike looks like the batman bike, and the operators tend to lean forward over the handle bars for a more aerodynamic profile.

Figure 13: Pictures of similar motorcycles



B. Definitions

- Disc brake: a type of brake that uses calipers to squeeze pairs of pads against a disc or "rotor" to create friction. This action retards the rotation of a shaft, such as a vehicle axle, either to reduce its rotational speed or to hold it stationary.
- Rotor: disc which brake pads clamp down on to stop the wheels from spinning.
- Petal-type: it does not have a circular shape but has petals on the circumference. It increases the total surface area of the disc brakes. It also better dissipates the heat generated by the braking.
- Calipers: squeeze the brake pads against the surface of the rotor to slow or stop the vehicle by creating friction onto the rotor.

C. Background on the Kawasaki motorcycle¹⁷ (this an example of a similar motorcycle to the one in the accident)

The Kawasaki Ninja 1000 (sold in some markets as the Z1000S or Z1000SX) is a motorcycle in the Ninja series from the Japanese manufacturer Kawasaki sold since 2011. Other than its name, it is unrelated to the Ninja 1000R produced from 1986–89, or to other Ninja motorcycles.

It is generally characterized as a fully faired sibling of the Z1000 streetfighter, sharing the same 1,043cc liquid-cooled, electronic fuel-injected, 16-valve four-stroke inline-four engine and aluminum twin-tube backbone frame, but with ergonomics, storage, larger fuel tank and other design elements more oriented to the sport touring market. The Ninja 1000 is also strangely fitted with an electronic speed limiter, not because it is capable of exceeding the 300 km/h (186 mph) agreed to in the gentlemen's agreement but apparently to keep its top speed the same as the unlimited Z1000.

Kawasaki has positioned the bike as a "sport bike for the real world." As the model will not be homologated for racing purposes, the designers were free to make compromises for street performance. The Ninja 1000 thus has an upright seating position, large fuel tank, and adjustable windscreen among its features, as well a transmission geared for street-riding as opposed to racing. Nevertheless, it retains the large engine and aggressive styling of a sport bike, and its performance characteristics remain on the sport end of the spectrum, placing its sports-

¹⁷ https://en.wikipedia.org/wiki/Kawasaki_Ninja_1000

touring type more in competition with bikes like the Honda VFR1200F or Triumph Sprint GT as opposed to the Kawasaki's Concours or Yamaha FJR1300.

Kawasaki Ninja 1000



Manufacturer	Kawasaki Motorcycle & Engine Company
Also called	Kawasaki Z1000S/Z1000SX
Parent company	Kawasaki Heavy Industries
Production	2011–present
Class	Sport touring
Engine	1,043 cc (63.6 cu in) liquid-cooled 4-stroke 16-valve DOHC inline-four
Bore / stroke	77.0 mm × 56.0 mm (3.03 in × 2.20 in)
Top speed	152.8 mph (245.9 km/h)
Power	103 kW (138 bhp) @ 9,600 rpm (claimed) 93.3 kW (125.1 hp) @ 9,000 rpm(rear wheel)
Torque	98.54 N·m (72.68 lb·ft)(rear wheel) @ 8,800 rpm
Transmission	6-speed constant mesh
Suspension	Front: Inverted 41 mm (1.6 in) telescopic fork with stepless compression and rebound damping, adjustable spring preload Rear: Swingarm with horizontal monoshock with stepless rebound damping, remotely adjustable spring preload
Brakes	Front: Four-piston caliper with dual 300 mm (11.8 in) discs Rear: Single-piston caliper with single 250 mm (9.8 in) disc
Tires	Front: 120/70-17 Rear: 190/50-17

Rake, trail	24.5°, 100 mm (4.0 in)
Wheelbase	1,450 mm (56.9 in)
Dimensions	L: 2,110 mm (82.9 in) W: 790 mm (31.1 in) H: 1,230 mm (48.4 in)
Seat height	820 mm (32.3 in)
Weight	228.0 kg (502.7 lb) (2011–2016) (wet) 235 kg (518 lb) (2017–) (wet)
Fuel capacity	19 l; 4.2 imp gal (5.0 US gal)
Related	Kawasaki Z1000

D. Background on motorcycle disc brakes

Unlike car disc brakes that are buried within the wheel, bike disc brakes are in the airstream and have optimum cooling. Although cast iron discs have a porous surface which give superior braking performance, such discs rust in the rain and become unsightly. Accordingly, motorcycle discs are usually stainless steel, drilled, slotted or way to disperse rain water. Modern motorcycle discs tend to have a floating design whereby the disc "floats" on bobbins and can move slightly, allowing better disc centering with a fixed caliper. A floating disc also avoids disc warping and reduces heat transfer to the wheel hub. Calipers have evolved from simple single-piston units to two-, four- and even six-piston items. Compared to cars, motorcycles have a higher center of mass: wheelbase ratio, so they experience more weight transfer when braking. Front brakes absorb most of the braking forces, while the rear brake serves mainly to balance the motorcycle during braking. Modern sport bikes typically have twin large front discs, with a much smaller single rear disc. Bikes that are particularly fast or heavy may have vented discs.

Early disc brakes (such as on the early Honda fours and the Norton Commando) sited the calipers on top of the disc, ahead of the fork slider. Although this gave the brake pads better cooling, it is now almost universal practice to site the caliper behind the slider (to reduce the angular momentum of the fork assembly). Rear disc calipers may be mounted above (e.g. BMW R1100S) or below (e.g. Yamaha TRX850) the swinging arm: a low mount is marginally better for CG purposes, while an upper siting keeps the caliper cleaner and better-protected from road obstacles.

A modern development, particularly on inverted ("upside down", or "USD") forks is the radially mounted caliper. Although these are fashionable, there is no evidence that they improve braking performance, nor do they add to the stiffness of the fork.

(Lacking the option of a fork brace, USD forks may be best stiffened by an oversize front axle).

5. Review of Mr. Steve Harbinson's Report

According to Mr. Steve Harbinson, accident reconstruction report dated August 22, 2018, "the stop sign (at SR 231) was only visible from about 125 feet away." Another expert, Mr. Hunter indicated that the sight distance to the stop sign along Ford-Wellpinit Road at SR 231 is approximately 325 to 350 feet away. This distance is measured along Ford-Wellpinit Road to the stop sign at the corner of SR 231.

Figure 14 shows that the distance from this stop line to the edge of the shoulder line for SR 231. The distance from the Ford-Wellpinit Road stop line to the edge of SR 231 shoulder is 30 feet, plus the stop sign is set back several feet before the stop line.

According to the various stopping distance studies presented in this report, the stopping distance for a motorcycle is approximately 145 feet. Using Mr. Harbinson's 125 feet sight distance and adding the distance from the stop line to the shoulder line and the stop sign setback, there is a distance greater than 155 feet available to Mr. Walker to stop. If Mr. Walker was driving at the speed limit of 50 miles per hour, Mr. Walker had more than an enough stopping distance not to enter the space occupied by the vehicle driven by Ms. Alvarez who was traveling along SR 231. In addition, Mr. Walker would have been traveling at a slow-speed as he approached the stop line and additionally would have been able to turn his vehicle right or to turn his vehicle left to remain out of the pathway of Ms. Alvarez's vehicle.

Furthermore, if Mr. Walker had slowed his vehicle to stop at the stop line or at the shoulder line, Ms. Alvarez who was traveling at 50 mph would have past the point where Mr. Walker would have intersected with SR 231.

Figure 14. Stop Line in relation to SR 231 extended shoulder line





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IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
IN AND FOR THE COUNTY OF SPOKANE

JAMES WALKER and BARBARA WALKER,
husband and wife and the marital
community comprised thereof,

Plaintiffs,

vs.

No. 16-2-00708-7

THE WASHINGTON STATE DEPARTMENT OF
TRANSPORTATION, DIVISION OF HIGHWAYS,
a State agency, STEVENS COUNTY,
DEPARTMENT OF PUBLIC WORKS,

Defendants.

DEPOSITION OF JASON HART 30(b)(6)

BE IT REMEMBERED that on the 31st day of
October 2017, at the hour of 9:05 a.m., the deposition
of JASON HART was taken at the request of the
Plaintiffs, before Caryn E. Winters, RPR, CCR, CSR,
Washington CCR No. 2496, Idaho CSR No. 237, at 818 West
Riverside Avenue, Suite 250, Spokane, Washington,
pursuant to the Washington Rules of Civil Procedure.

1 to maintain signage pursuant to the MUTCD?

2 A Correct.

3 MR. ZENER: Object to the form. Legal
4 conclusion. But you can answer.

5 A That would be correct.

6 Q (By Mr. Swindler) Are you aware of any other road
7 maintenance agreements with any other entity related to
8 the Ford-Wellpinit Road other than this one?

9 A No.

10 Q Is it your understanding that Stevens County has an
11 obligation to maintain road signage on the Ford-Wellpinit
12 Road?

13 A Yes.

14 (Exhibit Number 2 Marked)

15 Q (By Mr. Swindler) You've been handed what's been
16 marked as Exhibit 2. Do you see on the bottom -- you see
17 this on the bottom right, it's WSDOT Traffic Manual?

18 A (Nods head).

19 Q Does the WSDOT Traffic Manual apply to Stevens
20 County, as far as you know?

21 A No.

22 MR. ZENER: Sorry, would --

23 MR. JOHNSON: Is that a "No, I don't know" or
24 "No, it doesn't"?

25 MR. ZENER: Would you clarify what you mean

1 answer.

2 MR. SWINDLER: What's with the form?

3 MR. ZENER: Legal conclusion. You can

4 answer.

5 THE WITNESS: Okay.

6 A Yes, they would have --

7 On a county road the county engineer
8 determines whether a "Stop Ahead" sign is warranted or
9 not.

10 Q (By Mr. Swindler) Does the state have any right to
11 determine on a county road if a "Stop Ahead" sign is
12 indicated?

13 MR. WARRING: Now I've got to object to the
14 form.

15 MR. ZENER: Did you get the question?

16 A Could you repeat the question?

17 Q (By Mr. Swindler) In your experience, --

18 MR. SWINDLER: I'll change the question,
19 Carl.

20 MR. WARRING: Thanks.

21 Q (By Mr. Swindler) In your experience, has the state
22 ever told Stevens County when a "Stop Ahead" sign is
23 indicated on a county road?

24 A Yes.

25 Q Under what circumstances?

1 A No.

2 Q Does Stevens County work with the state of Washington

3 in determining when new signs, for example, new "Stop"

4 signs have been placed to determine if a "Stop Ahead"

5 sign is indicated?

6 A No.

7 Q Do you know when the "Stop Ahead" -- when a "Stop"

8 sign was installed at the intersection in this matter?

9 MR. ZENER: Which sign?

10 Q (By Mr. Swindler) And by that I mean the "Stop" sign

11 at SR 231 Ford-Wellpinit Road?

12 A No.

13 Q So if the state of Washington installs a "Stop" sign

14 that creates the need for a "Stop Ahead" sign on a county

15 road, does the state notify Stevens County of the "Stop"

16 sign?

17 A No.

18 Q And Stevens County does not have a policy to inspect

19 its county roads to determine if "Stop Ahead" signs are

20 indicated on existing roads?

21 A No.

22 Q Has Stevens County ever determined if a "Stop Ahead"

23 sign is indicated on the Ford-Wellpinit Road before the

24 intersection of SR 231?

25 A Could you repeat that?

1 Q Has Stevens County ever determined if a "Stop Ahead"
2 sign is indicated on the Ford-Wellpinit Road at the
3 intersection of 231?

4 A Have they ever determined there was a need --

5 Q Right?

6 A -- for one? It was evaluated by the county engineer
7 in 2001 and determined it was not needed.

8 Q In 2001?

9 A (Nods head). **During the reconstruction of the**
10 Ford-Wellpinit Road.

11 Q Does Stevens County have any photographs of the
12 position of the "Stop" sign in 2001?

13 A No.

14 Q How do you know that Stevens County determined in
15 2001 one was not indicated?

16 A The county engineer, during the design of the
17 project, reviewed the signage plan when we installed --
18 replaced the existing signs with new signs and installed
19 new as necessary. He must have determined -- he
20 determined that a "Stop Ahead" sign was not needed.

21 Q And how do you know that?

22 A I was actually the assistant county engineer at the
23 time working with them on the plan, preparation,
24 directing our designer and draftsman.

25 Q Were you with him at the time that he determined a

1 (Pause to Review Document)

2 A Oh, I'm sorry, it does not list it.

3 Q It's not listed, is it?

4 A No. So, no, we have no jurisdiction.

5 Q Do you know how many "Stop Ahead" signs Stevens
6 County has installed on its roads?

7 A No.

8 Q Do you have a way of estimating that?

9 A If I were to look at our road log and our Mobility
10 Program, where we have maintenance records which include
11 installation, that would be a way to estimate.

12 Q You don't have the number of "Stop Ahead" signs
13 listed in any form?

14 A Within the Mobility we do.

15 Q Regarding vegetation maintenance of the "Stop" sign,
16 is it the county's position that that is within the
17 purview of the state?

18 A At state highways, yes.

19 Q Under the MUTCD, who was responsible to maintain
20 vegetation along Ford-Wellpinit Road outside of the state
21 easement of the placement of the "Stop" sign?

22 A I don't believe the MUTCD refers to vegetation
23 maintenance.

24 Q What is -- who is it? Who was responsible for
25 maintaining vegetation along Ford-Wellpinit Road outside

1 MR. ZENER: Object to the form. You can
2 answer.

3 A No.

4 MR. SWINDLER: I need another break.
5 (Short Recess Taken)

6 MR. SWINDLER: We can go back on the record.

7 Q (By Mr. Swindler) Is it your understanding, sir,
8 that the duty to maintain vegetation around a "Stop" sign
9 is the state's?

10 MR. ZENER: Object to the form. You can
11 answer.

12 A At the intersection of a state highway, yes.

13 Q (By Mr. Swindler) And how far does that easement --
14 how big is the easement around the "Stop" sign?

15 A The right-of-way easement?

16 Q Yes?

17 A I believe they vary depending upon where you're at,
18 along the highway.

19 Q But the duty to maintain the "Stop" sign easement,
20 how big of an area is that?

21 A I'm not aware of the state's policy.

22 Q Is it your understanding, though, that the vegetation
23 should be maintained such that a "Stop" sign is visible
24 for the requisite distance?

25 MR. ZENER: Object to the form. You can

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**STATE OF WASHINGTON
SPOKANE COUNTY SUPERIOR COURT**

JAMES WALKER and BARBARA WALKER, husband and wife and the marital community composed thereof,

Plaintiffs,

v.

THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, a State agency, STEVENS COUNTY, DEPARTMENT OF PUBLIC WORKS, a

Defendants.

NO. 16-2-00708-7

DECLARATION OF GLENN WAGEMANN RE: MOTIONS FOR SUMMARY JUDGMENT

Glenn Wagemann declares under penalty of perjury of the laws of the State of Washington that the following statement is true and correct:

1. I am currently employed by the Washington State Department of Transportation. I have been employed with the Department in the Eastern Region for more than 27 years. I am currently a maintenance and traffic engineer.
2. I served as the Department's 30(b)(6) designee in this matter. I have reviewed the transcripts of my testimony. I have also reviewed portions of the pleadings filed as part of the competing summary judgment motions that are pending before the Court.
3. In my prior testimony, I explained that the Department's perception of its responsibility to maintain vegetation around stop signs it places at the intersections of state highways and

DECLARATION OF GLENN WAGEMANN
RE: MOTIONS FOR SUMMARY
JUDGMENT

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county roads. During that testimony, I tried to be clear that the State views its responsibility to clear vegetation “around the stop sign” that interferes with the visibility of the stop sign but not vegetation growing along the County Road that interferes with visibility of the stop sign.

4. Below is a series of photographs that help illustrate the distinction I made in my testimony. The photographs are taken from Ford Wellpinit Road approaching SR 231. This is the route Mr. Walker traveled on the day of the accident. These photographs were taken a year after the accident. So, the obstruction of the visibility of the stop sign in the pictures is greater than it actually would have been on the day of the accident.



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DECLARATION OF GLENN WAGEMANN
RE: MOTIONS FOR SUMMARY
JUDGMENT

3

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5. As the pictures make clear, the vegetation that obscured the visibility of the stop sign becomes apparent the further away a member of the traveling public is from the intersection down the country roadway (Ford Wellpinit Road). The closer the traveler comes to the intersection, the impairment diminishes. In fact, in the two photos closest to the intersection, no impairment to the visibility of the stop sign is present. Also of significance, a traveler proceeding along SR 231 (the state roadway) would not be alerted to any impairment caused by the vegetation along the county roadway.
6. State maintenance crews patrol state highways. State maintenance crews do not patrol county roads like Ford Wellpinit Road.
7. Thus, the condition illustrated by these photographs is not the type of condition the Department would be responsible for addressing, regardless if you call it “stop sign maintenance” or “vegetation maintenance.” My prior testimony should not be read to

1 suggest that it would.

2 8. I have also reviewed the Declaration of Thomas Ballard and the transcript of the November
3 9, 2018 Deposition of Thomas Ballard. This declaration is not an attempt to outline all of
4 my criticisms of Mr. Ballard’s testimony. However, a few key errors must be addressed.

5 9. First, the MUTCD does not require the Department to address vegetation maintenance
6 issues along the County roadway, like the issue illustrated in the pictures above. Said
7 another way, the “functional maintenance” and “physical maintenance” provisions of the
8 MUTCD do not prescribe a duty for the Department to patrol the County roadways looking
9 for obstructions like the one illustrated in the pictures above. Section 1A.05, which contains
10 the “functional maintenance” and “physical maintenance” provisions is “guidance,”
11 meaning the Section is not a requirement or mandatory provision of the MUTCD. Attached
12 as Exhibit 1 is a true and correct copy of excerpts from the version of the MUTCD that was
13 in effect at the time of the accident. Section 1A.13 differentiates between mandatory,
14 recommended, permissive or informational provisions of the MUTCD. Only “standards”
15 are mandatory. Since Section 1A.05 is guidance – it is a recommendation and therefore not
16 mandatory. Second, the MUTCD specifically addresses the maintenance of vegetation for
17 signs in Section 2A.22, so it is not necessary to guess at the meaning of “functional
18 maintenance” and “physical maintenance” as those phrases are used in Section 1A.05.
19 Section 2A.22, which is also guidance and therefore not mandatory, contains two provisions
20 that support the Department’s vegetation management practices for signs. In relevant part,
21 Section 2A.22 provides, “Employees of highway, law enforcement, and other public
22 agencies whose duties require that they travel on the roadways should be encouraged to
23 report any damaged, deteriorated, or obscured signs, gates or object markers at the first
24 opportunity.” The Department does not travel on the County’s roadways. But the County
25 does. Section 2A.22 also provides in relevant part, “Steps should be taken to see that weeds,
26 trees, shrubbery, and construction, maintenance, and utility materials and equipment do not

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obscure the face of any sign or object marker.” The reference to obscuring “the face of any sign” is taken by the Department to mean vegetation that grows directly in front of a sign. It is not taken to mean vegetation that grows along a county roadway that, from a certain angle, *might* obscure the visibility of a sign. That is a condition the County is best positioned to discover when their road crews patrol their roadway.

10. Second, the Department does publish a Traffic Manual which gives direction to Department employees regarding vegetation maintenance practices. The manual is written from the perspective of practices to be undertaken along the state highways and state right-of-ways. It is not intended to impose any expectation for state crews to perform work along county roadways. Any reading of the manual that suggests otherwise is erroneous.

DATED this 3RD day of March, 2019.


GLENN WAGEMANN