

Board of Inquiry into the McCrae landslide

**Before: The Chairperson,
Ms Renée Enbom KC**

**County Court of Victoria,
250 William Street, Melbourne, Victoria**

Thursday, 8 May 2025 at 10.15am

(Day 2)

**Mr M. Costello KC with Mr A. Di Stefano and
Ms A. Kittikhoun appeared as Counsel Assisting.**

**Ms K. Evans KC with Ms E. Pepler and Mr C. McDermott
appeared on behalf of the State of Victoria.**

**Ms K. Foley SC with Ms E. Bateman, Mr C. Viney and
Dr W. Phillips appeared on behalf of the Mornington
Peninsula Shire Council.**

**Ms D. Siemensma appeared on behalf of South East Water
Corporation.**

1 CHAIRPERSON: Good morning, everyone. Mr Costello, which
2 witness are you calling first this morning?
3
4 MR COSTELLO: Good morning, Chair. Calling Mr Dane Pope.
5
6 CHAIRPERSON: Is Mr Pope in the room?
7
8 MR COSTELLO: He is.
9
10 <DANE RICHARD POPE, affirmed
11
12 <EXAMINED BY MR COSTELLO
13
14 CHAIRPERSON: Mr Pope, thank you for coming along today.
15 Counsel assisting will ask you some questions, and when he
16 finishes others may wish to ask you some questions as well.
17 A. Sure. No worries.
18
19 MR COSTELLO: Thank you, Chair. Thank you, Mr Pope.
20 Mr Pope, could you just state your full name for the
21 record, please?
22 A. Dane Richard Pope.
23
24 Q. And your professional role?
25 A. I'm a principal geotechnical engineer at PSM. I'm the
26 ops manager for the state office as well, for Victoria.
27
28 Q. Thank you. And your business address?
29 A. 60 Moorabool Street in Geelong.
30
31 Q. Thank you. Have you given evidence before, Mr Pope?
32 A. Yes.
33
34 Q. Okay. This is something that you do from time to time
35 as part of your professional role?
36 A. Once. So once in the Supreme Court of Victoria, yes.
37
38 Q. "From time to time" is probably overstating it?
39 A. Yes.
40
41 Q. All right. There should be some water there if you
42 need it.
43 A. Sure.
44
45 Q. And, with a bit of luck, the screen that's immediately
46 in front of you will have a green board of inquiry screen
47 at the moment?

1 A. Yes.

2

3 Q. Okay. That's good. I'll show you some documents from
4 time to time. You'll be familiar the vast bulk of them.

5 Before we get into specifics, Mr Pope, could you just tell
6 the chair your professional qualifications?

7 A. So I'm a civil engineer by trade. So the first degree
8 was a civil engineering degree. Some time later went back
9 and did my masters in engineering science, which is the -
10 specialise in geotechnical engineering at UNSW. Pretty
11 much worked in the geotechnical field my entire career,
12 which is about - roughly 19 years to date.

13

14 Q. Outside of the McCrae events that this board of
15 inquiry is concerned with, have you been involved in work
16 in connection with landslides before?

17 A. Yes, since I'd say roughly 2010 landslide work has
18 been a constant in my career. It's not all of my work. So
19 from time to time it will be 100 per cent of our books.
20 But I'd say it's a mix at the moment of - at least
21 100 per cent, but normally we're on the mix of industrial,
22 landslide - and the landslide work will be for property
23 developers, asset owners, also DTP. Yes, it's a mix. Yes.

24

25 Q. All right. Could you give the chair an explanation of
26 some of the landslide work you've done before, the type of
27 the work, whether it's, for example, investigating the
28 cause of landslides or if it is before that, trying to
29 prevent landslides?

30 A. Sure. So I guess a pillar of my experience is a
31 period from I'd say 2011 to 2015 when I worked in open-cut
32 coal mining, and at that time there was a few coal mines
33 that were pushing designs pretty hard, and so in that
34 period of time I was actively using monitoring systems to
35 help the miners basically recover as much as they could
36 safely. And so in that setting I saw a lot of slope
37 failures, and big slope failures. Mining's a different
38 setting to the civil world where you can be a bit more
39 aggressive and you need to be a bit more aggressive in what
40 you do. And, with that skill set, roughly 2015 moved to
41 Geelong and changed - switched out of coal mining into
42 essentially residential geotechnics. And so for four years
43 I did a lot of residential based geotechnical work, and a
44 lot of that was landslide risk.

45

46 Unfortunate for the people involved but fortunate for
47 me as a professional, I worked on the Wye River/Sep Creek

1 rebuild after the bushfires, and in that time I would have
2 looked at between, say, 20 to 25 properties for insurers or
3 property owners with a view to either getting their claims
4 or rebuilding. So that would have run through - still
5 doing those 2018 and 19, and then in 2019 I came back to
6 PSM.

7
8 I would say we don't do a lot of individual
9 residential landslide risk assessments for a single
10 property owner, and it's purely - we're always interested
11 in it but it's quite competitive. So we tend to or I tend
12 to do more roadside hazard assessment work for the State
13 Government, so for DTP, and in that setting it's a
14 different risk framework to AGS, which I understand you
15 were introduced to yesterday, but essentially it's just
16 risk management regarding landslide hazards but to road
17 users. So we've been - the team and I have been assessing
18 risks in that space, and designing and issuing construction
19 drawings to remediate landslides since roughly 2020. It's
20 been - I want to say between a third to half of my work has
21 been in that space.

22
23 We - from time to time, I'd like to say, I have done a
24 few individual landslide risk assessments in Frankston. So
25 that responds to the EMO in Cliff Road for the Frankston
26 City Council. Occasionally we do things for property
27 developers in Geelong regarding landslide risk, and at
28 present we seem to be doing a bit more in the space for,
29 like, literally helping senior planners at councils. So
30 City of Greater Geelong, we do work for them when they have
31 a developer put a proposal forward and we'll critically
32 review it in terms of landslide risks and those sorts of
33 things.

34
35 Q. Putting aside the 2022 and 2025 events in McCrae, have
36 you done any landslide-related work on the Mornington
37 Peninsula?

38 A. I think it's literally - so before 22 I did one peer
39 review, and it was - it's in my CV, but it's in calcareous
40 dune deposits. I can't remember the exact EMO that it
41 triggered. But I essentially had to review another
42 consultant's landslide risk assessment for a development in
43 Mornington. It's like four hours work sort of thing. It's
44 a small job.

45
46 Q. I see.

47 A. We got briefed between 23 and now on a smaller

1 retaining wall issue for council. But this - like, McCrae
2 would have been the first job I've done for Mornington.

3
4 Q. Okay. Just in terms of the scale not so much of the
5 landslide but of the work involved in investigating the
6 2025 landslide, is that a larger job than the more regular
7 jobs you were describing in connection with roadways for
8 the State Government?

9 A. Typically the scope is bigger than the typical jobs
10 that we have on the books, but Deviation Road and Fyansford
11 I've put in my CV, that was a similar scale for DTP. So
12 that's the motorway that - or the highway that comes into
13 Geelong through Newtown. We essentially had to do a very
14 similar scope, just for a different asset owner. So
15 essentially from the Fyansford Tavern to the top of the
16 hill at Geelong College we had to assess above and below
17 the road, so the fill batters and then the cut sites above
18 the road and - similar scope, yes. It didn't have the
19 monitoring that we put in for this job, but, yes, similar
20 scope.

21
22 Q. All right. And before you were engaged in connection
23 with the McCrae landslides had you done risk-to-life
24 assessments before?

25 A. Yes.

26
27 Q. Okay. And I went through a number of types of reports
28 with Mr Paul that geotechnical engineers are called upon to
29 produce in connection with landslides, and the risk-to-life
30 report's a fairly common type of analysis that your
31 profession undertakes; is that correct?

32 A. Yes.

33
34 Q. Okay. Did you first become involved with the events
35 at McCrae by being asked to do a risk assessment? Is that
36 the first piece of work you did?

37 A. In - yes, yes. So October 23 was the initial phone
38 call with Harwood Andrews, and at that time it was clear to
39 me that the priority was the risk-to-life assessment for
40 the 22 slip, and then there were other reports that they
41 said would be needed but would follow, yes.

42
43 Q. So you mentioned Harwood Andrews. That's a law firm?

44 A. Yes, correct.

45
46 Q. And they were representing when they contacted you the
47 Mornington shire council?

1 A. Yes.

2

3 Q. And they contacted you in connection with the risk
4 assessment report; is that correct?

5 A. The three reports it was, yes, correct.

6

7 Q. All right. Let's stick with the risk assessment for
8 now. You said that that was October 2023?

9 A. Correct.

10

11 Q. So what were the circumstances that had led Harwood
12 Andrews to engage you for a risk assessment report in
13 October 2023 for events that happened in November 2022?

14 A. So, as I understand it, the council had essentially
15 had Stantec provide an opinion on risk to life, and that
16 would be Davin Slade, and --

17

18 Q. Do you recall when that opinion had been provided, in
19 rough terms?

20 A. Not the date, no. It was shortly after the landslide,
21 I believe. Should've been in '22.

22

23 Q. Yes.

24 A. And the property owners had engaged their own
25 geotechnical engineer to do a series of reports. There was
26 a landslide risk analysis, and there were some opinion -
27 letters with opinions in them and things. So essentially,
28 to cut to the chase, they had two geotech engineers with
29 different opinions and they wanted my independent opinion
30 of risk to life, essentially.

31

32 Q. Thank you. Let me just make some of that clear. So
33 Stantec had been engaged reasonably shortly after the 2022
34 landslides by the council, and they had done a risk-to-life
35 report?

36 A. Yes, correct.

37

38 Q. You've mentioned the property owners. By that you
39 mean the property owners of 10-12 View Point Road?

40 A. Yes, correct.

41

42 Q. They had engaged their own civil engineer, and was
43 that the firm CivilTest?

44 A. Yes, correct.

45

46 Q. Thank you. And your recollection is that there was a
47 divergence of opinion between Stantec and CivilTest?

1 A. I think both geotechs saw risk to life as unacceptable
2 down the hill. It was more there was a difference of
3 opinion on cause, yes, yes.

4
5 Q. I see.

6 A. It's not fresh in my memory as to whether they
7 disagreed regarding risk to being in the dwelling on 10-12.
8 There might have - I'm not sure. I can't recall. But
9 essentially to the people in the line of fire in the
10 landslide there wasn't a big disagreement on risk.

11
12 Q. I see.

13 A. Yes.

14
15 Q. Perhaps I'll show you your 2023 risk-to-life report,
16 which is MSC.5000.0001.1206. You'll be well familiar with
17 this?

18 A. Yes.

19
20 Q. You'll see there that it's dated 3 November and, as
21 I'm sure you remember, this is a report signed by you?

22 A. Correct.

23
24 Q. No doubt you had some assistance in preparing it?

25 A. In this one I was - the phone call was on the 18th,
26 I believe, of December --

27
28 Q. Of October?

29 A. -- that I took from Harwood Andrews. It was an -
30 because this was supporting emergency orders, I'm pretty
31 sure, save for a conversation I had with Garry Moystin, who
32 is our technical director, the draft - and I'll just read
33 through it. I'm pretty sure I did all this and then Andrew
34 Wilson helped with the revision of it.

35
36 Q. I see. Did you say that you thought you had received
37 the phone call on 18 October?

38 A. Correct, yes.

39
40 Q. You've got a copy of your reports in the witness box
41 with you, do you?

42 A. Yes, yes.

43
44 Q. Okay.

45 A. Yes, I certainly had a meeting with Garry Moystin.
46 I work quite closely with Garry on a lot of jobs. So
47 I certainly discussed it with him.

1
2 Q. Okay.
3 A. But the draft was predominantly my work. The revision
4 in June, Andrew's site visit comments will come into that.
5
6 Q. Yes.
7 A. Yes.
8
9 Q. For the purpose of preparing this report you didn't
10 need to attend at the site?
11 A. It was - there was a time constraint. So section 1,
12 my dot point 1, desktop methods only was the only way we
13 could get it done in the time.
14
15 Q. Within time?
16 A. Yes.
17
18 Q. And because it was desktop methods only you had access
19 to a variety of information that you could call upon to the
20 extent it would be useful, including publicly available
21 information about weather, for example?
22 A. Yes.
23
24 Q. And would you typically look at LiDAR maps for
25 something like this, or is that unnecessary?
26 A. This was responding to a particular hazard, like, one
27 defined hazard. So, yes, we ended up looking at LiDAR and,
28 as I can step you through, I should have looked at it to
29 save the reliance on survey that is in this document. Yes,
30 we do. So there's a coastal LiDAR that's readily
31 available, and that's what we ended up pulling into our
32 reports to - in the revision of this, and then in cause and
33 rectification we pulled in those seven coastal LiDAR files,
34 yes.
35
36 Q. Yes. Thank you. We'll come back to LiDAR in a
37 minute. Just in terms of preparing a report like this by
38 desktop methods only, putting aside the reports of the
39 other engineers, what are the other types of data that you
40 would normally look to for a desktop risk-to-life report?
41 A. So the facts that each geotech has presented, so their
42 borehole logs, and specifically for this hazard more
43 importantly was actually how the landslide was mapped. So
44 their facts regarding the thickness, the size, the
45 location, observations of seepage and those sort of things.
46 So for this particular landslide the mapping from Davin was
47 quite key in terms of reliance in getting it done in that

1 timeframe, yes.

2

3 Q. Thank you. And here you had even more information
4 than you might ordinarily have had because you had
5 documents from CivilTest?

6 A. Correct.

7

8 Q. And you mentioned some of those at the bottom of that
9 page and over the page, and you also had documents from
10 Stantec?

11 A. Correct, yes.

12

13 Q. And was it important for you to scrutinise those
14 documents to make sure that you were comfortable with the
15 work that had been done by those firms?

16 A. As I needed the - like, to the extent that I needed
17 the data to form my opinion, yes.

18

19 Q. Yes. Thank you. If we could go to the second page of
20 that document, please. There is there a before and after
21 landslide section comparison at the top, and you weren't
22 here, Mr Pope, but I referred to that diagram in my opening
23 statement. You can read the report if you need to, but
24 I think it's right that you didn't think that that diagram
25 was entirely accurate. Do you have a recollection of that?

26 A. Yes, but I'm not sure if I put it in this letter.
27 We've certainly worked that out with time.

28

29 Q. I think it comes in later?

30 A. Yes. So essentially what happened here and - so the
31 CivilTest drone surveys is the data with the veg that - so
32 they've all got greens and the trees and the like. It's
33 from their drone survey, and the blue is from the surveyor.
34 Now, without - essentially the CivilTest data, the
35 section's cut really thick, which means you see
36 vegetation - or relatively thick - you see veg beyond the
37 section line and before it. So what that has done is
38 created an artefact of vegetation at the top of the slope
39 that actually looks like the escarpment gets steeper as you
40 get to the crest.

41

42 Q. Yes.

43 A. But essentially - and then so you see the surveyor's
44 blue lines, which near the crest are obviously going to be
45 quite accurate because you've got flat ground up there that
46 they can walk around and survey. So their blue lines are
47 suggesting, well, hang on, that's a pretty significant

1 difference in terms of assessing hazards, and you'll see
2 initially I took the hedge as being part of the escarpment.
3 So if that's unstable that's a far bigger volume than if
4 there is a slip that comes from the blue line.

5
6 So essentially - what we also found is that the blue
7 survey wasn't particularly accurate through the middle of
8 the slope and it was accurate at the toe. So when you go
9 through the surveys critically you can see they haven't
10 actually gone down - and they probably weren't allowed to
11 go down and survey in amongst the landslide. So that's
12 when we went back to the LiDAR data that's available to try
13 and work out what was going on with the differences in
14 survey.

15
16 Q. I see. So let me just get the chronology right.
17 Insofar as you can recall, were the conclusions that you
18 ultimately drew about this diagram conclusions that you
19 reached in the course of preparing this report or did you
20 come to those conclusions later?

21 A. It would have been not long after this, but I'm pretty
22 sure it was in the - by the time - so Andrew went to site -
23 and I correct a date that's consistently a typo in my
24 report. He went to site on 23 November, not 23 October.
25 And so by the time he had mapped it, going out and ground
26 truthing it was essentially what gave us more confidence
27 that the LiDAR was the better survey to be using.

28
29 Q. All right.

30 A. Yes.

31
32 Q. Now --

33 A. I think we issued them in - prior to Christmas. So it
34 wasn't long after this.

35
36 Q. Thank you. At this point in time did you say that you
37 were not only commissioned to prepare this report but also
38 to prepare other reports?

39 A. Yes. So the phone call had the - we discussed the
40 three reports, and so - the exact dates are on my briefing
41 documents, but essentially the formal brief came some time
42 in November.

43
44 Q. If we go back to the first page of that document,
45 you'll see there that the scope of the life risk assessment
46 is restricted in three relevant ways. The first is that it
47 is desktop, which we've mentioned. The second is it's

1 connected with three properties?

2 A. Yes.

3

4 Q. 10-12 View Point Road, we've already mentioned that,
5 and the fact that the owners of that property had engaged
6 CivilTest and you had been provided with those documents?

7 A. Yes.

8

9 Q. The other two were 2 Penny Lane and unit 3/613 Point
10 Nepean Road?

11 A. Yes.

12

13 Q. Do you see that you've given each of those a
14 descriptor of P1, P2 and P3? Was it Harwood Andrews that
15 set those parameters, or was that based on an assessment
16 that you had made and communicated to them that they were
17 the relevant properties to consider?

18 A. Indirectly from Harwood Andrews in that it was
19 responding to the emergency orders, so what properties that
20 they applied to at the time, yes. I certainly wasn't asked
21 to look at all properties or anything like - yes.

22

23 Q. No. And you weren't asked to look at 3 Penny Lane?

24 A. Correct.

25

26 Q. And you didn't suggest that 3 Penny Lane ought be
27 looked at?

28 A. I responded to what was potentially going to be the
29 dispute. So I didn't take it outside the bounds of the
30 dispute, yes, correct.

31

32 Q. So this is a report commissioned in circumstances of a
33 disagreement between - or at least some level of
34 disagreement between competing firms, and where one of
35 those firms has been engaged by a property owner at the top
36 of the hill, and that is in part what's driven the fact
37 that there are only three properties mentioned here?

38 A. Yes.

39

40 Q. And, insofar as the angle of the flow of the 2022
41 landslide is concerned, was 2 Penny Lane the property most
42 directly in line with that flow?

43 A. You have the flanks - and hopefully Darren went
44 through this yesterday, but the sides of the landslide were
45 mapped as being unstable. So it essentially was both
46 properties that there was --

47

1 Q. Both 2 Penny Lane and --
2 A. 2 Penny Lane and unit 3. There was dilated soils
3 either side of the 22 landslide that presented hazards for
4 each property.
5
6 Q. Yes.
7 A. And, just by nature of where the debris land to, it
8 did run into both properties, so.
9
10 Q. This isn't a perfect picture of it but, just to be a
11 little clearer about this, perhaps if we move forward to
12 page 1222, using the Bates numbering. This is in your
13 report. It's the first photographs in your annexure. So
14 if perhaps the top one - they're relevantly the same, but
15 if the top one could just be blown up just to identify
16 who's who here. The property that's most clearly
17 identified in that shot at the base of the right-hand side
18 is 10-12 View Point Road?
19 A. Bottom, yes, correct, bottom of frame, yes.
20
21 Q. Yes?
22 A. Yes.
23
24 Q. And then are you able as you sit there now to describe
25 where 2 Penny Lane is?
26 A. So if you see the text that is Penny Lane in the top
27 left --
28
29 Q. Yes.
30 A. -- if you go immediately north-west, so towards the
31 top left - not that far, sorry - that's unit 3/613 --
32
33 Q. Yes.
34 A. -- and to the right is number 2, yes.
35
36 Q. The house directly in front of --
37 A. The text.
38
39 Q. -- what is said Penny Lane there is number 2?
40 A. Yes, correct. Yes.
41
42 Q. And the house next door to that is unit 3?
43 A. Yes.
44
45 Q. And then further across to the right the house that
46 you can see sitting within the square there that the yellow
47 line curves around, that's 3 Penny Lane?

1 A. Correct, yes.

2

3 Q. All right. So you were considering risk to life of
4 the properties down and to the left, and weren't asked to
5 consider the risk to life of the property on the right?

6 A. Correct.

7

8 Q. Just as a matter of professional practice, and
9 appreciating that you're under time constraints in doing
10 something like this, is it usual that the client would set
11 the parameters for the risk-to-life assessment like that,
12 or is determining what properties need to be assessed for
13 risk to life ordinarily a part of the job of the engineer?

14 A. If it was - so, say if 10-12 was just going to get
15 built tomorrow, then that's purely on the practitioner. If
16 it's a dispute you operate within the bounds of the
17 dispute. I don't go looking for trouble elsewhere,
18 basically, yes.

19

20 Q. All right. Thank you. So you completed this desktop
21 analysis. You said you were called on 18 October. The
22 date of this report is 3 November. That's a quick
23 turnaround for this type of report?

24 A. Yes.

25

26 Q. Okay.

27 A. I certainly don't want to advertise that I do them all
28 quickly all the time.

29

30 Q. In any event, you were able to come to firm
31 conclusions; is that fair to say?

32 A. Yes, yes.

33

34 Q. And those were conclusions that were reached by using
35 the methodology set out in the AGS guidelines?

36 A. Yes.

37

38 Q. Okay. I spoke yesterday with Mr Paul a little about
39 how these risk-to-life assessments work --

40 A. Yes.

41

42 Q. -- but I'd like to raise the topic with you a little
43 more, given their significance in the landslide context.
44 At the end of the day this is a probability assessment?

45 A. Correct, yes.

46

47 Q. And it's a probability assessment based on the risk to

1 life but not to all life, to the person most at risk; is
2 that right?

3 A. Yes, correct.

4

5 Q. And so the person most at risk is identified as a
6 conservative assumption because if they're at risk then
7 necessarily everybody else has a lower degree of risk; is
8 that fair?

9 A. It's literally just there - there's conservatism in
10 place as in that person being exposed to multiple hazards.
11 So it's not sort - well, yeah, so that - I mean - could you
12 rephrase that question for me?

13

14 Q. Yes, of course. Let me tackle it a different way,
15 maybe through a few questions rather than just one?

16 A. Yes.

17

18 Q. Let me do it this way first. Here you're looking at
19 risk to life in respect of three properties?

20 A. Yes.

21

22 Q. Are you identifying the life most at risk in each
23 property or are you identifying a single life most at risk
24 across the three properties?

25 A. So, say, for example, for - let's pick on 2
26 Penny Lane, there's the person that is there the majority
27 of the time, so what are they doing in their house, then
28 what are they doing in their garden, do they access
29 Penny Lane. You would - and I didn't in this case and
30 I can explain why. You normally add those risks together,
31 but fundamentally there's nearly always one hazard that
32 governs. A lot of the time that's a similar landslide
33 impacts the dwelling and the person's in the dwelling.
34 That in this setting is a - or was a - is an unacceptable
35 risk. To then add on more numbers to it to make the number
36 bigger, you don't really need - you should do it, but you
37 don't have to if it's already unacceptable.

38

39 That will be different to 10-12 walking around their
40 garden or if they go down to the beach, so that their
41 hazards you can add together. Yes. Does that answer your
42 question?

43

44 Q. But at the end of the day if you do an assessment and
45 identify the usage of each of the three properties, and
46 we'll come back to that in a moment, and you determine,
47 say, for example, that at 2 Penny Lane there's somebody

1 there all the time?

2 A. Yes.

3

4 Q. And it happens that that is the most compelling factor
5 that means that person is the person most at risk?

6 A. Yes.

7

8 Q. In that premises. Does that mean you then - you don't
9 need to consider the position of people at View Point Road
10 or at the unit because you've identified the person who is
11 most at risk? It's the person at Penny Lane who's there
12 all the time?

13 A. The way I do it is per property.

14

15 Q. Yes.

16 A. So it's like --

17

18 Q. Yes. Thank you. All right.

19 A. Yes. Try not to smear them together because that
20 doesn't fundamentally make sense.

21

22 Q. Good. Okay. So you're identifying the person most at
23 risk in each of the properties within scope; is that fair?

24 A. Yes.

25

26 Q. Thank you.

27 A. Yes.

28

29 Q. And then you've got to identify that person for each
30 property. And how do you ascertain the information
31 necessary to make that assessment?

32 A. Regard, like, temporal at the time based
33 probabilities. Essentially through my experience of being
34 on the other side of the fence to people like Darren Paul
35 and - in terms of he acts for councils as a technical
36 reviewer. So through multiple attempts of putting
37 landslide risk assessments past regulators, there isn't
38 much argument in temporal probabilities. You could take a
39 view that they're holiday houses and that they're hardly
40 ever occupied. But, as I've been schooled by council
41 employees, what happens when they sell the property, and so
42 we take a view that there's not a lot of room for argument
43 on time in a dwelling.

44

45 Q. Are you working from real data? Are you getting in
46 contact with the owners of the property to ascertain who's
47 there?

1 A. No, no.
2
3 Q. So these are assumptions?
4 A. Absolutely, yes. Yes.
5
6 Q. I see. Thank you. And so the assumptions are
7 assumptions that the practitioner makes, that you make in
8 this case?
9 A. Yes, yes.
10
11 Q. And do the AGS guidelines speak to those assumptions
12 or are they matters of professional discretion?
13 A. There's a whole series of papers. I can't - so
14 there's a bunch of key papers that talk to, I want to say,
15 like, more appropriate ranges for temporal probabilities or
16 spatial probabilities, yes.
17
18 Q. Yes. Okay. So you then compute the probability, and
19 if we could go to .1217 in the Bates numbering, which is
20 page 12 of the internal numbering, and if we could blow up
21 the very bottom underneath the table. There's an equation
22 here that possibly looks a little bit more complicated than
23 it is in reality?
24 A. Yes.
25
26 Q. Could you just explain to the chair first what this
27 equation is in the sense of what it's used for and where it
28 comes from, and could you then just explain the integers?
29 A. Sure. So this is how we assess the risk to loss of
30 life in a quantitative manner. So just putting numbers to
31 it, essentially. So from - it's essentially four numbers
32 multiplied by each other. So that's as simple as I can
33 explain it. One of them is what's the probability of
34 detachment. So that's what's the probability that the
35 landslide will occur.
36
37 Q. Which one is that? Is that the H?
38 A. P - the first, sorry, going from left to right.
39
40 Q. Thank you.
41 A. So P - subsequent page. So that's probability that
42 the event will occur. The second one, which is P with
43 subscript SH, that is your spatial probability. So even in
44 the event of the landslide occurring where does the debris
45 run to. Now, that - I'll go through all four first. The
46 third one is temporal. So the T - PTS, the T is for
47 temporal, and the fourth is - which is literally what time

1 is the person on, in front of, like, how long are they
2 there for, what's their exposure time to that hazard. And
3 the fourth one is V for vulnerability. So if they are
4 impacted what is the probability that they'll be killed or
5 injured or - so there's a series of different scenarios
6 that apply to that number. And you essentially multiply
7 the four of them together and that's your outcome.

8
9 As I said before, if you've got a - an individual most
10 at risk is in the garden for 15 minutes a day, in their
11 bed - in the house for 80 per cent of the day, then
12 you'll - if the landslide hits the house there will be a
13 risk associated with that, but if they're in the garden
14 there is a risk associated with that. And you will
15 typically add them together. But if one of them - if the
16 vulnerability, say, of being asleep in your bed is quite
17 high, that will govern the number. So it can be quite an
18 ordinary number when V is 1. If you're 100 per cent, if it
19 hits you, you die, and then you've got - it's quite hard
20 for that number to be less than the acceptable when you've
21 got, like, genuine landslide hazards, yes.

22
23 Q. So I think the part that I don't sufficiently
24 understand is the notion of the person being, say, in the
25 garden for two hours a day, in bed for eight hours a day
26 and watching TV for the balance of the day. How do you
27 make that assessment? Does it depend in part upon the
28 location of the property?

29 A. Yes. So because we're working through this report at
30 the moment for council we're internally challenging
31 ourselves on, like - so as you'll see in these reports and
32 I think some of the experts agreed on it that 15 minutes on
33 a property was - for someone on the property adopt
34 15 minutes. But from our experience this year it's quite
35 hard to spend 15 minutes on a 45-degree slope. So we are
36 challenging those numbers. But it's essentially what's in
37 published literature for that probability, what do people
38 typically use and publish on, and then we internally
39 challenge ourselves on can you really spend 15 minutes on a
40 45-degree slope, or would you just walk down to the beach
41 every day and walk the dog sort of thing. It's literally
42 we workshop it internally, yes.

43
44 Q. I see. And the use will be at least different and
45 potentially radically different depending on the occupants
46 of the premises, won't it

47 A. If you've got an Airbnb that's only used in summer,

1 then sure, yes.

2

3 Q. Or if you've got a house with three kids as opposed to
4 a single retiree, for example?

5 A. Yes. So you do have in the standard a societal risk
6 calculation that you can do. That's the probability that
7 more than one person will be killed. We have run the
8 check - we are running the checks at the moment, and the
9 individual most at risk is still governing here. So you
10 should check societal. Where I've seen societal risk
11 govern is, say, popular walkways down the Great Ocean Road.
12 So if you're going to have thousands of people on a walkway
13 where there's landslide hazards then societal - thousands
14 per year, sorry, societal risk, more than one person dying
15 may govern. But in this setting typically it's individual
16 most at risk that governs. Like, you get a bigger number
17 with the risk calc, yes.

18

19 Q. Yes. So the centrality of the individual most at risk
20 in the calculations means that getting the individual most
21 at risk right and the assumptions in relation to them right
22 is very important; would you accept that?

23 A. Yes, correct. But in my experience the first two
24 numbers - like, if you're never there, sure, the time --

25

26 Q. When you say "the first two numbers", to be clear, do
27 you mean landslide probability and spatial probability?

28 A. Probability detachment, so PH, and the spatial
29 probability, if they're high then the rest - they govern a
30 lot of the time. So can a landslide actually happen and
31 does your house sit in the runout, that's the spine of the
32 calc.

33

34 Q. Yes.

35 A. Then you can argue all day long, "I'm only there for a
36 minute," but I sell it to someone who will live there or
37 retire there.

38

39 Q. Yes.

40 A. And so we don't argue too much. Not much space to
41 argue on time.

42

43 Q. So this is not just a point-in-time assessment because
44 things can change; is that what you're suggesting?

45 A. Yes, yes.

46

47 Q. Because it seemed to me that --

1 A. I didn't mean that if I suggested that. That is true,
2 though, yes. It does change with time, absolutely, yes.
3
4 Q. Yes. Let me put a couple of things. First, to be
5 clear, I'm not intending to criticise anything you've done
6 in this report.
7 A. No, no, no.
8
9 Q. I'm just concerned to understand the robustness of the
10 methodology that is the accepted methodology that you've
11 employed here --
12 A. Yes.
13
14 Q. -- because it strikes me that these types of reports
15 are very significant to people in landslide risk zones?
16 A. Yes.
17
18 Q. And so I'm just seeking to make sure that I properly
19 understand it, and I appreciate there's a whole lot of
20 literature out there on it, so we're scratching the
21 surface, but that's the motivation for my questions, not
22 any criticism?
23 A. Yes.
24
25 Q. But I had assumed, perhaps, that a risk-to-life
26 assessment is in some respects a point-in-time snapshot of
27 the risk to life at the time the report is written. Are
28 you suggesting that they actually are reports that are
29 drafted with a view to risk to life beyond the sort of
30 immediate circumstances of the report?
31 A. No, they are limited by when - the timeframe in which
32 you did the investigation, yes --
33
34 Q. Right.
35 A. -- because if you - certainly in marginally stable
36 slopes there will be a temporal - and not to confuse the
37 terms, but there will be time-dependent changes in, like -
38 so wet season to dry season.
39
40 Q. Yes.
41 A. We do take a view, though, of longer term rainfall
42 patterns. So it's like - yes, it is done on the time that
43 we assess the risk.
44
45 Q. Yes.
46 A. But you do take a longer view on, like, what period of
47 time have these landslides been happening, so that can be

1 hundreds of years, tens of years to millennia, like, that -
2 it's valid from when we look at it, yes, but we do look
3 across a long period of time. If you change the site
4 conditions of course it might not be valid; yes.

5
6 Q. Quite. And I suppose that, putting aside the changes
7 in the human use of the relevant land, questions about the
8 changes in site conditions of the landslide-prone territory
9 are taken into account in the first integer, the landslide
10 probability, because when deriving that probability you'll
11 be taking into account things like the prospect of
12 unseasonably high rainfall, is that right, to determine
13 what the PH is?

14 A. Yes, what - this job is a bit unique in that you're
15 coming out to a hazard.

16
17 Q. Yes.

18 A. And it's got signs of movement. So there's not a lot
19 of argument on probabilities of detachment for something
20 that is detached.

21
22 Q. Yes.

23 A. But if you're looking, like as we are now, you do look
24 at those rainfall events. So we have looked at what is
25 published for 1952 and similar rainfall events in the
26 published records. So, yes, you do look at both the
27 intensity of those events, because there's a useful
28 probability input there. If you have a one in 100 year
29 storm and there's a landslide, then you've got some
30 insights into return periods of landslides. And certainly
31 with 1952 we look at not only how much rain fell in the two
32 days in July but how much rain was recorded in the 30 days
33 or the 60 days prior. So I think you put a chart up about
34 above-average rainfall.

35
36 Q. In 2022 you mean?

37 A. That would have been 22, yes. So you can look at that
38 for 1952 as well.

39
40 Q. Sure.

41 A. I don't know if they've got charts like that, but the
42 raw data is certainly sitting there, yes.

43
44 Q. All right. Let's just have a quick look at your
45 actual workings of the equation here. If we go over to the
46 next page. So here you do - you calculate the probability
47 of occurrence, which is the first integer at 4.3.1, and

1 then there's more set out later on, and then you move
2 straight to spatial impact?
3 A. Yes.

4
5 Q. So you said here already probability of occurrence in
6 the circumstance of this report's a bit different from an
7 ordinary report because here the occurrence has happened?
8 A. Yes.

9
10 Q. Yes. Okay. So let's move to probability of spatial
11 impact. Can you see that there at 4.3.2?
12 A. Yes.

13
14 Q. All right. Can you just briefly explain what this is,
15 what you're doing here?

16 A. Literally I've only looked at two scenarios there in
17 terms of people being in a dwelling, which is - if it's not
18 obvious, that's for the dwellings down the hill, and
19 then --

20
21 Q. Yes. Well --

22 A. To be specific, number 2 Penny Lane and unit 3/613.

23
24 Q. P1 there - where you say for property P1 there, that's
25 the top of the hill?

26 A. Correct, yes.

27
28 Q. And P2 and 3 are at the bottom of the hill?

29 A. P2 and P3 are at the bottom of the hill, yes. So
30 dwelling in which occupants may be situated, that applies
31 to P2 and P3, and slopes on which pedestrians may be
32 situated, that is obviously P1.

33
34 Q. Can I ask a question there about pedestrians. Does
35 that mean that the person most at risk need not necessarily
36 be an occupant of any of these houses? Is that the
37 relevance of pedestrians?

38 A. Yes, correct. You've got Penny Lane there as well,
39 which is public property as well. But, yes. Yes.

40
41 Q. All right. And then you're into reach angles?

42 A. Yes. So the spatial impact part is essentially how -
43 in doing the risk assessment we look at what credible
44 volumes of material could be associated with the landslide,
45 and obviously if you've got one there in front of you that
46 volume is not going to be disputed. A similar volume could
47 happen again. And so then there's a bunch of - there's a

1 lot of published data on - and especially in granitics, if
2 it mobilises how far does it --
3
4 Q. When you say granitics you're talking about the soil
5 type?
6 A. Yes. Yes, in profiles that are formed in granite or
7 residual granite or soils derived from granites.
8 Essentially it's as simple as where does it detach from and
9 how far does it run out, and if the person most at risk is
10 within that envelope then there will be a probability
11 assigned to that individual. So if they're right out on
12 the edge of any published data or well beyond the debris
13 flow that's observed, that probability should be obviously
14 lower that they're going to be impacted. If they're -
15 I was getting the directions wrong over there. On the
16 northern boundary of 10-12 right at the toe of the slope
17 the probability is quite high that they're going to be
18 impacted. Obviously the debris went beyond that. So we
19 do portion up your spatial probability based on where you
20 are relative to observed runout and published runout, if
21 that makes sense.
22
23 Q. Yes, thanks. If we go over the page, please. Could
24 you just briefly explain inset 12 here?
25 A. I've lost signal on my screen. What page number are
26 you on?
27
28 Q. Sorry, it's page 14 on yours. If you want to break
29 your neck, you can see it on the big screen here. I'll get
30 it blown up. Can we blow up the graph, please. But feel
31 free to look at your hard copy if it's easier, Mr Pope.
32 A. Yes.
33
34 Q. Your screen is off, is it?
35 A. Yes.
36
37 Q. Okay. We'll try and get that fixed for you in the
38 morning break perhaps. So this is inset 12. It's entitled
39 at the bottom "Predicted volumes and measured reach angles
40 to P2 and P3 plotted on Mostyn and Sullivan 2002 landslide
41 data". Could you just explain what this graph is showing?
42 A. Essentially four different landslide volumes on that
43 axis from --
44
45 Q. That's the volume of material involved in the slide,
46 here translating?
47 A. Yes. Yes, or however it failed, which they have

1 different types of failure there in the legend. But
2 essentially for an estimated volume or a known volume,
3 which you can back-analyse these things, but essentially
4 where does it come from, so, say, for property P1 just
5 immediately below the stairs; how far can that debris run
6 out from that point, and so it's literally just the angle
7 is measuring - so, say, from the stairs - I've got the
8 number in here somewhere. Anyway, essentially the reach
9 angle is how far - so, like, it's literally the length of
10 runout compared to the height from where it detached from,
11 and that is that, like, height of the slope from where it
12 came from versus how far out into land it ran is how that
13 angle is derived.
14

15 Q. Yes. Thank you. I'll just take you quickly to your
16 conclusions, and then we'll move to a different topic. If
17 we could go to the next page, please, internal page 15. If
18 we could blow up 4.4 and 5. Thanks. So here's the results
19 of your assessment and your conclusion. It might just be
20 worth me asking you to explain the maths in paragraph 1
21 there in that that says 2.1 times 10 to the minus 4; is
22 that right?

23 A. Correct.
24

25 Q. To 6.27 times 10 to the minus 2?

26 A. Ten to the minus two, yes.
27

28 Q. And that's for pedestrians and occupants below the
29 escarpment within the runout distances?

30 A. Correct.
31

32 Q. I see. And so you've identified the probability there
33 as being within that range and concluded that the range is
34 unacceptable?

35 A. Yes.
36

37 Q. Yes. And in mathematical notation terms what would
38 bring it within an acceptable range?

39 A. That's a good question because the regulator normally
40 sets the number --
41

42 Q. That's where I'm going. So let me - perhaps I'll ask
43 you a question before that.

44 A. Yes.
45

46 Q. So far as you understand it, is there any legislated
47 rule that fixes the probability that it's acceptable for

1 risk to life?

2 A. Not that I'm aware of.

3

4 Q. Are there guidelines within the - sorry, is there
5 provision within the AGS guidelines that gives guidance on
6 this?

7 A. There is a section which - I do have it here, but it
8 essentially just says it typically falls with the
9 regulator, and then it does give numbers that are generally
10 used.

11

12 Q. The regulator here, you mean the council?

13 A. Would be the council, yes.

14

15 Q. And did they fix a number for you here?

16 A. No, but we were working to what was in the AGS,
17 which - so tolerable --

18

19 Q. You mention there it's table 1 of section 8.2 of
20 AGS --

21 A. Yes, no, I just actually wanted to read the part in
22 the standard rather than make a meal of it. But
23 essentially the guideline does give you numbers that are
24 for tolerable risk, and then it does have text to the
25 effect that acceptable is acceptable to all - like,
26 acceptable risks have to be to all parties involved, and
27 then it's typically an order of magnitude lower. So if it
28 's 10 to the minus 4 that is tolerable, then 10 to the
29 minus 5 is generally acceptable. There are some people
30 that take a view if there's an existing landslide it's got
31 to be lower again.

32

33 Q. Yes.

34 A. I tend to not be that type of person. It's already
35 pretty low already. But there are people that will go to
36 10 to the minus 6 for acceptable.

37

38 Q. Do you mean some people will do that because of the
39 perceived risk of recurrence, notwithstanding there's been
40 a landslide, there might be another one and for that reason
41 they take a more conservative approach?

42 A. I think - well, it certainly wasn't asked of us here.

43

44 Q. No, no, I understand that, yes.

45 A. But it was essentially - I've had other projects, say,
46 in Wye River, where the regulator deviated from AGS, which
47 they're entitled to do because of a known bigger landslide

1 in the area.

2

3 Q. I see.

4 A. Which just essentially makes you work even harder to
5 look at probability of detachments and spatial
6 probabilities, essentially.

7

8 Q. I see.

9 A. Yes.

10

11 Q. By all means take a minute to read what's on the
12 screen, but you ultimately drew conclusions in respect to
13 each of the three properties?

14 A. Yes.

15

16 Q. Unacceptable risk to life for the occupants of P2 and
17 P3?

18 A. Correct.

19

20 Q. And what was your view in respect of P1, the top of
21 the slope?

22 A. Essentially that if you're going to be in and around
23 those landslide hazards that it would be an unacceptable
24 risk to life there.

25

26 Q. But if you stayed inside you'd be okay?

27 A. Yes.

28

29 Q. Thank you. So that was sort of the start of your
30 engagement, and I've gone through that a little more slowly
31 with you, Mr Pope, because there's a subsequent assessment
32 that you do that we'll come to but we'll be able to move
33 through it more quickly.

34 A. Sure.

35

36 Q. It looks to me there's some differences between the
37 latter and the former, and perhaps we'll just concentrate
38 on those. You can explain them.

39 A. Yes.

40

41 Q. But before we get to that let's keep it chronological.
42 Can I show you another of your reports. It's
43 MSC.5000.0001.0639.

44 A. Yes.

45

46 CHAIRPERSON: Mr Costello, would you like to tender
47 Mr Pope's risk assessment?

1
2 MR COSTELLO: Yes, I'm happy to do that now if that's
3 convenient.
4

5 CHAIRPERSON: Dane Pope's risk assessment dated 3 November
6 2023 will be exhibit CA5.
7

8 **EXHIBIT #CA5 DANE POPE'S RISK ASSESSMENT DATED 3 NOVEMBER**
9 **2023**
10

11 MR COSTELLO: Thank you, Madam Chair. All right.
12 Mr Pope, we move forward in time a bit here to 11 June.
13 This is your expert opinion report "Landslide assessment
14 for 10-12 View Point Road McCrae"?
15

16 A. Yes.
17

18 Q. Just to begin with could you just explain, so far as
19 you remember them, the circumstances by which you came to
20 be asked to write this report?
21

22 A. So it was essentially the same phone call in October
23 2023, and then the brief followed in early November, which
24 hopefully is attached. Yes. So in appendix B, 0673, we --
25

26 Q. This is the letter from Harwood Andrews instructing
27 you?
28

29 A. Yes, correct. So we'd obviously had two letters, one
30 9 November 23 and then May 24 followed. Yes, you had a -
31 CivilTest did a bit of extra work in the time between the
32 initial meetings and this report.
33

34 Q. Was this report prepared for the purpose of
35 proceedings that were on foot in the VCAT?
36

37 A. As I understand it, yes.
38

39 Q. Yes. So you were being briefed as an expert witness?
40

41 A. Yes, correct. Yes.
42

43 Q. Thank you. Is it right that in that proceeding
44 CivilTest were the competing experts?
45

46 A. One of them, yes. So you had CivilTest, and then
47 AS James was involved as well for I believe the
Willigenburgs, yes.

Q. Thank you. All right. If we could move, please, to
0644, which is internal page 6. So in general terms
perhaps, just to set the scene for this report, Mr Pope,
what was it that you were seeking to do in this report?

1 What was the fundamental question or contest that you were
2 engaged in?

3 A. Fundamentally to investigate cause.
4

5 Q. Yes. So this is a causal report?

6 A. Yes.
7

8 Q. And it's a causal report produced in circumstances
9 where there is a dispute between the shire council and the
10 owners of 10-12 View Point Road as to why it was that the
11 2022 landslide occurred?

12 A. Yes, correct.
13

14 Q. I see. And do you recall as you sit here now what
15 CivilTest's conclusion had been?

16 A. Fundamentally in terms of landslide triggers was the
17 obvious rainfall event of 80 millimetres in eight hours or
18 thereabouts. So there wasn't any dispute about the
19 rainfall being a trigger. The argument - the differences
20 of opinion come primarily to the stormwater system on View
21 Point Road and its contribution, if any, to that landslide.
22

23 Q. And when you say the stormwater system do you mean the
24 efficacy of the system in diverting stormwater?

25 A. More so that at the time of the landslide it was an
26 open kerb and channel stormwater system, and CivilTest had
27 the opinion that the surface water flowing along the
28 cracked kerb could enter surficial soils and then get to
29 the landslide head and contribute as a major cause of the
30 landslide.
31

32 Q. And I presume that you agree with the tenor of the
33 evidence that Mr Darren Paul gave yesterday that in this
34 type of landslide investigation investigating water and
35 water levels in the soil is a critical aspect of any
36 investigation?

37 A. Most investigations like this, yes.
38

39 Q. Yes. And all the more so where there's not another
40 obvious cause such as earthworks, something like that, that
41 may have disturbed the land; is that fair?

42 A. Yes, that's fair. Yes.
43

44 Q. And so here it was known that there had been a very
45 significant rain event, but one of the questions is whether
46 that rain event alone was sufficient to create the
47 conditions that triggered the slide?

1 A. Yes.

2

3 Q. And a contention that was being advanced was that the
4 rain - well, there's more than one. Let me do it in parts.
5 Some of the rain will be adequately diverted by an adequate
6 stormwater system?

7 A. Yes.

8

9 Q. Do you accept that?

10 A. Well, there's design limitations on residential
11 stormwater systems.

12

13 Q. Yes.

14 A. Yes.

15

16 Q. So there's a question about what any stormwater system
17 can do?

18 A. Yes.

19

20 Q. And then there's a question about whether or not the
21 stormwater systems in place here were fit for purpose?

22 A. Sure.

23

24 Q. And a contention of CivilTest was by reason of open
25 channels and either actual or potential cracks, rather than
26 water flowing along the course of the stormwater system and
27 being diverted away, it might in fact be - some of it may
28 be seeping into places where you don't want water?

29 A. Sure, yes.

30

31 Q. Okay. And you had to consider that thesis in
32 preparing this report?

33 A. Yes.

34

35 Q. And did you go about preparing this report in the way
36 that you would ordinarily go about preparing a causal
37 report for a landslide investigation?

38 A. Landslide - so I don't always go and drill holes for
39 the sake of drilling holes. Obviously we didn't drill
40 boreholes, but we did map the landslide in enough detail to
41 get to a point where we didn't see value in drilling holes.
42 So for this sort of setting, yes. I mean, yes, I would do
43 this the same way. For this scale of landslide we often
44 respond to them in this manner, yes.

45

46 Q. So you didn't drill boreholes; is that what you just
47 said?

1 A. For 22, no.
2
3 Q. 2022. But CivilTest had?
4 A. Yes, correct.
5
6 Q. So in a sense you were able to at least look at the
7 data that they had --
8 A. Broadly get an idea of ground conditions, yes. And
9 they confirmed what was essentially mapped by Davin. If it
10 wasn't that - essentially that slope is dominated by soils.
11 It isn't like you drill two metres and hit rock, where
12 you've got to get a core barrel out and core the rock.
13 They augured that hole to the bottom of the hole, which is
14 significant, and it tells me it's not amazing quality
15 soils. So I say granite. A lot of time in granitic
16 profile, especially if you're going up the top of the hill,
17 you'd probably go half a metre in soil and straight into
18 rock. So boreholes were used for to say, all right, this
19 is a soil-dominant profile. They logged some wet soils,
20 which is useful because you get a snapshot as to when it
21 was wet and how - the time between the actual landslide and
22 when they drilled is significant. It's still wet. The
23 source of water isn't just that rainfall then. So there
24 was enough facts there for me to get through this without
25 drilling holes, yes.
26
27 Q. Okay. And you didn't need to do cone pressure
28 testing, for example?
29 A. CPTs at that point in time, no.
30
31 Q. Okay. Was that because you were content in effect
32 with the material that you had available to you, including
33 the work CivilTest had done?
34 A. In the context of that landslide, yes, because you can
35 see the bottom, sides and the back of it. So you could see
36 what was controlling it from a soil perspective. So
37 drilling holes 10 metres away, it doesn't really inform you
38 what's there. Right in front of your face is more
39 important, yes.
40
41 Q. How quickly did you come to the view that water of
42 some kind was the trigger for the 2022 landslide?
43 A. As long as it takes to look at the rainfall data, yes.
44
45 Q. As soon as you saw --
46 A. I mean, it was reported by CivilTest and Davin anyway.
47 So as soon as I saw the intensity of that storm -

1 literally I just checked the intensity on the bureau
2 website, saw that it sat beyond one in 100 year return, and
3 then from my experience in Victoria when we get rainfall
4 like that certainly in La Nina periods there's quite
5 commonly landslides following a storm like that. So, yes.

6

7 Q. All right.

8 A. Quickly, half an hour, yes. Not long.

9

10 Q. Yes. So from that process you've got at least an
11 inkling, perhaps better than that, that rainfall is a
12 factor?

13 A. Yes.

14

15 Q. And is it just that it's a factor or is it that it's a
16 significant factor or is it that it's the cause?

17 A. Of the initial translational slide, that rainfall
18 event - as I've seen in the Otways in western Victoria
19 similar rainfall events cause similar landslides. So a
20 trigger for me dominated by the obvious steepness of the
21 slopes and them being soil dominant and the rainfall event,
22 yes.

23

24 Q. Okay. I don't ask you this to be critical of you, but
25 in circumstances where within half an hour you're aware
26 that there's been a one in 100 year rain event and your
27 experience is that in Victoria that's meaningful and likely
28 to be causative of the landslide, why is it that it ends up
29 taking sort of seven-odd months, eight months to do the
30 report?

31 A. This report?

32

33 Q. Yes.

34 A. Well, it didn't. So it was issued as a draft, and
35 there was very little changes between the draft
36 pre-Christmas.

37

38 Q. I see.

39 A. Yes.

40

41 Q. So you issued this as a draft to your client?

42 A. Correct, yes.

43

44 Q. The council. But the draft wasn't finalised until
45 11 June?

46 A. Yes.

47

1 Q. Okay.
2 A. And - yes. Correct, yes.
3
4 Q. Thank you. And you knew that in terms of water there
5 had been the very significant rainfall, but you also
6 ascertained that there had been a burst pipe; is that
7 right?
8 A. Well, so there's reliance on other people's --
9
10 Q. Sorry, perhaps I've been unfair to you by saying
11 "ascertained". You became aware --
12 A. Yes.
13
14 Q. You became aware that others had formed the view there
15 had been a burst pipe; is that the more accurate way of
16 putting it?
17 A. Yes, and I haven't heard it disputed. So it's been
18 reported. I think Davin had it in his risk assessment.
19 And I haven't heard it disputed. So, yes. There is a
20 water main that goes across the landslide. Essentially you
21 have the rainfall event triggering the first landslide,
22 which was the translational slip. Then the theory is that
23 water main broke and then leaked into the head of
24 the displaced debris and got that saturated enough to run
25 down the slope as a debris flow.
26
27 Q. I see. So rain is a possible cause, perhaps a likely
28 cause. You then need to investigate the consequences of
29 the burst pipe, whether that's also causative; is that
30 right?
31 A. So I do touch on that. To what South East Water say
32 they guarantee for water volumes in a main, I just did a
33 simple calc saying if that leaks for X amount of time what
34 sort of water does it produce.
35
36 Q. Yes.
37 A. And that water applied across the volume of
38 the landslide is essentially more than what came from the
39 storm itself.
40
41 Q. Yes. I'll come back to that.
42 A. That's if it was on and connected to the street and
43 had the pressure, it could do that; yes.
44
45 Q. Yes, we'll come back to that in a minute. Just before
46 we break for the morning I just want to get down the
47 potential causes that you were concerned to investigate.

1 So there was rainfall. There was a burst pipe. What else?
2 A. At the time it's clear, and I've documented it, that
3 there was a significant amount of vegetation removed across
4 the escarpment. In just street view imagery you compare
5 the Google Street View imagery from different periods of
6 time and the treeline clearly changes.
7

8 So I mentioned Deviation Road earlier as a project of
9 mine. That started from not a very big rainfall event but
10 a series of pine trees falling over. And let's say the
11 storm hit, the trees fell over, and then it rained and then
12 we had a landslide. So tree removal is a significant
13 conditional event for landslides, and there's none other
14 better example than Wye River. So a lot of those trees
15 were killed by the fire.
16

17 And the Paddy Path landslide which closed the Great
18 Ocean Road was essentially a well-vegetated part of the
19 world, then was burnt, vegetation's pretty much decimated,
20 and then we had a storm event later that year. It was an
21 existing landslide that was sitting there, but essentially
22 it regressed. So, like, you have the trees, essentially
23 their suction is turned off by the fire, and then there's a
24 period of landslide that followed in the next wet season.
25 So I would expect if you go and remove trees on steep
26 slopes, soil dominant slopes, you can trigger landslides.
27

28 Q. I see. So that was perhaps the third avenue of
29 enquiry for the cause?

30 A. Yes.
31

32 Q. And was there anything else that you would add to the
33 list?

34 A. Look, we obviously had to talk to leaky services, and
35 CivilTest had done work with ground-penetrating radar to
36 look at cavities and voids and things that could possibly
37 transmit water to the landslide area. But in that - so in
38 that space I looked at - you can see again in street view,
39 you can see the water coming down the street in the kerb
40 and channel, and you can see it going beyond where the
41 defect in the road is and down towards 22 View Point.
42

43 So even, like, those roads up in McCrae, surface water
44 will get through into the subgrade. That's just the nature
45 of roads, especially older ones. That water would get into
46 the sands. But, to their investigation, they looked at the
47 radar they ran across the sewer trenches and they said that

1 there were voids in the sewer trenches. And so, for me,
2 the water goes into the void, because the void is evidence
3 that water's been there before.
4

5 In terms of a simple collapsed settlement explanation,
6 if water gets into loose fill it will cause the fill to
7 drop and settle immediately. You do get voids and cavities
8 associated with collapsed settlement, especially in
9 trenches. It's quite common.
10

11 So, for me, the water, yes, does get into the - would
12 get through the cracked kerb. How much no one actually
13 knows or has put - has actually measured. Difficult to
14 measure. Essentially, that water would go into the
15 immediate adjacent layer that is the most permeable. And
16 deep trenches with fill in them are quite permeable
17 comparatively generally to natural soils immediately
18 adjacent. When I say "generally" it's if they put a
19 different fill in, if for some reason they put clay fill
20 in, it would mess that up. But, essentially, I've far more
21 succinctly in my report said that the water would go into
22 the trench and follow the line of the sewer trench.
23

24 Q. Yes.

25 A. For it to come out of that trench it's got to have
26 something retard flow, like, it's got to have something
27 block flow, and essentially I couldn't see a valid
28 mechanism to do that, to get the water to literally go at
29 right angles to get across to the landslide head. It might
30 be easier to talk to the site plan in time --
31

32 Q. Yes. I'll put a site plan up.

33 A. Essentially, the water's got to go right angles to get
34 across to the head of the landslide. And it's got to go
35 parallel to contour. So the hill is sloped like that.
36 Water is coming down the road, and it's got to somehow go
37 at right angles across the contour to get to the landslide
38 head. For me it comes down the hill, it goes down the hill
39 and more likely into 14-16 View Point. You talk to I think
40 it's Jon. That was a mechanism that happened. He did have
41 water coming down his hill. So there was no basis behind
42 the theory and I didn't take it beyond. If you can find a
43 reason for the water to turn at right angles, then I'll
44 investigate it further. But that was it.
45

46 MR COSTELLO: All right. Thank you. Madam Chair, is that
47 a convenient time?

1
2 CHAIRPERSON: Yes. Mr Pope, have a 15-minute break and
3 we'll resume at 11 --
4

5 MR COSTELLO: Madam Chair, can I ask for an indulgence.
6 There has been a rather lengthy document that's been
7 provided early this morning by others. It might have some
8 relevance to questions I need to ask Mr Pope. Could we
9 break for 20 minutes instead?
10

11 CHAIRPERSON: Yes. And if you need more time just let me
12 know.
13

14 MR COSTELLO: Yes. It's not been produced by the shire,
15 I should indicate. It's been produced by others. Thank
16 you.
17

18 **SHORT ADJOURNMENT**
19

20 MR COSTELLO: Mr Pope is just returning to the witness
21 box.
22

23 CHAIRPERSON: Thank you, Mr Costello. Mr Pope, I'm going
24 to stand for a little while. I've got a back problem at
25 the moment.

26 A. Sure. Understood.
27

28 MR COSTELLO: Mr Pope, we were discussing your 11 June
29 causation report. When we were discussing the earlier
30 risk-to-life assessment report there hadn't been a need for
31 you to do testing, for example drilling boreholes, because
32 there was a time constraint and there had been work done by
33 others.

34 A. Yes.
35

36 Q. There had been work also done by CivilTest that you
37 had access to in preparing this report, but did you have to
38 do on site testing as well?

39 A. No.
40

41 Q. The data you had was sufficient for you to be able to
42 draw conclusions?

43 A. Yes.
44

45 Q. Thank you. Could we come then, please, to the
46 mechanisms for failure. This is MSC.5000.0001.0639 at
47 page 0660, which is internal page 22.

1 A. Yes.

2

3 Q. So this part of your report's concerned with the
4 failure of the slope?

5 A. Correct.

6

7 Q. Okay. And you may not recall the notations that you
8 had given to these things but can you see there at
9 paragraph 64 that you're talking about significant control
10 of mechanisms M1 and M2?

11 A. Yes.

12

13 Q. Is groundwater and soil moisture?

14 A. Yes.

15

16 Q. As you sit there now can you recall what M1 and M2
17 were?

18 A. Well, it's in table 2 of the report. But,
19 essentially, M1 is the translational slide that I've been
20 talking about and M2 is the debris flow that followed.

21

22 Q. Thank you. And so you've described that as a
23 significant control. Is that the same as saying a
24 significant cause of M1 and M2?

25 A. Groundwater and soil moisture, yes.

26

27 Q. Thank you. I just want to make sure it's clear what's
28 intended by the paragraph. You then mention in the second
29 sentence of paragraph 64 that, "Where the change in soil
30 moisture happens quicker than the soils can naturally drain
31 landsliding may occur"?

32 A. Yes.

33

34 Q. And so does that mean that there can be a greater risk
35 of landslide if there's a sudden deluge as opposed to
36 deluge over time?

37 A. If the storm's significant enough then, yes.

38

39 Q. But even a gradual --

40 A. But we talk about - and I'm loath to introduce
41 technical terms all the time - antecedent rainfall, which
42 is essentially cumulative rainfall over a period of time.
43 So you can have a lot of above average rainfall for months
44 on end, and there be a landslide. You don't always have to
45 have a storm event to trigger it.

46

47 Q. Yes.

1 A. If you've got saturated soils, you can have a
2 landslide. And if that's come from three years of La Nina
3 rainfall patterns or if it's come from a wet month and then
4 a big storm, yes, so you look at both, if that makes sense.

5
6 Q. Is it primarily a question of pore pressure either
7 way?

8 A. Saturation of the pores, yes. Yes, yes. Pore
9 pressure, like, it depends, and I think you touched on it
10 yesterday. If the water's in equilibrium and there isn't
11 an extra source of pressure like excess pressure or
12 Artesian pressure as everyone talks about in terms of on
13 the agricultural sense, but, yes, if you had excess pore
14 pressure that's another issue in itself. So, saturation,
15 the pores are full of water. But if you've got excess pore
16 water pressure then that usually increases the risk.

17
18 Q. I see.

19 A. Yes.

20
21 Q. You mentioned in the next paragraph that you had noted
22 that trees had been removed in 2021.

23 A. Yes.

24
25 Q. And you mention there a large mature gum and further
26 vegetation being removed from the landslide. They were
27 conclusions that you reached by inspecting available
28 historical images?

29 A. Google Street View you can see the treeline change.
30 And Nearmap imagery you can see it as well. Nearmap offers
31 imagery at an angle. Some licences have a 3D view. So you
32 can actually see in 3D the changes as well.

33
34 Q. The vegetation removal you're talking about here is at
35 the top of the slope?

36 A. The treeline actually changes off towards the 2025
37 landslide, but it also changes in the area of the '22
38 landslide. So the density of veg changes in those two
39 areas; yes.

40
41 Q. And where in terms of the slope on the hill are these
42 changes? Are they towards the top or is it towards the
43 bottom?

44 A. Like, page 0699, it's appendix F, it's easy to see the
45 changes at the top of the hill.

46
47 Q. Did you say 0699?

1 A. Correct.
2
3 Q. These are the images. Is that the one - no, next one,
4 I think. Next page. Is that what you have in mind?
5 A. Yes, correct.
6
7 Q. And so --
8 A. Obviously 2018, February 2018 versus October '22, the
9 prominent gum trees are up towards - sorry, the ones in the
10 middle of the frame I know to be gums. I don't know what
11 the one up adjacent to 6 View Point is, which 6 View Point
12 is a two-storey white house.
13
14 Q. At the top on the left-hand side?
15 A. Correct, yes.
16
17 Q. And that is next door to 10-12?
18 A. Correct.
19
20 Q. Thank you. So you've identified there that, what, two
21 or three trees have been removed? You've got three arrows.
22 Is that one for each tree?
23 A. Yes, there's at least three that have changed.
24 Comparing F7 to F8, a fair amount of '22 is in shadow - in
25 that '22 area, sorry, I mean F7 is in shadow. But, to me,
26 still there looks like changes in that area between the two
27 images.
28
29 Q. The photo at the bottom, the 2022 photo, it looks to
30 me as though close to the middle of the picture at the top
31 of the hill, it looks as though there's a remnant perhaps
32 of a tree there?
33 A. Yes, correct.
34
35 Q. It might be that a tree has been very heavily pruned?
36 A. Yes, correct.
37
38 Q. Is that possible?
39 A. Yes.
40
41 Q. Can't tell whether it's alive or not from that image,
42 but there's something there?
43 A. Yes, correct.
44
45 Q. And is it possible that - so if you assume for present
46 purposes that of your three arrows the - I don't know if
47 the feature I've just identified is actually the first

1 arrow or the third arrow. It's not the middle one.
2 A. Top down. It's the top arrow, yes.
3
4 Q. Top arrow?
5 A. Yes.
6
7 Q. Is there a plausible prospect that there's also just
8 been pruning of the trees at the other two arrows? It
9 looks as though the middle arrow that there might still be
10 a shrub in the same location but lower. The angles of the
11 photos don't seem to be exactly the same so it's a little
12 hard.
13 A. I'm pretty sure from current site inspections one of
14 those big gums up the top has got regrowth, and one of them
15 further down the hill doesn't is my current --
16
17 Q. Does not have regrowth?
18 A. Yes.
19
20 Q. Do you mean it doesn't have regrowth because it's been
21 removed or do you mean it's been --
22 A. It's there.
23
24 Q. It's still there.
25 A. But it looks quite dead. I'm not an arborist
26 obviously. But, yes.
27
28 Q. No. You can --
29 A. I believe one of those has probably got a little bit
30 of growth as in it's not dead and the suction mechanism for
31 that tree is not completely off. When you go pruning trees
32 they don't pull as much water as they would in their mature
33 state.
34
35 Q. Yes, you've anticipated my next question. So to cover
36 the removal versus pruning point, if there is one, it might
37 be that the three trees you've identified there in February
38 2018 are still there but were cut back in some respects
39 quite significantly?
40 A. Those three in particular, I'm not sure whether the
41 middle one is still there, the middle arrow.
42
43 Q. It is hard to tell.
44 A. Yes.
45
46 Q. There does look to me to be something approximately
47 where the middle one was, but you can't tell from this

1 whether there was always another tree behind it and that's
2 what you're looking at, for example?
3 A. Correct. If you look on the previous page, 698 --
4
5 Q. Yes.
6 A. -- and F5 --
7
8 Q. Would you like that to be blown up a little? Thank
9 you.
10 A. If you look right-hand side of the image where the
11 property boundary changes direction, so it goes from up and
12 down the page and then it rakes off to the left, if you
13 compare those two areas from the two images the treeline's
14 changed. So they have planted new trees there, and some of
15 those trees are down in 3 Penny Lane now. But essentially
16 the treeline has changed. Whether they've been heavily
17 pruned or removed. I'm not sure you can build a vegetable
18 garden on top of trees too effectively, like they have. So
19 there have been trees removed. The exact ones I'm not
20 sure. To your point, some of the gums have been heavily
21 pruned and I think one is dead. Now, the one that I think
22 is dead is - this is kind of awkward. If you look at my
23 top image and see where "tree is not visible in September
24 2021" --
25
26 Q. Yes.
27 A. -- there is a - a trunk of a tree is there. I'm not
28 sure it's alive. They didn't fully remove the hardwood,
29 for want of a better term.
30
31 Q. You've been out to this site. Where the arrow there
32 that says "tree not visible in September 2021", how steep's
33 the slope there?
34 A. Very. Exact angles are not in my head. But,
35 essentially, we did ropes work to put the instruments in
36 there.
37
38 Q. So removing a stump from that sort of a location
39 wouldn't necessarily be an easy job?
40 A. Accessing, doing work on the tree would be a difficult
41 job let alone removing it; yes.
42
43 Q. All right. Thank you. And so the relevance of tree
44 removal here is - or pruning even is the loss of the
45 suction power of the tree in taking moisture from the soil
46 and evaporating it into the air. And is there any utility
47 in - or strength given to the slope by the root system?

1 A. Yes. In general, like, I mean, you have this informal
2 mother nature's soil nail sort of - the root balls do
3 locally increase the shear strength of the soil just by the
4 fact that there's timber. Often the root systems can get
5 into the underlying soils and, yes, it does change the
6 strength locally.

7
8 Q. Binds it to some degree?

9 A. Yes, to some degree; yes. The suction forces, though,
10 from gum trees are significant. The analogy of that is
11 like a household vacuum cleaner. What a gum tree can do is
12 orders of magnitude higher suction. So the suction has a
13 huge impact on shear strengths.

14
15 Q. I see. So any tree removal is of interest to a
16 geotechnical professional investigating landslide cause,
17 but gum tree removal might be potentially even more
18 significant given their very considerable suction?

19 A. Highly evolved to low-water soils, yes, to pull water
20 out of, like, heavy clays. So my experience in that is in
21 landslides but also a lot of forensics for property damage
22 with gum trees near houses. So they're well known to cause
23 a lot of damages from their capability to pull water out of
24 heavy clays; yes.

25
26 Q. Thank you. If we could go back to page point 660,
27 please, in that document, which is internal page 22. We
28 were going through here, Mr Pope, the failure mechanisms
29 and you had noted at 65 the removal of trees, although
30 I take it from the exchange we've just had that you might
31 be slightly more circumspect about whether it's removal or
32 significant pruning now?

33 A. Yes. Like, if you want to stop your house settling in
34 reactive clays you prune the tree. You don't have to kill
35 it to get it to stop damaging your footing system; yes.

36
37 Q. So, whether it was removal or pruning, either could be
38 potentially causative?

39 A. Yes.

40
41 Q. Thank you. You noted in 65 that the tree removal was
42 a significant conditional event?

43 A. Yes.

44
45 Q. And then you note that suction will change in the
46 escarpment slopes over a period of 12 months to five years
47 from tree removal?

1 A. Yes.
2
3 Q. And that trees typically influence the soil moisture
4 over a distance of one to two times the height of the tree?
5 A. Yes.
6
7 Q. So that gum that was towards the top of the two
8 photographs that we were looking at looked like a very high
9 tree?
10 A. Yes, they will - growing gums tend to cause a lot of
11 damage. When they get to their mature height they might
12 not be - their demand for water might not be as
13 significant. But, generally, big healthy gum trees pull
14 significant water from one to two times the height of the
15 tree.
16
17 Q. So I just wanted to make sure --
18 A. But usually in the residential standard there's a lot
19 of technical background to that.
20
21 Q. I see.
22 A. Yes.
23
24 Q. I just want to make sure we understand the language
25 here. When you say "they do a lot of damage", do you mean
26 they can do a lot of damage to built structures?
27 A. Yes.
28
29 Q. And I suppose equally in the circumstances here where
30 it's away from a built structure they can have a
31 significant effect that's not damaging; that is, they can
32 be pulling a lot of moisture from a slope?
33 A. Yes, a positive influence on stability; yes. Sorry,
34 I'm crossing the two topics, but yes.
35
36 Q. No, that's useful. Thank you. You then move on and
37 at 67 you talk about M2, which is the second landslide?
38 A. Yes, the debris flow.
39
40 Q. Was conditional on the initial event. So that means
41 in more simple language that it wouldn't have happened if
42 you hadn't had the first event?
43 A. Yes.
44
45 Q. And then you give some explanation about that. If we
46 could go over the page, please. We're now here in some
47 consideration of water. So you mention in (b) here - this

1 is mentioned in the context of why the second landslide
2 wouldn't have occurred but for the first - damage to a
3 waterline occurring because of the first slide; that is
4 mechanism M1?

5 A. Yes.

6

7 Q. "Based on a flow rate of 20 litres per minute in a
8 period of six to 12 hours where water from the waterline
9 was directly flowing into the landslide area," and then you
10 give some estimates as to the contribution of water into
11 the area which we'll come back to.

12 A. Yes.

13

14 Q. But I just want to get clear what we're talking about
15 here. What's the damage to the waterline that you're
16 talking about?

17 A. The M1, the translational slide, is documented to have
18 broken the - I think it's a private water main, and then
19 that's leaked into the accumulated debris from M1.

20

21 Q. That's why I asked, because I think in a discussion we
22 had a little earlier there was mention of a burst water
23 main in this connection.

24 A. Yes.

25

26 Q. You don't mean, though, a water main as people might
27 ordinarily think of it; that is, a water main operated by
28 the local water authority on public land?

29 A. Correct. It's a private waterline is what I mean
30 here.

31

32 Q. Does that mean it's a line used for irrigation?

33 A. Well, as I understand it, yes.

34

35 Q. I see. And then we'll come back to the subparagraphs
36 of (b) in a minute, but if we could just look at your
37 diagram at the bottom which I referred to - or, actually,
38 I think Mr Paul referred to briefly yesterday.

39 A. Yes.

40

41 Q. This is, in effect, your model of the particular area;
42 is that right?

43 A. Yes. I mean, it's talking to - yes, it is. It's got
44 the geotechnical model, but it also has your hydrologic
45 model, so how your rainfall infiltrates and where that
46 water might travel, and obviously the influences of private
47 infrastructure and public infrastructure; yes.

1
2 Q. Thank you. And so you've got the trees in the middle
3 there and the evapotranspiration role that they play in
4 reducing the water content in soils. Up the top left hand
5 you've got damaged infrastructure. And do you recall now
6 what it was you were talking about there?

7 A. Broadly anything. Like, specifically it could be -
8 obviously council's been in a claim related to damaged
9 stormwater systems. But, as drawn there, the stormwater
10 system at the time wasn't below ground behind the property.
11 So I'm broadly talking to a water main or - so leaky
12 services can be a water main, public or private; the
13 stormwater systems; and then even more complicated than
14 that is the trenches which these assets sit in, them
15 themselves can be, like, a conduit of flow. But
16 essentially I'm talking to water mains, sewers, and
17 stormwater. Now --

18
19 Q. Let me just stop you there for a minute.

20 A. Yes.

21
22 Q. Because I just want to be clear about this. So this
23 is a concept illustration of the hydrological processes?

24 A. Yes.

25
26 Q. At the particular site?

27 A. Yes.

28
29 Q. That you have prepared after your investigations. And
30 when you're pointing to damaged infrastructure - accepting
31 that the location of the damaged infrastructure isn't
32 precise, but when you are speaking of damaged
33 infrastructure are you speaking of particular damaged
34 infrastructure here, that is, for example, the CivilTest
35 thesis of --

36 A. Yes.

37
38 Q. -- cracked --

39 A. I do have a specific paragraph that talks to - amongst
40 other sources, yes, is the short answer.

41
42 Q. Amongst other sources is what I might call the
43 CivilTest theory of inadequate stormwater diversion?

44 A. So in table 3, which is 0665, I talk to slope
45 controls. In there I've got damaged infrastructure.

46
47 Q. Yes.

1 A. At length, on reflection. Dot point 8, significant
2 water flows from other damaged infrastructure are
3 speculative and, in my experience, very difficult to
4 monitor and may not be occurring at the site. But I do
5 list the sources that are relevant. So obviously first and
6 foremost is the stormwater system, because that was what
7 everybody was talking about.

8
9 Q. Yes.

10 A. The potable water supply, the South East Water sewer
11 assets, and the backfill trenches.

12
13 Q. Do you recall if you were aware at the time of
14 preparing this report that there had been a pipe burst at
15 23 Coburn Avenue on 14 November?

16 A. No. A water main? No.

17
18 Q. And in terms of doing these types of investigations do
19 you typically - no, I withdraw that. I'll put it
20 differently. When you're doing an investigation like this
21 would you ordinarily seek information from the local water
22 authority?

23 A. Obviously for this matter I didn't; but now we are
24 trying to, yes.

25
26 Q. I see. At the time you produced this report would it
27 be fair to say that if you were aware of, for example, a
28 burst water main that you might seek information about that
29 particular burst water main?

30 A. Yes, absolutely.

31
32 Q. I see. But you didn't have a practice of seeking
33 information about - just generally about any bursts or
34 leaks that might be present in the area?

35 A. Sorry, can you rephrase that?

36
37 Q. Of course. It wasn't part of your general process --

38 A. To go looking at all the water main, no, no.

39
40 Q. Or ask the local water authority, for example, to give
41 you information about any damaged water main?

42 A. No. Essentially with that storm event and the amount
43 of landslides we were seeing through 2020 to 2022 and how
44 wet '22 had been, I didn't go further. So, yes.

45
46 Q. Yes. Thank you. If we can go back to 0661 in that
47 document, please. So here this is admittedly informed

1 estimation on your part, but you say, "Based on a flow rate
2 of 20 litres per minute"?
3 A. Yes.
4
5 Q. That's correctly described as an estimate on your
6 part; is that right?
7 A. Yes, correct, or South East Water on their web - it
8 came from their website, essentially. This isn't verbatim,
9 but they try to give each property owner 20 litres per
10 minute is from their website. I appreciate water mains can
11 obviously have more water than that, but that's their
12 words, 20 litres per minute.
13
14 Q. Okay. So that's the basis of your estimate there?
15 A. Yes.
16
17 Q. And then what's the basis of the range that you've
18 given for the flow of six to 12 hours?
19 A. This is the time between - like, this is other
20 people's reports on rainfall. So I went through the radar
21 data to see how the period that that rain fell in, and then
22 you have timing reports of the debris flow the following
23 day. So I was just trying to bound the first landslide
24 happens and then, say, if - obviously I don't know when the
25 first one happened exactly, but it's just giving you a
26 bound of time that it might have leaked for six hours.
27 There's clearly a few people saying it. There was a gap
28 between the two events. So that's an estimate, obviously.
29
30 Q. Okay.
31 A. The calc itself is pretty simple. So a millimetre of
32 rain equates to basically a litre per square metre. And so
33 you get your area estimate and then your volume estimate.
34 It's just a matter of calculated over that time. So that's
35 where the numbers are from.
36
37 Q. And so based on that, accepting that there is
38 estimation involved at every step of it, you concluded that
39 spread over the area the burst - I might just call it
40 pipe --
41 A. Yes.
42
43 Q. -- to distinguish it from a water main, might have
44 contributed 7,200 to 14,400 litres, which equates to or is
45 equivalent with between 90 and 180 mms of rain?
46 A. Per square metre, yes.
47

1 Q. Per square metre.
2 A. It's a bit conservative to apply it to the whole area,
3 but essentially that's what I've done.
4
5 Q. Why do you say it's a bit conservative to apply it to
6 the whole area?
7 A. Because it will concentrate in a flow path. Water
8 flowing down a hill will find the path of least resistance.
9 So it will come in through a channel in the granite or
10 something like that. Pretty rare for it to flow
11 uniformly; like, an engineer's mind. It doesn't flow
12 like that. It will just pick a channel and follow that.
13 So it would be more concentrated than that, but I've just
14 averaged it across that area.
15
16 Q. Now, just by way of contrast, or comparison rather,
17 the 90 to 180 mms of water per square metre there is not
18 dissimilar to in fact more than the one in 100 year
19 rainfall event?
20 A. Correct, yes.
21
22 Q. And, just to be clear about that, if we could move to
23 0650 of that document, please, internal page 12. Here
24 you've got the data from the Rosebud weather station?
25 A. Yes.
26
27 Q. And you define the rain event in 27(a) approximately
28 80 mm of rainfall was recorded and reported to 9 am over
29 the preceding 24-hour period?
30 A. Yes.
31
32 Q. And that's - I think it was your words; that was the
33 one in 100 year event?
34 A. It sits between one in 100 and one in 200.
35
36 Q. Thank you. And then if we move forward to 0663,
37 internal page 25, here you set out your opinion and you
38 identify it to be multicausal; do you accept that?
39 A. Yes.
40
41 Q. Okay. And then if we could perhaps blow up paragraph
42 71 and 72. So "no singular cause of the landslide" is the
43 start of 71. "Combination of natural and anthropogenic
44 factors or controls". "Primary factors and secondary
45 factors"?
46 A. Yes.
47

1 Q. And then you give some more explanation about those.
2 You then say in 72, "It is most likely that the initial
3 landslide occurred primarily as the result of the natural
4 geomorphological processes in combination with the rain
5 event"?

6 A. Yes.

7
8 Q. "The rain event could have triggered the initial
9 translational slide without major contributions from other
10 controls." And then in 73 you conclude that the second
11 event, as we've discussed already, was conditional on the
12 first?

13 A. Yes.

14
15 Q. And it was the initial landslide that caused the
16 damage to the pipe that we've been discussing; is that
17 right?

18 A. Yes.

19
20 Q. And that contributed a large amount of water into the
21 landslide area, and it was that additional inflow in
22 combination with the geomorphical processes and the rain
23 event that caused the second 2022 landslide?

24 A. Correct.

25
26 Q. And, if the assumptions about the flow rate and flow
27 time of the burst pipe are correct, what that pipe
28 contributed was the equivalent of a second between one in
29 100 year and one in 200 year amount of water into the area?

30 A. Broadly speaking, yes.

31
32 Q. And then in 74 you concluded that there were other
33 factors, natural and anthropogenic, that were secondary to
34 the landslide, including groundwater seepage, landscaping
35 features, and loss of vegetation; do you see that? Could
36 you just briefly - the three subparagraphs you've got
37 there, groundwater seepage, and the second, landscaping
38 features, could you just speak briefly to each of those?
39 We've dealt with loss of vegetation.

40 A. Yes. So I talk to - there's a typo in this, sorry.
41 So in 0650 I've purposely talked to the cumulative rainfall
42 before some key dates. So, paragraph 27(c), the 30-day
43 cumulative on 14 November was 133 mm. And then in (d) the
44 significance of 1 March 2023 was when CivilTest drilled
45 their boreholes. So that's 47 millimetres over 30 days
46 prior to when they drilled. And that's obviously
47 significantly lower.

1
2 There's a typo here. When Andrew did the site visit
3 on 23 November '23, the numbers are correct, the 30-day
4 rainfall there is 12.5 mm. This is on 0650. Essentially,
5 seepage was observed on all three dates. So just the
6 seepage in itself - obviously groundwater being there is
7 going to contribute, but there was seepage on all three
8 days. So just the seep on its own, for my mind, not a
9 primary trigger.

10
11 Q. I see.

12 A. Yes.

13
14 Q. And --

15 A. Because it's there. It has been there this year.
16 Like, it was there in January, February. At some point
17 it's dried out.

18
19 Q. You mean evidence of seepage was there?

20 A. In these same locations, yes; similar locations. Some
21 of it is drier. But certainly parts near the stairs, which
22 is the next point that I'll talk to, there is still seepage
23 there. So there is seepage in that area. Obviously if
24 that was a primary control you'd expect landsliding all the
25 time. So that's I guess the point there, yes.

26
27 Q. All right. Thank you. The second was landscaping
28 features?

29 A. Yes. And it's documented in our appendices, there's
30 agricultural drainage lines that lie behind the landslide.
31 There's the path that obviously comes down to the stairs.
32 Now, the simple analogy there is, like, for a roadway you
33 have - on a hill you'll have a cut on one side and fill on
34 the other to build the road. And for the footpath the
35 simple analogy applies as well. You can't just wish a
36 footpath in a place on a hill. So you've got to cut on one
37 side and fill on the other. And they could have removed
38 the fill. But a little bit of that path is going to be a
39 preferential flow for surface water. And then the path
40 terminates where the landslide is. So there's irrigation
41 lines and things there. There's no way I think they were
42 watering their garden when you get 80 mms in eight hours,
43 but it's clearly been irrigated. The landscaping things,
44 small landscape retaining walls, that sort of stuff.

45
46 Q. Yes, okay. All right. So based on all of that you
47 came to conclusions. Would it be fair to describe them as

1 firm conclusions as to the causes of the two landslides in
2 2022?

3 A. Yes.

4
5 Q. Thank you. Your next report chronologically is the
6 same date and it's concerned with rectification.

7 A. Yes.

8
9 Q. I just want to deal with it very briefly. It's
10 MSC.5000.0001.1565.

11 A. Yes.

12
13 CHAIRPERSON: Mr Costello, if you want to tender the
14 landslide assessment, I'll give that an exhibit number now.

15
16 MR COSTELLO: Yes, thank you. Sorry, I should do these
17 things as I go.

18
19 CHAIRPERSON: Dane Pope's landslide assessment dated
20 11 June 2024 will be exhibit CA6.

21
22 **EXHIBIT #CA6 DANE POPE'S LANDSLIDE ASSESSMENT DATED 11 JUNE**
23 **2024**

24
25 MR COSTELLO: Now, Mr Pope, this report was written for
26 the same purpose, that is in connection with the VCAT
27 proceeding; is that right?

28 A. Yes, correct.

29
30 Q. Thank you. You tell me if I've misunderstood it but,
31 to try and move things along, this is a further area of
32 contest between the council and the owners of 10-12 View
33 Point Road about what needs to be done in response to the
34 2022 landslide?

35 A. Yes, correct.

36
37 Q. And the owners of that property had by their
38 engineers, CivilTest, proposed a solution?

39 A. Yes.

40
41 Q. And the council's - well, no, let me put it more
42 neutrally. You were asked by the council to assess the
43 merit of that solution?

44 A. Yes. Yes. Well, in the context of how would I fix
45 it, like, yes.

46
47 Q. Yes.

1 A. Yes, yes.

2

3 Q. So it wasn't necessarily the case, for example, that
4 the council had just determined that it was not inclined to
5 do the works CivilTest had proposed; they were interested
6 in your independent thinking about whether it was the best
7 solution?

8 A. They were interested in the most economical and
9 efficient way of getting it done, yes.

10

11 Q. I see. And do you recall now if CivilTest had only
12 proposed one solution or if they had canvassed others?

13 A. Certainly some significantly engineered retaining
14 walls and then - that was early days, and I think Davin
15 Slade reviewed that sort of stuff. And then they've more
16 recently tried to wind it back to landscape retaining
17 walls.

18

19 Q. I see.

20 A. Yes.

21

22 Q. And if we could move to --

23 A. Clean up the landslide debris and then build some
24 landscape walls, yes.

25

26 Q. Now, in fairness to you I should just point out
27 something that we discussed early in your evidence. At the
28 bottom of 1569, internal page 5, under the heading,
29 "Document review", you make the comments that I alluded to
30 earlier about the accuracy of that cross-section that we
31 talked about. That's the cross-section there you'll recall
32 we went to?

33 A. Yes.

34

35 Q. And then on the earlier page you have by this stage at
36 least formed conclusions that it's not entirely accurate?

37 A. Yes.

38

39 Q. And they were conclusions that you had reached with
40 more time to give proper consideration to the diagram?

41 A. Yes.

42

43 Q. Thank you. If we could move forward two pages, 1571,
44 the CivilTest proposal is set out diagrammatically there?

45 A. Correct, yes.

46

47 Q. So this was a proposal, was it, for in effect four

1 retaining walls down the length of the slope?

2 A. Yes.

3

4 Q. And that's what they and CivilTest thought was the
5 solution to structurally strengthen this slope?

6 A. Correct.

7

8 Q. And to mitigate the risk of future landslides?

9 A. Reduce the risk of them, yes.

10

11 Q. And, putting aside contests about whether there are
12 other ideas that may be more effective or more economical,
13 just assessing this proposal on its merits --

14 A. Yes.

15

16 Q. -- we've all been put into your position now; we don't
17 have a screen?

18 A. That's all right.

19

20 Q. It might come back on if I keep talking. Was this
21 proposal likely to work - that is, the four retaining walls
22 proposed likely to strengthen the hill and reduce landslide
23 risk - or does it just fail as an idea?

24 A. You can build it, for sure. But --

25

26 Q. When you say "you can build it", I mean, do you mean
27 it's physically possible to build it?

28 A. I mean, engineers, we think we can do anything; right?
29 But you can do this. We don't think they should.

30

31 Q. No, I understand that. I don't want to quibble with
32 this but I just want to understand. You think there's a
33 better path. I just want to understand, though, whether or
34 not if you did this it would be likely to work. You might
35 say it won't work as well as another thing. You might say
36 it's egregiously expensive. But, just as a concept, does
37 this concept work or does it fail at the first hurdle?

38 A. Like, they're long sockets in the granite. So there's
39 a limit to how hard you can push a cantilevered wall, which
40 these are. And we actually didn't run deformation analysis
41 on them. So, the top wall there, I don't like the look of
42 it at all. I think that would probably fail. So, coming
43 from top down, I don't think that would be sensible, even
44 if it was cement treated crushed rock. There's plenty of
45 precedents of cantilevered walls behaving themselves on the
46 escarpment and there's obviously precedents of them not
47 behaving themselves. So you could build it, but we would

1 strongly suggest you don't.

2

3 Q. I see.

4 A. And they often do work reasonably well. But it's
5 certainly not the cheapest way of - in my experience with
6 the state, this won't be cheaper than what we roll out on
7 the Great Ocean Road and the inland routes and that sort of
8 stuff.

9

10 Q. Cheaper is a natural concern of government, but --

11 A. I'm not sure it's more robust than what we roll out on
12 the Great Ocean Road. So what I've suggested in this
13 report is what's on the Great Ocean Road in multiple
14 places, and the risk on that road has been reduced
15 significantly. We put that system forward because it can
16 be built quickly and it's robust.

17

18 Q. The system you put forward in general terms is soil
19 nails?

20 A. Yes.

21

22 Q. They're the primary aspect of the system?

23 A. Primary; yes, correct.

24

25 Q. And are they working in concept with other engineering
26 controls?

27 A. They have a mesh. They're all interconnected by a
28 mesh system. Essentially you set the soil nail spacing so
29 that the mesh can tolerate a similar volume of soil moving
30 between all the nails. The mesh is designed for the load
31 in between the nails, and then the nails are there just
32 basically - you bag up all the surficial sands, and you're
33 pinning them, you're forcing them against the slope.

34

35 Q. The nails are essentially metal rods?

36 A. Yes.

37

38 Q. And --

39 A. There are different options, but yes.

40

41 Q. I see. Options different than metal, do you mean?
42 Carbon fibre rods?

43 A. Yes. So there's stainless steel. There's galvanised
44 steel. And then Paddy's Path I think was done with
45 fibreglass.

46

47 Q. I see. And these are rods of different lengths

1 depending on the place that they're inserted into the
2 slope?
3 A. Yes. If failures, parallel to slope. But, yes, you
4 do lengthen them as needed.
5
6 Q. You've got to insert them at, what, an angle that is
7 uniform along the slope or does the angle of the insertion
8 of the nail vary depending on its location in the slope?
9 A. You do try and have the declination angle similar
10 otherwise you can cross-foul if the angles are too
11 different. But they are allowed to deviate a little bit.
12
13 Q. All right. I don't know if your screen's back but
14 mine is.
15 A. Yes.
16
17 Q. Thank you. If we could go to 1588, please, which is
18 internal page 24. There's a number of diagrams that
19 I understand to be of your proposed solution.
20 A. Yes.
21
22 Q. I'll show you one. MSC.5000.0001.1565 will be the
23 first page, and then if we could move to internal page 24,
24 Bates number point 1588, thank you. And if we could just
25 have that diagram at the top exploded?
26 A. To your point, they're longer at the toe to get
27 through the debris of the toe, and then shorter up the top.
28
29 Q. I see.
30 A. Yes.
31
32 Q. So this was your solution. It's soil nails. That's
33 the correct term, soil nails?
34 A. Yes, for here, like, it is borderline rock. So some
35 people call them rock dowels or soil nails; yes.
36
37 Q. In any event, it's metallic poles drilled in through
38 the soil into the hard rock base?
39 A. Yes, soil or rock; yes.
40
41 Q. With connecting mesh. And what that does is it
42 creates - well, it structurally strengthens the soil on the
43 slope; is that right?
44 A. The soil that's mobile parallel to slope, yes, it
45 basically gathers it up and pins it to the face.
46
47 Q. Your conclusion was that this would be a better way of

1 strengthening the slope than the proposal of the four
2 retaining walls?
3 A. Yes, this responds and when they drill it they'll
4 follow the landform. So the design responds to the
5 landform. It doesn't actually try and impose a cut for a -
6 those retaining walls would need to be cut into the hill.
7 So the risks during construction for the retaining walls
8 are significantly higher than just having the ropes experts
9 come and do - they do it by ropes. They can do it with
10 crane access. But, essentially, they drill the holes, put
11 the nails in and roll the mesh out, and it just responds to
12 the landform. They don't have to cut into it; yes.

13
14 Q. And there would be a variety of risks in connection
15 with either proposal, but one relevant risk would be
16 triggering a landslide by the fact of doing the works?

17 A. Yes, absolutely.

18
19 Q. And you think this is a lower risk option in that
20 regard than the opposing option?

21 A. This you can map - there's a risk of landslide because
22 you're working on one. But they will work top down, and
23 those teams will secure above them before they work down
24 the hill.

25
26 Q. And is it fair to say you've been involved in a number
27 of projects where this type of solution has been employed?

28 A. Yes.

29
30 Q. And, based on your experience, how long does it take
31 for this type of solution to be put in place once a
32 decision's made to do it?

33 A. Like, once the contract's initiated, two to three
34 months maybe. I don't do --

35
36 Q. I'm not going to hold you to it.

37 A. No. It's not 12 months. If it's 12 months - so
38 Deviation Road took forever, but it was not - well,
39 actually did it? It was shut for a year. Deviation Road
40 was shut for basically a year to respond. But it wasn't
41 just this system on its own. So two to three months. It
42 doesn't take long. They might design it in a month.
43 Geobrugg and the likes might kill me for saying that, but
44 they can design it pretty quickly. Andrew would probably
45 be the better person to answer that question because of his
46 experience with managing these contracts for the State.
47 But a matter of months, yes.

1
2 Q. Okay. Mr Pope, you're well familiar with the concept
3 of geological time.
4 A. Yes.
5
6 Q. Probably less familiar with the concept of barrister's
7 time. I gave an estimate that I would be done with you by
8 lunchtime, but I'm going to need a little more time with
9 you, if that's all right.
10 A. Yes, that's fine.
11
12 Q. I suspect we can get through the balance reasonably
13 quickly, but I think it would be a mistake for me to stop.
14 So if that's a convenient time, Madam Chair.
15
16 CHAIRPERSON: Yes. We can break now, if that's your
17 preference.
18
19 MR COSTELLO: Thank you.
20
21 **LUNCHEON ADJOURNMENT**
22
23 **UPON RESUMING AT 2.15 PM:**
24
25 CHAIRPERSON: If Mr Pope could return to the witness box.
26
27 MR COSTELLO: Thank you, Mr Pope. Before we broke we were
28 talking about aspects of your rectification report, and
29 I think we were at page 1588, internal page 24, which is
30 the diagram of your preferred solution for the slope.
31 I should be clear about this. The part of the slope that
32 we were talking about here is that part which was affected
33 by the 2022 landslide, not the part of the slope that was
34 affected by the 2025 landslide; is that correct?
35 A. Correct, yes.
36
37 Q. And was it your evidence shortly before lunch that you
38 thought, without being bound by it but in a ballpark sort
39 of a way, that once a solution like this had been approved
40 it could be implemented as quickly as three months, but may
41 take longer?
42 A. Yes, yes.
43
44 Q. You thought that this was a more cost-attractive
45 solution than the solution that had been proposed involving
46 four retaining walls?
47 A. Yes.

1
2 Q. What are the relative cost differentials? Do you have
3 an idea about that?

4 A. No. No. The numbers - this is sort of Andrew
5 Wilson's experience in running these sorts of contracts for
6 the department, so --

7
8 Q. I see. And also to be clear, looking at that
9 cross-section, one might think that there's a single soil
10 nail put in at each location from top of slope to bottom,
11 but in reality would there be rows of these soil nails?

12 A. Yes, correct. Yes.

13
14 Q. Thank you. Could soil nails be put in across the
15 entirety of the hill; that is, could they be put in from
16 this area through across to the 2025 area?

17 A. Yes, you could. But there's some serious vegetation
18 you'd have to remove. Yes.

19
20 Q. And I know we haven't quite got to 2025 yet, but have
21 you at this point in time had any instructions to consider
22 methods for shoring up the 2025 slide area?

23 A. All we've looked at, and there will be a temporary
24 works proposal in the documents, is measures to reduce the
25 risks in the short term. But we haven't looked at
26 long-term rectification.

27
28 Q. I see. All right. We might come back to that.
29 I want to move quickly to the second risk assessment report
30 that I alluded to when we were discussing the first. It's
31 MSC.5000.0001.1706.

32
33 CHAIRPERSON: Mr Costello --

34
35 MR COSTELLO: Yes, sorry, Madam Chair.

36
37 CHAIRPERSON: Mr Pope's rectification report dated 11 June
38 2024 will be CA7.

39
40 **EXHIBIT #CA7 MR POPE'S RECTIFICATION REPORT DATED 11 JUNE**
41 **2024.**

42
43 MR COSTELLO: Thank you. This is your 11 June risk
44 assessment?

45 A. Yes.

46
47 Q. Now, we have touched upon aspects of this already.

1 I don't want to cover ground that is relevantly the same as
2 in your earlier risk assessment report. But perhaps you
3 could just begin by explaining the circumstances in which
4 this report was requested; that is, why there needed to be
5 another risk assessment report undertaken?

6 A. Broadly it was to include our observations from the
7 site visit. So Andrew Wilson had done a site visit on my
8 behalf, and essentially I could have just relied on his
9 facts.

10

11 Q. On Mr Wilson's facts?

12 A. I could have just relied on his facts. That was good
13 enough, what he had done. So it was to include his
14 observations. Obviously kept the commentary regarding
15 CivilTest and Stantec in there, and the exact directions,
16 I can't recall. It was more just to include our facts,
17 more of our facts, yes.

18

19 Q. So this is a report prepared with a more extensive
20 range of facts and data available to you than the first
21 report?

22 A. Yes.

23

24 Q. And do you recall as you sit there now whether or not
25 your assessment changed in any material respect?

26 A. It 's still unacceptable to life. I dont - yes. Not
27 meaningfully in terms of letting people back into their
28 properties, yes.

29

30 Q. Thank you. Is there any particular aspect of this
31 report that you want to draw attention to?

32 A. Not that jumps out at me, no.

33

34 Q. Thank you. As with the first report, this report was
35 concerned with the same three properties: 10-12 View Point
36 Road, 2 Penny Lane and unit 3/613 Point Nepean Road. No
37 expansion of scope in that regard?

38 A. No.

39

40 Q. Thank you. Can I move then to what you describe as
41 the reverse brief. That's MSC.5016.0001.1844.

42

43 CHAIRPERSON: Do you want to tender that risk assessment?

44

45 MR COSTELLO: Yes, I should for completeness, thank you.

46

47 CHAIRPERSON: Yes. Mr Pope's second risk assessment dated

1 11 June 2024 is exhibit CA8.

2

3 **EXHIBIT #CA8 MR POPE'S SECOND RISK ASSESSMENT DATED 11 JUNE**
4 **2024.**

5

6 MR COSTELLO: Now, you can see that on your screen and I'm
7 sure you've got a hard copy in front of you?

8 A. I've got two reverse briefs, so which - what's the --

9

10 Q. Sorry, the one that I - sorry. It's not on the
11 screen, sorry. Can we have MSC.5016.0001.1844. Thank you.
12 The one that I'm speaking of is 17 March 2025?

13 A. Yes, sure.

14

15 Q. Could you explain the concept of a reverse brief?

16 A. For this situation, essentially it is what - it is
17 literally what I think we need to get done to answer - it's
18 basically PSM defining a scope for this particular item.
19 It's not council coming to us with a scope. We identified
20 that we needed to investigate the influence of stormwater
21 and sewer systems on near-surface groundwater, and so we
22 basically put it back to the council this is what we think
23 we need to do.

24

25 Q. Okay.

26 A. As opposed to getting a brief and someone says,
27 "I want you to investigate this," we're saying, "We think
28 you should investigate."

29

30 Q. And was this directed to ensuring that you had the
31 material available to you so that you could write a causal
32 report?

33 A. It would feed into a causal report, yes.

34

35 Q. Thank you. So here you're identifying that which you
36 need in order to properly investigate the effect of
37 stormwater and sewerage infrastructure on the 2025
38 landslide; is that correct?

39 A. Yes. Yes.

40

41 Q. And what is the next step after you provide a reverse
42 brief like this to a client?

43 A. We await acceptance. Normally it was - we issued this
44 on the 17th; I think we got approval on the 21st, four days
45 later maybe - wait for acceptance, get that in writing at
46 least, and then proceed with ordering the materials that we
47 needed. A significant part of this, though, was working

1 with South East Water for permission to actually drill in
2 their trenches.
3
4 Q. Thank you. I'll come to that in a moment. But just
5 so I understand the sequence, you've then got a report
6 called "McCrae landslide evacuation order area". That's
7 dated 9 April?
8 A. Yes, the --
9
10 Q. Which is only a couple of weeks after that?
11 A. Yes.
12
13 Q. That report doesn't rely upon the type of information
14 that you're setting out as needing here; is that right?
15 A. Correct, yes, correct.
16
17 Q. Because the information that you're seeking --
18 A. This is more scope, yes, correct, yes.
19
20 Q. Yes. Good. Thank you. So in order for the work to
21 be done in connection with the reverse brief you need not
22 only client approval from the council to go ahead with the
23 work but you need the cooperation of South East Water; is
24 that right?
25 A. Yes, absolutely. Yes.
26
27 Q. All right. And so did the council approve you doing
28 the works that you had proposed in this reverse brief?
29 A. Yes.
30
31 Q. How quickly did they do that?
32 A. 21 March, I believe, a few days later.
33
34 Q. Thank you. And then you set about undertaking the
35 tasks that are set out in this document?
36 A. Correct, yes.
37
38 Q. Insofar as engagement with South East Water is
39 concerned, is that something that you take up directly with
40 them or do you do that through council officers?
41 A. I was assisted by council in that matter, yes.
42
43 Q. All right. And what in particular were you seeking
44 from South East Water?
45 A. So they've got a bunch of legitimate rules for
46 drilling near or digging near their assets. So we had to
47 seek permission. Obviously the boreholes are targeted to a

1 fix of council and South East Water assets. "Is it okay
2 that we do this," was the question. "How would you like us
3 to do it?" And so we'd put forward the methodology of
4 using, again that term, non-destructive testing, which is
5 essentially a vacuum truck to advance the borehole in their
6 trenches. Even that in itself has risk because it's
7 high-pressure water, and they're clay sewers, you can
8 damage them with water pressure. So there was a couple of
9 weeks there where we were seeking permissions, getting
10 permissions, and then South East Water wanted input into
11 where the borehole locations would be. So there was time
12 spent there negotiating, I guess, on locations and things.

13
14 Q. I see.

15 A. Yes.

16
17 Q. And did you ultimately get approval to do the works
18 that you sought to do?

19 A. Yes. Yes.

20
21 Q. All right. Did you require any data from South East
22 Water for this part of your work?

23 A. No, just permission basically, yes.

24
25 Q. Had you sought data from South East Water earlier in
26 the year?

27 A. Yes, absolutely. Yes.

28
29 Q. And what data had you sought from them earlier in the
30 year?

31 A. If it helps, certainly will help me, there was in a
32 weekly report - it's a fair list. So it's document 5016,
33 or, sorry, MSC.5016.0001.2047.

34
35 Q. Did you say 2047?

36 A. Correct.

37
38 Q. Thank you.

39 A. It's an April weekly report, 4 April 2025. But
40 essentially attached to - we report weekly our progress to
41 council in terms of obviously tracking what we're up to and
42 what's left to do. But in that we had attached from early
43 days an RFI register. And so I started asking for
44 information from them as early as 21 Jan 2025. At that
45 stage I wanted - I had a conversation with field techs from
46 South East Water regarding chemistry - water chemistry
47 testing, and verbally they had discussed the results. And

1 so I've obviously done similar testing and I just wanted to
2 compare the results to see if they were consistent.

3

4 Q. I see. Sorry, whenabouts were you requesting this?

5 A. 21 Jan.

6

7 Q. And did you --

8 A. January, yes.

9

10 Q. Did you make that request directly to South East
11 Water?

12 A. No, they were either through Harwood Andrews or - so
13 that one - so I list out who I sent the RFI to. So that
14 was Lisa and Ben at Harwood Andrews. If it wasn't directly
15 through them, it was either through the project director
16 from council or Derek's support team. Most recently
17 I believe Lisa put in a formal list which is a group of all
18 these. You'll see there's a whole bunch of South East
19 Water requests that are essentially closed but with the
20 comment, "South East Water will not provide." So
21 essentially aside from this investigation any info I've
22 asked for I haven't received. They've been helpful in
23 drilling very close to their assets, though.

24

25 Q. I see. So they've facilitated you doing works to
26 undertake your own testing?

27 A. Yes.

28

29 Q. But you haven't received data or information that
30 you've requested?

31 A. Yes, and so I was pretty keen to understand - like,
32 obviously Bayview and Outlook, that you've had a water main
33 break, there's no contest that that broke, and I was
34 enquiring as to water usage on that line over the past five
35 years, so - or three to five years. I was interested in -
36 like, I accept that you probably don't know how much - they
37 won't have a hard - may not have a hard measurement of
38 water from that main, but there should be some form of
39 water usage record that can give some insight into the last
40 quarter of last year.

41

42 Q. Yes. The broken water main that you're talking about
43 there, do you have any views as to the likely flow of water
44 from that burst?

45 A. Look, significantly more than the domestic line. It's
46 150 mm - that's documented as a 150 mm diameter main.

47

1 Q. Yes.
2 A. It would have pressure on it either by gravity to the
3 nearby tanks or they apply pressure to it. I don't know
4 what the pressure is.
5
6 Q. And then on the assumption that there was a break or
7 burst to the main there, is that something that in your
8 causal investigation warrants enquiry because water flowing
9 from the burst could end up in the landslide area?
10 A. Yes.
11
12 Q. You don't think this can be ruled out in the sense
13 that water from that main couldn't make its way to that
14 location where the landslide occurred?
15 A. I mean, it needs to be tested. It could be ruled out
16 that it got to the escarpment. If you look at the contours
17 in the land and from, say, Waller Place down through Coburn
18 down into Margaret Street, there was an old creek that ran
19 from The Boulevard, which is above - it sits in the toe of
20 the mountain, essentially. So there's The Boulevard, there
21 was a creek there, it ran across the motorway down into
22 Margaret Street, essentially. And so we do need to look at
23 the possibility of having the main leaking can - obviously
24 the water can go into the stormwater system, it can
25 actually go into the fill associated with any old creeks
26 that have been built over, and it can recharge near-surface
27 aquifers. Doesn't mean it gets there. But, if you look
28 broadly at Arthurs Seat, the drainage lines go to the bay.
29 So if you have a big main break I do want to understand
30 what's its pressure, how long was it leaking for, what's
31 the water loss and is that volume - can that volume
32 recharge the near-surface aquifers.
33
34 Q. All right. I'm going to come back to that topic in a
35 moment, but let me try and keep it in some chronological
36 order. You have prepared what's described - well,
37 actually, I might tender that reverse brief which is
38 MSC.5016.0001.1844.
39
40 CHAIRPERSON: Dane Pope's reverse brief dated 17 March
41 2025 will be exhibit CA9.
42
43 **EXHIBIT #CA9 DANE POPE'S REVERSE BRIEF DATED 17 MARCH 2025**
44
45 MR COSTELLO: Could I have on the screen, please,
46 MSC.5007.0004.0078. All right. Sorry, MSC.5007.0004.0078.
47 Mr Pope, this is a PSM geotechnical factual report dated

1 9 April 2025. This is another report that you signed?
2 A. Correct.
3
4 Q. And you prepared this together with the assistance of
5 Mr Wilson, or did you do this one alone?
6 A. No, I definitely did not do it alone. So it's --
7
8 Q. At least with the assistance of others?
9 A. Assistance of others. Tim Nash certainly helped me as
10 principal engineering geologist.
11
12 Q. Thank you. Now, can you just explain what it is that
13 you seek to achieve by this report?
14 A. Look, it's to have - there are a series of lines of
15 enquiry that we're looking at. It is essentially to have
16 hopefully a defensible simple set of facts that can be used
17 elsewhere, and so for obvious reasons I keep the factual
18 report separate to anything that could be needed for
19 litigation or - it's to keep it neat, clean and as little
20 interpretation as possible, which obviously borehole logs
21 have interpretation. But it's just - these are the facts
22 that I was immediately curious about, and then upon issuing
23 this then we go to the reverse brief to fill in some gaps.
24
25 Q. In terms of the facts that you were immediately
26 curious about, this sets out the facts that you found in
27 connection with factors that could potentially be causative
28 of the landslide?
29 A. Yes.
30
31 Q. Thank you. And you engaged in a range of tests, the
32 nature of some of these I touched on with Mr Paul
33 yesterday?
34 A. Yes.
35
36 Q. Insofar as your investigation's concerned, groundwater
37 levels and pore pressure, that involved the use of
38 piezometers?
39 A. Yes.
40
41 Q. And the use of cone penetration testing?
42 A. CPT is more - I use CPTs more to characterise the
43 strength of the soils, but yes.
44
45 Q. Thank you. In respect of groundwater and the
46 piezometers, are they still in place?
47 A. Yes, absolutely.

1
2 Q. All right. And so there's data being collected?
3 A. Yes.
4
5 Q. And how often is that data collected?
6 A. The data loggers where they're set will take a reading
7 every three hours. We can change that if needed. But we
8 essentially each month, roughly every month, have been
9 going to download the data from the data loggers. We
10 basically take any - if it rains, so in March - I think
11 20 March I was doing the ReIn drains, which are in - hand
12 augurs, which are in the report, and it rained on that day.
13 So we were curious to see what happened after that rainfall
14 event, and went back and downloaded them. So we'll
15 download them at a minimum monthly. But if we get 80 mm of
16 rain tonight we would go within a week and pick it up.
17 Yes.
18
19 Q. You would pick it up within a week because that would
20 mean you had data sufficient to be robust; is that what you
21 mean?
22 A. Like, if you had the same 22 storm happen, then that's
23 very valuable --
24
25 Q. Yes.
26 A. -- in terms of having the monitoring data. The
27 monitoring equipment in the ground when the event happens
28 is incredibly valuable. So, yes, it would be robust. If a
29 repeat storm like that happens, yes.
30
31 Q. So there's an obvious time requirement --
32 A. Yes.
33
34 Q. -- in order to get data that's sufficiently robust,
35 but that time is not fixable by any defined measure; is
36 that right?
37 A. That's correct, yes.
38
39 Q. It will depend upon, insofar as water's concerned, the
40 extent to which there is rainfall?
41 A. Yes. I mean, if you had anthropogenic - if you had a
42 water main break on View Point, I'd daresay the instruments
43 would respond to it.
44
45 Q. Yes.
46 A. So, yes, rainfall or an anthropogenic source of water.
47

1 Q. And in the absence of significant rainfall or another
2 source of significant inundation of the areas where the
3 boreholes have been drilled and the piezometers sit within,
4 how do you know when enough time is enough time?
5 A. Yes, it's a good question. I feel like - you need a
6 wet - I would think when - I'm going to need a bunch of
7 significant rainfall events back to back. You could need
8 the wet season to inform to be robust, and it would need to
9 be - I'm not sure a below-average rainfall wet season is
10 going to help much. So at the moment we've got a lot of
11 below-average rainfall. We're still capturing responses
12 from - say, 30 mm of rain fell on 20 March and there was a
13 response to that. We do need to see a few more events.
14 But I would think - you certainly see a lot in a typical
15 wet season, especially once - the power of evaporation,
16 like, the sun's not as powerful, trees aren't needing as
17 much water. So there is a fundamental change in saturation
18 into the wet season. Yes.
19
20 Q. So you're concerned obviously to write a causal report
21 that's based on data that's sufficiently robust that your
22 conclusions are valid?
23 A. Yes, absolutely. Yes.
24
25 Q. And does that mean, at least insofar as water testing
26 is concerned, that you're not in a position today to say
27 how much longer will be required for those piezometers to
28 sit in the ground?
29 A. Yes, correct. And I think Darren touched on it.
30 Like, in some design cases and certainly on the big tunnel
31 projects you are put in a corner where you've just got to
32 assume worse case, like - it's like everything's saturated.
33 But that's not helpful here. In a design case you can go,
34 well, let's just design for full saturation to the ground
35 level, even with the water table at 10 metres. But here
36 for trying to investigate cause that's not going to be
37 helpful to - you know what I mean? That design analogy of,
38 "Oh, let's be as conservative" - it doesn't work in
39 forensics.
40
41 Q. Yes. You mean - tell me if this is right - when you
42 are setting out to design a structure that doesn't
43 currently exist, choosing the most conservative available
44 assumptions is a valid method?
45 A. Yes, you can, yes.
46
47 Q. Because you build to those assumptions?

1 A. Yes, especially to - you touched on sea level rise,
2 and who knows where that's going to - I mean, a lot of
3 reputable people do a lot of work in that space, but it's
4 like where is it going to be? Like, I don't know what -
5 what we think is conservative.
6
7 Q. Yes.
8 A. But in forensics I don't --
9
10 Q. But here you are trying to ascertain the cause of what
11 in fact happened?
12 A. Yes.
13
14 Q. And so, that being the case, there's a natural limit
15 to the amount you can assume?
16 A. Yes, absolutely. Yes.
17
18 Q. I'm sure you retain an open mind in respect of
19 the causes of the 2025 landslide; is that fair?
20 A. Yes, absolutely. Yes.
21
22 Q. Is it fair also to say, though, that groundwater
23 levels and pore pressure are significant avenues of enquiry
24 for your investigation?
25 A. Yes, yes.
26
27 Q. Is there any plausible explanation for this - sorry,
28 for the two 2025 landslides that doesn't involve at some
29 causal level water?
30 A. We haven't yet run a back-analysis of that retaining
31 wall. I suspect in - I'm - well, we need to do that
32 because some of the piers were short enough to be, by
33 modern design standards, problematic in terms of stability,
34 with or without water. That being said, 22 event, the
35 storm event, there was a retaining wall there and it didn't
36 fail. So catastrophically I'll add. The wall that failed
37 this year was a different wall to what was there in 22. So
38 that wall got through a big storm event. So for then it to
39 fail catastrophically now then I would think water is
40 involved. It will be - and you could quite easily do a
41 design check that that wall would be touch and go design
42 wise, and that's from my experience with similar walls. We
43 certainly don't do - we certainly have genuine sockets in
44 competent material in our retaining walls. But I would
45 think given the 22 wall didn't fail and it did rain
46 significantly, then it's got to be something - I'm
47 confident water's involved, yes. Yes.

1
2 Q. In terms of the investigations you've just been
3 discussing in respect of the retaining wall, why haven't
4 they been done yet?
5 A. The back-analysis of the - yes, well, that will feed
6 into cause, essentially. Andrew Wilson is helping me with
7 risk to life, and that's been our priority from day one,
8 yes.
9
10 Q. I see. So it's just a question of timing and
11 resources, but that's on your to-do list?
12 A. Look, we could have got someone else to do that
13 analysis, but it's not going to be critical path on cause.
14
15 Q. I see.
16 A. It's one thing we want to look at. It's not --
17
18 Q. I see. But it's not on the critical path?
19 A. No, not at all. Probably two days work to look at
20 that wall in that level of detail.
21
22 Q. Thank you. Just so the chair of the inquiry can have
23 some understanding as to that which needs to be done and
24 the likely timeframes of it, what is on the critical path
25 for your causal investigation?
26 A. Getting risk-to-life report finished and out is
27 critical path, and then --
28
29 Q. In the sense that that clears you up to do --
30 A. Once that's cleared and if cause is council's
31 priority, that is their number one priority, is cause, then
32 we need the sewer and stormwater data, like as in - as I've
33 written in the proposal, we're hoping for at least a month
34 groundwater monitoring from that data. Assuming you had
35 favourable rainfall and the sensors all respond to water,
36 these sort of reports - so I was - to use 22 as an example,
37 if I'm briefed in early November and we issued a draft
38 before Christmas, that's for one landslide hazard, that was
39 two months. Obviously we spent a significant amount of
40 time doing risk to life, and that timeframe isn't going to
41 be repeated again. But I don't see us meaningfully
42 reporting until July, and that assumes that it's number one
43 priority.
44
45 Q. When you say July do you mean late July, early July?
46 I appreciate there's an element of guessing involved in
47 this, but based on your experience and what you know about

1 the work that you need to be done, without anyone holding
2 you to it --
3 A. It would be later in July. It would be late July.
4
5 CHAIRPERSON: Mr Pope, have you been told by the shire
6 that the causal report is a priority?
7 A. Not in those words and, sorry, I forgot, I haven't got
8 a formal - I've been told it's a report that needs to be
9 developed. But in terms of a formal brief similar to the
10 one I received for 22, I haven't received that yet. That
11 doesn't mean that's going to slow me down. But I don't
12 have, like, five key questions or 20 questions.
13
14 MR COSTELLO: I see.
15 A. So I don't know to that level of detail.
16
17 Q. I see.
18 A. They tend to take a clean two months to write.
19
20 Q. And the writing of it, though, the clean two months
21 depends on you having the data you need?
22 A. Yes, absolutely.
23
24 Q. One source of the data is rainfall, that's not within
25 any of our control?
26 A. Yes.
27
28 Q. Another source of data is information that you have
29 sought but not received from South East Water?
30 A. On that we can make some simple assumptions. So you
31 could make assumptions on pressure and leaks and the likes
32 in the mains and do it that way to keep it moving. But you
33 need at some point to have the real data come in.
34
35 Q. Would these be assumptions akin to those that you made
36 in respect of the leaking pipe at 10-12 View Point Road
37 that we went through earlier?
38 A. Similar, yes, but you're trying to work out how much
39 water is needed to fill the pore space for - I think it's
40 like 40 hectares or something or - it's a lot of land
41 anyway.
42
43 Q. It's a lot of land and it would require a lot of
44 water?
45 A. Correct, yes.
46
47 Q. But, as you sit there now, you don't have any idea

1 about the sorts of volumes that would be necessary?
2 A. I haven't done the calc in a meaningful way. You
3 would need megalitres of water, but - like, a lot of water,
4 but I believe these systems are capable of producing that
5 sort of volume.
6
7 Q. And it depends - the calculation is a little more
8 complicated than the calculation concerning the pipe in
9 2022?
10 A. Yes, absolutely.
11
12 Q. Because you're talking about a burst water main in a
13 less proximate location?
14 A. Yes, absolutely. It's quite complicated. It's near
15 what we think is an old creek. It's got a whole bunch of
16 trunk services that interact with where the water leaks.
17 So the water main breaks, but it breaks next to a sewer
18 trench and it also breaks next to a trunk stormwater
19 trench. So not only do you have the residents talking to
20 stormwater system being roaring, but you've got the
21 trenches saturated as well, and how they come down the hill
22 and distribute water across the hill is - like, complex is
23 understating it.
24
25 Q. Yes.
26 A. You then have --
27
28 Q. And is that --
29 A. The geology itself is complicated enough that it
30 will - it won't necessarily distribute water where you
31 think it will either. So it's quite a complex surface
32 water issue, groundwater issue, and a difficult question to
33 answer.
34
35 Q. And all of those nuances need to be carefully
36 considered for your causal report?
37 A. Yes, absolutely.
38
39 Q. So you'll need to form views, for example, on the
40 likely flow of water from that burst water main, and that
41 will require you to look into things like the creek that's
42 no longer a creek?
43 A. Yes. Yes.
44
45 Q. I see. And will that involve some testing?
46 A. Look, in that reverse brief you just ran me through we
47 have mainly targeted to the council stormwater trenches put

1 standpipes in so you can do water chemistry. At some point
2 we may sample the water and do chemistry testing if we
3 think we need to, if they produce water. That's the other
4 thing. So yes.

5

6 Q. You have done some chemistry testing from samples you
7 took at another occasion?

8 A. Yes, correct. In January, yes.

9

10 Q. I see. Can I just show you another document, please.
11 It's - actually, I might just tender that report while I'm
12 thinking of it.

13

14 CHAIRPERSON: Mr Pope's factual report dated 9 April
15 2025 --

16

17 MR COSTELLO: No, I apologise, I tendered it yesterday.

18 CHAIRPERSON: Yes, you did.

19

20 MR COSTELLO: That's CA2.

21

22 CHAIRPERSON: It is.

23

24 MR COSTELLO: Pardon me, Madam Chair. Can I show you
25 another document, MSC.5031.0001.1289. Do you know,
26 Mr Pope, if you've seen this email before?

27 A. I don't think I've seen it.

28

29 Q. Okay. Can you see there just before the bullet points
30 it asks - this is sent by Mr Haines-Sutherland from the
31 shire council to various parties that - first to Mr Lloyd
32 at South East Water, and can you see there just above the
33 bullet points it says, "Does SEW have information on the
34 following to assist in tracking the movement of water in
35 this area," and there are then a range of bullet points?

36 A. Yes.

37

38 Q. Estimate of flow rate through the sewer trenches,
39 estimate of flow rate through the undisturbed ground area,
40 information on the burst main, date of burst, date of
41 repair, estimate of volume discharged, and then there's a
42 reference to the fact that information had been sought the
43 day before?

44 A. M'hmm.

45

46 Q. Do you know Mr Haines-Sutherland?

47 A. Yes, I did meet him early days, yes.

1
2 Q. Is this information the council was likely seeking
3 from South East Water because you've requested it from -
4 you've asked the council to obtain this data for you?

5 A. Some of it. I don't think I would have asked for flow
6 rate in the sewer trenches, because I know how hard that is
7 to measure. I definitely asked for CCTV. That was off the
8 back of talking to one of their techs who had talked to
9 cameraing View Point. Date of burst, date of repair,
10 volume of discharge, I had asked similar questions. But
11 it's not verbatim a request from me, no.
12

13 Q. I understand. Is this information in any event that
14 would be useful to you in preparing your causation report?

15 A. Yes. If you could measure the flow, sure. Yes. But
16 short answer, yes.
17

18 Q. But putting aside those things that may not be
19 possible --

20 A. It would be useful, yes.
21

22 Q. I see. And, insofar as you are aware, has any of this
23 information been passed on to you?

24 A. No.
25

26 Q. Might I tender that email?
27

28 CHAIRPERSON: Yes, Mr Costello. The email from
29 Mr Haines-Sutherland at the Mornington Peninsula Shire
30 Council to South East Water dated 30 January 2025 is
31 exhibit CA10.
32

33 **EXHIBIT #CA10 EMAIL FROM MR HAINES-SUTHERLAND AT MORNINGTON**
34 **PENINSULA SHIRE COUNCIL TO SOUTH EAST WATER DATED**
35 **30 JANUARY 2025.**
36

37 MR COSTELLO: Is it your understanding, Mr Pope, that
38 there was a lot of water in the general area of the 2025
39 landslides in the months preceding the landslide? Have you
40 been told that by locals?

41 A. To the extent that it got to 7 Prospect Hill, where
42 there's back-to-back basements there were sump pumps, and
43 so I'd certainly heard of and saw in January the water in
44 Waller, Charlesworth, Coburn and Prospect Hill to
45 approximately 7 Prospect Hill. But from there down the
46 hill mainly the stormwater flow, like, so within the
47 stormwater system, was commentary about that being higher

1 than normal. And then - so down in Margaret Street,
2 property owners down there were talking to timing of
3 hearing the stormwater system, seeing the beach get eroded
4 by the outflows and that sort of stuff.

5

6 Q. Were you told by local residents about road surfaces
7 being damaged by water coming up and through the road?

8 A. That came from Matt, like, in the - between --

9

10 Q. Who is Matt?

11 A. Matt is the building surveyor who --

12

13 Q. That's Mr Glover?

14 A. Yes, correct.

15

16 Q. Thank you.

17 A. So he shared the Facebook community post. So
18 indirectly, yes. Council briefed me on Coburn Avenue
19 potholes, and the Charlesworth potholes were through the
20 Facebook group that Matt Glover had shared images from.

21

22 Q. You knew also that there was water flowing through the
23 property at 3 Penny Lane after the earthquakes?

24 A. After the landslides.

25

26 Q. After the landslides, rather.

27 A. Yes. I inspected on the 6th and that was - yes,
28 absolutely.

29

30 Q. Was there still water actually flowing through the
31 property when you were there?

32 A. Yes. So that measurement was me with a water bottle
33 measuring flow.

34

35 Q. Deriving a flow rate?

36 A. Crudely, yes. Yes, yes.

37

38 Q. Yes. And would you describe that as an unusual amount
39 of water to have been flowing through the property?

40 A. Not for a spring, no. If it had never flowed before,
41 then sure. But I'm not convinced it hasn't flowed before.

42

43 Q. That is you're not convinced that a spring hasn't
44 flowed before?

45 A. Correct.

46

47 Q. Does that mean you are convinced there is a spring?

1 A. So in the facts behind that is that council has an
2 inspection report from I think it's September 1987 for a
3 complaint regarding what they thought was effluent running
4 onto 607 Point Nepean Road, which was subdivided into
5 3 Penny Lane and 607. So essentially someone's gone out in
6 the 80s and inspected, worked out that there were sewer
7 properties and then - so there was a complaint about water
8 from that - from uphill, and they ran it through and said
9 it's sewer so it's not sewer. So it's not the first
10 record of water coming down there.

11
12 Q. Okay.

13 A. We are testing whether that's a spring, yes.

14
15 Q. How do you do that?

16 A. So we're in the middle of doing it, but we're
17 essentially dye tracing assets. So as late as yesterday we
18 dye traced the bedding sand of a sewer trench on View Point
19 with a view to - obviously the dye comes out of the sewer
20 trench. We'll be looking at - that points to
21 anthropogenics rather than a spring. The next - you can
22 obviously do water chemistry testing, which we have done,
23 and I would like to repeat it once it's safe to do so. So
24 we would - if they can get the risk down on the landslide
25 head, it would be good to sample the water again closer to
26 the landslide head and see if that chemistry is different
27 to what we picked up on Penny Lane and the likes.

28
29 Q. Speaking of springs, it's right, isn't it, that
30 springs - not all springs will necessarily flow at all
31 times?

32 A. Correct.

33
34 Q. A spring might, for example, flow and be present
35 flowing in the immediate aftermath of a significant rain
36 event?

37 A. Yes.

38
39 Q. And that flow might continue for a period until it's
40 dried up?

41 A. Yes.

42
43 Q. And that's because springs need to be recharged?

44 A. Correct, yes.

45
46 Q. And so they draw water from a recharge area, and if
47 the recharge is depleted the spring stops running?

1 A. Yes.

2

3 Q. And in that sense the area can be recharged by
4 rainwater, but it can equally be recharged by other water
5 sources?

6 A. Yes.

7

8 Q. You accept that?

9 A. Yes.

10

11 Q. And so an available thesis at least, depending on the
12 flows of water from a burst main, might be that the burst
13 main has recharged the recharge area of a spring and that
14 some of the water from the burst main that's gone into the
15 recharge area has then emerged through the spring; is that
16 a theoretically possible occurrence?

17 A. Yes, yes. Yes.

18

19 Q. And would you expect the chemistry of the water to
20 change where the water exits, say, a burst main and then
21 travels through earth?

22 A. Yes. Yes, it's unlikely - it depends on the length of
23 the flow path.

24

25 Q. Yes.

26 A. Yes.

27

28 Q. It's fair to say the greater the flow path the greater
29 the prospect of a change in chemistry that's material?

30 A. Yes.

31

32 Q. And does that mean that making determinations from
33 water chemistry tests taken from sample sites isn't
34 necessarily a process that requires not only analysis but
35 some degree of evaluation?

36 A. Yes, absolutely. Yes.

37

38 Q. You took samples from five sites, including one at
39 Penny Lane?

40 A. Correct.

41

42 Q. The other four were up on the hill?

43 A. Yes.

44

45 Q. And I can take you to the testing if it will help you,
46 but just in general terms did you derive any conclusions
47 from those tests?

1 A. Broadly that the salinity was notably different
2 between the stormwater system and the landslide water; that
3 the levels of chlorides and calcium carbonate in the
4 landslide water was notably different to anything from up
5 the top of the hill.

6
7 Q. The landslide - by the landslide, what do you mean,
8 the Penny Lane water?

9 A. Penny Lane. Sorry, Penny Lane, yes. Now, I mean
10 this - that sort of analysis will fall into the principal
11 hydrogeologist realm, and we do have one assisting. So in
12 the nitty-gritty of chemistry I'll run out of talent. But
13 essentially broadly there was enough difference in
14 salinity, chlorides and calcium carbonate to be curious.

15
16 Q. I see. And the water that we're talking about here
17 are surface water samples?

18 A. Correct, yes.

19
20 Q. And were there any groundwater samples taken?

21 A. No. And so we have - noting you've got time
22 restrictions, but we have put standpipes in to get water
23 chemistry samples. We held back on sampling because some
24 of the standpipes didn't produce water, and they didn't
25 produce water within half a metre of another test location
26 that did. So there was some - that speaks to the
27 variability of groundwater there in itself. But we are -
28 we do have water in some of the bores now and we can sample
29 water chemistry, and so we are curious to compare that
30 water, the groundwater at depth, especially at the end of
31 View Point Drive - we've got a standpipe there - sample
32 that, compare - I mean, it's a different time stamp, but it
33 would be nice to test the groundwater chemistry and compare
34 it to the surface water.

35
36 Q. Yes. Okay. So that's all part of the causal
37 investigation that you're undertaking?

38 A. Yes.

39
40 Q. And, just to loop back to this question of potential
41 water flow from the burst main, is there a lot of work
42 involved in ascertaining the potential water flows from
43 that particular site?

44 A. It depends how - it's already quite complex to me
45 technically. So I feel we would need inputs. Like, this
46 is internally at PSM from the principal hydrogeologist and
47 a principal hydrologist, which is like the flood modellers

1 that we have, and have reached out to both of them to sort
2 of assist in that.

3
4 Q. Well, let me just be plain with you, Mr Pope. One of
5 the reasons I'm asking that is you've given an estimate,
6 which is not a binding estimate --

7 A. Yes.

8
9 Q. -- that you thought perhaps by the end of July, and
10 that's in part based on your experience of about two months
11 of being able to turn around a causal report. What I'm
12 concerned to understand is whether or not the types of
13 complications that you've pointed to now necessarily mean
14 this is more complicated than the ordinary report that
15 you've been involved with and if the likelihood is it will
16 actually end up taking more time?

17 A. So, look, I was being optimistic. I mean, if you need
18 inputs into hydrogeology and hydrology, then that is on top
19 of the estimate, yes. I mean, they're other experts,
20 right, so --

21
22 Q. Of course.

23 A. Yes.

24
25 Q. Of course.

26 A. You can write a causal report and then, as you have
27 probably seen, people carve out what they can't do and then
28 that runs on down the line.

29
30 Q. Yes.

31 A. Yes.

32
33 Q. I'm just concerned to understand that it's obviously
34 relevant to the work of this inquiry but it's also of
35 particular relevance to the local community?

36 A. Yes.

37
38 Q. And, to be perfectly frank, I'd prefer them not to
39 have a headline date in their mind for your report being
40 finished --

41 A. Sure.

42
43 Q. -- if it's unlikely to be finished in that time?

44 A. Yes.

45
46 Q. So, based on the discussion we've now had about the
47 complications in mapping potential water flows or

1 ascertaining potential water flows, the need for sufficient
2 data, including sufficient rainwater data, and the other
3 more standard work that's necessary to put together this
4 report, again, without in any way holding you to it, what's
5 a realistic estimate for your causal report?

6 A. I think there's too many moving parts to - like, so my
7 original answer is just to - if I don't have to branch out
8 to other experts, best case. But I don't have - if I've
9 got to get hydrologists or principal hydrogeologists
10 involved, then I'm not confident with timeframes.

11
12 Q. I see.

13 A. Yes.

14
15 Q. I think that's an entirely fair answer.

16 A. Yes.

17
18 Q. Can I ask, though, that - through the shire's legal
19 representatives, that if at some point in time you do form
20 a view that you inform the solicitors assisting the
21 commission so that we can take that into account?

22 A. Yes. Yes.

23
24 Q. Thank you. I just want to mention one more thing
25 regarding potential water volumes. When we're talking
26 about the burst pipe, which I differentiate from the burst
27 main, your estimate was that there was in the order of
28 7,200 to 14,400 litres of water that had been contributed
29 to the slope by that burst pipe. Obviously the volumes
30 that one would be talking about in connection with a burst
31 water main would be greater than that?

32 A. Yes.

33
34 Q. But I suppose subtracted then from that headline
35 number is water that diverts elsewhere and doesn't find its
36 way into the hill area?

37 A. Yes.

38
39 Q. Is that a fair way of describing the general type of
40 work that needs to be done to understand the volume of
41 water, if any, that may have gone into the hill?

42 A. You've got to look at what water's needed to saturate
43 the soils and when it is saturated what breaches to surface
44 level, which, as I understand it, you've seen where the
45 sediment has come out downstream in the main. So then you
46 need to look at can you overwhelm the stormwater system
47 with the volume. But, yes, essentially, yes. You've got

1 to go how much water goes into the stormwater system; how
2 much water stays in the soil; if it does saturate the soil
3 and then seeps out on Charlesworth, if, seeps out on
4 Charlesworth, all the - does it even get to View Point by
5 surface flow.

6
7 Q. Yes.

8 A. It does seem like it goes very close, but you've still
9 got to - there's a few missing links, which is why we've
10 put boreholes in particular places as to - to get water
11 from Prospect Hill down to View Point. Yes, you're looking
12 at proportioning out to surface water flows, subsurface
13 flows; do they get there; if they do, how are they getting
14 there. It's quite complicated.

15
16 Q. It sounds like hydrogeologist territory?

17 A. Yes.

18
19 Q. You mentioned earlier that you would need effectively
20 megalitres?

21 A. I would think so, yes. Yes.

22
23 Q. And, just so that we're all on the same page, how much
24 is a megalitre?

25 A. A million litres of water. Yes.

26
27 Q. All right. So when we were speaking about 7,200 to
28 14,400 litres of water from the cracked pipe in 2022, we're
29 here talking orders of magnitude greater than that would be
30 necessary?

31 A. Yes. Yes.

32
33 Q. It may be of interest to you to know that, while there
34 may be some contest about this because there are varieties
35 of evidence, the direct evidence at least from South East
36 Water will be that 37 megalitres of water escaped from that
37 burst water main. Does that sound like a volume of water
38 that necessitates enquiry into that thesis?

39 A. Yes.

40
41 MR COSTELLO: I have no further questions, Madam Chair.

42
43 CHAIRPERSON: Thanks, Mr Costello. Mr Pope, when do you
44 expect to finish your risk-to-life report?

45 A. We are hoping to issue close of business next week,
46 Friday, whatever the date is.

1 CHAIRPERSON: Do you think that's likely?
2 A. Yes, yes. So we've essentially internally, save for
3 me being here today, I need to spend another day tomorrow
4 reviewing. Then it gets handed to Garry Mostyn for the
5 technical review early next week. If it's not Friday next
6 week then it will be a couple of days late. It's not like
7 it's weeks late. It will be - yes.
8
9 CHAIRPERSON: And once you have provided that report to
10 council do you then propose to move to the preparation of
11 your causal report?
12 A. Yes.
13
14 CHAIRPERSON: And will you then be working on the causal
15 report on a full-time basis or a part-time basis?
16 A. We do have other - that's why I was talking of
17 council's priorities. There are other bits of scope that
18 we've been working on. So we do issue monitoring reports,
19 which I do have to take a look at. That doesn't take a lot
20 of my time. Tim Nash will be looking at another part of
21 the escarpment for the council. So he can look after that.
22 So it will be my main focus, yes, unless council changes
23 what's my priorities.
24
25 CHAIRPERSON: Let's assume that you submit your
26 risk-to-life report next Friday. If you were then told by
27 council that the completion of the causal report is a
28 matter of the highest priority, would you have the ability
29 to work on it full time?
30 A. Yes.
31
32 CHAIRPERSON: Thank you.
33 A. Save I do have some leave, but not a lot.
34
35 CHAIRPERSON: And if you were to then turn to working on
36 it full time from next Friday --
37 A. Yes.
38
39 CHAIRPERSON: -- and just reflecting on the evidence you
40 gave earlier, the best case scenario is completion by the
41 end of July, would that July date come forward if you were
42 to turn to working on it full time from next Friday?
43 A. I don't think so, no. I'm overseas for a week in
44 June. Like, I haven't had any leave this year. So I've
45 got leave booked. So we're not under-resourced as a
46 business. So we can make Garry work harder. I'm saying
47 that on the record. I can make him do a bit more. But we

1 can resource it differently, yes.

2

3 CHAIRPERSON: Thank you. Does anyone wish to ask
4 questions?

5

6 MS FOLEY: I do seek leave to ask a very small handful of
7 clarifying questions.

8

9 CHAIRPERSON: You have leave.

10

11 MS FOLEY: Thank you.

12

13 <EXAMINED BY MS FOLEY:

14

15 MS FOLEY: Mr Pope, you were asked some questions by
16 Mr Costello about your approach to the calculation of
17 the risk to life; do you recall some of those questions?

18

19

20 Q. And in particular you were asked some questions about
21 assumptions that might be made about how people might spend
22 their time on a property, whether it might be in their
23 house or in the garden and so on; do you recall those
24 questions?

25

26

27 Q. One question that might be asked is why wouldn't you
28 in a given case just speak to the owners and say to them,
29 "How much time do you spend in the property, how much time
30 do you spend in the house, how much time do you spend in
31 the garden" and so on. Why would you rely on assumptions
32 rather than speaking to the owners?

33

34 A. My precedent is more from - it's a weird segue.
35 Effluent field design. So when I worked for councils doing
36 effluent field design the health officers don't care if
37 someone's only using one bedroom. They're like, "We think
38 this place will be maxed out. It will always be used. You
39 have to assume they're there." So you could interview
40 them. And 10-12 will be different to number 4, and it just
41 gets quite complicated. But I maybe didn't make my point
42 in that the risk to life, in my experience, really is
43 controlled by can the landslide occur and where does it get
44 to. If you are arguing about time it only affects, in my
45 experience, an order of magnitude in the calc. So it
46 doesn't - obviously if you're not there you don't get hit
47 by it. But I don't think that's what's being asked. The
people are there, and we do take a conservative view. Yes,

1 you can bring it down from 80 per cent to 40 per cent, or
2 80 to 20. But when the risk-to-life report drops you
3 understand it doesn't change much.
4

5 Q. Thank you. And the approach that you've outlined that
6 you take you would say is a more conservative approach?

7 A. Yes. We took a conservative approach - and we are now
8 - on temporal and vulnerability because if you're too
9 aggressive they're quite commonly challenged the other way.
10 Like, you can't be too bullish there because someone will
11 go two retirees or four retirees, whatever, they'll come up
12 with some scenario that you can't rule out. So, no, we
13 don't typically interview everyone for their use because we
14 know it will change if they sell the place.
15

16 Q. I understand. Thank you. You were asked some
17 questions in relation to the 2025 landslide in relation to
18 causation, and there was a discussion about investigations
19 as to the retaining wall; do you recall those questions?

20 A. Yes.
21

22 Q. And in answer to one of those questions you said it's
23 one thing to look at but it's not a critical path. Could
24 you explain what you meant by it's not a critical path?

25 A. The analysis of - like, we typically - and I say "we",
26 Andrew and myself will back-analyse any failure. If we're
27 going to design something, we'll look at the failure and
28 back-analyse it so that we can move forward with a view of,
29 "That's a known landslide. What engineering parameters
30 applied to it," and take them forward. So we routinely do
31 that. I'll get - most likely have Andrew take a look at
32 that, which he does quite quickly. And so that is just one
33 task in many. That doesn't take us particularly long to
34 back-analyse a wall and work out whether it needed water to
35 fail. For example, waiting a month for it to rain, waiting
36 for rainfall or groundwater data is to me critical path.
37

38 Q. So you were talking more about timeframes rather
39 than --

40 A. Yes.
41

42 Q. -- expressing some kind of preliminary view about
43 causation?

44 A. Critical timing for the project, yes, not landslide
45 related.
46

47 Q. Thank you. Only one other question. You were asked

1 some questions about other priorities the council might
2 have and whether or not the causation report might be the
3 number one priority. Are the other priorities that you
4 were referring to related to the landslide and its
5 consequences?

6 A. Yes.

7

8 Q. And is one of those risks to residents?

9 A. Yes.

10

11 MS FOLEY: Yes. Thank you.

12

13 CHAIRPERSON: Thank you, Mr Pope, for coming along today.
14 That completes your evidence during this hearing block. We
15 will likely need you back during a later hearing block.
16 I'll excuse you from this hearing block today.

17 A. Thank you.

18

19 <THE WITNESS WITHDREW

20

21 CHAIRPERSON: Mr Costello, we'll have the afternoon break
22 now.

23

24 MR COSTELLO: Thank you, Madam Chair.

25

26 CHAIRPERSON: And we'll get the next witness in.

27

28 **SHORT ADJOURNMENT**

29

30 MR COSTELLO: Madam Chair, the next witness will be Mr Oz,
31 but before I call for him to move to the witness box can
32 I just address a matter as to timing.

33

34 CHAIRPERSON: Yes.

35

36 MR COSTELLO: We're behind, and that's my fault, but
37 I felt it important to address all of those matters with
38 Mr Pope before he left. I suspect it won't be the last
39 time we see him, but it was important to get that evidence
40 into the record now.

41

42 As a consequence we won't get through the two
43 remaining witnesses today. Mr Di Stefano will take Mr Oz,
44 who is the next witness, and then there is Mr Simon. This
45 is of course ultimately a question for you, but I have had
46 a discussion with Ms Foley as to whether or not we could
47 sit tomorrow if you're amenable to that. That's something

1 that obviously counsel assisting can and will do. The
2 witness is available.

3
4 CHAIRPERSON: We'll continue tomorrow.

5
6 MR COSTELLO: The only preference is if we could perhaps
7 start at 10.30 because Ms Foley has a court commitment
8 tomorrow morning.

9
10 CHAIRPERSON: That's fine.

11
12 MR COSTELLO: Thank you. I'll leave it to Mr Di Stefano
13 to call Mr Oz.

14
15 MR DI STEFANO: Thank you. Chair, I call Mr Bulent Oz.

16
17 CHAIRPERSON: Mr Oz, if you could just make your way to
18 the witness box.

19
20 <BULENT OZ, affirmed:

21
22 <EXAMINED BY MR DI STEFANO:

23
24 CHAIRPERSON: Mr Oz, Mr Di Stefano is one of the counsel
25 assisting this inquiry. He'll ask you some questions and,
26 when he's finished asking questions, others may want to ask
27 you some questions.

28 A. Sure.

29
30 MR DI STEFANO: Thank you, Chair. Mr Oz, do you mind
31 restating your full name for the transcript, please?

32 A. Bulent Oz.

33
34 Q. And what's your professional address?
35 A. 90 Besgrove Street, Rosebud.

36
37 Q. Thank you. And your present occupation?
38 A. Chief financial officer.

39
40 Q. You're attending today pursuant to a notice to attend
41 to give evidence to a board of inquiry; is that correct?
42 A. That's correct.

43
44 Q. And, for the transcript, that's dated 30 April 2025.
45 You have had a witness statement prepared with your name on
46 it; is that correct?
47 A. That's correct.

1
2 Q. Can a copy of that witness statement please be
3 provided to Mr Oz. Mr Oz, you have the chance now to - is
4 that correct, that that's your witness statement and its
5 exhibits?

6 A. That's correct.
7

8 Q. Thank you. And there are no changes you wish to make
9 to it?

10 A. No.
11

12 Q. Could you please sign that witness statement. Thank
13 you, Mr Oz. I tender that, Chair.
14

15 CHAIRPERSON: Mr Oz's witness statement dated 11 April
16 2025 together with the documents referred to therein will
17 be exhibit CA11.
18

19 **EXHIBIT #CA11 MR OZ'S WITNESS STATEMENT DATED 11 APRIL 2025**
20 **TOGETHER WITH THE DOCUMENTS REFERRED TO THEREIN.**
21

22 MR DI STEFANO: Thank you. Mr Oz, you've been employed by
23 the shire for approximately 10 years; is that correct?

24 A. That's correct.
25

26 Q. And in your entire period of employment with the
27 shire, save for the recent period where you were acting
28 CEO, you were in the finance side of the shire?

29 A. That's correct.
30

31 Q. And from August 2019 until November 2024 you were the
32 chief financial officer?

33 A. That's correct.
34

35 Q. And while you were chief financial officer you sat on
36 the shire's executive committee?

37 A. That's correct. From mid-2022 I participated to the
38 executive team until 28 November.
39

40 Q. So it wasn't for the entire time that you were the
41 chief financial officer that you were on the executive
42 committee?

43 A. I was chief financial officer, but I wasn't part of
44 the executive team for the entire time.
45

46 Q. Okay. So that's from when did you say, mid-2022?

47 A. That's correct.

1
2 Q. Yes. Do you know approximately how many employees
3 does the shire have?

4 A. In terms of full-time equivalents it is around 794.
5

6 Q. Yes. And do you have an idea - I assume you have an
7 idea of its annual revenue?

8 A. The total operating income is around \$291 million
9 estimated for the next financial year. With grants, we
10 estimate to be over \$300 million.
11

12 Q. Yes. Thank you. Are you able to explain how it is
13 that the executive committee interacts with the council
14 itself, and by the council I mean the appointed
15 councillors?

16 A. Can you please clarify the question in terms of
17 interaction?
18

19 Q. Yes, that's okay. So what I would like you to explain
20 to the chair is how the committee executive works within
21 the organisation of the shire. So I understand that the
22 shire is headed by the mayor and the council, which is
23 comprised of the elected councillors; is that correct?

24 A. That's correct.
25

26 Q. And how does the executive committee interact with the
27 group of elected councillors?

28 A. Thank you for the question and the clarification. The
29 council or the councillor group, they are the ultimate
30 decision-makers. The number of decisions or the reports
31 that we present to the council, generally they come to
32 executive team for the review. After it is endorsed, it is
33 taken to the councillor group or to council meeting.
34

35 Q. Yes. So issues or decisions that have to be made by
36 the council make their way up through the executive
37 committee; they're considered by the executive committee;
38 and then an endorsement, as you say - am I right in
39 describing that as a recommendation - is made in respect of
40 that to the councillors?

41 A. This is the recommendations usually. It's not in the
42 report that it is endorsed by the executive team. It is
43 usually coming from the other departments or from the other
44 teams. But especially some material impacts or
45 controversial issues or strategic decisions, it is
46 executive team who reviews them before.
47

1 Q. So where something is significant, if I can use that
2 word to describe what you just described, is that then
3 endorsed or recommended; a recommendation is made in
4 respect of that?
5 A. It comes to the executive team, but it is not in the
6 report that is presented to the councillor group.
7
8 Q. So the reports that are presented to the councillors
9 contain recommendations under the name of the relevant team
10 that made that recommendation, but that report has come
11 from the executive committee?
12 A. In most cases, yes.
13
14 Q. Yes. Thank you. Can you explain why it is that the
15 shire required an acting CEO?
16 A. Our previous CEO resigned just before the council
17 elections. During the period of the new CEO appointment
18 the councillor group sought interest from the executive
19 team, including myself, and they appointed an acting CEO
20 until the permanent CEO is appointed.
21
22 Q. And so of course you were then appointed as the acting
23 CEO?
24 A. That's correct.
25
26 Q. And when did you cease being the acting CEO?
27 A. 15 April.
28
29 Q. Yes. And who was your replacement?
30 A. Mark Stoermer.
31
32 Q. Thank you. Prior to your time as acting CEO - you
33 worked in the finance team, as you said earlier - did you
34 have any exposure or any interaction in that role with the
35 planning department or the council?
36 A. Yes, I did.
37
38 Q. And what was that interaction?
39 A. My interactions are mainly related to - they're budget
40 related or there could be some activities or budget
41 requests coming to exec, or the financial reporting wise on
42 a monthly or quarterly basis.
43
44 Q. Yes. So can you give some examples of what you would
45 be requested to budget? By that do you mean to allocate
46 budget to or to cost or some combination?
47 A. So the local government authorities are complex

1 organisations. So the planning is just one of the teams.
2 In fact councils provide more than 100 services from
3 community focused services such as maternal health, the
4 aquatic centres, aquatic and leisure centres, to regulatory
5 services as well like planning permits. So in fact there
6 are almost, as I mentioned, 100-plus different businesses
7 within one organisation.
8

9 So, the budget process in itself, we are looking at
10 around a six-month process. During that six-month process
11 we initially engage with all departments, understand their
12 business as usual or their operating activities, how much
13 for the next finance year that they require; in addition to
14 that, what other projects they might be funded. Our role
15 is to present this to councillor group for final adoption.
16

17 Q. Yes. Thank you. And so is it that the subdivisions
18 of the council not the finance division - if that's the
19 correct language, and you can correct me if I'm wrong - the
20 departments? So, say the planning department, do they
21 approach you with a draft budget or do you prepare a budget
22 for them?

23 A. We work together with them.
24

25 Q. Yes.

26 A. We support them in building their budget.
27

28 Q. Okay. Thank you. Have you returned now to your role
29 as CF0?

30 A. That's correct.
31

32 Q. Thank you. To move to a different topic, in your
33 statement - which I don't need to call it up yet, but the
34 doc ID is MSC.9000.0001.0001, the unsworn version - you
35 have explained how the council acts to prevent and manage
36 landslides?

37 A. Yes.
38

39 Q. And at paragraph 10 of your statement, or perhaps 9
40 and 10, you explain that the shire's role for managing and
41 preventing landslides depends on the nature of the land in
42 question?

43 A. That's correct, yes.
44

45 Q. Do you want to just elaborate what those different
46 sorts of land are?

47 A. Firstly, the statement, witness statement, is based on

1 my general experience and also the information received
2 from other departments. My understanding, the shire's
3 roles and responsibilities will change depending on the
4 nature of the land. So if it is Crown land in which shire
5 could be the committee of - part of the committee of
6 management or shire managing the committee of management,
7 it is directed by the Crown Land Act, and the requirements
8 under the Crown Land Act or it doesn't impose any
9 requirements for landslide or landslip risks.

10
11 Q. Yes. So there's land that is privately owned; there's
12 land that's owned by the shire; and then there's land
13 that's subject to a committee of management that's Crown
14 land; is that a fair summary?

15 A. That's right.

16
17 Q. But, irrespective of the subject land, the shire has
18 effectively four main areas where it interacts with
19 landslides? I'm reading from paragraph 10 of your
20 statement. You say, "Planning requirements, emergency
21 management planning and response, building surveyor
22 management and infrastructure maintenance."

23 A. That's correct. In terms of the roles and the
24 responsibilities.

25
26 Q. Yes. Can I just consider briefly with you emergency
27 response. It's fair to describe the shire's role in
28 emergency response as being, as is in the name, responsive
29 to an emergency like a landslide; is that correct?

30 A. My understanding, the responsibility of the shire is
31 driven by the Emergency Management Act. That Act requires
32 each municipality to establish municipal emergency
33 management committee, and which the shire is a member as
34 well. It's represented by the other levels of the
35 governments and other authorities as well such as police
36 force, ambulance, Victorian State Emergency Service.

37
38 Q. Yes. So at paragraph 51 of your statement you refer
39 to the municipal emergency management planning committee,
40 which you've just described, being governed by the
41 municipal emergency management plan?

42 A. That's correct.

43
44 Q. And that plan is a plan that kicks into action in
45 response to an emergency; is that correct?

46 A. That's correct.

1 Q. And does that plan explicitly refer to landslides?

2 A. My recollection, yes.

3

4 Q. Yes. And so it provides a plan - sorry, I withdraw

5 that. But, just to be clear, it doesn't in any sense

6 create controls for the council to prevent landslides from
7 occurring?

8 A. No, that's correct. So it doesn't, yes.

9

10 Q. And, in respect of the shire's control of the
11 municipal building surveyor, that also doesn't have any
12 proactive role in preventing landslides, does it?

13 A. The municipal building surveyor has limited powers; is
14 usually reactive in response to the events such as the
15 landslides.

16

17 Q. Yes. So the municipal building surveyor might, for
18 example, issue an evacuation order. But, when it comes to
19 certifying construction that is to occur, that typically is
20 done by a private building surveyor?

21 A. That's correct.

22

23 Q. And the council doesn't have any influence over the
24 building code or building requirements that are applied by
25 the private building surveyor, save to the extent that it
26 applies planning controls to that property; is that
27 correct?

28 A. My understanding, the private building surveyor issues
29 building permits. Once they issue the building permits or
30 they take on the project, they need to notify the shire
31 within seven days. So the shire still has the oversight on
32 those projects. But these are building permits.

33

34 Q. Yes. But the shire doesn't influence - although it
35 has oversight, the shire doesn't influence the content of
36 the building code that's applied unless the shire imposes a
37 planning control over that property?

38 A. That's my understanding, yes.

39

40 Q. So that leaves of the four that you list at paragraph
41 10, that leaves planning requirements and infrastructure
42 maintenance?

43 A. That's correct.

44

45 Q. And for planning requirements I'm correct, aren't I,
46 that the erosion management overlay is the council's
47 primary and most effective control in respect of prevention

1 of landslip?

2 A. That's my understanding, yes.

3

4 Q. And when did you - the erosion management overlay,
5 which I'll refer to as EMO, when did you first hear about
6 the EMO?

7 A. During my acting role.

8

9 Q. Yes. So was that after the 2025 landslides?

10 A. That's correct.

11

12 Q. So did you in your previous role as CFO or any of the
13 other finance roles have any exposure to or understanding
14 of the erosion management overlay?

15 A. No.

16

17 Q. You can't recall whether it was ever discussed at the
18 executive committee meetings?

19 A. No, I don't recall.

20

21 Q. Have you searched any notes you kept of executive
22 committee meetings to see if it was discussed?

23 A. Just briefly, I did just check my own notes. I didn't
24 go into the old agendas, but just from my notes. If such
25 big events I usually take a note, and I couldn't see
26 anything.

27

28 Q. Yes. Your statement includes some fairly significant
29 detail about the operation of the erosion management
30 overlay; do you accept that?

31 A. Yes, I do. It's based on the information received
32 from the relevant teams.

33

34 Q. Yes. So you didn't draft those parts of your
35 statement yourself?

36 A. No, I didn't.

37

38 Q. And did you personally talk to the relevant teams to
39 understand what the requirements are of the erosion
40 management overlay?

41 A. At a high level, yes.

42

43 Q. Who is it that you spoke to?

44 A. I have spoken to David Simon and also Katanya Barlow.

45

46 Q. Yes. You describe at paragraph 29 - and I'll read to
47 you what you say - you say, "If the EMO applies to land it

1 can trigger the requirement for a planning permit for
2 buildings and works as set out in clause 44.01 and the
3 schedules to clause 44.01, including for types of
4 development that are ordinarily exempt from planning
5 permits under statewide controls in clause 62.02 of
6 the scheme." Am I right in summarising that as the EMO
7 can - the effect of an EMO over land is that for certain
8 sorts of works a planning permit is required when otherwise
9 it would not be required?

10 A. Just on that, because this is not my day-to-day job,
11 my knowledge or the specifics of that, I don't want to give
12 an uninformed statement here. Probably David Simon would
13 be the best person to respond to that question.
14

15 Q. Mr Oz, this is your sworn evidence that you've just
16 signed.

17 A. Yes. In terms of the specifics or the inference. The
18 specifics of it, how it is applied or potential impact, the
19 planning team probably will be the best person - Dave Simon
20 will be the best person to respond to that.
21

22 Q. So do you have any understanding of how the erosion
23 management overlay works?

24 A. I do have very high level in terms of the
25 requirements.
26

27 Q. Yes. Could you explain your understanding of how it
28 works?

29 A. Once the erosion management overlay is declared,
30 certain area, it will trigger additional planning
31 requirements. My understanding based on the information
32 I received that might be in the form of requiring geotech
33 report to minimise or to mitigate the risk of disturbance
34 to land to prevent potential landslide or erosion.
35

36 Q. Thank you. At paragraph 42 of your statement you
37 refer to a geographical information system?

38 A. That's correct.
39

40 Q. And you refer in the previous paragraph to research
41 prepared in respect of the landslide risk for the shire
42 area?

43 A. That's correct.
44

45 Q. And you explain that the EMO does not cover all of
46 the land over which that 2012 research concluded there was
47 a high risk of landslide, of landslide susceptibility

1 I should say?

2 A. My understanding we've got currently six EMOs not
3 covering the whole municipality.
4

5 Q. Yes, not covering the whole municipality, but
6 specifically not covering the areas which the 2012 reports
7 concluded had high susceptibility to landslide?

8 A. That's correct.
9

10 Q. Yes. And at paragraph 43 and 44 of your statement,
11 I'll read this to you, "It is my understanding that it has
12 been the shire's practice to impose additional planning
13 requirements on all properties that are mapped as falling
14 within the areas coloured in red, i.e. high susceptibility,
15 including in the McCrae area so as to prevent and manage
16 the risks of landslides and landslips."
17

18 A. Yes.

19 Q. Well, a moment ago you weren't as emphatic as that,
20 were you?

21 A. Sorry, can you --
22

23 Q. You say here it's all properties; all properties that
24 are mapped as falling within the areas coloured red are
25 required to have additional planning requirements. Do you
26 know that? Is that your understanding, that all properties
27 in that area have that additional requirement applied?

28 A. I don't have specific knowledge in that.
29

30 Q. No. So did someone tell you that all properties that
31 have a high susceptibility have additional planning
32 requirements applied to them?

33 A. Now, the planning or the EMO or the planning will kick
34 in if there is a planning application. So the 2012
35 basically digitally mapped the whole area showing the red
36 areas high risk in landslide. So, in terms of your
37 question whether all properties have got those additional
38 planning requirements apply, I can't answer that question
39 because if the development happened before 2012 probably it
40 didn't trigger that.
41

42 Q. So let me just break it into different categories. So
43 you accepted earlier that the EMOs - you didn't accept but
44 I put to you earlier that the effect of the EMOs is to
45 require planning permits for certain sorts of works where
46 otherwise there wouldn't be any planning permit required.
47 So for those works that wouldn't otherwise require a

1 planning permit they wouldn't come to the council's desk to
2 have additional requirements applied to them, would they?
3 A. I don't have specific knowledge in terms of the impact
4 of that.

5
6 MS FOLEY: Chair, may I raise an issue?

7
8 CHAIRPERSON: Yes.

9
10 MS FOLEY: It seems to me that the way the questions are
11 being framed there's a bit of confusion for my learned
12 friend in relation to requirements applying where an EMO is
13 in place and the additional planning requirements that are
14 talked about in Mr Oz's statement which is outside of the
15 EMO framework.

16
17 CHAIRPERSON: The way I read paragraph 43 is in that way.

18
19 MS FOLEY: Yes.

20
21 CHAIRPERSON: So that --

22
23 MS FOLEY: I think it might have confused things a little.

24
25 MR DI STEFANO: I'm happy to re-ask the questions.

26
27 CHAIRPERSON: Thanks, Mr Di Stefano.

28
29 MR DI STEFANO: Mr Oz, what I'm trying to get at here is
30 that in paragraphs 43 and 44 of your statement you refer to
31 a practice of imposing additional planning requirements on
32 all properties that are mapped as being high susceptibility
33 but that are not otherwise covered by an EMO. Do you
34 understand the set of properties I'm referring to?

35 A. My understanding --

36
37 Q. If you can just answer my question. Do you understand
38 the set of properties I'm referring to --

39 A. Yes, I do.

40
41 Q. -- because that's the nature of the objection? Thank
42 you. So in respect of those additional requirements and
43 your understanding of it how, given your lack of
44 understanding of how the EMO works and planning in general,
45 do you give the evidence that the additional planning
46 requirements are applied to all properties that are mapped
47 as falling within that red high susceptibility area?

1 A. My understanding, the additional planning requirements
2 will be imposed if there is a permit application.

3

4 Q. Yes, but I'm asking you what is the basis of your
5 understanding. How can you be so confident as to say the
6 word "all", "all properties", in your evidence?

7

8 MS FOLEY: Madam Chair, may I raise another matter?

9

10 CHAIRPERSON: Yes.

11

12 MS FOLEY: Mr Oz was the interim CEO for a short amount of
13 time. He has stepped forward to give evidence on behalf of
14 the shire about some matters that are within his knowledge
15 based on his CFO role. But the matters he's now being
16 asked about are clearly within the specialised knowledge of
17 the next witness. Mr Oz is sitting here answering
18 questions as honestly as he can. But, as he himself has
19 said, it's not his day-to-day work. So to the extent it
20 would be helpful for this board to understand in reality
21 how these things work in practice, in my submission, those
22 questions would be more easily directed to Mr Simon.

23

24 CHAIRPERSON: And they probably will be. But I think
25 Mr Di Stefano is just trying to ask you, Mr Oz, what's the
26 source of your knowledge in paragraph 43. So did someone
27 tell you that all properties are subject to this additional
28 requirement? Did someone tell you that when you were
29 preparing your statement?

30

A. This is collated by the other teams; that's correct.

31

32 CHAIRPERSON: What do you mean collated by the other
33 teams?

34

A. The information based on the number of the questions
35 that was received, our legal counsel, they were collating
36 the information; and from the other teams - from
37 the planning team and from the other teams, the whole
38 information collated.

39

40 CHAIRPERSON: So someone's provided the content of
41 paragraph 43?

42

A. That's correct.

43

44 CHAIRPERSON: You don't know who provided it?

45

A. The planning team. I can't --

46

47 CHAIRPERSON: Thank you.

1
2 MR DI STEFANO: Chair, thank you. I'll take this up with
3 Mr Simon. But I should say this is, in my submission,
4 critical evidence. One of the two means by which the
5 council can prevent landslide risk is planning. And the
6 erosion management overlay, as we've heard, does not apply
7 to areas of land which they understand are of high
8 susceptibility of landslide. So the existence or otherwise
9 of this additional planning requirement and the practice is
10 of critical importance. It's been put into Mr Oz's witness
11 statement. So in those circumstances I'm prepared to take
12 it up with Mr Simon, but to the extent there's been any
13 suggestion that it's not this witness's evidence to be
14 tested on I do say for the transcript --

15
16 CHAIRPERSON: I don't think that's being suggested.
17 I think you should take it up with Mr Simon and, if
18 Mr Simon can't adequately explain it, then someone within
19 council, probably within the planning department, will need
20 to prepare a witness statement.

21
22 MR DI STEFANO: Yes. Thank you. And I should say that
23 I also was intending to ask Mr Oz about his conclusion at
24 paragraph 47 where his witness statement at least says
25 that, "The shire's prevention role with respect to planning
26 requirements is comprehensive but also prospective."
27 Again, it's that comprehensiveness which is being tested,
28 and the existence of this practice or otherwise is critical
29 to that comprehensiveness.

30
31 CHAIRPERSON: Mr Oz, this is a witness statement, is it,
32 that's been prepared by a number of different people, and
33 you don't have direct knowledge of a lot of the content in
34 it; is that the case?

35 A. That's correct. That's not my day-to-day job and I've
36 got limited knowledge and just general experience. But the
37 detail, in terms of the applications of the planning
38 requirements, I don't have specific knowledge or training.

39
40 CHAIRPERSON: Do you know why someone within the planning
41 department didn't provide this witness statement?

42 A. I do not know.

43
44 MR DI STEFANO: I should say in fairness to Mr Oz it is
45 referred to and confirmed to exist by Mr Simon. But, given
46 it was included in Mr Oz's witness statement, it's only
47 fair that he be tested on it. Mr Oz, on a related topic,

1 are you familiar that in 2018 and 2023 there were reviews
2 conducted of the planning scheme?
3 A. I'm aware of now, but not at that time.
4
5 Q. Yes. And are you aware that there were
6 recommendations made in both 2018 and 2023 to reconsider
7 the boundaries of the EMO and to potentially extend it?
8 A. I am aware of now, but I wasn't aware then.
9
10 Q. Yes. And in respect of the 2023 review I understand
11 that you weren't aware of it previously, but I can tell you
12 that it provides in respect of the recommendations to do
13 with the extension of the EMO that it was subject to
14 funding. Are you aware at all or do you have any
15 understanding of whether there were decisions made not to
16 fund the work to extend the EMOs?
17 A. I'm not aware of any budget coming for extending the
18 EMOs.
19
20 Q. Yes. When did you first become aware of the Piper and
21 Slade paper, the 2012 analysis of landslide susceptibility?
22 A. Just recently.
23
24 Q. In the preparation of your statement?
25 A. That's correct.
26
27 Q. Do you accept that the council should have acted
28 sooner to extend the EMOs?
29 A. My understanding, based on my previous discussions and
30 my questioning a few months ago, the council manages the
31 risks as mentioned previously through the digital mapping
32 included in GIS. So the GIS that shows the red areas that
33 are high in risk, the planning team or upon the planning
34 applications, it might trigger additional requirements as
35 well.
36
37 Q. But that's just based on what you've been told?
38 A. That's correct.
39
40 Q. So you don't personally know that?
41 A. No, I'm not a planner. No, I don't.
42
43 Q. So do you accept then that if it were the case that
44 that informal practice that you've referred to wasn't
45 applied to all high risk - high susceptibility planning
46 applications, that the fact that the EMO wasn't extended is
47 something that the council should have done sooner?

1 A. I can't comment on that, but I believe that Dave Simon
2 will provide further information on that.

3
4 Q. Yes, but you were the acting CEO or you were the head
5 decision-maker that wasn't a councillor. You don't have
6 any - in your capacity as the most senior employee of
7 the council, you don't have any comment on the fact that
8 the council didn't update the EMO despite reviews from 2018
9 recommending that it be extended?

10
11 MS FOLEY: Chair, I do object to this question. Mr Oz was
12 in the interim CEO position for a very short time. He is
13 not a planner. He does not sit in the planning department.
14 And he has not got the knowledge or experience to answer a
15 question of that kind, which is not a criticism of him. He
16 is ordinarily the CFO. He didn't sit in the planning
17 department. He sat in the CEO's chair for a short time.
18 But the questions that he's being asked are really
19 questions properly directed to someone from the planning
20 department who will be giving evidence next.

21
22 CHAIRPERSON: If Mr Oz doesn't feel he's in a position to
23 answer the question due to a lack of knowledge, then he
24 should explain that to counsel. So if that's your answer,
25 "Due to my lack of knowledge on the topic, I can't express
26 an opinion", then that's the answer to the question.

27 A. Due to my lack of knowledge and expertise in this
28 area, I'm unable to give you an informed response on this.

29
30 MR DI STEFANO: Can I move to a different topic, which is
31 infrastructure management. At paragraph 82 of your
32 statement you begin at that paragraph to explain the
33 council's role in responding to notifications of landslides
34 and landslips?

35 A. Can I see that paragraph, please?

36
37 Q. Yes. If that could be brought up. It's
38 MSC.9000.0001.0001 at page 15.

39 A. And just remind me the number, please?

40
41 Q. Sorry, paragraph 81?

42 A. 81.

43
44 Q. At that paragraph you note that the shire's asset
45 management does not explicitly - I'll withdraw that. I'll
46 read the quote, "While asset management does not explicitly
47 consider landslip and landslide risk necessarily, the

1 shire's asset management function is generally relevant to
2 ensure the shire's assets are maintained appropriately, and
3 replaced when required." Can you explain what you mean by
4 the asset management in the first part of that sentence,
5 "While asset management does not explicitly consider
6 landslide and landslip"?

7 A. Council's balance sheet shows that the council has
8 around 3.4 billion worth of assets. We've got a number of
9 contracts maintaining those assets, and they are all
10 externally contracted. One of our main priorities to
11 ensure that the community receive their services timely and
12 without any risk as well, that those assets are maintained
13 adequately and the required budget allocations is provided.
14

15 Q. Yes, but what is it that does not explicitly consider
16 landslip and landslide risk? Do you mean that the
17 department doesn't consider landslide risk?

18 A. No, the asset management is the infrastructure
19 management. Basically it is maintaining, upgrading or
20 identifying the conditions of the assets and the
21 maintaining, and when it is required renewal of those
22 assets.
23

24 Q. And that process, is that what you're describing?
25 That process does not consider landslide or landslip risk?

26 A. Not explicitly.
27

28 Q. Not explicitly, no. Does it implicitly consider it
29 then?

30 A. The maintaining, for example, drainage assets are
31 important. And it is in one of our contracts as well. So
32 the inspections, so the routine inspections, is part of the
33 contracts. If there is any required works that need to be
34 done, the budget will be allocated. If I give you one
35 example. We've got approximately 50,000 pits across the
36 shire, and there is a routine inspection program that is in
37 place. It is proactive, not reactive.
38

39 Q. Yes, but does that routine inspection program in any
40 way accommodate for, for example, the landslide proneness
41 of a given area? Is there any prioritisation of areas that
42 are prone to landslide or landslip?

43 A. I don't have specific knowledge in terms of the
44 high-risk areas. But all areas we provide - allocate
45 funding to address any issue that is coming, whether it is
46 high-risk or low-risk areas.
47

1 MR DI STEFANO: Thank you, Mr Oz. Chair, I note the time.
2 I can be quicker and probably be done in 10 minutes, if
3 that suits, so we have this witness finished.

4
5 CHAIRPERSON: Keep going.

6
7 MR DI STEFANO: Thank you. So in that same paragraph you
8 refer to the shire's asset management plan; you can see
9 there 2022 to 2032 asset plan?

10 A. Asset plan, yes.

11
12 Q. That asset plan doesn't refer at all to landslide or
13 landslip risk, does it?

14 A. No, it doesn't.

15
16 Q. It doesn't refer either to the 2012 susceptibility
17 modelling?

18 A. No, it doesn't.

19
20 Q. To be fair to you, it does refer to risk. It does
21 refer to risks, but it doesn't in any way specifically
22 refer to landslide or landslip risk?

23 A. That's my understanding. That's correct.

24
25 Q. And do you have any understanding of whether
26 infrastructure decisions, maintenance or upgrade decisions,
27 take into account landslide or landslip risk separately to
28 that document?

29 A. The asset plan is a legislative requirement for each
30 local authority to develop of the 10-year plan. That
31 basically indicates the conditions of the assets and enough
32 funding allocated to maintain, to upgrade or renewal of
33 those assets. It is a high-level document.

34
35 Q. Yes, but I think you've answered a slightly different
36 question. Are you aware of any way in which infrastructure
37 maintenance or upgrade decisions take into account
38 specifically landslide or landslip risk?

39 A. I'm not aware of that.

40
41 Q. No. Since the November 2022 landslide you've been on
42 the executive committee the entire time since then?

43 A. That's correct.

44
45 Q. And in that time I think you said a moment ago that
46 you don't recall there being a discussion of the EM0?

47 A. I do not recall that.

1
2 Q. Do you recall there ever being discussion in the
3 executive committee of the 2022 landslide?

4 A. I do not recall that either.
5

6 Q. So, even though there was a fairly significant
7 landslide within the shire, that wasn't discussed at the
8 executive committee level as best as you can recall?

9 A. I can't say whether it was discussed. It could be
10 because I might be on leave. But I do not recall
11 personally.
12

13 Q. Are you aware of whether any policies or procedures of
14 the council have changed as a result of the November 2022
15 landslide?

16 A. I do not have specific knowledge in that, but I am
17 aware that the risk was known to a number of teams.
18

19 Q. The risk of landslide prior to 2022 was known to a
20 number of teams?

21 A. That's correct.
22

23 Q. And so was it that there was no need to change any
24 policies or to update policies or procedures in response to
25 it?

26 A. I do not have specific knowledge in that area.
27

28 Q. So, just to be fair to you, the council has two
29 methods by which it can act to prevent landslides, as we've
30 discussed. One is planning controls and the other is
31 infrastructure maintenance and management. In respect of
32 infrastructure maintenance and management, as far as you're
33 aware, there's no explicit reference to decision-making or
34 prioritisation to prevent landslides or landslips to
35 minimise risk?

36 A. Not specifically for landslides, but it is very
37 important for us that all assets are maintained adequately
38 so that they are serviceable.
39

40 Q. Yes. So there are general ambitions but there's
41 nothing specific about landslide or landslip in respect of
42 infrastructure management?

43 A. I do not recall that, no.
44

45 Q. No. And in respect to planning there are six EMOs but
46 they don't cover all of the area over which the council
47 knows there is a high susceptibility of landslide?

1 A. That's correct. Having said that, the GIS system that
2 shows the whole municipality, those high-risk areas.

3
4 Q. Yes. So the council knows which areas are high risk
5 based on the 2012 information?

6 A. Yes. And, based on my witness statement, those
7 high-risk areas - if there is a development requirement or
8 a permit is required, that will trigger additional the
9 planning requirements.

10
11 Q. Yes. That's the evidence you referred to earlier
12 about the informal requirement of additional requirements?

13 A. That's correct.

14
15 Q. Yes, which you explained was in your witness statement
16 but you didn't know necessarily the source but you assume
17 it was within the planning team?

18 A. That's correct.

19
20 Q. Yes. So do you accept then that in respect of those
21 two - I withdraw that. Do you think the council could have
22 done more to be proactive about preventing landslide and
23 landslip or minimising landslide and landslip risk?

24 A. My understanding that the council was actually
25 addressing the risk by referring to our GIS digital
26 mapping. So EMO is, I understand, the most effective way.
27 But we had the other general control, which I referred
28 before, GIS system.

29
30 Q. Yes. So your evidence is that the fact that you had
31 the GIS system you were doing enough, the council was doing
32 enough?

33 A. I'm not saying that, but the other control, the GIS
34 system, was in place. This is how the planning team was
35 addressing that.

36
37 MR DI STEFANO: No further questions, Chair.

38
39 CHAIRPERSON: Thanks, Mr Di Stefano. Mr Oz, the GIS
40 system, are you referring there to the informal additional
41 planning requirements system? Is that the GIS system
42 you're referring to?

43 A. That's my understanding, yes.

44
45 CHAIRPERSON: Yes. And is it the case that you don't know
46 when the GIS system was introduced?

47 A. My understanding, the Cardno, geotech firm, was

1 engaged by the council early 2000, and the digital mapping
2 or the information report was made available in 2012.

3
4 CHAIRPERSON: Yes.

5 A. That information helped us to develop another layer in
6 GIS system that shows the high-risk, medium-risk and
7 low-risk areas.

8
9 CHAIRPERSON: And then you say in paragraph 43, based on
10 information that others have given to you, that the council
11 then introduced an informal requirement that if a property
12 inside the red zone was applying for a planning permit then
13 there were additional requirements?

14 A. My understanding. Probably I wouldn't be using the
15 term "informal", but when there is planning applications
16 the planning officers will consider the high-risk areas.
17 This is my understanding. And I'm sure that Dave Simon
18 will be able to elaborate and give further information on
19 that.

20
21 CHAIRPERSON: And they started doing that at some stage
22 between 2012 and 2022?

23 A. That's correct.

24
25 CHAIRPERSON: But you don't know when in that decade the
26 planning department started taking that approach?

27 A. No, I can't give any specific --

28
29 CHAIRPERSON: It could have been 2021?

30 A. I can't give - I can't comment on that.

31
32 CHAIRPERSON: And do you know why the council went down
33 the path of adopting that approach as opposed to taking
34 steps to put an EMO in place? Do you know why council took
35 the planning path rather than the EMO path?

36 A. I do not have specific knowledge on that, no.

37
38 CHAIRPERSON: So the answer is you don't know?

39 A. I don't know.

40
41 CHAIRPERSON: Thank you. Are there any questions?

42
43 MS FOLEY: I would seek leave to ask a couple of
44 clarifying questions.

45
46 CHAIRPERSON: Yes, you have leave.

1 <EXAMINED BY MS FOLEY:

2

3 MS FOLEY: Mr Oz, you were asked some questions about
4 infrastructure management; do you recall that?

5 A. Yes.

6

7 Q. And you were asked some questions about the asset plan
8 and what's in the asset plan?

9 A. Yes.

10

11 Q. If a drain is not maintained, for example, and it
12 leaks water would you agree that that may have some bearing
13 upon landslide risk?

14 A. I believe so, yes.

15

16 Q. And so in that sense if an asset is to be maintained
17 pursuant to the asset plan that maintenance might be
18 relevant to landslide risk even if the asset plan doesn't
19 use the words "landslide risk"?

20 A. That's correct.

21

22 MS FOLEY: No further questions.

23

24 CHAIRPERSON: Any other questions? Mr Oz, that completes
25 your evidence. Thank you for coming today, and you are
26 excused.

27 A. Thank you.

28

29 <THE WITNESS WITHDREW

30

31 MR DI STEFANO: No further witnesses for this afternoon,
32 Chair.

33

34 CHAIRPERSON: Thanks, Mr Di Stefano. We'll resume at
35 10.30 tomorrow.

36

37 AT 4.25 PM THE HEARING ADJOURNED UNTIL FRIDAY, 9 MAY 2025

38

39

40

41

42

43

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