

BEFORE THE BOARD OF SUPERVISORS
OF THE TOWNSHIP OF WESTTOWN
CHESTER COUNTY, PENNSYLVANIA

VOLUME 7

IN RE: CONDITIONAL USE APPLICATION
TOLL PA XVIII, L.P.

Hearing was held at the Bayard
Rustin High School, Auditorium, 1100 Shiloh
Road, West Chester, Pennsylvania, on Tuesday,
August 29, 2017, beginning at 6:10 o'clock,
p.m.

BEFORE: MICHAEL T. DIDOMENICO, Chairman
CAROL R. DEWOLF
THOMAS HAWS

ALSO PRESENT: ROBERT R. PINGAR,
Township Manager

ELEANOR J. SCHWANDT, RMR
COURT REPORTER

00:09:40
00:09:40 24

00:17:59 1 Township Board of Supervisors. To my right,
00:18:00 2 Mrs. Carol DeWolf, vice chair; Mr. Thomas Haws
00:18:04 3 to her right, police commissioner; and I'm
00:18:07 4 Michael DiDomenico, the chair.
00:18:08 5 To my left, our left is Mr.
00:18:11 6 Robert Pingar, Township Manager; and Mr.
00:18:14 7 Patrick McKenna, our township solicitor. And I
00:18:18 8 will turn over the hearing now to Mr. McKenna.
00:18:21 9 MR. MCKENNA: Thank you, Mr.
00:18:22 10 Chairman. Real quick, let's go off the record
00:18:24 11 for one second.
00:18:27 12 (Discussion off the record.)
00:19:28 13 MR. MCKENNA: Let's try it again.
00:19:40 14 We will go back on the record. This is the
00:19:45 15 continued hearing from July 25th, 2017. Before
00:19:49 16 we begin, as we have every other hearing, is
00:19:51 17 there anyone here this evening who is recording
00:19:53 18 the hearing? Yes, sir, if you wouldn't mind
00:19:55 19 again identifying yourself for the record.
00:19:59 20 MR. BRAXTON: John Braxton.
00:20:00 21 MR. MCKENNA: Thank you, sir.
00:20:02 22 Okay. When we last left off Mr. Federico, the
00:20:06 23 Township's Planning Commission witness for
00:20:08 24 traffic, was testifying and he was subject to

1 APPEARANCES:

- 2 PATRICK M. MCKENNA, Esquire
on behalf of the Board of Supervisors
- 3 MARC KAPLIN, Esquire
4 on behalf of the Applicant
- 5 KRISTIN CAMP, Esquire
6 MICHAEL GILL, Esquire
on behalf of Westtown Township
7 Planning Commission
- 8 KATHRYN L. LABRUM, Esquire
on behalf of Thornbury Township
- 9 MARK THOMPSON, Esquire
on behalf of Neighbors for Crebilly, LLC
- 10 FRONEFIELD CRAWFORD, Esquire
11 on behalf of Birmingham Township

00:17:25 13
00:17:25 14 (Mr. Gill not present at this
15 time.)
00:17:25 16 THE CHAIRMAN: Okay. Good
17 evening, everyone. Welcome to our seventh
18 conditional use hearing for the Crebilly tract
00:17:31 19 and Toll Brothers developers. If we would
00:17:33 20 please rise for our Pledge of Allegiance.
00:17:50 21 (Pledge of Allegiance takes
00:17:51 22 place.)
00:17:51 23 THE CHAIRMAN: Thank you. As in
00:17:54 24 the past, let me introduce the Westtown

00:20:11 1 cross-examination at that time.
00:20:14 2 Mr. Adelman is not here this
00:20:15 3 evening for the applicant. Instead, Marc
00:20:18 4 Kaplin is here on behalf of the applicant. So
00:20:20 5 I'll ask Mr. Kaplin if he would like to
00:20:23 6 continue cross-examination at this point.
00:20:26 7 MR. KAPLIN: I have a couple
00:20:27 8 areas I would like to ask Mr. Federico about.
00:20:29 9 MR. MCKENNA: Thank you.
00:20:31 10 MR. KAPLIN: May I?
00:20:32 11 MR. MCKENNA: Please go ahead.
00:20:35 12 CROSS-EXAMINATION
00:20:36 13 BY MR. KAPLIN:
00:20:36 14 Q. Al, have you had a chance to see the
00:20:38 15 transcript of your testimony?
00:20:40 16 A. Yes, I have.
00:20:41 17 Q. You have. Do you have it with you?
00:20:45 18 A. Yes, I do.
00:20:46 19 Q. I would ask you to turn to page 1177.
00:21:03 20 MR. MCKENNA: Mr. Kaplin, if you
00:21:04 21 can get as close to that mike as you can so
00:21:07 22 everyone can hear you.
00:21:08 23 MR. KAPLIN: I will.
00:21:09 24 MR. MCKENNA: Thank you.

00:21:09 1 BY MR. KAPLIN:
 00:21:09 2 Q. So I am on line 9, and Mr. Adelman said
 00:21:15 3 to you: "Is it true that your concept of a
 00:21:22 4 connector road design is specifically designed
 00:21:27 5 to handle traffic not coming from the proposed
 00:21:30 6 development?"
 00:21:30 7 Do you see that?
 00:21:31 8 A. Yes, I do.
 00:21:31 9 Q. And you answered: "I'm sorry, could
 00:21:33 10 you repeat that."
 00:21:36 11 And Gregg said: "Sure. Is it
 00:21:39 12 true that your concept or design of a connector
 00:21:44 13 road, collector road in this case, is
 00:21:48 14 specifically designed to handle traffic not
 00:21:51 15 coming from this proposed development?"
 00:21:54 16 Do you see that, where that
 00:21:55 17 question was asked?
 00:21:57 18 A. Yes.
 00:21:57 19 Q. And you said: "No. I would not agree
 00:22:01 20 with that."
 00:22:02 21 And Gregg asked you again: "Is
 00:22:05 22 the road specifically designed to handle
 00:22:08 23 traffic congestion on Route 202?"
 00:22:12 24 Do you see that?

00:23:25 1 that assumption at this point, Mr. Kaplin. I
 00:23:27 2 honestly don't recall it being marked as an
 00:23:31 3 exhibit by anyone at this point.
 00:23:32 4 MS. CAMP: It was not. But I
 00:23:33 5 have copies and was going to mark it as a
 00:23:35 6 Planning Commission exhibit, and I'm happy to
 00:23:36 7 provide it to the Board now.
 00:23:42 8 THE CHAIRMAN: Thank you.
 00:23:42 9 MR. HAWS: That would be nice.
 00:23:45 10 MS. CAMP: So it was going to be
 00:23:46 11 marked Planning Commission Exhibit 14, and I
 00:23:47 12 only have four pages. They are the title page,
 00:23:50 13 the page that identifies it was adopted by the
 00:23:52 14 Board on July 2nd, 2001, page 19 and page 82.
 00:24:01 15 MR. KAPLIN: Well, we did good,
 00:24:03 16 we both want page 82.
 00:24:08 17 MR. MCKENNA: So we will refer to
 00:24:09 18 it then as PC-14. Thank you.
 00:24:15 19 MS. CAMP: Al, here is a copy.
 00:24:38 20 BY MR. KAPLIN:
 00:24:38 21 Q. So, Mr. Federico, you will see in the
 00:24:41 22 middle of that page I have drawn a circle
 00:24:44 23 around a paragraph, and I would like to read
 00:24:47 24 it.

00:22:14 1 A. Yes.
 00:22:14 2 Q. And you said "No" again. Right?
 00:22:20 3 A. That is correct.
 00:22:21 4 Q. Now, it is my understanding that the
 00:22:25 5 concept of the connector road came from the
 00:22:31 6 Township's Growth Management Plan; is that
 00:22:36 7 right?
 00:22:36 8 A. The connector, the collector road is
 00:22:38 9 referenced in the Growth Management Plan, among
 00:22:41 10 other places, yes.
 00:22:43 11 Q. What part did you play in the
 00:22:46 12 preparation of the Growth Management Plan?
 00:22:50 13 A. I was not involved in the preparation
 00:22:51 14 of the Growth Management Plan.
 00:22:52 15 Q. So then the collector or connector road
 00:22:55 16 is not really your concept? It is the
 00:22:58 17 township's or somebody else? Is that accurate?
 00:23:03 18 A. As it was presented in the Growth
 00:23:05 19 Management Plan, yes.
 00:23:06 20 Q. Okay. So I'm going to hand you a copy
 00:23:10 21 of page 82 from the Growth Management Plan. I
 00:23:17 22 assume everybody else has got the Growth
 00:23:24 23 Management Plan.
 00:23:24 24 MR. MCKENNA: I would not make

00:24:49 1 "In any case, if the Crebilly
 00:24:53 2 Farms property develops near Route 202, a new
 00:24:57 3 road should be required to be built from the
 00:25:01 4 Episcopal Church to Route 926, running parallel
 00:25:07 5 to Route 202. Among other advantages, this
 00:25:12 6 road may encourage persons who wish to turn
 00:25:15 7 westward from southbound Route 202 to take this
 00:25:21 8 alternative route, and thereby remove some of
 00:25:26 9 the turning movements from the Route 926/202
 00:25:34 10 intersection."
 00:25:34 11 Did I read that correctly?
 00:25:35 12 A. I believe so.
 00:25:36 13 Q. So do you now want to change your
 00:25:39 14 opinion or your factual statement where you
 00:25:44 15 said that the connector or collector road was
 00:25:48 16 not designed specifically to take traffic off
 00:25:52 17 of Route 202?
 00:25:54 18 A. No.
 00:25:57 19 Q. Okay. It is your prerogative. Now --
 00:26:02 20 A. In the statement that you read says it
 00:26:06 21 "may encourage." It does not say it was
 00:26:10 22 specifically designed for that.
 00:26:13 23 Q. Well, it doesn't say anything else,
 00:26:15 24 does it?

00:26:18 1 **A. That paragraph doesn't.**
 00:26:25 2 **Q.** Now, going back to your testimony --
 00:26:42 3 let me go to this. In your testimony, if I
 00:26:51 4 remember it correctly, when you commented upon
 00:26:58 5 the road that is on Toll's plan that connects
 00:27:03 6 to or would connect if it were built to Route
 00:27:08 7 202, you said that the existence of that road
 00:27:11 8 would create a hazardous condition. Is that
 00:27:13 9 correct?
 00:27:15 10 **A. I'm sorry, which are you specifically**
 00:27:16 11 **referring to?**
 00:27:20 12 **Q.** I was not referring to a specific line.
 00:27:24 13 I probably could find it. But my recollection
 00:27:29 14 of your testimony with regard to the road that
 00:27:33 15 is presently shown on our plan that would
 00:27:39 16 connect the Crebilly Farm to Route 202, your
 00:27:41 17 testimony is that the existence of that road
 00:27:46 18 would create a hazardous condition. Do you
 00:27:47 19 remember that?
 00:27:51 20 **A. I do recall a discussion of the**
 00:27:55 21 **portions of the traffic study that identified**
 00:27:58 22 **high accidents along 202 potentially due to**
 00:27:59 23 **congestion, yes.**
 00:28:02 24 **Q.** But I want you to take it one step

00:28:02 1 further. Your testimony was, as I recall, that
 00:28:07 2 the existence of that road would create a
 00:28:10 3 hazardous condition?
 00:28:14 4 **A. Could you please refer to a specific**
 00:28:16 5 **portion of the testimony?**
 00:28:17 6 **Q.** Well, just give me a second, then.
 00:28:56 7 Let me ask you this question
 00:28:58 8 then: The testimony is that because of the
 00:29:06 9 significant amount of southbound traffic on 202
 00:29:12 10 as it approaches 926, traffic will not be able
 00:29:19 11 to easily exit onto Route 202 from that road
 00:29:26 12 that I described. Would you agree with that?
 00:29:30 13 **A. Yes.**
 00:29:31 14 **Q.** Okay. Now, would you agree with me
 00:29:35 15 that because of that congestion and that backup
 00:29:43 16 of the queue beyond that road it will be
 00:29:46 17 difficult for cars to get out onto 202 in the
 00:29:52 18 peak hours?
 00:29:53 19 **A. Yes, I would.**
 00:30:05 20 **Q.** Wouldn't what would happen over time is
 00:30:08 21 that people who normally use this area would
 00:30:13 22 stay away from that intersection?
 00:30:15 23 **A. Some may.**
 00:30:15 24 **Q.** And the others will just be sitting

00:30:19 1 there for a significant amount of time, right?
 00:30:25 2 **A. The ones attempting to leave the site,**
 00:30:27 3 **yes.**
 00:30:27 4 **Q.** Okay. Well, that will make it
 00:30:30 5 inconvenient for those people, won't it?
 00:30:35 6 **A. Yes, I expect it would.**
 00:30:37 7 **Q.** But that will not make it hazardous,
 00:30:39 8 would it?
 00:30:41 9 **A. No. The exiting movement into a**
 00:30:43 10 **congested condition would probably not be**
 00:30:46 11 **hazardous.**
 00:30:47 12 MR. KAPLIN: I have no further
 00:30:49 13 questions.
 00:30:50 14 MR. MCKENNA: Okay. Why don't we
 00:30:54 15 go through our party list. Any questions from
 00:31:00 16 Birmingham Township?
 00:31:01 17 MR. CRAWFORD: No questions.
 00:31:06 18 MR. MCKENNA: Thornbury?
 00:31:10 19 MS. LABRUM: No questions.
 00:31:12 20 MR. MCKENNA: Neighbors of
 00:31:14 21 Crebilly?
 00:31:15 22 MR. THOMPSON: No questions.
 00:31:16 23 MR. MCKENNA: Brandywine at
 00:31:18 24 Thornbury HOA, Mr. DuFault, any questions?

00:31:21 1 MR. DUFALT: No questions.
 00:31:23 2 MR. MCKENNA: Radley Run III HOA,
 00:31:26 3 any questions? Anyone here for Radley Run HOA?
 00:31:32 4 Arborview HOA, anyone here for
 00:31:34 5 that?
 00:31:36 6 West Glen HOA?
 00:31:40 7 A VOICE: No questions.
 00:31:43 8 MR. MCKENNA: Mr. Bevilacqua, any
 00:31:45 9 questions from the school district then?
 00:31:47 10 MR. BEVILACQUA: No questions.
 00:31:52 11 MR. MCKENNA: Westminster
 00:31:53 12 Presbyterian Church, any questions?
 00:31:57 13 MR. MCFALLS: No.
 00:31:58 14 MR. MCKENNA: Thank you. Quarry
 00:31:59 15 Swimming Association?
 00:32:04 16 Mr. Spackman for Thornbury Farm
 00:32:07 17 Trust?
 00:32:07 18 MR. SPACKMAN: No questions.
 00:32:07 19 Thank you.
 00:32:08 20 MR. MCKENNA: Amy or Bradley
 00:32:09 21 Harkins, any questions?
 00:32:10 22 MS. HARKINS: No questions.
 00:32:11 23 MR. MCKENNA: Mr. Mammucari, any
 00:32:14 24 questions?

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00:32:15 **1** MR. MAMMUCARI: No questions.
 00:32:16 **2** MR. MCKENNA: Andy Gadaletto?
 00:32:21 **3** Phillip Jones?
 00:32:24 **4** MR. JONES: No questions.
 00:32:29 **5** MR. MCKENNA: Mr. Moscharis?
 00:32:33 **6** Allison Corcoran?
 00:32:36 **7** Benjamin Skupp?
 00:32:41 **8** Diana Leraris?
 00:32:45 **9** Ed Boyer?
 00:32:50 **10** Amy Murnane?
 00:32:55 **11** Kurt Wolter?
 00:33:01 **12** Mr. Crognale, any questions?
 00:33:04 **13** Robert Daull?
 00:33:10 **14** Scott Sobers?
 00:33:12 **15** Mr. Pavelchek?
 00:33:14 **16** MR. PAVELCHEK: No questions.
 00:33:16 **17** MR. MCKENNA: Phillip Jaeger, any
 00:33:19 **18** questions?
 00:33:26 **19** Mr. Cahill, any questions?
 00:33:31 **20** David Pryze, any questions?
 00:33:33 **21** Jennifer or Jeffrey Kramer?
 00:33:36 **22** MS. KRAMER: No questions.
 00:33:42 **23** MR. MCKENNA: Megan Bruns?
 00:33:48 **24** Ed Skros, any questions?

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00:33:42 **1** MR. SKROS: No questions.
 00:33:44 **2** MR. MCKENNA: Thank you. Eileen
 00:33:47 **3** Carey?
 00:33:50 **4** MS. CAREY: No questions.
 00:33:54 **5** MR. MCKENNA: Jim McDermott?
 00:33:58 **6** Dennis or Patricia McFadden.
 00:34:02 **7** MR. MCFADDEN: No questions.
 00:34:05 **8** MR. MCKENNA: Carol Weller?
 00:34:09 **9** MS. WELLER: No questions.
 00:34:12 **10** MR. MCKENNA: Linda or Matt
 00:34:15 **11** Reichert, any questions?
 00:34:18 **12** All right. At this point, I'm
 00:34:21 **13** going to ask the Board if they have any
 00:34:24 **14** questions at this point, or Mr. Pingar has any
 00:34:27 **15** questions.
 00:34:30 **16** MR. PINGAR: Yes, I have a number
 00:34:33 **17** of questions. Good evening, Al.
 00:34:36 **18** THE WITNESS: Good evening.
 00:34:39 **19** MR. PINGAR: I'm going to also
 00:34:42 **20** refer to the Westtown Township Growth
 00:34:45 **21** Management Plan. This document is, I don't
 00:34:48 **22** know, it is probably over a hundred pages. It
 00:34:51 **23** is available on our website, so it is
 00:34:54 **24** ultimately available, and it has been there for

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00:34:35 **1** many, many years, even going back to the most
 00:34:38 **2** current website, just for the record.
 00:34:41 **3** On page 4 in the Growth
 00:34:44 **4** Management Plan, the introduction section, and
 00:34:47 **5** the very top of the page, it refers to goals
 00:34:50 **6** and I'm just going to read from this and then
 00:34:53 **7** I'll ask you certain questions. It says: "The
 00:34:56 **8** following goals provide overall direction to
 00:34:59 **9** this Plan and will assist in carrying out
 00:35:02 **10** Vision and Mission Statements described above."
 00:35:05 **11** Further down on page 5, under
 00:35:08 **12** "Introduction" there is a section called
 00:35:11 **13** "Transportation," and there are three bullets.
 00:35:14 **14** The first bullet says, under "Transportation,
 00:35:17 **15** Closely coordinate the transportation system
 00:35:20 **16** with existing and planned development, with an
 00:35:23 **17** emphasis on careful management of traffic
 00:35:26 **18** access onto main roads."
 00:35:29 **19** The second bullet is: "Work with
 00:35:32 **20** PA.DOT and developers to continually increase
 00:35:35 **21** the safety and efficiency of the road system."
 00:35:38 **22** Further on page 15, this is a new
 00:35:41 **23** section in the Growth Management Plan, it says,
 00:35:44 **24** "Where We Are Headed: The Policies of the

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00:35:39 **1** Plan," and the lead-in paragraph says, "The
 00:35:42 **2** following sections of this Plan address the
 00:35:45 **3** major development, conservation and
 00:35:48 **4** transportation policies of the Township."
 00:35:51 **5** On page 19 there is a small
 00:35:54 **6** section called "Transportation," it states,
 00:35:57 **7** "The transportation system needs to be
 00:36:00 **8** carefully coordinated with existing and planned
 00:36:03 **9** development, with an emphasis on careful
 00:36:06 **10** management of traffic access onto main roads."
 00:36:09 **11** And further on in that section it states, "In
 00:36:12 **12** any case, if lands west of Route 202 are
 00:36:15 **13** developed, a new road should be required to be
 00:36:18 **14** built from the Stetson School jughandle to
 00:36:21 **15** Route 926, running along the west side of Route
 00:36:24 **16** 202."
 00:36:27 **17** And likewise, I'm going to refer
 00:36:30 **18** to page 82, which Kaplin had referred to
 00:36:33 **19** earlier, and there is a section called "Work
 00:36:36 **20** with PennDOT to address the severely congested
 00:36:39 **21** intersection of Route 202/926." He read from
 00:36:42 **22** the second paragraph. In the first paragraph
 00:36:45 **23** under that section, the last sentence, the
 00:36:48 **24** first paragraph under that section talks about

00:37:01 1 a grade-separated interchange at 926 and 202
 00:37:06 2 which was once contemplated by PennDOT. The
 00:37:09 3 last sentence in that paragraph states: "A
 3 4 less expensive but shorter-term solution would
 00:37:16 5 be to complete the set of loop roads."
 00:37:21 6 Al, you are familiar with the
 00:37:32 7 Growth Management Plan, correct?
 00:37:32 8 THE WITNESS: Yes, I am, sir.
 00:37:34 9 (Mr. Gill present at this time.)
 00:37:34 10 MR. PINGAR: You are familiar
 00:37:35 11 with that general intersection area of 202 and
 00:37:38 12 926?
 00:37:39 13 THE WITNESS: Yes, I am.
 00:37:40 14 MR. PINGAR: The northeast corner
 00:37:42 15 of the intersection has a shopping center, and
 00:37:46 16 around the backside of it are two roads, one
 00:37:50 17 Knoll Way and one Dalmally Way. Dalmally also
 00:37:54 18 extends up to Piedmont, Piedmont Road. Would
 00:37:59 19 you say, in your opinion, is Dalmally, Knoll
 00:38:02 20 and Piedmont examples of loop roads?
 00:38:05 21 THE WITNESS: They can to some
 00:38:09 22 level serve a function of a loop road or
 00:38:12 23 quadri-roadway, yes.
 24 MR. PINGAR: Likewise, at the

00:38:15 1 southwest corner of the intersection there is a
 00:38:17 2 road by the name of Bridlewood Boulevard. In
 00:38:21 3 your opinion, is that another example of a loop
 00:38:23 4 road?
 00:38:23 5 THE WITNESS: Yes.
 00:38:25 6 MR. PINGAR: In your opinion,
 00:38:26 7 would you say that both of those roads meet the
 00:38:29 8 spirit of what I just read to you from the
 00:38:31 9 Growth Management Plan?
 00:38:32 10 THE WITNESS: Yes, they do.
 00:38:35 11 MR. PINGAR: And further up on
 00:38:37 12 202 there is another road called Skiles
 00:38:40 13 Boulevard, which goes from East Pleasant Grove
 00:38:43 14 Road to 202, going around St. Maximilian Kolbe
 00:38:46 15 Church and School, Jefferson Apartments
 00:38:49 16 Clubhouse and Kinder-Care, and an office
 00:38:52 17 building. In your opinion, is that another
 00:38:54 18 example of a loop road?
 00:38:55 19 THE WITNESS: Yes.
 17 20 MR. PINGAR: And the parallel
 00:39:06 21 road that's frequently been discussed in this
 00:39:08 22 hearing, and actually referred to tonight, is
 00:39:11 23 that another example of a loop road?
 00:39:14 24 MR. KAPLIN: I'm going to raise

00:39:15 1 an objection. All these questions are leading
 00:39:17 2 questions, and you are testifying for Mr.
 00:39:22 3 Federico instead of asking him to testify. So,
 00:39:25 4 Pat, I've got to object to the continuing
 00:39:28 5 leading questions.
 00:39:29 6 MR. MCKENNA: Understood. I
 00:39:31 7 think Mr. Pingar can characterize his questions
 00:39:37 8 without suggesting the answer in the question
 00:39:41 9 moving forward, if that would be all right.
 00:39:43 10 MR. PINGAR: Very good.
 00:39:44 11 MR. MCKENNA: Thank you.
 00:39:48 12 MR. PINGAR: The parallel road
 00:39:52 13 that's referred to in the Growth Management
 00:39:54 14 Plan, is frequently called the parallel road, I
 00:39:56 15 don't know that it specifically is in the
 00:39:57 16 Growth Management Plan, but it is referred to
 00:39:59 17 as the north-south road that parallels 202, in
 00:40:04 18 fact, moving effectively through the Crebilly
 00:40:06 19 tract. What would you characterize that road
 00:40:06 20 as?
 00:40:10 21 THE WITNESS: Depending on how it
 00:40:14 22 is ultimately designed, it is possible that
 00:40:16 23 that could serve function as a loop road around
 00:40:22 24 the intersection. That is the section of the

00:40:25 1 Growth Management Plan that Mr. Kaplin
 00:40:29 2 referenced.
 00:40:31 3 MR. PINGAR: Just to be clear, I
 00:40:35 4 refer to page 19. And if you don't have it in
 00:40:37 5 front of you and you want to borrow my copy, I
 00:40:40 6 could certainly share it with you. I don't
 00:40:42 7 know if Mr. Kaplin or Ms. --
 00:40:45 8 MR. MCKENNA: Camp.
 00:40:47 9 MR. PINGAR: -- Camp's exhibit
 00:40:50 10 she provided included page 19. But apparently
 00:40:53 11 it does.
 00:40:56 12 In the middle of the page, toward
 00:40:57 13 the bottom of the page, makes reference to
 00:41:00 14 growth, and it indicates that it should "be
 00:41:03 15 built from the Stetson School jughandle to
 00:41:05 16 Route 926, running along the west side of 202."
 00:41:09 17 THE WITNESS: Yes, it does.
 00:41:10 18 MR. PINGAR: Is it your
 00:41:12 19 understanding that that road will be this
 00:41:15 20 collector/connector road that's been commonly
 00:41:19 21 referred to in this hearing?
 00:41:21 22 THE WITNESS: Yes. In
 00:41:22 23 combination with the road that is shown on the
 00:41:25 24 conditional use plan for the commercial

00:41:28 1 development between Arborview and 202, it would
00:41:31 2 provide connection from the jug handle south to
00:41:35 3 926.

9 4 MR. PINGAR: Now, Ai, you for a
00:41:41 5 number of years have been the township's
00:41:42 6 traffic engineer, consultant; is that a fair
00:41:46 7 statement?

00:41:47 8 THE WITNESS: Yes, I have served
00:41:48 9 previously as the township's traffic engineer.

00:41:51 10 MR. PINGAR: During that tenure
00:41:53 11 did you review other projects that were
00:41:57 12 proposed for the Crebilly tract?

00:41:59 13 THE WITNESS: Yes, I reviewed the
00:42:01 14 Presby Homes project and the Bozzuto project.

00:42:07 15 MR. KAPLIN: Objection as to
00:42:08 16 relevance. We are not here about some other
00:42:11 17 project. We are here about Crebilly.

00:42:12 18 MR. MCKENNA: Understood. But,
00:42:13 19 A, he has already answered. And, B, I don't
00:42:15 20 know whether it is relevant or not because I
00:42:17 21 don't know what the next question is at this
00:42:18 22 point. So I'm going to let him go ahead and
00:42:20 23 question at this point.

1 24 MR. PINGAR: Ai, on either of

00:42:22 1 those two projects did they propose a road
00:42:28 2 between West Pleasant Grove Road and Route 926
00:42:33 3 through the tract, that was commonly known at
00:42:36 4 that time, referred to as the connector road?

00:42:38 5 THE WITNESS: Yes, they did.

00:42:39 6 MR. PINGAR: And was that road,
00:42:42 7 in your opinion, consistent with the goals of
00:42:46 8 the Growth Management Plan as we just discussed
00:42:48 9 tonight?

00:42:49 10 THE WITNESS: Yes, it was.

00:42:50 11 MR. PINGAR: I want to refer you
00:43:00 12 to the Westtown Township Zoning Ordinance,
00:43:04 13 Chapter 170, Article V, the A/C -
00:43:12 14 Agricultural/Cluster Residential District.

00:43:16 15 THE WITNESS: One moment, please.
00:43:24 16 What section are we in?

00:43:26 17 MR. PINGAR: It is Section
00:43:27 18 170-503, Design Standards.

00:43:31 19 THE WITNESS: Okay.

00:43:36 20 MR. PINGAR: Which zoning
00:43:36 21 district is this tract in, the subject tract
00:43:42 22 that is the subject of this conditional use
00:43:43 23 hearing?

00:43:45 24 THE WITNESS: Agricultural.

00:43:50 1 MR. PINGAR: So is it true it is
00:43:51 2 the A/C - Agricultural/Cluster Residential
00:43:56 3 District?

00:43:56 4 THE WITNESS: Yes, I believe so.

00:43:57 5 MR. PINGAR: So the Zoning
00:43:58 6 Ordinance Section 170-503 applies to this
00:44:01 7 tract?

00:44:01 8 THE WITNESS: Yes, it does.

00:44:03 9 MR. PINGAR: Just bear with me.
00:44:16 10 Under Section 503, subparagraph C, and below,
00:44:20 11 within that subparagraph (1), I'll read from
00:44:22 12 it, "Traffic access shall be fully coordinated
00:44:25 13 with adjacent existing and future development,
00:44:28 14 including but not limited to providing and
00:44:31 15 promoting appropriate traffic access to/from
00:44:36 16 adjacent properties."

00:44:39 17 In your opinion, do the roads
00:44:42 18 proposed on the plan that's the subject of this
00:44:46 19 development comply with that section of the
00:44:48 20 ordinance?

00:44:50 21 THE WITNESS: The submitted plan
00:44:51 22 does not.

00:44:52 23 MR. PINGAR: Why not?

00:44:53 24 THE WITNESS: The code references

00:45:02 1 the continuous collector street, and what is
00:45:08 2 presented on this plan is not a collector
00:45:11 3 street.

00:45:13 4 MR. PINGAR: Thank you. Still
00:45:15 5 under Section 503, subparagraph C, and now
00:45:20 6 within that subparagraph (2), and I'll read
00:45:23 7 from it, "Traffic access to uses within any
00:45:27 8 development site shall be provided by a fully
00:45:31 9 developed internal network of local roads or
00:45:34 10 private drives, paths and trails which also
00:45:37 11 shall link any proposed use or development to
00:45:40 12 existing or proposed intersections or other
00:45:42 13 points of controlled and/or signalized access
00:45:45 14 to collector and/or arterial highways."

00:45:48 15 Are you aware of any developments
00:45:51 16 adjacent to this tract, specifically north of
00:45:54 17 this tract, that is proposing a parallel road,
00:45:58 18 parallel to 202 through the tract?

00:46:00 19 THE WITNESS: There is a
00:46:01 20 commercial piece between Arborview and 202 that
00:46:05 21 the conditional use approval provides a
00:46:07 22 connector road to the north.

00:46:10 23 MR. PINGAR: Are you aware if
00:46:11 24 that road was intended to continue through the

00:46:14 1 Crebilly tract?

00:46:14 2 THE WITNESS: The road is

00:46:18 3 slightly offset to the east, but the township

2 4 over the years has developed a concept to

00:46:24 5 provide a transition between the northern

00:46:28 6 section and what is often referred to as the

00:46:31 7 southern section of this roadway.

00:46:33 8 MR. PINGAR: And in that

00:46:34 9 configuration what would it enable a motorist

00:46:37 10 to do, whether they are traveling north on that

00:46:40 11 road or south on that road?

00:46:42 12 THE WITNESS: It would allow them

00:46:44 13 to travel continuously from the school property

00:46:47 14 to 926, and back, or to access any of the

00:46:53 15 adjacent residential areas or areas to be

00:46:56 16 developed within that section.

00:46:59 17 MR. PINGAR: And again, in that

00:47:00 18 Section 170-503.C(2), it states "shall link any

00:47:08 19 proposed use or development to existing or

00:47:12 20 proposed intersections."

00:47:13 21 In your opinion, the

00:47:15 22 configuration of the roads that they have

00:47:17 23 presented, is it consistent with that section

9 24 of the ordinance?

00:47:20 1 THE WITNESS: No. The southern

00:47:22 2 portion access to 926 is not aligned with any

00:47:30 3 existing intersections.

00:47:31 4 MR. PINGAR: Are any of the roads

00:47:33 5 that provide access to West Pleasant Grove

00:47:39 6 Road, are they consistent with this section of

00:47:41 7 the ordinance?

00:47:42 8 THE WITNESS: As presented, I

00:47:45 9 believe they do align in the conditional use

00:47:48 10 plan with Arborview, and I believe with

00:47:53 11 Dunvegan.

00:47:55 12 MR. PINGAR: Do any of the roads

00:47:56 13 align with the road you referred to as the

00:47:58 14 commercial tract to the north?

00:47:59 15 THE WITNESS: No, they do not.

00:48:00 16 MR. PINGAR: So in your opinion,

00:48:04 17 is what they propose consistent with this

00:48:07 18 section of the ordinance with respect to the

00:48:08 19 connector road?

20 THE WITNESS: Not with respect to

00:48:10 21 the connector, no.

00:48:27 22 MR. PINGAR: Now, continuing on

00:48:28 23 again in that same section, 170-503.C, and now

00:48:33 24 I'm going to No. 3, and I'll read from it,

00:48:36 1 "Continuous collector streets and trails shall

00:48:39 2 be developed as part of the subject use or

00:48:42 3 development to provide internal through

00:48:45 4 connections between existing collector and/or

00:48:48 5 arterial streets and trails, as applicable, and

00:48:51 6 as required by the Board of Supervisors to

00:48:53 7 provide reasonable access to the subject use or

00:48:57 8 development. (Examples may include but are not

00:48:59 9 limited to: a through collector street

00:49:02 10 connecting the intersection of Skiles Boulevard

00:49:05 11 and Route 202 with West Pleasant Grove Road and

00:49:08 12 Route 926."

00:49:10 13 In your opinion, does this plan

00:49:12 14 comply with that section of the ordinance?

00:49:14 15 THE WITNESS: No, it does not

00:49:16 16 because it does not provide a through collector

00:49:18 17 street.

00:49:21 18 MR. PINGAR: Thank you. Just a

00:49:22 19 few more questions. I'm moving on to our

00:49:24 20 Subdivision Ordinance. Chapter 149, Section

00:49:28 21 901. Chapter 149 is called "Subdivision of

00:49:34 22 Land," 901 is Article IX, "Development and

00:49:37 23 Design Standards," and it is, Article IX and

00:49:41 24 Section 901 is "General standards for public

00:49:44 1 streets."

00:49:45 2 THE WITNESS: Yes.

00:49:46 3 MR. PINGAR: The road through the

00:49:55 4 commercial tract to the north of the Crebilly

00:49:58 5 tract, do you know how wide that cartway is or

00:50:02 6 is proposed to be?

00:50:03 7 THE WITNESS: I believe it was

00:50:04 8 designed to collector road standards.

00:50:07 9 MR. PINGAR: And do you know the

00:50:09 10 width of the collector road?

00:50:10 11 THE WITNESS: 28 feet, per code.

00:50:12 12 MR. PINGAR: So under Section

00:50:13 13 149-901.B it says: "The proposed public street

00:50:17 14 system shall extend existing or recorded

00:50:20 15 streets at the same or greater width, but in no

00:50:23 16 case at less than the required minimum width."

00:50:25 17 Are any of the roads proposed in

00:50:27 18 this development extensions of that road to the

00:50:32 19 north, either in alignment or in the proposed

00:50:36 20 width?

00:50:37 21 THE WITNESS: Not in the proposed

00:50:38 22 width. But this plan does not include that

00:50:43 23 aligned connection.

00:50:47 24 MR. PINGAR: But if it were to

00:50:48 1 include it, would it be required to have the
 00:50:51 2 width as stated in this ordinance?
 00:50:54 3 THE WITNESS: I would expect so,
 5 4 yes.
 00:50:55 5 MR. PINGAR: And likewise for the
 00:50:57 6 right-of-way, remaining in that section,
 00:51:01 7 subparagraph -- I'm sorry, "Right-of-way and
 00:51:03 8 cartway," Section 149-903, Section A(2) states:
 00:51:10 9 "Collector street. Right-of-way shall be 60
 00:51:12 10 feet and cartway width shall be 28 feet."
 00:51:16 11 In your opinion, would that road
 00:51:18 12 have to likewise have a right-of-way width of
 00:51:20 13 60 feet?
 00:51:20 14 THE WITNESS: Yes.
 00:51:23 15 MR. PINGAR: And let's see. I'll
 00:51:32 16 just leave it at that. No further questions.
 00:51:34 17 Thank you.
 00:51:36 18 MR. MCKENNA: Any member of the
 00:51:38 19 Board have questions?
 00:51:42 20 MS. DEWOLF: I believe Rob asked
 00:51:47 21 you as to whether you were an engineering
 00:51:49 22 consultant after the time period that the
 00:51:55 23 Growth Management Plan was completed in 2001.
 0 24 So I'm going to ask again,

00:52:02 1 though, were you a consultant to evaluate the
 00:52:04 2 Skiles Boulevard turnaround, and the connector
 00:52:06 3 road, the parallel road in respect to two other
 00:52:10 4 developments, and the Malvern School, and a
 00:52:14 5 commercial development as well in the general
 00:52:16 6 area?
 00:52:17 7 THE WITNESS: Yes, I have been
 00:52:18 8 involved with the review of those.
 00:52:20 9 MS. DEWOLF: And in so doing were
 00:52:22 10 you familiar with the Growth Management Plan
 00:52:24 11 and the desire of the township at that time?
 00:52:28 12 THE WITNESS: I am familiar and
 00:52:29 13 was familiar with the Growth Management Plan
 00:52:31 14 and the desire of the township to provide this
 00:52:35 15 roadway along the west side of 202.
 00:52:37 16 MS. DEWOLF: And I know you are
 00:52:38 17 not our planner, but you have been our engineer
 00:52:41 18 for quite a long time. In respect to zoning on
 00:52:45 19 the Crebilly tract, at the time in 2001, what
 00:52:51 20 kind of zoning -- are you familiar that it was
 00:52:51 21 only agricultural zoning, with an ag security
 00:52:54 22 district in place?
 00:52:55 23 THE WITNESS: I do not recall. I
 00:52:57 24 don't believe I started, was serving the

00:52:59 1 township at that time.
 00:53:01 2 MS. DEWOLF: Thank you. Are you
 00:53:03 3 familiar with, there was a change of zoning on
 00:53:06 4 that property that is different than what was
 00:53:11 5 at the time of the Growth Management Plan in
 00:53:14 6 2001?
 00:53:16 7 THE WITNESS: I believe an
 00:53:16 8 overlay was approved.
 00:53:19 9 MS. DEWOLF: Correct. And that's
 00:53:21 10 all I have. No more questions.
 00:53:25 11 MR. HAWS: So just a general
 00:53:29 12 question. I know that, I think Rob had asked
 00:53:32 13 you this, but based on your opinion from the
 00:53:35 14 traffic perspective, is the plan before this
 00:53:40 15 Board compliant with our ordinances as they are
 00:53:43 16 currently stated?
 00:53:44 17 THE WITNESS: No.
 00:53:45 18 MR. HAWS: Thank you.
 00:53:49 19 MR. MCKENNA: Mr. Gill, any
 00:53:51 20 redirect?
 00:53:52 21 MR. GILL: Ms. Camp is going to.
 00:53:54 22 MR. MCKENNA: Excuse me. I
 00:53:54 23 apologize.
 00:53:55 24 MS. CAMP: That's okay.

1 REDIRECT EXAMINATION
 00:53:58 2 BY MS. CAMP:
 00:53:58 3 Q. In Mr. Adelman's cross-examination, Mr.
 00:54:00 4 Federico, he suggested that you were taking an
 00:54:02 5 inconsistent position with respect to wanting
 00:54:04 6 the applicant to comply with the provisions in
 00:54:07 7 the Growth Management Plan that encouraged the
 00:54:09 8 connector road but also recommending that the
 00:54:12 9 access onto Route 202 be eliminated. As we
 00:54:17 10 already marked Exhibit PC-14, does the Growth
 00:54:21 11 Management Plan contemplate the connector road
 00:54:23 12 between West Pleasant Grove and Route 926
 00:54:26 13 running parallel to 202?
 00:54:28 14 A. Yes, it is referenced in several
 00:54:30 15 locations.
 00:54:30 16 Q. And specifically the pages that are
 00:54:32 17 shown on Exhibit PC-14?
 00:54:42 18 A. One moment, please.
 00:54:53 19 Yes.
 00:54:53 20 Q. Does the connector road still make
 00:54:56 21 sense, given the passage of time since the
 00:54:58 22 Growth Management Plan was adopted?
 00:55:01 23 A. Yes, the connector, connection from 926
 00:55:05 24 up to the middle school does make sense.

00:55:07 1 **Q.** Are there changes in traffic patterns
 00:55:11 2 or any other changes that have occurred since
 00:55:15 3 the Growth Management Plan was adopted that
 6 4 would make the connector road still an
 00:55:20 5 important planning tool, in your professional
 00:55:22 6 opinion?

00:55:23 7 **A. Probably the biggest change since the**
 00:55:26 8 **adoption of the Growth Management Plan is that**
 00:55:28 9 **PennDOT is no longer pursuing the six-lane**
 00:55:31 10 **widening of 202 or the grade-separated**
 00:55:35 11 **interchange at 926. Therefore, the congested**
 00:55:39 12 **conditions at that intersection are not**
 00:55:43 13 **anticipated to be alleviated as they would have**
 00:55:46 14 **under the plan that PennDOT was pursuing at the**
 00:55:48 15 **time the Growth Management Plan was adopted.**

00:55:51 16 **Q.** And does the Growth Management Plan
 00:55:53 17 specifically contemplate from the Crebilly
 00:55:56 18 tract an access onto Route 202?

00:55:59 19 **A. It is illustrated on one of the**
 00:58:01 20 **figures, yes.**

00:58:01 21 **Q.** Is it discussed in any of the narrative
 00:58:03 22 or text?

00:58:04 23 **A. Not in, that I recall.**

17 24 **Q.** Have certain conditions changed since

00:58:09 1 the Growth Management Plan was adopted that
 00:58:11 2 make you reconsider whether an access to Route
 00:58:14 3 202 is appropriate and can be designed in a
 00:58:16 4 safe manner?

00:58:17 5 **A. The continued congestion at 926 and 202**
 00:58:22 6 **that would have been alleviated under the**
 00:58:26 7 **previous PennDOT plan, that continued**
 00:58:27 8 **congestion will limit the functionality and**
 00:58:30 9 **utilization of that access.**

00:58:31 10 **Q.** Okay. And in your opinion, can a
 00:58:34 11 connector road be designed that would connect
 00:58:35 12 West Pleasant Grove and Route 926 without
 00:58:39 13 affecting the safety of residents who would be
 00:58:41 14 residing within the development?

00:58:42 15 **A. Yes, I believe if designed**
 00:58:45 16 **appropriately it could be.**

00:58:46 17 MS. CAMP: I have nothing
 00:58:47 18 further.

00:58:49 19 MR. MCKENNA: Mr. Kaplin, do you
 20 have any further cross?

00:58:51 21 MR. KAPLIN: Yes, I do. Yes, I
 00:58:58 22 do.

23
24

00:58:59 1 RE-CROSS-EXAMINATION

00:58:59 2 BY MR. KAPLIN:

00:57:00 3 **Q.** If I remember correctly, Mr. Pingar
 00:57:02 4 asked you about a section of the SALDO that
 00:57:07 5 said that if a road exists or is recorded that
 00:57:13 6 a new road must align with that. Do you
 00:57:16 7 remember that?

00:57:18 8 **A. Are you referring to 149-901.C -- I'm**
 00:57:22 9 **sorry -- B?**

00:57:26 10 **Q.** Al, I don't know. I heard Mr. Pingar
 00:57:30 11 ask you a question, and in the preamble to the
 00:57:33 12 question he read a section of the SALDO, and
 00:57:38 13 the point was that a road like ours is required
 00:57:43 14 to align with either an existing road or a road
 00:57:47 15 that has been recorded. Do you remember that?

00:57:57 16 **A. 901.B states that proposed public**
 00:58:02 17 **streets shall extend existing or recorded**
 00:58:05 18 **streets at the same or greater width, but in no**
 00:58:08 19 **case less than the required minimum width.**

00:58:10 20 **Q.** Okay. The hypothetical road to the
 00:58:14 21 north of the Crebilly Farm is neither an
 00:58:19 22 existing road nor a recorded road, is it?

00:58:23 23 **A. I would defer on the definition of**
 00:58:30 24 **recorded. It is an approved conditional use**

00:58:32 1 **plan, but it is not existing.**

00:58:36 2 **Q.** And, but conditional use plans, even
 00:58:42 3 approved conditional use plans are not
 00:58:43 4 recorded, are they? Only final plans are
 00:58:46 5 recorded?

00:58:48 6 **A. In -- yes.**

00:58:49 7 **Q.** So the conditional use plan to which
 00:58:52 8 you refer is not a recorded plan; do you agree?

00:58:59 9 **A. I would agree.**

00:59:00 10 **Q.** Okay. Now, I'm a little bit new to
 00:59:04 11 this, but my understanding is that that road,
 00:59:09 12 the collector road that is approved on the plan
 00:59:13 13 to the north, the commercial property, Toll
 00:59:18 14 does not have any ground that is directly
 00:59:21 15 opposite that road; isn't that correct?

00:59:25 16 **A. That is my understanding, yes.**

00:59:27 17 **Q.** So all this talk about Toll extending
 00:59:33 18 the road is not physically possible at this
 00:59:37 19 time with the current configuration of
 00:59:39 20 ownership, correct?

00:59:44 21 **A. As I previously stated, the township**
 00:59:47 22 **has developed a concept to provide for**
 00:59:49 23 **continuity between those two sections of**
 00:59:52 24 **roadway.**

00:59:52 1 Q. That's great. Now, do me a favor and
 00:59:55 2 answer my question. Right now, the way it is,
 00:59:59 3 there is no physical way to connect from the
 3 4 Toll property from the Crebilly Farm to the
 01:00:06 5 commercial property above it?
 01:00:08 6 A. Based on the property that I understand
 01:00:14 7 Toll Brothers to have control over, you cannot
 01:00:18 8 have a linear, 100 percent opposite connection
 01:00:25 9 without further modifications to Pleasant Grove
 01:00:29 10 Road, as anticipated by the township.
 01:00:38 11 Q. And has that plan been introduced by
 01:00:41 12 the Planning Commission? Let me ask it a
 01:00:45 13 different way. Strike that.
 01:00:46 14 Has the plan to which you are
 01:00:48 15 referring been introduced into evidence that
 01:00:50 16 you know of?
 01:00:52 17 A. I don't believe it has been as part of
 01:00:53 18 this hearing.
 01:00:54 19 Q. Is there actually a physical plan or is
 01:00:57 20 it just a description in words?
 01:01:09 21 Excuse me. You are under
 01:01:10 22 cross-examination. You don't go and talk to
 01:01:13 23 your counsel.
 7 24 MS. CAMP: He is asking me if

01:01:18 1 that's the plan that you are asking him about.
 01:01:20 2 MR. KAPLIN: Well, he may --
 01:01:21 3 MS. CAMP: He is wondering if it
 01:01:23 4 is admitted into evidence, sir.
 01:01:25 5 MR. KAPLIN: All he has got to do
 01:01:26 6 is ask. But he is under cross-examination.
 01:01:28 7 MS. CAMP: Okay. Well, he is
 01:01:29 8 asking if that was admitted. That plan that
 01:01:31 9 you showed me has not been marked as an exhibit
 01:01:33 10 for the Planning Commission, which was the
 01:01:34 11 question you asked of him.
 01:01:36 12 MR. KAPLIN: Thank you.
 01:01:37 13 THE WITNESS: Yes, it is a
 01:01:38 14 physical plan.
 01:01:48 15 BY MR. KAPLIN:
 01:01:48 16 Q. Just a couple other questions. If I
 01:01:51 17 heard Mr. Pingar correctly, he either said or
 01:01:57 18 implied that this collector road that
 01:02:02 19 apparently you are suggesting should come
 3 20 through the Crebilly Farm would have a 60-foot
 01:02:09 21 right-of-way? Is that what I heard?
 01:02:13 22 A. Yes, that's what you heard.
 01:02:14 23 Q. You don't have 60 foot right-of-ways in
 01:02:17 24 residential subdivisions as a general rule, do

01:02:20 1 you, Al?
 01:02:23 2 A. Depending on the size of the
 01:02:25 3 subdivision and how it is designed, you can,
 01:02:28 4 yes.
 01:02:28 5 Q. If you have a big boulevard entrance.
 01:02:32 6 Not for streets that houses are on and kids
 01:02:37 7 play on and cars come in and out of, you don't
 01:02:41 8 have 60-foot rights-of-way in residential
 01:02:46 9 streets, do you?
 01:02:48 10 A. I would disagree with that statement.
 01:02:52 11 Q. So you would disagree. Can you think
 01:02:54 12 of where, could you tell us where you have been
 01:02:59 13 involved with a residential subdivision where
 01:03:02 14 it is a 60-foot right-of-way and the houses
 01:03:06 15 actually take access from that 60-foot-wide
 01:03:10 16 right-of-way?
 01:03:15 17 A. I'm sorry, where the 60-foot
 01:03:18 18 right-of-way, where the houses take -- this
 01:03:22 19 is -- I apologize, I'm not grasping your
 01:03:24 20 question here.
 01:03:25 21 Q. Well, in a residential subdivision, in
 01:03:29 22 a residential street, houses usually take
 01:03:33 23 access with a driveway to the street; do they
 01:03:37 24 not?

01:03:39 1 A. Houses do access a local street, yes.
 01:03:43 2 Q. I'm saying to you, my experience, I
 01:03:48 3 can't think of any development I have been
 01:03:51 4 involved in where you have a 60-foot-wide
 01:03:56 5 right-of-way and you have residential streets
 01:03:59 6 with houses connecting to that 60-foot
 01:04:03 7 right-of-way. Can you tell me where you see
 01:04:07 8 that?
 01:04:09 9 A. The houses don't connect directly to
 01:04:15 10 Bridlewood Boulevard. But that's an example of
 01:04:17 11 a residential subdivision.
 01:04:19 12 I would suspect if you found
 01:04:21 13 other places where the zoning required it, you
 01:04:24 14 would find such a road.
 01:04:31 15 Q. I'm not asking you to speculate. I'm
 01:04:34 16 asking you whether you know.
 01:04:37 17 But Bridlewood, you said the
 01:04:39 18 houses don't connect directly to the street.
 01:04:44 19 How do they get to the street then?
 01:04:47 20 A. They have local streets that connect to
 01:04:51 21 Bridlewood.
 01:04:52 22 Q. Okay. That is exactly my point. And
 01:04:54 23 Bridlewood is, what, a boulevard? Are there
 01:04:58 24 any houses that connect to it?

01:04:59 **1 A. Bridlewood is a two-lane roadway.**
 01:05:02 **2 Q.** And do houses connect to it?
 01:05:04 **3 A. Not that I'm aware of.**
 5 **4 Q.** Okay. And the right-of-way, if I
 01:05:10 **5** understand it correctly, along 926 is only 50
 01:05:15 **6** feet, isn't it?
 01:05:17 **7 A. I don't recall.**
 01:05:20 **8** MR. KAPLIN: I have no more
 01:05:21 **9** questions.
 01:05:24 **10** MR. MCKENNA: Mr. Pingar, do you
 01:05:25 **11** have any? No, okay.
 01:05:26 **12** Any further from the Board?
 01:05:29 **13** Any further, Kristin?
 01:05:31 **14** MS. CAMP: No.
 01:05:31 **15** MR. MCKENNA: Thank you, Mr.
 01:05:34 **16** Federico.
 01:05:34 **17** THE WITNESS: Thank you.
 01:05:35 **18** MR. MCKENNA: Ms. Camp, do you
 01:05:36 **19** want to call your next witness.
 01:05:37 **20** MS. CAMP: The Planning
 01:05:39 **21** Commission would like to call William Malin,
 01:05:42 **22** professional engineer.
 01:05:43 **23** Al, could you please leave the
 24 **24** packet for him up there for the Planning

01:05:49 **1** Commission exhibits.
 01:06:20 **2** THE WITNESS: Kristin, you are
 01:06:21 **3** referring to the packet, 14, 15, 16?
 01:06:23 **4** MS. CAMP: Yes.
 01:05:34 **5** (Witness excused.)
6 WILLIAM MALIN,
7 the witness herein, having first been
8 duly sworn on oath, was examined and
 01:06:36 **9** testified as follows:
 01:06:36 **10** DIRECT EXAMINATION
 01:06:37 **11** BY MS. CAMP:
 01:06:37 **12** **Q.** Would you please state your name for
 01:06:39 **13** the record.
 01:06:40 **14** **A. William Malin.**
 01:06:41 **15** **Q.** And your business address?
 01:06:43 **16** **A. It is 949 Easton Road, Warrington,**
 01:06:47 **17** **Pennsylvania.**
 01:06:48 **18** **Q.** And with whom are you employed?
 01:06:49 **19** **A. Carroll Engineering Corporation.**
 20 **20** **Is this working?**
 01:06:53 **21** **Q.** Yes. I have pre-marked as Planning
 01:06:56 **22** Commission Exhibit 15 your curriculum vitae.
 01:06:59 **23** Is that accurate?
 01:07:03 **24** **A. Yes.**

01:07:03 **1** **Q.** Okay. And can you briefly describe
 01:07:05 **2** your education and professional background?
 01:07:07 **3** **A. I have a bachelor in civil engineering**
 01:07:11 **4** **degree and over 30 years experience in**
 01:07:15 **5** **wastewater planning, design and construction.**
 01:07:18 **6** MR. KAPLIN: We will stipulate,
 01:07:19 **7** Kristin.
 01:07:20 **8** MS. CAMP: Thank you. I would
 01:07:21 **9** offer Mr. Malin as a licensed registered
 01:07:23 **10** professional engineer specializing in
 01:07:25 **11** wastewater.
 01:07:26 **12** MR. MCKENNA: There is a
 01:07:27 **13** stipulation to that, Mr. Kaplin?
 01:07:29 **14** MR. KAPLIN: Yes.
 01:07:29 **15** MR. MCKENNA: Thank you. Mr.
 01:07:30 **16** Malin, I don't know if your microphone is on.
 01:07:32 **17** If it is, do me a favor, get uncomfortably
 01:07:35 **18** close to it so that everyone can hear you very
 01:07:37 **19** well.
 01:07:37 **20** THE WITNESS: Okay. Is that
 01:07:40 **21** better?
 01:07:41 **22** MR. MCKENNA: That is. There you
 01:07:44 **23** go, he turned it on.
 01:07:44 **24** MS. CAMP: Thank you, Mr. Semon.

01:07:45 **1** BY MS. CAMP:
 01:07:45 **2** **Q.** Mr. Malin, does Carroll Engineering
 01:07:48 **3** serve as the township's wastewater consultant?
 01:07:50 **4** **A. Yes.**
 01:07:50 **5** **Q.** How long has Carroll Engineering served
 01:07:52 **6** in that capacity?
 01:07:52 **7** **A. Approximately two and a half years.**
 01:07:54 **8** **Q.** And what are the responsibilities as
 01:07:56 **9** Westtown Township's wastewater consultant?
 01:07:58 **10** **A. We handle all of the sewer issues in**
 01:08:02 **11** **the township, Act 537 planning, planning**
 01:08:06 **12** **modules, land development reviews, their sewer**
 01:08:14 **13** **system condition and improvements.**
 01:08:16 **14** **Q.** Were you asked to review the
 01:08:17 **15** conditional use application that is before the
 01:08:19 **16** Board this evening specific to the proposed
 01:08:23 **17** method of wastewater disposal?
 01:08:25 **18** **A. Yes.**
 01:08:26 **19** **Q.** And are you familiar with the
 01:08:27 **20** Township's Act 537 plan?
 01:08:29 **21** **A. Yes.**
 01:08:30 **22** **Q.** What is the date of that 537 plan?
 01:08:32 **23** **A. The date of the last Comprehensive Plan**
 01:08:35 **24** **is 2001, and there is an addendum to that plan**

01:08:39 **1** dated 2005.

01:08:41 **2** **Q.** And you said Comprehensive Plan. But

01:08:43 **3** you mean the Act 537 Official Sewage Facilities

4 Plan?

01:08:46 **5** **A. Yes.**

01:08:47 **6** **Q.** And what does the Township's Act 537

01:08:49 **7** plan provide for the method of sewage disposal

01:08:52 **8** for the Crebilly tract?

01:08:53 **9** **A. It calls for a community system of,**

01:08:58 **10 with I believe low-rate land application**

01:09:02 **11 disposal.**

01:09:03 **12** **Q.** And will the applicant be required to

01:09:05 **13** obtain planning module approval if they proceed

01:09:08 **14** with the proposed development for the Crebilly

01:09:09 **15** tract as they contemplate in the conditional

01:09:11 **16** use application?

01:09:12 **17** **A. Yes.**

01:09:13 **18** **Q.** Did you provide advice to the

01:09:14 **19** Township's Planning Commission as to certain

01:09:17 **20** recommendations with respect to sewage disposal

01:09:20 **21** for this proposed development?

01:09:21 **22** **A. Yes.**

01:09:21 **23** **Q.** And Mr. McKenna had pre-marked as a

24 Board exhibit your review letter that you

01:09:27 **1** prepared, dated January 6th, 2017, and has

01:09:31 **2** previously been marked B-14. Do you recall

01:09:33 **3** writing a letter of that date?

01:09:35 **4** **A. I do, yes.**

01:09:36 **5** **Q.** And did that correspondence include

01:09:38 **6** your recommendations?

01:09:39 **7** **A. Yes.**

01:09:40 **8** **Q.** And were those recommendations

01:09:42 **9** presented to the Planning Commission when this

01:09:44 **10** application was being reviewed by the Planning

01:09:47 **11** Commission?

01:09:47 **12** **A. Yes.**

01:09:47 **13** **Q.** And did the Planning Commission include

01:09:49 **14** your recommendations in some of their

01:09:51 **15** recommendations to the Board of Supervisors?

01:09:52 **16** **A. Yes.**

01:09:54 **17** **Q.** Let's go through some of your

01:09:56 **18** recommendations. And those, again, are

01:09:58 **19** identified on Board Exhibit 14, which is your

20 letter of January 6th, 2017. The first one is

01:10:06 **21** that you suggest that there should be a

01:10:07 **22** connection to public sewer. Can you explain

01:10:10 **23** your rationale for that suggestion?

01:10:13 **24** **A. It would be beneficial, I believe for**

01:10:17 **1** **all parties involved, both the township and the**

01:10:19 **2** **developer, for the connection to be public**

01:10:23 **3** **rather than a separate community treatment**

01:10:25 **4** **system.**

01:10:25 **5** **Q.** And where would the wastewater from

01:10:27 **6** this development be treated if it was, in fact,

01:10:30 **7** connected to public sewer?

01:10:31 **8** **A. It would be treated at the West Goshen**

01:10:33 **9** **Sewer Authority Treatment Plant.**

01:10:34 **10** **Q.** Does Westtown currently have sufficient

01:10:36 **11** capacity available at the West Goshen plant to

01:10:39 **12** treat the wastewater from the proposed

01:10:41 **13** development of the Crebilly Farm with the 319

01:10:44 **14** proposed homes?

01:10:45 **15** **A. Yes.**

01:10:45 **16** **Q.** And what would be some of the

01:10:47 **17** advantages, or are there any advantages to the

01:10:49 **18** applicant if, in fact, the township were to

01:10:53 **19** request or direct the applicant to connect into

01:10:56 **20** a public sewer system?

01:10:57 **21** **A. I expect that the cost for the**

01:11:01 **22** **planning, design, permitting and construction**

01:11:03 **23** **for the wastewater facilities would be less**

01:11:08 **24** **connecting to public sewers than if the on-site**

01:11:11 **1** **community system was used.**

01:11:13 **2** **Q.** Have you done any evaluations to

01:11:14 **3** determine whether or not it would be feasible

01:11:16 **4** for this property to be connected to public

01:11:18 **5** sewer for treatment at the West Goshen plant?

01:11:20 **6** **A. Yes.**

01:11:22 **7** **Q.** As far as the permitting process, the

01:11:25 **8** DEP approval process, is it typically easier

01:11:28 **9** when you are proposing a public sewer

01:11:30 **10** connection versus the community sewer?

01:11:32 **11** **A. Well, are you referring to the planning**

01:11:34 **12** **process or permits?**

01:11:36 **13** **Q. Both.**

01:11:37 **14** **A. Okay, well, the planning -- actually,**

01:11:41 **15** **the answer is in both cases it would be easier**

01:11:45 **16** **to connect to public sewers than to use an**

01:11:48 **17** **on-site community disposal system.**

01:11:50 **18** **Q.** What about the costs involved? Is

01:11:53 **19** there, are you familiar with there being a cost

01:11:55 **20** differential if a developer is proposing a

01:11:57 **21** community sewer with drip irrigation, the way

01:12:00 **22** that Toll is proposing, versus a connection to

01:12:03 **23** public sewer?

01:12:03 **24** **A. I would expect that the cost to connect**

01:12:05 **1 to public sewer would be less expensive than**
 01:12:08 **2 the community system treatment plant.**
 01:12:11 **3 Q.** And what about, assuming that the
 3 **4** permitting process is completed, and the system
 01:12:16 **5** is actually built and the connection into
 01:12:19 **6** public sewer, what about the maintenance costs
 01:12:22 **7** of a community system with drip irrigation
 01:12:24 **8** versus maintenance costs of connection to
 01:12:25 **9** public sewer? Do you find one to be, in your
 01:12:29 **10** expertise, one more expensive than the other?
 01:12:32 **11 A. I would expect that the community**
 01:12:34 **12 treatment system would be more expensive,**
 01:12:37 **13 because it is a larger facility, and as a**
 01:12:41 **14 treatment plant, it is more costly to operate**
 01:12:44 **15 than just facilities that would connect to the**
 01:12:47 **16 public sewer system.**
 01:12:48 **17 Q.** Does Westtown Township currently own
 01:12:50 **18** any private community systems with drip
 01:12:52 **19** irrigation?
 01:12:54 **20 A. No.**
 01:12:54 **21 Q.** And are you familiar whether or not the
 01:12:55 **22** Board is interested in owning any community
 01:12:58 **23** systems with drip irrigation?
 9 **24 A. I'm not aware of any indication, any**

01:13:02 **1 indication on the part of the Board of**
 01:13:05 **2 Supervisors that they would be interested in**
 01:13:07 **3 owning a drip irrigation system.**
 01:13:09 **4 Q.** If the Board were to ask your opinion
 01:13:10 **5** as the township's wastewater consultant whether
 01:13:13 **6** or not they should get into the business of
 01:13:15 **7** owning a community system with drip irrigation,
 01:13:18 **8** would you recommend that they do so?
 01:13:19 **9 A. I would not recommend they do so.**
 01:13:21 **10 Q.** Why is that?
 01:13:21 **11 A. Again, there are greater costs involved**
 01:13:29 **12 in the operation and maintenance of the system,**
 01:13:32 **13 as well as needing the personnel to operate**
 01:13:36 **14 that type of system, which may or may not mesh**
 01:13:40 **15 in with their current wastewater operating**
 01:13:43 **16 personnel.**
 01:13:43 **17 Q.** Have you done any preliminary analysis
 01:13:45 **18** of the sewer infrastructure that would have to
 01:13:48 **19** be constructed by the applicant to connect the
 20 **20** development to public sewer?
 01:13:51 **21 A. Yes.**
 01:13:51 **22 Q.** And what is that?
 01:13:52 **23 A. To connect to public sewer it would**
 01:13:55 **24 require a sewage pumping station and a force**

01:13:58 **1 main to convey the wastewater from the Crebilly**
 01:14:01 **2 Farm tract site to the township's existing**
 01:14:05 **3 public system.**
 01:14:05 **4 Q.** And ultimately, is it the township's
 01:14:07 **5** determination as to where connection would
 01:14:10 **6** occur from this particular tract to the public
 01:14:13 **7** sewer system?
 01:14:13 **8 A. Yes.**
 01:14:14 **9 Q.** And have you provided a recommendation
 01:14:16 **10** to the Planning Commission as to where you
 01:14:19 **11** would suggest that connection occur if, in
 01:14:21 **12** fact, public sewer was provided?
 01:14:22 **13 A. Yes, I did. I recommended that the**
 01:14:25 **14 connection be at Tower Course Drive, near the**
 01:14:29 **15 intersection of Street Road.**
 01:14:30 **16 Q.** And why is that the most appropriate
 01:14:33 **17** location for connection, in your opinion?
 01:14:35 **18 A. There are other points in the existing**
 01:14:38 **19 sewer system that could be used, but the**
 01:14:42 **20 existing sewer in that area is under capacity**
 01:14:45 **21 for the flow from Crebilly Farm, so it would**
 01:14:49 **22 require that reconstruction of the existing**
 01:14:52 **23 sewers with larger diameter pipes, and that**
 01:14:55 **24 system is an existing neighborhood, which would**

01:14:58 **1 cause a pretty large disturbance.**
 01:15:01 **2 Q.** Would that connection point be less
 01:15:03 **3** costly to the applicant than other potential
 01:15:06 **4** alternative connection points that you have
 01:15:08 **5** examined?
 01:15:09 **6 A. I believe that that, the connection**
 01:15:12 **7 point in Tower Course Drive would be less**
 01:15:15 **8 costly than the other connection points.**
 01:15:17 **9 Q.** Will any upgrades be needed to the
 01:15:19 **10** Pleasant Grove pump station in order to handle
 01:15:21 **11** proposed wastewater from this development?
 01:15:23 **12 A. Yes.**
 01:15:23 **13 Q.** And what changes to the pump station
 01:15:25 **14** will be needed?
 01:15:26 **15 A. We haven't conducted a detailed**
 01:15:30 **16 evaluation of the existing pump station with**
 01:15:33 **17 respect to the flow from Crebilly Farm as**
 01:15:36 **18 currently proposed. The upgrades could range**
 01:15:40 **19 from as simple as increasing propeller size of**
 01:15:45 **20 the existing pumps up to requiring new pumps,**
 01:15:48 **21 controls, possibly upgrading the existing**
 01:15:51 **22 electric, depending on what the horsepower**
 01:15:54 **23 requirements are.**
 01:15:54 **24 Q.** Would DEP require the applicant to make

01:15:57 **1** those upgrades in order to obtain approval for
 01:15:59 **2** its planning modules?
 01:16:01 **3** **A. Well, when you do a planning module,**
 3 **4 you have to demonstrate that all the existing**
 01:16:07 **5 facilities that you propose to use have the**
 01:16:10 **6 capacity for the existing flow, plus the flow**
 01:16:14 **7 you intend to add from your development**
 01:16:16 **8 proposal.**
 01:16:17 **9** So if the existing facilities do
 01:16:21 **10** not have the capacity, you have to demonstrate
 01:16:24 **11** how you are going to obtain the capacity in
 01:16:26 **12** those facilities.
 01:16:29 **13** **Q.** Okay. One of the recommendations that
 01:16:32 **14** was included in your correspondence that was
 01:16:34 **15** then adopted by the Planning Commission talked
 01:16:36 **16** about the sewage pump station that would have
 01:16:40 **17** to be built for this particular tract, on this
 01:16:42 **18** tract. And in the Planning Commission's
 01:16:45 **19** recommendation they included that the pump
 01:16:47 **20** station should be sized to handle proposed
 01:16:49 **21** sewage flows from the development and an
 01:16:52 **22** additional 35 EDUs from the adjacent Arborview
 01:16:55 **23** pump station.
 6 **24** Have you since revised that

01:16:58 **1** recommendation in terms of decreasing the
 01:17:00 **2** number of EDUs from Arborview?
 01:17:02 **3** **A. I have not.**
 01:17:03 **4** **Q.** Okay. And what was the basis for that
 01:17:05 **5** recommendation?
 01:17:06 **6** **A. The Arborview pump station is**
 01:17:10 **7 essentially across the street, West Pleasant**
 01:17:13 **8 Grove Road, from the proposed development. It**
 01:17:16 **9 is a small pump station. It would be**
 01:17:18 **10 advantageous for the township to be able to**
 01:17:20 **11 connect that pump station into the, into any**
 01:17:25 **12 one proposed for Crebilly Farm, and then they**
 01:17:26 **13 could take that pump station off line and**
 01:17:28 **14 reduce their operating costs.**
 01:17:29 **15** **Q.** Do you believe that by, if the
 01:17:32 **16** applicant were to comply with that request that
 01:17:35 **17** that would add any increased costs to the
 01:17:37 **18** design of the pumping station that they would
 01:17:39 **19** be required to build?
 01:17:43 **20** **A. I don't believe it would add any costs**
 01:17:46 **21 to the costs of a pump station that would be**
 01:17:50 **22 needed to handle the flows from Crebilly Farm.**
 01:17:50 **23** MS. CAMP: I have nothing
 01:17:50 **24** further.

01:17:54 **1** MR. MCKENNA: Mr. Kaplin, any
 01:17:55 **2** cross?
 01:17:57 **3** MR. KAPLIN: No, I have no
 01:17:57 **4** questions.
 01:17:58 **5** I'm sorry, Pat. No, I have no
 01:18:00 **6** questions.
 01:18:00 **7** MR. MCKENNA: Thank you.
 01:18:03 **8** Birmingham Township, any questions?
 01:18:04 **9** MR. CRAWFORD: No questions from
 01:18:05 **10** Birmingham.
 01:18:06 **11** MR. MCKENNA: Thornbury, any
 01:18:08 **12** questions?
 01:18:08 **13** MS. LABRUM: No questions for
 01:18:09 **14** Thornbury.
 01:18:10 **15** MR. MCKENNA: Any questions by
 01:18:11 **16** Neighbors for Crebilly?
 01:18:15 **17** MR. THOMPSON: No questions.
 01:18:17 **18** MR. MCKENNA: Brandywine at
 01:18:19 **19** Thornbury HOA, Mr. DuFault, any questions?
 01:18:21 **20** MR. DUFALT: I have no
 01:18:22 **21** questions.
 01:18:23 **22** MR. MCKENNA: Mr. Bevilacqua, any
 01:18:25 **23** questions for West Glen HOA or the school
 01:18:27 **24** district?

01:18:27 **1** MR. BEVILACQUA: No questions.
 01:18:28 **2** MR. MCKENNA: Mr. McFalls, for
 01:18:30 **3** Westminster Presbyterian Church, any questions?
 01:18:33 **4** MR. MCFALLS: No.
 01:18:34 **5** MR. MCKENNA: Mr. Spackman,
 01:18:36 **6** Thornbury Farm Trust, any questions?
 01:18:38 **7** MR. SPACKMAN: No. Thank you.
 01:18:39 **8** MR. MCKENNA: Mr. and Mrs.
 01:18:40 **9** Harkins, any questions?
 01:18:41 **10** MS. HARKINS: No questions.
 01:18:42 **11** MR. MCKENNA: Mr. Mammucari, any
 01:18:43 **12** questions?
 01:18:44 **13** MR. MAMMUCARI: No questions.
 01:18:44 **14** MR. MCKENNA: Mr. Phillip Jones,
 01:18:47 **15** any questions?
 01:18:47 **16** MR. JONES: No questions.
 01:18:48 **17** MR. MCKENNA: Mr. Pavelchek, any
 01:18:53 **18** questions?
 01:18:53 **19** MR. PAVELCHEK: No questions.
 01:18:54 **20** MR. MCKENNA: Mr. or Mrs. Kramer,
 01:18:56 **21** do you have any questions? Jennifer or Jeffrey
 01:19:02 **22** Kramer?
 01:19:03 **23** Mr. Skros, any questions?
 01:19:07 **24** MR. SKROS: No.

01:19:08 1 MR. MCKENNA: Ms. Carrie, any
 01:19:09 2 questions?
 01:19:09 3 MS. CAREY: No questions.
 01:19:10 4 MR. MCKENNA: Dennis or Patricia
 01:19:13 5 McFadden, any questions?
 01:19:14 6 MR. MCFADDEN: No.
 01:19:15 7 MR. MCKENNA: Ms. Weller?
 01:19:17 8 MS. WELLER: No questions.
 01:19:18 9 MR. MCKENNA: Any questions, Ms.
 01:19:20 10 Weller?
 01:19:20 11 MS. WELLER: No questions.
 01:19:21 12 MR. MCKENNA: Questions from the
 01:19:21 13 Board?
 01:19:24 14 THE CHAIRMAN: I have a question.
 01:19:28 15 Actually, I need an explanation. Ten minutes
 01:19:35 16 ago when we were talking about traffic -- I'll
 01:19:38 17 come to my question -- we talked about
 01:19:41 18 connector road/connector road. We went through
 01:19:45 19 a variety of dialogue on that connector
 01:19:49 20 road/connector road and everything that went
 01:19:52 21 with it, and it is not on Plan A.
 01:19:57 22 Here we are again, and if
 01:19:58 23 somebody can explain this to me, we are talking
 01:20:00 24 about sewage for which Plan A is a drip

01:20:09 1 irrigation, is on Plan A, that's what is on the
 01:20:12 2 table right now, and yet we are talking about
 01:20:15 3 pump stations and public sewage.
 01:20:17 4 Is someone going to explain to me
 01:20:19 5 why we are discussing things that are not on
 01:20:22 6 Plan A, that is in front of us?
 01:20:26 7 MS. CAMP: Well, as far as the
 01:20:27 8 Planning Commission is concerned, there was
 01:20:29 9 discussion, the consultants were asked to
 01:20:32 10 provide reviews, and your wastewater consultant
 01:20:35 11 provided a review with this recommendation that
 01:20:36 12 if this were to go forward what he would ask
 01:20:38 13 the township or what he would recommend as far
 01:20:41 14 as how sewage should be treated, how wastewater
 01:20:44 15 should be treated from this development.
 01:20:45 16 So the Planning Commission
 01:20:46 17 included that in its recommendation to the
 01:20:48 18 Board of Supervisors. You can do with it as
 01:20:50 19 you please, as the deciding Board in this case.
 01:20:54 20 THE CHAIRMAN: What plan would
 01:20:54 21 that be on?
 01:20:56 22 MS. CAMP: The applicant would
 01:20:58 23 have to revise the plan, just as issues have
 01:21:00 24 come up with respect to your traffic

01:21:02 1 consultant's reviews and PennDOT reviews that
 01:21:05 2 have suggested that revisions to the plans
 01:21:06 3 would be appropriate, that's up to the
 01:21:08 4 applicant on whether or not they will willing
 01:21:10 5 to do that.
 01:21:10 6 THE CHAIRMAN: So my question to
 01:21:14 7 the applicant is this: We are discussing Plan
 01:21:18 8 A. Do you have a Plan B? I know you have a
 01:21:20 9 Plan B, but it has not been submitted. Are we
 01:21:24 10 wasting time here?
 01:21:30 11 MR. KAPLIN: We are not wasting
 01:21:32 12 time here.
 01:21:34 13 THE CHAIRMAN: Are you planning a
 01:21:36 14 Plan B?
 01:21:37 15 MR. KAPLIN: We are planning to
 01:21:39 16 get your decision, and then to react to it.
 01:21:44 17 THE CHAIRMAN: Well, I'm reacting
 01:21:46 18 right now. My reaction is we are talking a
 01:21:49 19 Plan A which does not have a connector road or
 01:21:52 20 collector road, and a Plan A that does not have
 01:21:56 21 public sewage. It has a drip irrigation.
 01:22:01 22 MR. KAPLIN: We submitted a
 01:22:03 23 plan -- pardon me. We submitted a plan that we
 01:22:10 24 believed complied with your ordinance. So we

01:22:15 1 did what we had to do to have a complying plan
 01:22:20 2 with your ordinance.
 01:22:23 3 I totally agree with Ms. Camp's
 01:22:27 4 comment that this is the conditional use
 01:22:30 5 process, and the Board has the obligation to
 01:22:35 6 analyze our plan, to make a determination
 01:22:39 7 whether we comply with the Zoning Ordinance,
 01:22:44 8 and then it has the right to make
 01:22:46 9 recommendations.
 01:22:47 10 It can make recommendations, if
 01:22:49 11 you decided that we do not comply with your
 01:22:54 12 ordinance for some reason, there seems to be a
 01:22:57 13 dispute between the traffic engineers of how
 01:23:00 14 you link the roads together, you could make a
 01:23:04 15 recommendation or set a condition that we
 01:23:07 16 modify the road network in some way.
 01:23:09 17 If you want, if the township
 01:23:12 18 wants public sewer, you can make a
 01:23:15 19 recommendation.
 01:23:17 20 But we don't have the
 01:23:20 21 flexibility, in your process, to submit plan
 01:23:25 22 after plan, and make change after change, and
 01:23:29 23 be required to go back and start the process
 01:23:32 24 all over again.

01:23:35 1 So, yes, we are amenable to
 01:23:39 2 discussing the things that the consultants are
 01:23:46 3 recommending. But our hands are tied under
 4 your process. We have to process our plan and
 01:23:52 5 that's what we are doing.
 01:23:53 6 So we would ask that you continue
 01:23:56 7 to hear, we are near the end of the hearings,
 01:23:59 8 make a decision, make recommendations, and we
 01:24:02 9 will be glad to sit down and try to resolve
 01:24:06 10 whatever can be resolved.
 01:24:10 11 THE CHAIRMAN: Thank you.
 01:24:11 12 MR. MCKENNA: Ms. Camp, do you
 01:24:13 13 have any redirect?
 01:24:14 14 MR. HAWS: I have some.
 01:24:16 15 MR. MCKENNA: I'm sorry.
 01:24:17 16 MR. HAWS: Can you guys hear me?
 01:24:18 17 Okay. Mr. Malin, thanks for your
 01:24:22 18 testimony provided tonight. Just a couple of
 01:24:25 19 questions. As the plan is currently submitted
 01:24:28 20 with the drip irrigation, did you review that
 01:24:30 21 in detail?
 01:24:31 22 THE WITNESS: I did not because
 01:24:33 23 there are no details provided for the treatment
 5 24 system.

01:24:38 1 MR. HAWS: So how would you
 01:24:40 2 consider it a compliant plan to our Act 537 if
 01:24:44 3 there is not details regarding the
 01:24:47 4 implementation and maintenance and installation
 01:24:51 5 of the drip irrigation system?
 01:24:53 6 THE WITNESS: Well, with respect
 01:24:55 7 to the Act 537 plan, I don't know that in
 01:25:03 8 submitting, and, it is getting a little bit
 01:25:06 9 beyond my knowledge of the conditional use or
 01:25:10 10 the township approval process, but, generally,
 01:25:16 11 an Act 537 provides a general guideline for an
 01:25:20 12 area as to how wastewater disposal is to be
 01:25:24 13 provided, whether it is a public system,
 01:25:26 14 whether it is a private system, whether it is
 01:25:28 15 on-lot systems in the development.
 01:25:30 16 So I don't know that the proposal
 01:25:35 17 needs to identify the specifics of what the
 01:25:38 18 drip irrigation disposal plan system is going
 01:25:41 19 to be, to be compliant with the Act 537 plan.
 20 If you were to, as an example,
 01:25:48 21 stick with what the current Act 537 plan
 01:25:52 22 proposes, which is the community system, then
 01:25:56 23 in order to obtain a final land development,
 01:25:58 24 they would need to design that system, go

01:26:01 1 through the planning module process, obtain all
 01:26:05 2 the permits necessary in order to construct it.
 01:26:09 3 MR. HAWS: So is then your answer
 01:26:11 4 saying that during the land development is
 01:26:13 5 where we will understand whether or not they
 01:26:17 6 can apply a drip irrigation to this
 01:26:19 7 development?
 01:26:20 8 THE WITNESS: That is correct,
 01:26:21 9 yes.
 01:26:22 10 MR. HAWS: So the testimony
 01:26:23 11 earlier in this hearing regarding their sewer
 01:26:28 12 engineer, where they were talking about test
 01:26:30 13 areas and drip fields and all of that, that
 01:26:34 14 would be reviewed during the land development
 01:26:37 15 process and not through the conditional use?
 01:26:40 16 THE WITNESS: I'm not aware of
 01:26:42 17 that testimony. I know there is a report in
 01:26:44 18 the application that I think provides
 01:26:47 19 preliminary information for the applicant.
 01:26:51 20 But, again, as far as the actual
 01:26:54 21 plant and the actual system design and the
 01:26:57 22 technology, that would be submitted as part of
 01:27:01 23 the land development application package. And
 01:27:04 24 again, they would have to, the applicant would

01:27:07 1 have to obtain the necessary planning and
 01:27:11 2 permitting approvals from the regulatory
 01:27:13 3 agencies.
 01:27:16 4 MR. HAWS: Okay. Just a couple
 01:27:18 5 more quick questions. So as part of your
 01:27:24 6 review did you review Applicant's A-8, or, I
 01:27:29 7 think it is A-8, it is their GTA witness water
 01:27:33 8 feasibility letter dated 10/11/2016?
 01:27:37 9 THE WITNESS: I did read that
 01:27:39 10 letter, yes.
 01:27:39 11 MR. HAWS: So could you in
 01:27:42 12 summary just, what was your findings of that
 01:27:47 13 letter?
 01:27:47 14 THE WITNESS: The applicant's
 01:27:49 15 consultant made a representation that there is
 01:27:53 16 sufficient ground and the geology, geography is
 01:27:59 17 sufficient to provide for a drip irrigation
 01:28:02 18 disposal system for the number of lots
 01:28:04 19 proposed.
 01:28:06 20 MR. HAWS: And are you in
 01:28:08 21 agreement with that recommendation?
 01:28:09 22 THE WITNESS: I don't know that
 01:28:10 23 I'm in agreement or disagreement, because we
 01:28:12 24 did not conduct our own independent analysis of

01:28:17 **1** the same investigations that the applicant's
 01:28:20 **2** consultant did.
 01:28:21 **3** They are making a representation
 2 **4** that it will work, and it is up to them to
 01:28:24 **5** demonstrate that it will work in order to
 01:28:27 **6** obtain the number of lots that they are
 01:28:29 **7** proposing.

01:28:31 **8** MR. HAWS: So then your role
 01:28:33 **9** through the Planning Commission's testimony
 01:28:36 **10** here tonight is solely just to say that we
 01:28:40 **11** should grant public sewer, and that you did not
 01:28:42 **12** review the data that was submitted by the
 01:28:45 **13** applicant to see if what they are saying is
 01:28:48 **14** compliant or correct?

01:28:49 **15** THE WITNESS: I guess I would
 01:28:53 **16** characterize it as my appearance here, on
 01:28:58 **17** behalf of the Planning Commission, and my
 01:29:01 **18** earlier letter, in the earlier testimony was or
 01:29:06 **19** the earlier presentation was recommendations
 01:29:11 **20** for what the Board should require the applicant
 01:29:15 **21** to do as far as providing sewer service for
 01:29:18 **22** their proposal.

01:29:20 **23** MR. HAWS: But you are not here
 3 **24** tonight to insure that what the applicant

01:29:27 **1** submitted as evidence and testimony at these
 01:29:30 **2** hearings is correct or valid?
 01:29:32 **3** THE WITNESS: Well, I'm not, and,
 01:29:35 **4** frankly, I don't believe that they actually
 01:29:36 **5** provided sufficient information in order to
 01:29:40 **6** conduct any kind of detailed evaluation. All
 01:29:43 **7** they did was a review and make a representation
 01:29:47 **8** that they believe the property and the land set
 01:29:52 **9** aside for the drip disposal is sufficient for
 01:29:55 **10** the number of lots that are proposed.

01:29:58 **11** They did not go into the
 01:30:00 **12** treatment technologies. They did not go into
 01:30:04 **13** the hydraulics of the system. So you can't
 01:30:06 **14** really make an evaluation, really say yea or
 01:30:14 **15** nay, whether I would agree with the information
 01:30:15 **16** that's provided. It is a representation that
 01:30:17 **17** it can be done, and, again, I believe it is up
 01:30:20 **18** to the applicant to then demonstrate that they
 01:30:22 **19** can achieve the number of lots that they are
 01:30:22 **20** proposing, using the technology.

01:30:29 **21** MR. HAWS: How would that occur?
 01:30:31 **22** Would that occur through the land development
 01:30:32 **23** process?
 01:30:33 **24** THE WITNESS: Yes.

01:30:34 **1** MR. HAWS: So a condition could
 01:30:36 **2** be if we chose to do a drip irrigation that
 01:30:39 **3** they have to be able to show compliance of this
 01:30:43 **4** through the land development process?

01:30:45 **5** THE WITNESS: I would suggest
 01:30:47 **6** that a condition would be that they have to
 01:30:51 **7** demonstrate that using a drip irrigation, that
 01:30:56 **8** the conditions on the property exist to support
 01:31:00 **9** a drip irrigation disposal system for the
 01:31:03 **10** number of lots they are proposing.

01:31:05 **11** It could be that they cannot
 01:31:06 **12** achieve, I believe it is 319 lots that they are
 01:31:09 **13** currently proposing, it could be that they
 01:31:12 **14** can't get 319 lots on the site using the drip
 01:31:17 **15** irrigation disposal technology. Maybe they can
 01:31:19 **16** only get 300 or 250. I don't know the answer
 01:31:22 **17** to that.

01:31:24 **18** MR. HAWS: Okay. Just a couple
 01:31:26 **19** of additional questions regarding your letter,
 01:31:29 **20** Exhibit I guess B-14. So this is a letter that
 01:31:34 **21** you wrote to the Planning Commission regarding
 01:31:37 **22** the Toll Brothers Crebilly Farm development
 01:31:41 **23** where you were recommending public sewer?

01:31:45 **24** THE WITNESS: Yes.

01:31:45 **1** MR. HAWS: You made some general
 01:31:47 **2** statements around EDUs and gallons per day,
 01:31:53 **3** flow rates to the West Goshen plant, how there
 01:31:59 **4** will be needs for a pump station and potential
 01:32:02 **5** upgrades to existing sewer lines to be able to
 01:32:08 **6** adhere this flow.

01:32:11 **7** I guess my question is: To be
 01:32:19 **8** able to make a condition to this applicant,
 01:32:22 **9** don't we need to have detailed information so
 01:32:26 **10** that we can have it be concise and not
 01:32:28 **11** open-ended?

01:32:30 **12** Because one of the things that
 01:32:31 **13** can happen is if you have an open-ended
 01:32:34 **14** condition, they can appeal that because it is
 01:32:37 **15** not something that is measurable or attainable.
 01:32:41 **16** So to me, speaking in generalities around this
 01:32:45 **17** sewer system doesn't really facilitate the
 01:32:52 **18** Planning Commission's recommendations, because
 01:32:55 **19** how can we craft a condition on this process
 01:33:00 **20** without the details?

01:33:02 **21** THE WITNESS: Honestly, I do not
 01:33:06 **22** know the answer to that, because that gets more
 01:33:08 **23** I think into the CU process and what is
 01:33:13 **24** required.

01:33:14 1 With respect to what I
 01:33:16 2 recommended in the letter, I think it is clear,
 01:33:20 3 if you can make a recommendation that the
 4 proposal connect to the public sewer system,
 01:33:31 5 that it do so via a sewage pump station and
 01:33:35 6 force main, connecting to our recommended
 01:33:37 7 location at Tower Course Drive, near Street
 01:33:42 8 Road. But I think that would be the only way
 01:33:44 9 to affect the connection anyway.
 01:33:47 10 So I think the outstanding issue
 01:33:49 11 may be the Pleasant Grove pump station, and I
 01:33:56 12 don't have enough information, I would need to
 01:33:58 13 know generally what the design of the pump
 01:34:02 14 station on the Crebilly Farm tract would be in
 01:34:06 15 order to give a more definitive answer as to
 01:34:09 16 what would be required at the Pleasant Grove
 01:34:12 17 pump station.
 01:34:12 18 MR. HAWS: Okay. Thank you.
 01:34:25 19 MS. DEWOLF: On the plan before
 01:34:27 20 us there is a --
 01:34:32 21 THE WITNESS: Excuse me?
 01:34:34 22 MS. DEWOLF: There is on the plan
 01:34:35 23 before us the drip irrigation?
 01:34:36 24 THE WITNESS: Yes.

01:34:40 1 MS. DEWOLF: And you have looked
 01:34:40 2 at the plan, correct?
 01:34:41 3 THE WITNESS: Yes, I have looked
 01:34:43 4 at the plan.
 01:34:44 5 MS. DEWOLF: You looked at the
 01:34:44 6 facilities and where their fields were on that
 01:34:46 7 plan for drip irrigation; am I correct?
 01:34:48 8 THE WITNESS: I have reviewed the
 01:34:50 9 plan to identify the locations they are
 01:34:52 10 designating for the drip irrigation disposal.
 01:34:55 11 MS. DEWOLF: Okay. What can you
 01:34:57 12 tell me, there was a drip irrigation major
 01:35:02 13 portion, along with the smaller ones on the
 01:35:04 14 east side, in the northwest corner of the site.
 01:35:08 15 Am I correct? A very large drip irrigation
 01:35:13 16 section?
 01:35:14 17 THE WITNESS: I believe that is
 01:35:14 18 correct, without having the plan in front of
 01:35:17 19 me.
 01:35:20 20 MS. DEWOLF: Okay. And what can
 01:35:21 21 you tell me about the drip irrigation area
 01:35:24 22 being utilized for passive and active
 01:35:26 23 recreation?
 01:35:28 24 I guess my question is not only

01:35:30 1 are you a sewer engineer but you are an
 01:35:33 2 engineer for wastewater, so you probably are
 01:35:35 3 familiar with drip and spray irrigation
 01:35:37 4 systems, correct?
 01:35:38 5 THE WITNESS: Yes.
 01:35:38 6 MS. DEWOLF: Okay. So what can
 01:35:40 7 you tell me about drip irrigation and the
 01:35:43 8 utilization of passive or active recreation on
 01:35:48 9 top of that primary area?
 01:35:50 10 THE WITNESS: Well, I guess I
 01:35:52 11 would need to know what passive and active
 01:35:56 12 recreation is in order to make a good comment
 01:35:59 13 on it.
 01:36:02 14 You know, I mean, active, do you
 01:36:04 15 mean -- for an example, active, do you mean
 01:36:06 16 like a soccer field?
 01:36:09 17 MS. DEWOLF: Well, yes, that
 01:36:10 18 could be one active use.
 01:36:12 19 THE WITNESS: Okay. I am
 01:36:13 20 familiar with, well, spray irrigation systems
 01:36:18 21 that --
 01:36:20 22 MS. DEWOLF: This is not spray
 01:36:21 23 irrigation. This is drip irrigation. That's
 01:36:23 24 the only thing I care about. Right.

01:36:25 1 THE WITNESS: Okay.
 01:36:25 2 MS. DEWOLF: I'm asking on drip
 01:36:26 3 irrigation, for the major portion of that
 01:36:28 4 northwest corner, would you suggest on a drip
 01:36:30 5 irrigation system for it to function properly
 01:36:34 6 to have, say, a baseball field?
 01:36:38 7 THE WITNESS: I don't know that I
 01:36:41 8 would make, offer an opinion as to whether it
 01:36:45 9 functions properly. I would offer an opinion
 01:36:47 10 that I would not recommend that the drip
 01:36:51 11 irrigation sites be used for any kind of active
 01:36:55 12 recreation.
 01:36:56 13 MS. DEWOLF: Thank you. Now, in
 01:36:58 14 respect to parking for passive recreation, what
 01:37:02 15 do you think about that one?
 01:37:03 16 THE WITNESS: With respect to
 01:37:03 17 parking?
 01:37:04 18 MS. DEWOLF: Yeah.
 01:37:05 19 THE WITNESS: Well, I would not
 01:37:07 20 recommend the drip disposal areas be used for
 01:37:11 21 parking or for any type of use where there
 01:37:17 22 would be vehicular traffic over it.
 01:37:20 23 MS. DEWOLF: Okay. And just to
 01:37:22 24 note on the side, in this plan review, they

01:37:26 1 utilized this area of drip irrigation for their
 01:37:30 2 open space as well, and they used that in their
 01:37:34 3 calculations throughout the site. So
 9 4 generally, they also spoke of recreation on
 01:37:44 5 their site and being provided, and possibly
 01:37:47 6 these areas.
 01:37:49 7 So it sounds like there is
 01:37:51 8 certain types of recreation, would you agree,
 01:37:53 9 that aren't appropriate for drip irrigation
 01:37:55 10 areas?
 01:37:57 11 THE WITNESS: I would generally
 01:37:59 12 agree, yes.
 01:38:00 13 MS. DEWOLF: Okay. Thank you.
 01:38:05 14 Now, are you familiar with why
 01:38:09 15 the DEP and our Act 537 plan recommended land
 01:38:14 16 application in that particular location?
 01:38:17 17 THE WITNESS: Not in detail. I
 01:38:21 18 believe in reading the Act 537 plan that the
 01:38:25 19 township, and I use that word broadly because I
 01:38:29 20 don't know what it is referring to,
 01:38:33 21 contemplated a multiuse development for the
 01:38:36 22 Crebilly Farm tract area, which I believe
 01:38:38 23 covers properties beyond the Crebilly tract
 12 24 property, and to use land disposal, community

01:38:48 1 system with land disposal, and I believe the
 01:38:51 2 Act 537 plan references that perhaps it would
 01:38:54 3 be a golf course, a golf course community.
 01:39:00 4 MS. DEWOLF: So it sounds to me
 01:39:01 5 that you weren't involved, nor do you know why
 01:39:04 6 the township was required by DEP originally to
 01:39:09 7 have land application? Because there was never
 01:39:12 8 a golf course involved.
 01:39:14 9 THE WITNESS: Okay.
 01:39:15 10 MS. DEWOLF: And it was before
 01:39:16 11 your time?
 01:39:16 12 THE WITNESS: Well, yes. The
 01:39:17 13 preparation of this report was before my time.
 01:39:20 14 But in reading the reports, I did
 01:39:23 15 not find any reference that the DEP required
 01:39:26 16 that. It appeared to me in reading the report
 01:39:28 17 that that was a choice that the township opted
 01:39:31 18 for.
 01:39:33 19 MS. DEWOLF: No. It was a
 20 recommendation by DEP for us many, many years
 01:39:36 21 ago, and it has been carried forth. The reason
 01:39:39 22 was because of the type of use in the zoning
 01:39:42 23 for that property.
 01:39:43 24 And the other reason was, and I

01:39:46 1 would like to question you about this in a
 01:39:47 2 little bit, is for water recharge. What do you
 01:39:50 3 do when you take all of the recharge on a
 01:39:56 4 particular site and then decide to pave it,
 01:39:59 5 sewer it, and take all of that water away from
 01:40:02 6 that particular area, you have no more water
 01:40:05 7 recharge, so tell me about the ramifications of
 01:40:07 8 that, if you could, please.
 01:40:08 9 THE WITNESS: I don't really
 01:40:10 10 think that I can. I don't really have an
 01:40:12 11 expertise in groundwater recharge.
 01:40:18 12 MS. DEWOLF: Are you familiar
 01:40:18 13 that in a land application system, like a drip
 01:40:22 14 irrigation or a spray irrigation, versus
 01:40:24 15 sewerage, that you have a higher recharge rate
 01:40:27 16 for that particular property?
 01:40:29 17 THE WITNESS: I would expect that
 01:40:30 18 would be the case, yes.
 01:40:31 19 MS. DEWOLF: Thank you. That's
 01:40:32 20 all the questions I have.
 01:40:36 21 MR. MCKENNA: Ms. Camp, any
 01:40:38 22 redirect?
 01:40:38 23 MS. CAMP: I have none.
 01:40:40 24 MR. MCKENNA: Mr. Kaplin, any

01:40:42 1 recross?
 01:40:44 2 MR. KAPLIN: No, sir.
 01:40:44 3 MR. MCKENNA: Okay. I'm sorry,
 01:40:46 4 sir. What is your name?
 01:40:50 5 MR. SKROS: Ed Skros.
 01:40:51 6 MR. MCKENNA: Sure, Mr. Skros, go
 01:40:53 7 ahead.
 01:40:53 8 MR. SKROS: Testing. Mr. Malin,
 01:40:59 9 is it your definite recommendation, then, if
 01:41:03 10 public sewer is an option that the flow would
 01:41:06 11 be pumped down Street Road, into the Tower
 01:41:11 12 Course connection, and then from there through
 01:41:13 13 the Pleasant Grove neighborhood to the pumping
 01:41:15 14 station?
 01:41:15 15 THE WITNESS: Yes.
 01:41:16 16 MR. SKROS: Have you confirmed
 01:41:18 17 that the capacity of the sewer lines from Tower
 01:41:22 18 Course through Pleasant Grove, that existing
 01:41:26 19 line has the capacity for, you mentioned in
 01:41:29 20 your B-14 exhibit, double the capacity at that
 01:41:34 21 pumping station, is that sewer line going to be
 01:41:36 22 adequate for that flow?
 01:41:38 23 THE WITNESS: Yes.
 01:41:41 24 MR. SKROS: Okay. That's it.

01:41:43 1 Thanks.

01:41:46 2 MR. MCKENNA: Anyone else?

01:41:50 3 Thank you, Mr. Malin.

1 4 THE WITNESS: Thank you.

01:41:52 5 MS. CAMP: Thank you.

01:41:53 6 (Witness excused.)

01:41:53 7 MR. MCKENNA: Ms. Camp, your next

01:41:54 8 witness?

01:41:55 9 MS. CAMP: Mr. Gill will be

01:41:56 10 handling the next witness, Michael Harris.

01:41:59 11 MR. GILL: The Planning

01:42:00 12 Commission will call Michael C. Harris.

01:42:33 13 Mr. Harris, will you go ahead and

01:42:35 14 be sworn, please.

15 MICHAEL C. HARRIS,

16 the witness herein, having first been

17 duly sworn on oath, was examined and

01:42:42 18 testified as follows:

01:42:42 19 DIRECT EXAMINATION

01:42:43 20 BY MR. GILL:

01:42:43 21 Q. Mr. Harris, as you may have heard with

01:42:46 22 the previous witness, we are going to ask you

01:42:48 23 to get real close to that microphone so

20 24 everybody can hear you.

01:42:51 1 A. Okay.

01:42:52 2 MR. KAPLIN: Mr. Gill, I would

01:42:55 3 ask for an offer of proof. I have read the

01:42:59 4 testimony already about where the troops were

01:43:02 5 moving.

01:43:03 6 MR. GILL: Yes.

01:43:04 7 MR. KAPLIN: I can't find

01:43:05 8 anything in the ordinance that this is relevant

01:43:07 9 to. So I would ask, Mr. McKenna, that there be

01:43:11 10 an offer of proof.

01:43:14 11 MR. MCKENNA: Well, I'm happy to

01:43:15 12 respond, but we've had significant testimony, I

01:43:18 13 believe by your own witness, Mr. Wise, as to

01:43:21 14 the book that Mr. Harris has actually authored

01:43:25 15 and portions of which are already marked as

01:43:29 16 Planning Commission exhibits. I don't believe

01:43:31 17 were utilized in cross-examination of your own

01:43:33 18 witness.

01:43:33 19 MR. KAPLIN: They were used on

2 20 cross-examination.

01:43:36 21 MR. MCKENNA: Agreed.

01:43:37 22 MR. KAPLIN: They were used on

01:43:38 23 cross-examination by the Planning Commission.

01:43:41 24 I'm just, I am sorry, I don't mean to belabor

01:43:46 1 this, but I read an awful lot of testimony, and

01:43:48 2 when I turned around and I tried to figure out

01:43:51 3 why, I couldn't find an ordinance provision.

01:43:56 4 So this is a hearing conducted

01:43:59 5 under the MPC, and while the rules of evidence

01:44:06 6 don't apply, there are certain rules, and one

01:44:09 7 of them is that there has got to be relevance.

01:44:12 8 We have already heard an awful lot of testimony

01:44:15 9 and cross-examination by Mr. Wise about what

01:44:18 10 the physical assets are on the property. If we

01:44:22 11 are going to hear more discussion of where the

01:44:25 12 troops may or may not have engaged, General

01:44:33 13 Wayne, I ask, what is the relevance of that?

01:44:38 14 MR. MCKENNA: Well, I think you

01:44:39 15 can ask that on your cross-examination of this

01:44:41 16 witness.

01:44:42 17 To be honest with you, Mr.

01:44:43 18 Kaplin, considering your client decided to put

01:44:46 19 on a historic consultant, I believe the

01:44:46 20 Planning Commission is afforded the same

01:44:50 21 opportunity to respond and make their case as

01:44:52 22 they will. So I'm going to overrule the

01:44:55 23 objection.

01:44:55 24 MR. KAPLIN: Okay.

01:44:56 1 MR. MCKENNA: Permit the

01:44:57 2 testimony.

01:44:58 3 MR. GILL: Thank you very much,

01:44:59 4 Mr. McKenna and Mr. Kaplin.

01:45:03 5 BY MR. GILL:

01:45:04 6 Q. Mr. Harris, would you please state your

01:45:05 7 name for the record and kindly spell your last

01:45:07 8 name.

01:45:08 9 A. Yeah, it is Michael C. Harris,

01:45:10 10 H-A-R-R-I-S.

01:45:11 11 Q. And, Mr. Harris, are you employed?

01:45:14 12 A. Yes.

01:45:14 13 Q. By whom?

01:45:16 14 A. Norristown Area School District.

01:45:18 15 Q. What is your professional address?

01:45:20 16 A. I don't know off the top of my head,

01:45:22 17 but I wrote it down. 1900 Eagle Drive,

01:45:26 18 Norristown, Pennsylvania.

01:45:27 19 Q. And what is your job title with the

01:45:29 20 Norristown Area School District?

01:45:31 21 A. I'm a social studies teacher.

01:45:33 22 Q. What classes do you currently teach?

01:45:35 23 A. U.S. History and African-American

01:45:38 24 History.

01:45:38 1 Q. Would you review for us, please, your
01:45:40 2 educational background?

01:45:41 3 A. Yes. I have a BA in historic
3 4 preservation and MA in military history.

01:45:46 5 Q. And your bachelor's degree is from what
01:45:49 6 institution?

01:45:49 7 A. University of Mary Washington.

01:45:50 8 Q. Your master's degree is from where?

01:45:52 9 A. American Military University.

01:45:53 10 Q. Do you hold any current professional
01:45:56 11 licensure or certification?

01:45:57 12 A. Yes, I have a teaching certification.

01:45:59 13 Q. All right. Are you familiar with the
01:46:01 14 Battle of the Brandywine?

01:46:03 15 A. Yes.

01:46:04 16 Q. I'm going to show you what has
01:46:07 17 previously been marked as Exhibit PC-1 and I'll
01:46:13 18 hand you PC-2 as well.

01:46:18 19 Mr. Kaplin, these are already in
01:46:20 20 the record.

01:46:24 21 Do you recognize the cover sheet
01:46:26 22 of PC-1?

01:46:28 23 A. Yes.

3 24 Q. What is that?

01:47:38 1 Harris' testimony I'll offer him as an expert
01:47:41 2 on the Battle of Brandywine.

01:47:43 3 MR. MCKENNA: Mr. Kaplin, I

01:47:45 4 imagine you might have some questions.

01:47:46 5 MR. KAPLIN: Pardon me?

01:47:47 6 MR. MCKENNA: Do you have any

01:47:48 7 questions or objections to him being offered as

01:47:50 8 an expert in the Battle of the Brandywine?

01:47:52 9 MR. KAPLIN: No.

01:47:53 10 MR. MCKENNA: Okay. So admitted.

01:47:56 11 MR. GILL: Thank you very much.

12 BY MR. GILL:

01:47:57 13 Q. Mr. Harris, are you generally familiar
01:48:00 14 with the roadway system here in Westtown

01:48:02 15 Township?

01:48:02 16 A. Generally, yes.

01:48:02 17 Q. Are you familiar with a property which
01:48:04 18 is located at the northwest corner of the

01:48:07 19 intersection of Route 202 and Route 926 --

01:48:11 20 A. Yes. Go ahead.

01:48:12 21 Q. -- between Route 202 and New Street,
01:48:14 22 and between Route 926 and West Pleasant Grove

01:48:17 23 Road?

01:48:17 24 A. Yes.

01:46:29 1 A. It is the cover of my book.

01:46:31 2 Q. Your book being *Brandywine A Military*
01:46:39 3 *History of the Battle That Lost Philadelphia*
01:46:40 4 *But Saved America, September 11th, 1777?*

01:46:44 5 A. Yes.

01:46:45 6 Q. Would you please relate for us
01:46:46 7 generally the background research and
01:46:48 8 investigations which you conducted in order to
01:46:50 9 write that book?

01:46:51 10 A. Okay. Wow, there is no easy answer to
01:46:57 11 that. For those of you who don't know, I was
01:46:59 12 is the PHMC Museum Educator at Brandywine
01:47:02 13 Battlefield from 2005 to 2009 when I had quite
01:47:06 14 a bit of opportunity to meet land owners and
01:47:09 15 draw peak portions of the battlefield.

01:47:10 16 But beyond that I was working on
01:47:11 17 the book, I went to repositories literally
01:47:14 18 around the world, British Library, British War
01:47:18 19 Records Office, Canadian Archives, Chicago
01:47:29 20 Historical Society, National Archives, Library
01:47:31 21 of Congress. There is a million of them. I'm
01:47:33 22 just trying to give you a feel because it
01:47:33 23 literally is around the world.

01:47:36 24 MR. GILL: Okay. Based on Mr.

01:48:17 1 Q. To your knowledge, Mr. Harris, is that
01:48:20 2 property known generally as the Crebilly Farm
01:48:22 3 property?

01:48:22 4 A. Yes.

01:48:24 5 Q. I'm going to ask you -- can we have
01:48:27 6 Exhibit A-6 available on the screen?

01:48:31 7 MR. SEMON: I do not have it.

01:48:36 8 Q. I have it right here.

01:48:45 9 Mr. Harris, I'm going to show you
01:48:47 10 what has previously been marked as Exhibit A-6,
01:48:51 11 and ask if you have seen that prior to your
01:48:53 12 testimony here this evening?

01:48:56 13 A. Yes, I have.

01:48:59 14 Q. Is that, is the property depicted on
01:49:02 15 that plan sheet the property which you just
01:49:05 16 identified a moment ago as being generally
01:49:07 17 known as the Crebilly Farm property?

01:49:09 18 A. Yes.

01:49:10 19 Q. What do you understand the subject of
01:49:13 20 this hearing to be?

01:49:14 21 A. Making recommendations to the Township
01:49:20 22 Board of Supervisors whether or not to approve
01:49:22 23 the application by Toll Brothers.

01:49:26 24 Q. I'm going to ask you now to refer to

01:49:29 **1** your text, the book which you wrote, *Brandywine*
 01:49:33 **2** *A Military History*. Does that text consist of
 01:49:36 **3** a history of certain military events which
4 occurred on September 11th, 1777, in and around
 01:49:42 **5** what is now Southeastern Chester County?
 01:49:44 **6** **A. Yes.**
 01:49:45 **7** **Q.** And are those events known as the
 01:49:47 **8** Battle of Brandywine collectively?
 01:49:50 **9** **A. Yes.**
 01:49:51 **10** **Q.** Was the Battle of Brandywine part of a
 01:49:53 **11** larger military campaign?
 01:49:54 **12** **A. Yes.**
 01:49:55 **13** **Q.** And what was that campaign?
 01:49:57 **14** **A. The Philadelphia Campaign.**
 01:49:58 **15** **Q.** And can you tell us what that was?
 01:50:01 **16** **A. Real basics, it is British General**
 01:50:05 **17** **William Howe's plan in 1777 to facilitate a**
 01:50:10 **18** **movement of troops to capture and hold the City**
 01:50:15 **19** **of Philadelphia, and George Washington's**
 01:50:16 **20** **reaction to those movements.**
 01:50:18 **21** **Q.** Okay. And you said a moment ago that
 01:50:21 **22** the Battle of Brandywine was part of the
 01:50:22 **23** Philadelphia Campaign, correct?
 01:50:24 **24** **A. Correct.**

01:50:24 **1** **Q.** How does the Battle of Brandywine fit
 01:50:26 **2** into the larger Philadelphia Campaign?
 01:50:28 **3** **A. I'll try to answer that quickly.**
 01:50:33 **4** **Q.** Please answer it thoroughly.
 01:50:35 **5** **A. Yes. The British conducted a massive**
 01:50:39 **6** **maritime operation to move about 18,000**
 01:50:43 **7** **personnel from the New York City area off the**
 01:50:47 **8** **Chesapeake Bay, to land in Northeastern**
 01:50:50 **9** **Maryland.**
 01:50:50 **10** **Once Washington figured out that**
 01:50:52 **11** **that was happening -- and that was not a fast**
 01:50:54 **12** **process. He started moving his army of about**
 01:50:57 **13** **15- to 16,000 troops from North Jersey down,**
 01:51:01 **14** **across the Delaware, through Philadelphia, down**
 01:51:03 **15** **to Northern Delaware, to block that movement.**
 01:51:06 **16** **Washington's goal was to protect Philadelphia.**
 01:51:08 **17** **So he had to pick natural**
 01:51:10 **18** **barriers to help him do that. The first time**
 01:51:12 **19** **he tried to do that was in Delaware. The**
 01:51:19 **20** **second opportunity was along the Brandywine**
 01:51:19 **21** **River in early September 1777.**
 01:51:22 **22** **If he doesn't defend the**
 01:51:23 **23** **Brandywine the next place to defend**
 01:51:25 **24** **Philadelphia is the Schuylkill River. And as**

01:51:28 **1** we all know, Brandywine results in a loss for
 01:51:30 **2** the American Army, and he is unable to defend
 01:51:33 **3** the Schuylkill River, and ultimately the Battle
 01:51:36 **4** of Brandywine lead to the capture of
 01:51:38 **5** Philadelphia.
 01:51:38 **6** **Q.** Okay. Was the Battle of Brandywine
 01:51:40 **7** itself pivotal or critical to the American
 01:51:45 **8** Revolution?
 01:51:47 **9** **A. You could argue that. I argue it is**
 01:51:49 **10** **the largest battle of the war. There is more**
 01:51:51 **11** **troops engaged there than any other battle,**
 01:51:53 **12** **took up more space than any other battle, and**
 01:51:55 **13** **it is longest single-day engagement of the war**
 01:51:58 **14** **in terms of time in a single-day battle. When**
 01:52:01 **15** **you take those three things it is kind of**
 01:52:03 **16** **important.**
 01:52:04 **17** **Q.** Is a modern interpretation or
 01:52:06 **18** understanding of the Battle of Brandywine in
 01:52:10 **19** your opinion important for a larger
 01:52:12 **20** understanding of the American Revolution
 01:52:14 **21** itself?
 01:52:15 **22** **A. Yes.**
 01:52:16 **23** **Q.** Okay. Would you please describe for us
 01:52:19 **24** the movement of the combatting armies at

01:52:21 **1** Brandywine?
 01:52:22 **2** **A. Yeah. The morning starts out,**
 01:52:27 **3** **Washington holds all the British on the other**
 01:52:30 **4** **side of the river, on the west side of the**
 01:52:31 **5** **river, so he sticks troops to guard the fords**
 01:52:34 **6** **or the river crossings that he knows about.**
 01:52:36 **7** **The problem is he doesn't know**
 01:52:38 **8** **about all of them. So his army is pretty much**
 01:52:41 **9** **spread out along the east side of the**
 01:52:43 **10** **Brandywine. The British plan is to split their**
 01:52:47 **11** **Army in roughly halves. Half of that army or a**
 01:52:50 **12** **little less than half of it is going to advance**
 01:52:52 **13** **straight up what is roughly today U.S. Route 1**
 01:52:54 **14** **from Kennett Square as a holding action. They**
 01:52:57 **15** **were not supposed to win the battle. They were**
 01:52:59 **16** **supposed to kind of keep Washington in place**
 01:53:01 **17** **and confuse him, to allow time for this other**
 01:53:04 **18** **half of the army to conduct the 17-mile**
 01:53:06 **19** **flanking march, which eventually happens, and**
 01:53:10 **20** **they cross two fords that are not being watched**
 01:53:13 **21** **by the British -- by the American Army, and**
 01:53:14 **22** **that march culminates in their arrival on**
 01:53:17 **23** **Osborne's Hill, just north of the property in**
 01:53:20 **24** **question.**

01:53:21 1 Q. Okay. You made a reference to Osborne
 01:53:24 2 Hill being just north?
 01:53:25 3 A. Yes.
 01:53:28 4 Q. Is it due north is it due west? Is it
 01:53:28 5 northwest?
 01:53:29 6 A. It is nor northwest.
 01:53:31 7 Q. Okay. And --
 01:53:34 8 A. I should clarify. Once Washington
 01:53:37 9 realized what was happening, which he rushes
 01:53:39 10 three divisions from the Chadds Ford area the
 01:53:42 11 roughly two miles to the northwest to now
 01:53:45 12 confront this new British position, and these
 01:53:49 13 are the troops that are in question with what
 01:53:52 14 we are talking about.
 01:53:52 15 Q. Is one of those divisions referred to
 01:53:55 16 as historically, and perhaps then, as Stephen's
 01:53:58 17 Division?
 01:53:58 18 A. Yes.
 01:53:59 19 Q. Okay. The movement of the British Army
 01:54:04 20 up from Route 1 in this flanking maneuver, was
 01:54:08 21 that in column form or spread out?
 01:54:11 22 A. Column form.
 01:54:12 23 Q. And were there just British troops
 01:54:17 24 involved in that column march, or were there

01:54:19 1 other troops involved?
 01:54:20 2 A. No, there was also Hessians and
 01:54:22 3 Anspacher troops.
 01:54:23 4 Q. Okay. Hessian troops, are they, are
 01:54:27 5 units of the Hessian troops known as Jaegers?
 01:54:30 6 A. They can be, yes. And in this case,
 01:54:32 7 yes.
 01:54:32 8 Q. Okay. I'm going to ask you then to
 01:54:39 9 take a look there at Exhibit PC-1 which is page
 01:54:42 10 282 from your book. Do you see that there?
 01:54:46 11 A. I have just got to flip to it in the
 01:54:48 12 book. But that's fine. Okay.
 01:54:49 13 Q. Did I correctly identify that as being
 01:54:52 14 from page 282 in your book?
 01:54:54 15 A. Yes.
 01:54:54 16 Q. The map that is depicted on that page
 01:54:58 17 of your book, what is depicted on there?
 01:55:01 18 A. It is the British assault on Birmingham
 01:55:05 19 Hill.
 01:55:07 20 Q. Is Birmingham Hill south of the
 01:55:09 21 Crebilly Farm property?
 01:55:09 22 A. Yes, south and southwest, yes.
 01:55:12 23 Q. Okay. What sources did you use to
 01:55:17 24 include that map in your book?

01:55:19 1 A. It is a mixture of British engineer
 01:55:22 2 Archibald Robertson's map and other 18th
 01:55:27 3 Century accounts of the battle.
 01:55:27 4 Q. I'm going to show you what has
 01:55:29 5 previously been marked as Exhibit A-21. Is
 01:55:36 6 this the Robertson map to which you just made
 01:55:39 7 reference?
 01:55:41 8 A. It is somebody's version of it. It is
 01:55:43 9 not the actual map. It looks like somebody
 01:55:45 10 drew this from the Archibald Robertson map.
 01:55:48 11 Q. Do you have the Archibald Robertson
 01:55:50 12 map?
 01:55:50 13 A. In my car I do. I don't have it with
 01:55:52 14 me.
 01:55:52 15 Q. Okay. So the Robertson's map was one
 01:55:56 16 of your sources for the map that's on page 282
 01:55:58 17 of your text?
 01:55:59 18 A. Yes.
 01:55:59 19 Q. Are there any other sources?
 01:56:00 20 A. Like I said, first-person accounts of
 01:56:04 21 the participants describing the terrain,
 01:56:06 22 etcetera, that I used to piece, to kind of
 01:56:09 23 combine that with the Robertson map. But most
 01:56:11 24 of this is based on the Robertson map.

01:56:16 1 Q. Okay. Did you draw any conclusions
 01:56:21 2 from your research as to whether there were
 01:56:23 3 troop movements on the day of the Battle of
 01:56:27 4 Brandywine across what is now known as the
 01:56:29 5 Crebilly Farm property?
 01:56:30 6 A. I believe there were, yes.
 01:56:32 7 Q. And would you please describe for us
 01:56:33 8 those conclusions?
 01:56:34 9 A. When the British line finally formed
 01:56:37 10 after this long flank march, its far left or
 01:56:41 11 far east of that line ends up being manned by
 01:56:45 12 the Hessian Jaegers, about 300 troops. And
 01:56:49 13 they, I believe that line initially formed on
 01:56:53 14 the west side of New Street, about halfway
 01:56:57 15 between Street Road and, what is that, West
 01:57:00 16 Pleasant Grove, do I have that street right?
 01:57:02 17 Pleasant Grove, the other border.
 01:57:04 18 Q. West Pleasant Grove is north of
 01:57:06 19 Crebilly.
 01:57:07 20 A. Yeah, right. If you can kind of
 01:57:09 21 imagine, that's where I think they formed, and
 01:57:11 22 then they advanced at an angle to the
 01:57:13 23 southeast, crossing the far southwest corner of
 01:57:21 24 the Crebilly property.

01:57:23 1 Q. And would you please describe for us
 01:57:25 2 the basis for your conclusions?
 01:57:27 3 A. Again, it is a combination of the
 0 4 Robertson map and at least three accounts from
 01:57:34 5 Hessian Jaegers that are 18th Century
 01:57:36 6 documents, their commanding officer, Ludwig von
 01:57:40 7 Wurmb.
 01:57:40 8 There is another -- hang on. I
 01:57:42 9 have my notes here. There is another Hessian
 01:57:48 10 officer, name is Lt. Henrik von Elich. Then
 01:57:53 11 also from the *Jaeger Corps Journal*, which was a
 01:57:56 12 journal compiled by the Jaegers during the war.
 01:57:59 13 Q. The officer to whom you made reference
 01:58:05 14 a moment ago, von Wurmb, was he in command of
 01:58:09 15 the Jaeger troops that day?
 01:58:10 16 A. Yes.
 01:58:11 17 Q. And he made contemporaneous statements
 01:58:16 18 or writings with regard to the troop movements
 01:58:18 19 that day?
 01:58:19 20 A. Yes, within a couple weeks of the
 01:58:21 21 battle. I don't remember the exact date on
 01:58:23 22 that. I don't have it in front of me. But it
 01:58:25 23 is within a short time period of the battle.
 01:58:27 24 Q. From an historian's perspective, is

01:58:29 1 contemporary, first-person account of actions
 01:58:32 2 or activities considered a high standard for
 01:58:37 3 historic research?
 01:58:38 4 A. Yes.
 01:58:39 5 Q. Why is that?
 01:58:40 6 A. Because it is going to be more accurate
 01:58:42 7 than somebody writing a hundred years later
 01:58:44 8 that heard it from somebody else.
 01:58:46 9 Q. Okay.
 01:58:47 10 A. In my opinion.
 01:58:48 11 Q. All right. As the Hessian Jaegers
 01:58:52 12 advanced in a southeasterly direction across
 01:58:55 13 the Crebilly Farm property, did they
 01:58:57 14 ultimately, after crossing the property, do you
 01:59:01 15 have an opinion about whether or not ultimately
 01:59:03 16 after crossing the property they engaged any
 01:59:06 17 American forces?
 01:59:08 18 A. Yes. My opinion is they engaged
 01:59:11 19 immediately after crossing Street Road, if not
 01:59:17 20 right before crossing Street Road.
 01:59:21 21 Q. Are you then unable to say definitively
 01:59:24 22 whether or not there was combat action on the
 01:59:26 23 Crebilly Farm property?
 01:59:26 24 A. I cannot -- well, no, I can't say

01:59:29 1 definitively.
 01:59:31 2 Q. All right.
 01:59:33 3 A. Can I give an opinion?
 01:59:34 4 Q. Sure, please.
 01:59:36 5 A. Again, it is hard to prove without
 01:59:38 6 doing some archeology out there, but I at
 01:59:43 7 least, at the very least believe that American
 01:59:45 8 artillery fire was hitting these guys as they
 01:59:48 9 were crossing Crebilly Farm.
 01:59:49 10 Now, whether they are pulling the
 01:59:51 11 triggers on their own guns, that's debatable.
 01:59:53 12 But I, I would lean towards that they are under
 01:59:57 13 artillery fire crossing that ground before they
 02:00:00 14 open fire themselves.
 02:00:01 15 Q. Okay. And is that because the soldiers
 02:00:03 16 from Stephen's Division were south of what is
 02:00:06 17 now Route 926 and attempting to defend their
 02:00:08 18 position?
 02:00:09 19 A. Correct, yes.
 02:00:10 20 Q. Are you familiar with the property in
 02:00:17 21 the vicinity of the Crebilly Farm tract known
 02:00:20 22 as Sandy Hollow Heritage Park?
 02:00:23 23 A. Yes.
 02:00:23 24 Q. Where is that located?

02:00:24 1 A. In reference to Crebilly or --
 02:00:27 2 Q. I'm sorry, yes.
 02:00:28 3 A. Or more specifically?
 02:00:30 4 Q. I'm sorry. In reference to Crebilly.
 02:00:32 5 A. It is southwest of the Crebilly
 02:00:35 6 property.
 02:00:37 7 Q. Is it along New Street?
 02:00:39 8 A. Yeah, along the west side of New
 02:00:42 9 Street, as you go south from Street Road.
 02:00:46 10 Q. All right. Is there a view of the
 02:00:50 11 Crebilly Farm property, or at least the western
 02:00:53 12 portions of it to which you are making
 02:00:55 13 reference, from Sandy Hollow Heritage Park?
 02:00:58 14 A. Yes.
 02:00:58 15 Q. Is that view -- well, I'll ask you, how
 02:01:03 16 does that view, if we were to go out there
 02:01:05 17 right now, notwithstanding it is nighttime,
 02:01:08 18 compare to the view which somebody standing on
 02:01:11 19 Sandy Hollow property would have had on
 02:01:14 20 September 11th, 1777?
 02:01:15 21 MR. KAPLIN: Objection as to
 02:01:16 22 relevance. Objection as to relevance. I don't
 02:01:21 23 understand the relevance if somebody can see
 02:01:24 24 the Crebilly Farm from some other area.

02:01:31 1 I don't mean to be a wise guy,
 02:01:32 2 but so what? What is the relevance? How does
 02:01:35 3 that relate to this hearing? So I object to
 9 4 this question on the basis of relevance.
 02:01:41 5 MR. MCKENNA: Mr. Gill, response?
 02:01:42 6 MR. GILL: Well, as Mr. Kaplin
 02:01:44 7 alluded to earlier, he is new to the hearings,
 02:01:47 8 so I point out that Section 170-905 of the
 02:01:52 9 ordinance includes design standards, and one of
 02:01:55 10 the design standards for the conservation
 02:01:57 11 design option is the preservation of historic
 02:02:00 12 resources, including structures, ruins, sites,
 02:02:04 13 traces and relationships to the bounds of any
 02:02:07 14 National Register Historic District, and then
 02:02:09 15 the preservation of scenic views is a separate
 02:02:12 16 criteria under the ordinance.
 02:02:14 17 MR. MCKENNA: So the suggestion
 02:02:15 18 being that the area of Sandy Hollow is a scenic
 02:02:20 19 view?
 02:02:21 20 MR. GILL: The offer is that the
 02:02:22 21 view of the western portion of the Crebilly
 02:02:24 22 Farm property where the witness has testified
 02:02:27 23 there were crossing movements by the advancing
 10 24 Hessian troops, the preservation of that view

02:02:32 1 from Sandy Hollow is important.
 02:02:34 2 MR. MCKENNA: Well, can you give
 02:02:35 3 me a little more foundation on what Sandy
 02:02:37 4 Hollow is? Because I don't think we have
 02:02:38 5 gotten yet that point.
 02:02:40 6 MR. GILL: I'm sorry, I thought
 02:02:41 7 we did.
 02:02:41 8 BY MR. GILL:
 02:02:41 9 Q. Mr. Harris, would you please describe
 02:02:43 10 for us what Sandy Hollow is?
 02:02:44 11 A. Yes. It is a township park, I believe
 02:02:47 12 Birmingham Township. Somebody might know
 02:02:51 13 better than I do. I think it is a Birmingham
 02:02:53 14 Township park. It is along the western edge of
 02:02:55 15 New Street, very close to where it intersects
 02:02:58 16 with Birmingham Road. Basically, for lack of a
 02:03:01 17 better term, triangular shape, with a top of
 02:03:05 18 the triangle, so to speak, up to where there is
 02:03:07 19 a parking area near the intersection of New
 02:03:13 20 Street and Birmingham Road, and then it kind of
 02:03:17 21 flails out towards the Thornbury Farm, with the
 02:03:19 22 southern border -- or the northern border of
 02:03:22 23 that park being the southern border of the
 02:03:22 24 Thornbury Farm, I do believe.

02:03:24 1 Does that help?
 02:03:25 2 MR. KAPLIN: Michael, can I just
 02:03:26 3 ask a question?
 02:03:27 4 MR. GILL: Sure, Marc.
 02:03:28 5 MR. KAPLIN: How far away is it?
 02:03:31 6 MR. GILL: The witness can
 02:03:32 7 answer.
 02:03:33 8 THE WITNESS: Maybe half a mile,
 02:03:34 9 maybe less.
 02:03:44 10 And this ground we are talking
 02:03:45 11 about, maybe I should clarify, the land at the
 02:03:47 12 top of Sandy Hollow Park, at least part of it
 02:03:49 13 is where Stephen's Division was positioned for
 02:03:53 14 this assault. So the view that we are talking
 02:03:56 15 about or we are about to talk about is the view
 02:03:59 16 the Americans had of the Jaegers coming at
 02:04:01 17 them.
 02:04:01 18 MR. MCKENNA: Is that where the
 02:04:02 19 artillery was being lobbed from at them?
 02:04:05 20 THE WITNESS: Yes, correct.
 02:04:06 21 MR. MCKENNA: All right.
 02:04:06 22 THE WITNESS: The parking lot is
 02:04:07 23 literally where Stephen's Division artillery
 02:04:10 24 was.

02:04:10 1 MR. MCKENNA: Okay.
 2 BY MR. GILL:
 02:04:14 3 Q. Well, a lot of this has pre-empted my
 02:04:16 4 next question. But can you tell us why or
 02:04:20 5 retell us why the Sandy Hollow Heritage Park is
 02:04:24 6 relevant to a modern understanding of the
 02:04:26 7 Battle of Brandywine?
 02:04:27 8 A. Well, again it is, A, it is one of the
 02:04:29 9 few spots that's still open space that you can
 02:04:31 10 actually see the assault lines. There aren't
 02:04:33 11 many places left still like that. And it is
 02:04:35 12 one of the few spaces that has public access to
 02:04:38 13 the battlefield. Much of the battlefield is
 02:04:40 14 private land.
 02:04:41 15 So for those two reasons it is
 02:04:42 16 key to understanding, if you are touring the
 02:04:44 17 battlefield, trying to understand what happened
 02:04:46 18 there.
 02:04:47 19 Q. Okay. So before the objection, I had
 02:04:54 20 asked you about the view of the western edge of
 02:04:58 21 the Crebilly Farm property from Sandy Hollow,
 02:05:01 22 and you were going to describe that view.
 02:05:03 23 Would you please do so?
 02:05:03 24 A. Yeah. I mean, there is a few more

02:05:05 **1 trees there than would have been in the 18th**
 02:05:07 **2 Century, based off of Robertson's map, but, for**
 02:05:10 **3 the most part, especially in the wintertime**
 3 **4 when the leaves are off the trees, you can see**
 02:05:15 **5 the same view that, you know, that the**
 02:05:18 **6 Americans would have of the Jaegers assaulting**
 02:05:21 **7 towards them.**
 02:05:22 **8 I mean, you are basically looking**
 02:05:23 **9 right down into the low ground. They had to**
 02:05:25 **10 come up to get at their positions.**
 02:05:29 **11 Q. Okay.**
 02:05:31 **12 A. I'm a teacher, I was about to ask if**
 02:05:34 **13 that made sense. Sorry.**
 02:05:37 **14 Q. If you can take a look then at**
 02:05:39 **15 Exhibit A-6, which I've handed to you a moment**
 02:05:41 **16 ago.**
 02:05:45 **17 A. Yes.**
 02:05:45 **18 Q. Do you have an opinion as to whether**
 02:05:47 **19 development of the Crebilly Farm property in**
 02:05:49 **20 the manner that's depicted on Exhibit A-6 will**
 02:05:52 **21 alter or otherwise adulterate the view of**
 02:05:56 **22 Crebilly Farm -- I'm sorry -- of the line of**
 02:05:59 **23 the Hessian attack from Sandy Hollow Park?**
 3 **24 A. You are asking me if it would alter**

02:06:05 **1 that view?**
 02:06:05 **2 Q. Yes.**
 02:06:05 **3 A. I believe it would.**
 02:06:06 **4 Q. Why is that or how is that?**
 02:06:08 **5 A. Because there is going to be houses**
 02:06:10 **6 where this viewshed currently is. I mean, if**
 02:06:13 **7 this goes down as this is proposed, there is**
 02:06:17 **8 going to be houses over a big chunk of this**
 02:06:21 **9 ground I'm talking about that you can see from**
 02:06:23 **10 Sandy Hollow.**
 02:06:25 **11 Q. Okay. Would movement of the**
 02:06:35 **12 development as depicted on A-6, would shifting**
 02:06:40 **13 of the development easterly on the Crebilly**
 02:06:43 **14 Farm property do anything to prevent or**
 02:06:46 **15 preserve that, prevent that alteration?**
 02:06:50 **16 A. Potentially, yes.**
 02:06:52 **17 Q. But what are the factors that make you**
 02:06:54 **18 say potentially?**
 55 **19 A. Well, I mean, again, I don't know all**
 02:06:59 **20 the details of how this all works, but if you**
 02:07:01 **21 move this far enough to the east, off the**
 02:07:04 **22 ground that I think the Jaegers crossed, then**
 02:07:07 **23 you are potentially preserving some of that**
 02:07:07 **24 viewshed.**

02:07:07 **1 Q. And generally what, if you could tell**
 02:07:10 **2 us about how far into the property, maybe you**
 02:07:12 **3 could indicate on A-6 where you think the**
 02:07:14 **4 Jaegers crossed, if you can?**
 02:07:16 **5 A. Again, this is where it gets debatable.**
 02:07:19 **6 But I believe they crossed --**
 02:07:24 **7 Q. If you could hold that up for us as you**
 02:07:26 **8 are talking.**
 02:07:27 **9 A. Yeah. I believe they entered the**
 02:07:29 **10 property roughly where it says Lot B on here.**
 02:07:33 **11 I don't -- sorry. I believe they are doing**
 02:07:41 **12 something like this, roughly like that is here.**
 02:07:44 **13 Q. Can you just initial that, please.**
 02:07:47 **14 A. Yeah.**
 02:07:49 **15 MR. GILL: Mr. Kaplin, I'll show**
 02:07:51 **16 you where the witness just marked.**
 02:07:59 **17 MR. KAPLIN: I'm looking**
 02:07:59 **18 upside-down.**
 02:08:00 **19 MR. GILL: I'm sorry.**
 02:08:04 **20 MR. KAPLIN: Okay.**
 02:08:06 **21 MR. GILL: Mr. McKenna, we will**
 02:08:07 **22 make a copy of this for the record, if that's**
 02:08:09 **23 okay.**
 02:08:10 **24 MS. CAMP: Why don't we mark it**

02:08:11 **1 then.**
 02:08:11 **2 MR. KAPLIN: I think the Board**
 02:08:13 **3 would want to see that.**
 02:08:14 **4 MS. CAMP: Yeah. I would suggest**
 02:08:16 **5 then, because it is now changed from what the**
 02:08:18 **6 applicant had submitted, that we would mark it**
 02:08:21 **7 Planning Commission Exhibit 17 --**
 02:08:23 **8 MR. MCKENNA: That's fine, PC-17.**
 02:08:25 **9 MS. CAMP: -- would be**
 02:08:26 **10 Exhibit A-6, which is the conditional use plan**
 02:08:29 **11 as marked up by Mr. Harris during his**
 02:08:34 **12 testimony.**
 02:08:34 **13 MR. MCKENNA: Understood. BY MR.**
 02:08:49 **14 GILL:**
 02:08:49 **15 Q. So to make sure I understand your**
 02:08:51 **16 testimony, Mr. Harris, if the development of**
 02:08:53 **17 the property, regardless of the number of units**
 02:08:56 **18 that might be put in the property, if the**
 02:08:58 **19 development of the property is shifted easterly**
 02:09:02 **20 that, in your opinion, would preserve the**
 02:09:04 **21 viewscape or the viewshed of the Hessian troop**
 02:09:07 **22 movements across the Crebilly Farm property?**
 02:09:09 **23 A. Yes.**
 02:09:14 **24 Q. You mentioned archeological**

02:09:21 1 investigation a moment ago. Can you tell us
 02:09:23 2 why you think that would be important with
 02:09:25 3 regard to the Crebilly Farm property prior
 3 4 to --
 02:09:27 5 **A. Well, because there is some debate**
 02:09:29 6 **among --**
 02:09:29 7 **Q.** Let me finish my question.
 02:09:32 8 **A. Sorry.**
 02:09:32 9 **Q.** Can you tell us why you think that
 02:09:34 10 would be important at the Crebilly Farm
 02:09:35 11 property prior to the development as depicted
 02:09:37 12 on Exhibit A-6?
 02:09:38 13 **A. Well, two reasons. This might be our**
 02:09:42 14 **last chance to do archeology on that property,**
 02:09:44 15 **so if it is not done and the development**
 02:09:46 16 **happens, then that chance is gone forever.**
 02:09:48 17 **That's one reason.**
 02:09:49 18 But, two, it could answer some
 02:09:51 19 questions. There is a lot of debate amongst
 02:09:54 20 historians and colleagues of mine about whether
 02:09:57 21 actual fighting took place on that property.
 02:10:01 22 We may not ever know unless some new piece of
 02:10:04 23 18th Century evidence comes out of somebody's
 5 24 attic, which is always possible, or unless we

02:10:09 1 go out there and we find evidence of actual
 02:10:11 2 fighting on the ground, whether that be spent
 02:10:16 3 musket rounds, dropped bullets, pieces of
 02:10:19 4 artillery shell. That may be the only way we
 02:10:22 5 are ever going to prove it one way or another.
 02:10:24 6 And if we don't do the archeology prior to
 02:10:27 7 development, we may lose that chance. That's
 02:10:29 8 kind of my point.
 02:10:34 9 **Q.** And to be clear, is it your
 02:10:36 10 recommendation or your opinion that an
 02:10:39 11 archeological investigation of the Crebilly
 02:10:41 12 Farm property is relevant regardless of whether
 02:10:45 13 or not there was actual combat on the property?
 02:10:47 14 **A. Yeah, because it could answer some, it**
 02:10:49 15 **could answer questions either way.**
 02:10:52 16 **Q.** And, again, it is important to have
 02:10:54 17 those questions answered in order to develop a
 02:10:56 18 modern interpretation of the battle?
 02:10:58 19 **A. Correct.**
 20 MR. GILL: That's all I have for
 02:11:02 21 Mr. Harris on direct.
 02:11:04 22 MR. MCKENNA: All right. At this
 02:11:05 23 time why don't we take our break before we
 02:11:09 24 begin cross-examination. We will come back on

02:11:11 1 at 8:15. We will go off the record.
 02:11:14 2 (Recess taken.)
 02:28:57 3 MR. MCKENNA: We will go back on
 02:28:58 4 the record, and I'll ask Mr. Kaplin, do you
 02:29:03 5 have any cross-exam for this witness?
 02:29:05 6 MR. KAPLIN: I have very short
 02:29:08 7 cross-examination.
 02:29:09 8 Michael, could I have that marked
 02:29:11 9 up drawing.
 02:29:14 10 MR. MCKENNA: You are referring
 02:29:15 11 to what they have marked as PC-17.
 02:29:18 12 MR. KAPLIN: Thank you.
 02:29:20 13 CROSS-EXAMINATION
 02:29:21 14 BY MR. KAPLIN:
 02:29:28 15 **Q.** Mr. Harris, I'm showing you the drawing
 02:29:31 16 that you put a couple of lines on and signed,
 02:29:35 17 correct?
 02:29:36 18 **A. Correct.**
 02:29:36 19 **Q.** And if I'm correct, you are down in the
 02:29:42 20 southwest corner of Crebilly Farm, as you
 02:29:46 21 testified?
 02:29:46 22 **A. Correct.**
 02:29:47 23 **Q.** And it looks to me like your line would
 02:29:55 24 cross three or four lots that Toll proposes?

02:30:02 1 **A. As drawn, yes.**
 02:30:03 2 **Q.** And if those houses were removed --
 02:30:09 3 I'll strike that question. I got it. Thank
 02:30:11 4 you very much.
 02:30:14 5 MR. MCKENNA: Anything further?
 02:30:15 6 MR. KAPLIN: I have no further
 02:30:16 7 questions.
 02:30:17 8 MR. MCKENNA: Thank you, Mr.
 02:30:17 9 Kaplin. We will go through our party list.
 02:30:22 10 Mr. Crawford, Birmingham Township?
 02:30:25 11 MR. CRAWFORD: A couple of
 02:30:26 12 questions, if I might.
 02:30:27 13 MR. MCKENNA: Sure.
 02:30:28 14 CROSS-EXAMINATION
 02:30:29 15 BY MR. CRAWFORD:
 02:30:29 16 **Q.** Mr. Harris, you have testified about
 02:30:30 17 your familiarity with Sandy Hollow?
 02:30:33 18 **A. Yes.**
 02:30:33 19 **Q.** And you are aware it is in Birmingham
 02:30:36 20 Township?
 02:30:36 21 **A. Yes.**
 02:30:36 22 **Q.** And are you aware that it was donated
 02:30:41 23 to the township as part of a development
 02:30:44 24 project?

02:30:45 **1 A. No, I was not aware of that. It was**
 02:30:47 **2 before I was working down here, I believe.**
 02:30:50 **3 Q.** And are you familiar with the
 02:30:59 **4 re-enactment activities that take place on**
 02:31:00 **5 Sandy Hollow occasionally?**
 02:31:00 **6 A. Yes.**
 02:31:00 **7 Q.** And are you aware there is one now
 02:31:03 **8 scheduled for I believe next year?**
 02:31:07 **9 A. Actually, it is scheduled for like**
 02:31:08 **10 three weeks from now.**
 02:31:09 **11 Q.** Okay. This year. Very good. So it is
 02:31:15 **12 significant, in addition to being the situs,**
 02:31:18 **13 the situs of the re-enactment activities as**
 02:31:22 **14 well?**
 02:31:22 **15 A. Yes.**
 02:31:23 **16 MR. CRAWFORD:** Very well. Thank
 02:31:23 **17 you.**
 02:31:24 **18 MR. MCKENNA:** Thank you, Mr.
 02:31:25 **19 Crawford.**
 02:31:26 **20 Ms. Labrum, for Thornbury?**
 02:31:28 **21 MS. LABRUM:** No questions at this
 02:31:29 **22 point.**
 02:31:29 **23 MR. MCKENNA:** Mr. Thompson for
 02:31:29 **24 Neighbors of Crebilly?**

02:31:32 **1 MR. THOMPSON:** Just a few
 02:31:33 **2 questions.**
 02:31:33 **3 CROSS-EXAMINATION**
 02:31:33 **4 BY MR. THOMPSON:**
 02:31:33 **5 Q.** Mr. Harris, you talked about the
 02:31:36 **6 viewshed from Sandy Hollow Park to the**
 02:31:40 **7 southwest corner, or the broader area of the**
 02:31:45 **8 Crebilly property, correct?**
 02:31:46 **9 A. Wait. Could you repeat that?**
 02:31:47 **10 Q.** You were talking about the viewshed
 02:31:50 **11 that Stephen's Division had from Sandy Hollow**
 02:31:53 **12 Park or the location of the current-day Sandy**
 02:31:57 **13 Hollow Park to the Crebilly property?**
 02:31:59 **14 A. Yes.**
 02:32:00 **15 Q.** Could you explain what part viewsheds
 02:32:04 **16 play in the 18th Century warfare?**
 02:32:06 **17 A. Yes. So modern military still conducts**
 02:32:13 **18 things called staff fights --**
 02:32:17 **19 THE COURT REPORTER:** I'm sorry,
 02:32:17 **20 called?**
 02:32:22 **21 A. Staff, like staff, S-T-A-F-F, so and**
 02:32:22 **22 they will take their current officers or**
 02:32:24 **23 officer candidates out to study 18th and 19th**
 02:32:29 **24 Century combat, and try to apply it to modern**

02:32:33 **1 military activities. One of the things they**
 02:32:36 **2 look at is terrain analysis, and part of that**
 02:32:39 **3 is viewshed.**
 02:32:41 **4 So, you know, even though actual**
 02:32:43 **5 fighting might not happen on this particular**
 02:32:46 **6 property, if they crossed that over that**
 02:32:47 **7 property, and it was swampy, or it was wooded,**
 02:32:49 **8 or it was covered with fences, or it was hilly**
 02:32:53 **9 or had the fallows through it, those are all**
 02:32:55 **10 the factors that are going to affect the**
 02:32:58 **11 effectiveness of the unit when it actually gets**
 02:33:00 **12 to its destination to engage in combat.**
 02:33:03 **13 So in terms of viewshed or**
 02:33:06 **14 integrity of landscaping, that is kind of what**
 02:33:09 **15 I was getting at. Does that answer your**
 02:33:12 **16 question?**
 02:33:12 **17 Q.** Does a viewshed -- they didn't have
 02:33:14 **18 walkie-talkies or telephones back then, so does**
 02:33:16 **19 a viewshed really define the area of the**
 02:33:19 **20 battlefield?**
 02:33:20 **21 A. It can, yes. Especially in this --**
 02:33:23 **22 well, in any case it doesn't matter if there is**
 02:33:25 **23 walkie-talkies or not because what you can see**
 02:33:28 **24 coming or not coming is going to affect your**

02:33:30 **1 decision process.**
 02:33:31 **2 Q.** So the viewshed that Stephens had,
 02:33:33 **3 would he have seen the Crebilly property and**
 02:33:35 **4 properties to the east all the way to 202?**
 02:33:38 **5 A. I would have to go back and look at**
 02:33:40 **6 some maps. But he definitely had a viewshed of**
 02:33:43 **7 the Crebilly property. I'm not sure about all**
 02:33:45 **8 the way to 202. That's debatable.**
 02:33:48 **9 Q.** So was his line of sight and that
 02:33:50 **10 viewshed critical to understanding the battle?**
 02:33:52 **11 A. Yes.**
 02:33:53 **12 Q.** From a modern day point of view?
 02:33:55 **13 A. Yes.**
 02:33:55 **14 Q.** Now, is it your opinion that the
 02:33:58 **15 Crebilly property is a battlefield of the**
 02:34:01 **16 American Revolution or part of it?**
 02:34:05 **17 A. I -- what is your definition of a**
 02:34:08 **18 battlefield?**
 02:34:09 **19 Q.** Action taking place, people shooting at
 02:34:12 **20 one another.**
 02:34:15 **21 A. Yes, because I think there is American**
 02:34:17 **22 artillery fire going into the Crebilly**
 02:34:19 **23 property.**
 02:34:19 **24 Q.** So the answer to that question is yes?

02:34:23 **1** **A. Yes.**
 02:34:23 **2** MR. THOMPSON: I don't have any
 02:34:24 **3** further questions.
 7 **4** MR. MCKENNA: Mr. DuFault, do you
 02:34:29 **5** have any questions for Brandywine at Thornbury?
 02:34:32 **6** MR. DUFAULT: No questions.
 02:34:34 **7** MR. MCKENNA: Mr. Bevilacqua, any
 02:34:35 **8** questions for West Glen HOA or the school
 02:34:38 **9** district?
 02:34:38 **10** MR. BEVILACQUA: No questions.
 02:34:40 **11** MR. MCKENNA: Mr. McFalls, for
 02:34:42 **12** Westminster Presbyterian Church?
 02:34:45 **13** MR. MCFALLS: No.
 02:34:45 **14** MR. MCKENNA: Mr. Spackman, for
 02:34:46 **15** the Thornbury Farm Trust?
 02:34:48 **16** MR. SPACKMAN: No questions.
 02:34:49 **17** Thank you.
 02:34:50 **18** MR. MCKENNA: Bradley or Amy
 02:34:51 **19** Harkins?
 02:34:52 **20** MS. HARKINS: No questions.
 02:34:52 **21** MR. MCKENNA: Mr. Mammucari, any
 02:34:54 **22** questions?
 02:34:55 **23** Phillip Jones, any questions?
 71 **24** Yes, sir.

02:35:02 **1** MR. JONES: I'm just, this may
 02:35:11 **2** sound simple, but why would they be firing
 02:35:14 **3** artillery onto Crebilly Farm from Stephen's
 02:35:18 **4** position on the hill?
 02:35:19 **5** THE WITNESS: To slow down the
 02:35:21 **6** British impact. They won't fire artillery just
 02:35:24 **7** from the top of Sandy Hollow. They were firing
 02:35:27 **8** all along the American line. In this case we
 02:35:29 **9** are dealing with Crebilly Farm, so the whole
 02:35:32 **10** point was if you can slow down or damage your
 02:35:35 **11** opponents before they get to your line you have
 02:35:37 **12** a better chance of winning. You do have
 02:35:39 **13** artillery fired.
 02:35:40 **14** MR. JONES: I wondered, because
 02:35:41 **15** if I'm a soldier that's receiving that fire, I
 02:35:43 **16** think it is a battlefield.
 02:35:47 **17** MR. MCKENNA: Thank you, Mr.
 02:35:47 **18** Jones.
 02:35:50 **19** Mr. Pavelchek, any questions?
 02:35:50 **20** MR. PAVELCHEK: No, no questions.
 02:35:55 **21** MR. MCKENNA: Mr. or Mrs. Kramer,
 02:35:57 **22** any questions?
 02:36:01 **23** Mr. Skros, any questions?
 02:36:02 **24** MR. SKROS: No questions. Thank

02:36:03 **1** you.
 02:36:03 **2** MR. MCKENNA: Eileen Carey, any
 02:36:06 **3** questions?
 02:36:07 **4** Mr. or Mrs. McFadden, any
 02:36:10 **5** questions?
 02:36:10 **6** MR. MCFADDEN: No questions.
 02:36:12 **7** MR. MCKENNA: Ms. Weller, any
 02:36:13 **8** questions?
 02:36:13 **9** MS. WELLER: No questions.
 02:36:15 **10** MR. MCKENNA: Back to you.
 02:36:16 **11** Excuse me, I'm sorry, Board, any questions?
 02:36:19 **12** THE CHAIRMAN: I have one
 02:36:21 **13** question. Mr. Harris, in your opinion, if an
 02:36:26 **14** archeological dig or x-ray, whatever it would
 02:36:33 **15** take to do the areas that Mr. Kaplin is saying
 02:36:38 **16** has several houses on it, potentially on this
 02:36:41 **17** plan, and that was done, if artifacts were
 02:36:49 **18** found or not found, or if they were found, you
 02:36:52 **19** would feel that that, the battle took place and
 02:36:54 **20** that that property should not be part of the
 02:36:58 **21** building area?
 02:37:00 **22** THE WITNESS: Yes.
 02:37:01 **23** THE CHAIRMAN: Okay. Thank you.
 02:37:08 **24** MS. DEWOLF: Is Sean going to be

02:37:09 **1** our next witness there with the PC?
 02:37:11 **2** MR. GILL: We do intend to call
 02:37:13 **3** him.
 02:37:13 **4** MS. DEWOLF: I'm going to hold my
 02:37:15 **5** questions next.
 02:37:15 **6** THE CHAIRMAN: Any questions,
 02:37:16 **7** Tom?
 02:37:17 **8** MR. HAWS: No.
 02:37:17 **9** MR. MCKENNA: Mr. Gill, back to
 02:37:18 **10** you for any redirect.
 02:37:20 **11** REDIRECT EXAMINATION
 02:37:20 **12** BY MR. GILL:
 02:37:21 **13** **Q.** Very brief. Mr. Harris, Mr. Kaplin
 02:37:23 **14** asked you about Exhibit PC-17 and the area that
 02:37:26 **15** you delineated here on PC-17. Is that an
 02:37:29 **16** approximation that you have drawn during your
 02:37:34 **17** testimony here this evening, and are you from a
 02:37:39 **18** level of certainty perspective stating that
 02:37:43 **19** this supplants the map on page 282 of your
 02:37:49 **20** book, or is this just an approximation?
 02:37:51 **21** **A.** Based on current research, and I
 02:37:52 **22** reviewed a lot of my notes before I came
 02:37:54 **23** tonight, that's my current best guess of the
 02:37:57 **24** path of the attack.

02:37:58 1 Q. Okay. Could there possibly have been a
02:38:02 2 widening of that area under artillery fire, or
02:38:07 3 are you stating that the Hessian advance was
4 limited to this part?

02:38:12 5 A. If you are including where artillery
02:38:15 6 rounds might have fallen --

02:38:16 7 Q. Yes.

02:38:16 8 A. -- then it should be wider.

02:38:17 9 Q. Okay. Thank you. Have all of your
02:38:20 10 answers to the questions posed to you this
02:38:22 11 evening been given to a reasonable degree of
02:38:24 12 certainty in your field of expertise as an
02:38:26 13 expert on the Battle of Brandywine?

02:38:27 14 A. Yes.

02:38:28 15 MR. GILL: Thank you.

02:38:31 16 MR. MCKENNA: Mr. Kaplin, any
02:38:32 17 recross?

02:38:33 18 MR. KAPLIN: No.

02:38:34 19 MR. MCKENNA: All right. Thank
02:38:35 20 you, sir, very much.

02:38:36 21 (Witness excused.)

02:38:39 22 MR. GILL: Planning Commission's
02:38:41 23 next witness will be Sean Moir.

02:38:41 24 Mr. Moir, do you need to access

02:38:56 1 to your computer?

02:38:59 2 MR. MOIR: It depends. I do have
02:39:01 3 some background I can show on my computer, on
02:39:05 4 the screen, if you would like.

02:39:09 5 MR. GILL: Yes. Mr. Moir, would
02:39:11 6 you go ahead and be sworn.

7 SEAN MOIR,
8 the witness herein, having first been
9 duly sworn on oath, was examined and
02:39:20 10 testified as follows:

02:39:20 11 DIRECT EXAMINATION

02:39:20 12 BY MR. GILL:

02:39:21 13 Q. Mr. Moir, would you please spell your
02:39:23 14 name for the record.

02:39:23 15 A. Okay. My name is Sean Moir. The first
02:39:26 16 name is S-E-A-N, last name is M-O-I-R.

02:39:31 17 Q. And are you employed by any business
02:39:34 18 entity?

02:39:35 19 A. Yes, I am employed by Western Heritage
20 Mapping.

02:39:39 21 Q. And what is that?

02:39:40 22 A. Western Heritage Mapping is my company
02:39:43 23 where I'm the owner, president, and we develop
02:39:47 24 historic maps, primarily the American

02:39:49 1 Revolution, including the Battle of Brandywine.

02:39:53 2 Q. I'm going to show you what has been
02:39:58 3 previously marked as Exhibit PC-16.

02:40:04 4 Does everybody have a copy?
02:40:05 5 MS. CAMP: Yes.

02:40:09 6 Q. Do you recognize that?

02:40:10 7 A. Yes, I do. That is my resume.

02:40:14 8 Q. Is that current and complete as of this
02:40:17 9 evening?

02:40:17 10 A. Yes, it is.

02:40:18 11 Q. Have you been present during prior
02:40:23 12 testimony at the session of the hearing this
02:40:26 13 evening?

02:40:26 14 A. For this whole hearing this evening,
02:40:28 15 yes.

02:40:28 16 Q. Did you hear reference to the property
02:40:32 17 known as the Crebilly Farm property?

02:40:34 18 A. Yes.

02:40:34 19 Q. Are you familiar with that property?

02:40:35 20 A. Yes, I am.

02:40:35 21 Q. Taking a look at Exhibit PC-16 --

02:40:40 22 MR. KAPLIN: Excuse me. Is he
02:40:42 23 being qualified as an expert?

02:40:45 24 MR. GILL: Just about to come

02:40:46 1 back to.

02:40:46 2 MR. KAPLIN: Okay.

02:40:48 3 BY MR. GILL:

02:40:48 4 Q. Taking a look at PC-16 -- thank you
02:40:52 5 very much -- do you have experience with GIS
02:40:59 6 mapping?

02:41:00 7 A. Yes, I do.

02:41:01 8 Q. Can you relate for us your other
02:41:02 9 professional experiences?

02:41:04 10 A. Okay. Over the last ten years I have
02:41:08 11 done a lot of work with GIS mapping, which is
02:41:11 12 Geographic Information Systems, which is
02:41:14 13 digital mapping, and I have done work creating
02:41:19 14 maps, interpreting historical data, and
02:41:27 15 creating, demonstrating historical data on the
02:41:31 16 maps from text.

02:41:32 17 Q. Okay. This is something you do
02:41:35 18 professionally?

02:41:35 19 A. This is something I've done
02:41:37 20 professionally for ten years.

02:41:38 21 Q. Okay. The rest of your professional
02:41:40 22 experience as outlined on Exhibit A-16, how did
02:41:44 23 those inform your current work as a map maker?

02:41:49 24 A. Okay. Previously, my degree is in

02:41:52 **1 computer science from Penn State University,**
 02:41:55 **2 and I worked doing database work and developing**
 02:42:03 **3 coding, software development, and some of the**
 3 **4 stuff that I'm displaying or potentially**
 02:42:10 **5 displaying tonight is software-based maps. So**
 02:42:13 **6 my software expertise comes into play from**
 02:42:18 **7 that.**

02:42:18 **8 Q.** At Western Heritage Mapping you said
 02:42:20 **9 that as a matter of your business you develop**
 02:42:24 **10 animated maps of historical events?**

02:42:27 **11 A. That is correct.**

02:42:27 **12 Q.** And do those include battles?

02:42:30 **13 A. Yes, battle maps, where the troop**
 02:42:34 **14 movements are animated on the map.**

02:42:37 **15 Q.** Have you been involved in any
 02:42:39 **16 applications or grants or other activities with**
 02:42:41 **17 the American Battlefield Protection Program?**

02:42:44 **18 A. Yes, I have. I have done at least**
 02:42:46 **19 three, three grant projects with the American**
 02:42:53 **20 Battlefield Protection Program, one of them**
 02:42:54 **21 being the Battle of the Brandywine.**

02:42:56 **22 MR. GILL: Okay. And based on**
 02:43:03 **23 all of that, I would offer Mr. Moir as an**
 5 **24 expert in the field of mapping of the historic**

02:43:09 **1 events, including battles.**

02:43:11 **2 MR. KAPLIN: Well --**

02:43:14 **3 MR. MCKENNA: Mr. Kaplin.**

02:43:15 **4 MR. KAPLIN: I'm going to ask for**
 02:43:16 **5 an offer of proof. Is this testimony going to**
 02:43:22 **6 be repetitive to Mr. Harris' testimony? And if**
 02:43:26 **7 not, how is it going to differ?**

02:43:28 **8 MR. GILL: His testimony will not**
 02:43:29 **9 be repetitive. Mr. Moir will be utilizing his**
 02:43:32 **10 experience and his expertise to demonstrate**
 02:43:35 **11 visually the data that he has studied with**
 02:43:40 **12 regard to the Battle of Brandywine from a**
 02:43:41 **13 source which is different from Mr. Harris.**

02:43:47 **14 MR. KAPLIN: I agree, I don't**
 02:43:49 **15 know what that means. What is the source? If**
 02:43:53 **16 you are going to qualify him, then let us know**
 02:43:56 **17 what the source is. What I didn't hear is any**
 02:44:01 **18 educational background other than he is a**
 02:44:03 **19 computer person.**

02:44:07 **20 MR. GILL: Well, certainly, Mr.**
 02:44:07 **21 Kaplin, you are aware that a witness can**
 02:44:09 **22 develop expertise through sources other than**
 02:44:10 **23 education.**

02:44:12 **24 MR. KAPLIN: Absolutely. But I**

02:44:13 **1 didn't hear anything about his historic**
 02:44:18 **2 knowledge or where this information is going to**
 02:44:21 **3 come from.**

02:44:22 **4 MR. MCKENNA: Mr. Kaplin, are you**
 02:44:23 **5 objecting to his being offered as an expert?**
 02:44:25 **6 Would you like to question him, voir dire the**
 02:44:27 **7 witness to that effect?**

02:44:28 **8 I think Mr. Gill has the right to**
 02:44:30 **9 ask whatever questions he would like and you**
 02:44:33 **10 have the right to make an objection.**

02:44:35 **11 MR. KAPLIN: Well, I did ask for**
 02:44:36 **12 an offer of proof because I anticipate**
 02:44:40 **13 repetitive testimony. I haven't gotten an**
 02:44:44 **14 answer to that.**

02:44:44 **15 MR. MCKENNA: Well, I believe you**
 02:44:45 **16 got an answer. I'm not sure if it is the one**
 02:44:47 **17 you want, but Mr. Gill did give you an answer.**

02:44:53 **18 VOIR DIRE EXAMINATION**

02:44:54 **19 BY MR. KAPLIN:**

02:44:54 **20 Q.** Mr. Moir --

02:44:55 **21 A. Yes.**

02:44:55 **22 Q.** -- you have obviously heard what Mr.
 02:44:57 **23 Gill just said you are going to do?**

02:44:59 **24 A. Mm-hmm.**

02:44:59 **1 Q.** As I understand it, you are going to
 02:45:01 **2 take your computer skills and you are going to**
 02:45:04 **3 take information from some source, and you are**
 02:45:09 **4 going to give us a pictorial representation of**
 02:45:11 **5 what those words say; is that accurate?**

02:45:14 **6 A. That is accurate, yes.**

02:45:16 **7 Q.** So what source are you going to use
 02:45:18 **8 that's different than Mr. Harris?**

02:45:20 **9 A. Well, my sources are generally the same**
 02:45:24 **10 as Mr. Harris. I used the Robertson map.**

02:45:27 **11 But using GIS, we are able to**
 02:45:30 **12 really get some exact locations, which I'm not**
 02:45:34 **13 sure if they are going to match exactly what**
 02:45:36 **14 Mr. Harris put on his map there, the lines he**
 02:45:41 **15 drew. But I'm going to also talk about the**
 02:45:44 **16 possibility of -- well, I don't know if we are**
 02:45:46 **17 going to get into the other stuff I'm going to**
 02:45:49 **18 talk about, but I have information beyond what**
 02:45:52 **19 Mr. Harris talked about.**

02:45:55 **20 Q.** Please, I'm trying to understand your
 02:45:57 **21 expertise and I'm trying to understand how you**
 02:46:00 **22 are not going to be repetitive.**

02:46:04 **23 MR. GILL: That is the**

02:46:05 **24 appropriate subject is if Mr. Kaplin would like**

02:46:07 **1** to object or would like to cross-examine the
 02:46:10 **2** witness. That does not go to whether or not
 02:46:11 **3** the witness can be qualified as an expert.
 02:46:14 **4** MR. MCKENNA: I would agree. Do
 02:46:16 **5** you have any questions as to his
 02:46:17 **6** qualifications?
 02:46:18 **7** MR. KAPLIN: Yeah. I still
 02:46:21 **8** haven't heard what material he is using, that
 02:46:22 **9** he is going to use in demonstrating his
 02:46:25 **10** expertise.
 02:46:26 **11** MR. GILL: That's not the
 02:46:27 **12** appropriate subject of voir dire.
 02:46:29 **13** MR. KAPLIN: Sure, it is.
 02:46:30 **14** MR. MCKENNA: Hold on, Mr.
 02:46:31 **15** Kaplin. I disagree with you. Whether or not
 02:46:33 **16** he is qualified to offer his opinion I think is
 02:46:35 **17** really what you need to go to. If you want to
 02:46:38 **18** delve into the sources, I have to agree with
 02:46:40 **19** Mr. Gill, that will be cross-examination
 02:46:42 **20** fodder.
 02:46:43 **21** MR. KAPLIN: That's what I was
 02:46:44 **22** getting at. What I have heard his expertise is
 02:46:47 **23** in computer science. His degree is from
 02:46:48 **24** computer science, databases and things like

02:46:55 **1** that.
 02:46:56 **2** What I'm told he is going to do
 02:46:57 **3** is take that expertise and use some historic
 02:47:03 **4** material and demonstrate.
 02:47:07 **5** Well, he hasn't yet demonstrated
 02:47:10 **6** that he has got any expertise about the
 02:47:13 **7** historic piece of it.
 02:47:15 **8** MR. GILL: He has also testified
 02:47:16 **9** that his resume, which we have marked as an
 02:47:19 **10** exhibit, is current and accurate, and the
 02:47:21 **11** professional experience, which can also serve
 02:47:24 **12** as the basis for expertise, includes writing
 02:47:29 **13** successful grant applications for the American
 02:47:31 **14** Battlefield Protection Program, developing a
 02:47:33 **15** suite of War of 1812 animated maps, developing
 02:47:37 **16** animated maps for the Battle of Birmingham,
 02:47:39 **17** developing animated maps of the New Sweden
 02:47:41 **18** Settlement.
 02:47:42 **19** Throughout all of this experience
 02:47:46 **20** he certainly can testify he has developed an
 02:47:50 **21** expertise in depicting cartographically
 02:47:52 **22** historic events, and that's what I asked him,
 02:47:55 **23** and it is on that basis that I have offered him
 02:47:55 **24** as an expert.

02:47:56 **1** MR. KAPLIN: Well, then, I ask
 02:47:57 **2** for an offer of proof because what I think I'm
 02:48:01 **3** hearing is redundant. What he is testifying to
 02:48:04 **4** is he is going to use the same sources as Mr.
 02:48:07 **5** Harris. And if that's what he is going to do
 02:48:11 **6** then this testimony is just repetitive.
 02:48:13 **7** I tried to understand, I tried to
 02:48:16 **8** understand what other information he is going
 02:48:20 **9** to use, but you won't let him tell us.
 02:48:23 **10** MR. MCKENNA: I haven't heard
 02:48:24 **11** that yet. I think that's sort of Mr. Gill's
 02:48:27 **12** prerogative on how to present his case. I'm
 02:48:29 **13** going to interpret your position, unless you
 02:48:31 **14** will tell me otherwise, as an objection to this
 02:48:33 **15** witness at least on a repetitive basis.
 02:48:36 **16** MR. KAPLIN: It is more than
 02:48:37 **17** that. All I have heard, all I have heard is
 02:48:40 **18** that he is an expert in doing mapping. I have
 02:48:44 **19** not heard how he has become an expert in
 02:48:48 **20** mapping something about this battle so that we
 02:48:52 **21** can understand his expertise.
 02:48:55 **22** MR. MCKENNA: Mr. Kaplin, do you
 02:48:56 **23** object to his being offered as an expert? I
 02:48:58 **24** can't ask that any clearer.

02:49:00 **1** MR. KAPLIN: Yeah.
 02:49:01 **2** MR. MCKENNA: Okay.
 02:49:02 **3** MR. KAPLIN: I object to him
 02:49:02 **4** being offered as an expert to testify about the
 02:49:07 **5** Battle of Brandywine, unless he ties his
 02:49:11 **6** cartology experience with some education or
 02:49:17 **7** material that is going to be relevant tonight.
 02:49:19 **8** MR. MCKENNA: Understood. Based
 02:49:21 **9** upon my review of his CV and the statements by
 02:49:24 **10** Mr. Gill and what I have heard, we are going to
 02:49:26 **11** overrule the objection and allow the testimony.
 02:49:31 **12** MR. GILL: All right, Mr. Moir.
 02:49:34 **13** Then, Mr. McKenna, I have made the offer of him
 02:49:37 **14** as an expert. Is he accepted by the Board as
 02:49:39 **15** such?
 02:49:39 **16** MR. MCKENNA: I assume, Mr.
 02:49:40 **17** Kaplin, you would object to him being offered
 02:49:42 **18** as an expert then as well, but I want to make
 02:49:44 **19** sure the record is clean on that issue.
 02:49:47 **20** MR. KAPLIN: Based on what I have
 02:49:48 **21** heard, I do object.
 02:49:49 **22** MR. MCKENNA: Yes, okay. Over
 02:49:50 **23** the objection, yes, he will be so admitted.
 02:49:52 **24** MR. GILL: Thank you.

02:49:53 1 BY MR. GILL:

02:49:53 2 **Q.** Mr. Moir, notwithstanding the most

02:49:59 3 recent exchange, can you tell us if you have

4 any prior involvement or experience with regard

02:50:05 5 to the Battle of Brandywine?

02:50:07 6 **A.** Yeah, in 2009 I worked with the Chester

02:50:11 7 County Planning Commission to secure a grant

02:50:14 8 for the, to study and map the Battle of

02:50:21 9 Brandywine, the grant came from the American

02:50:22 10 Battlefield Protection Program, which is a

02:50:24 11 department of the National Park Service, and we

02:50:26 12 contracted with local historian Tom McGuire for

02:50:29 13 the details about the battle.

02:50:32 14 **And this is an important point,**

02:50:33 15 **that in all the mapping that I have done, I**

02:50:37 16 **come in with my GIS expertise and I will work**

02:50:41 17 **with historians who have the historic**

02:50:44 18 **expertise, and I interpret that in the maps.**

02:50:47 19 **So I think that's, when we talk about**

02:50:49 20 **expertise, that's what we are getting to.**

02:50:51 21 **Q.** Mr. Moir, who is Tom McGuire?

02:50:53 22 **A.** Tom McGuire is an author who came up

02:50:57 23 with, wrote books about the Philadelphia

24 Campaign and the Battle of Brandywine and

02:51:02 1 **Battle of Paoli. He is a professor at Malvern**

02:51:06 2 **Prep. And he has done much research. And we**

02:51:10 3 **used him as a source.**

02:51:13 4 **Q.** And when you say you used him as a

02:51:16 5 source, can you tell us what level of

02:51:20 6 interaction you had with Mr. McGuire as you

02:51:22 7 developed the maps which were the subject of

02:51:24 8 the work you did in 2009?

02:51:25 9 **A.** Okay. Thank you. Yeah.

02:51:27 10 MR. KAPLIN: I'm going to object.

02:51:28 11 You are asking for hearsay.

02:51:30 12 MR. GILL: Certainly, an expert

02:51:32 13 is perfectly entitled to rely upon the work of

02:51:35 14 another expert in forming his conclusions and

02:51:37 15 his opinions.

02:51:38 16 MR. MCKENNA: Well, I have to

02:51:38 17 agree only to the extent because Mr. Wise

02:51:40 18 testified to the sources he relied upon to form

02:51:42 19 his own opinions. Isn't that what he has

20 asked? Here he is asking, unless I heard you

02:51:48 21 wrong, about the conversations that they had.

02:51:52 22 MR. GILL: No, I did not ask him

02:51:54 23 about any conversation. I asked him what his

02:51:55 24 interaction was and what -- well, the first

02:51:57 1 question is what interactions did he have.

02:52:00 2 THE WITNESS: Can I answer that?

02:52:01 3 MR. MCKENNA: I'm going to

02:52:01 4 overrule the objection. I don't think it is

02:52:03 5 calling for hearsay yet.

02:52:05 6 MR. KAPLIN: It may be premature.

02:52:07 7 MR. MCKENNA: Understood.

02:52:08 8 THE WITNESS: Okay. Yeah. I

02:52:09 9 worked with Mr. McGuire pretty extensively when

02:52:12 10 we wrote out the grant, we put out the grant

02:52:16 11 project, Mr. McGuire was a key part of the

02:52:24 12 process. He was written into the grant.

02:52:26 13 Everything that I did I ran past him, and he

02:52:31 14 would make modifications, like an iterative

02:52:34 15 kind of process.

02:52:35 16 So Mr. McGuire was there, I mean

02:52:36 17 to put it simply, Mr. McGuire was there every.

02:52:39 18 Step of the way in the development of our maps.

02:52:42 19 BY MR. GILL:

02:52:42 20 **Q.** All right. Thank you. Did you

02:52:50 21 prepare, then, an animated map or series of

02:52:55 22 maps with regard to troop movements on the day

02:52:58 23 of the Battle of Brandywine?

02:53:01 24 **A.** Yeah, we prepared a number of maps in

02:53:03 1 **the fall of 2010 that demonstrated the troop**

02:53:06 2 **movements of the Continental and the British**

02:53:08 3 **forces during the Battle of Brandywine, and**

02:53:09 4 **these were in the particular portion of the**

02:53:12 5 **battlefield we are talking about tonight, they**

02:53:15 6 **were based primarily on the Archibald Robertson**

02:53:19 7 **map which Mr. Harris talked about.**

02:53:20 8 **Q.** Okay. I'm going to show you what has

02:53:22 9 previously been marked as Exhibit A-21.

02:53:32 10 Notwithstanding the yellow highlighting and the

02:53:35 11 blue circles, which I'll represent are mine,

02:53:38 12 have you seen that prior to this evening?

02:53:40 13 **A.** I have seen that, yes.

02:53:41 14 **Q.** What is it?

02:53:42 15 **A.** Well, this is, and I believe this is

02:53:45 16 **something that was shown to Mr. Harris as well,**

02:53:47 17 **this is a version of the Robertson map. It is**

02:53:50 18 **not necessarily the -- it is not the original**

02:53:54 19 **copy of his map. It is a map that somebody**

02:53:58 20 **made based on the Robertson map. But it is**

02:54:01 21 **accurate. It is pretty accurate. But it is**

02:54:03 22 **not the original.**

02:54:04 23 **Q.** Okay. So in developing your

02:54:07 24 cartographical, if that's a word,

02:54:11 1 representation of the Battle of Brandywine, you
 02:54:13 2 relied upon the Robertson map, Mr. McGuire.
 02:54:17 3 Are there any other sources upon which you
 4 relied?
 02:54:20 5 **A. There are a number of sources. I mean**
 02:54:23 6 **there have been many books written about the**
 02:54:25 7 **Battle of Brandywine which can be referred to,**
 02:54:26 8 **and there is, different sources are going to**
 02:54:29 9 **focus on different parts of the battle.**
 02:54:31 10 **I mean, the Robertson was mostly**
 02:54:33 11 **east of the Brandywine. If you wanted to talk**
 02:54:36 12 **about what happened up by Trimble's Ford or**
 02:54:39 13 **something like that, there might have been**
 02:54:41 14 **other maps and other sources that Mr. McGuire**
 02:54:44 15 **would have had.**
 02:54:46 16 **Q. Okay. What is your understanding of**
 02:54:50 17 **when the Robertson map was drawn?**
 02:54:53 18 **A. Robertson map was drawn on the field.**
 02:54:56 19 **The British camped on the field of battle for a**
 02:55:01 20 **few days after the battle, and that's when**
 02:55:04 21 **Archibald Robertson would have gone around as a**
 02:55:08 22 **captain in the British Corps of Engineers,**
 02:55:11 23 **would have gone around and figured out how to**
 24 **draw the map, maybe taken measurements and gone**

02:55:20 1 **by the memory of the generals who were still on**
 02:55:23 2 **the field and drawn a map.**
 02:55:25 3 **So it is like a first, a**
 02:55:26 4 **first-person account, as we talked about**
 02:55:28 5 **earlier.**
 02:55:28 6 **Q. Okay. And as we have said a number of**
 02:55:31 7 **times, you did, in fact, prepare an animated**
 02:55:34 8 **map of the Battle of Brandywine?**
 02:55:35 9 **A. Yes, I did.**
 02:55:36 10 **Q. Do you have that with you this evening?**
 02:55:38 11 **A. I have it on my PC, which is over there**
 02:55:40 12 **in the audience.**
 02:55:41 13 **Q. Will you come down and can we project**
 02:55:45 14 **that on the screen?**
 02:55:46 15 **A. I can do that, yes.**
 02:55:46 16 **Q. Thank you.**
 02:55:48 17 **MR. MCKENNA: Mr. Gill, real**
 02:55:49 18 **quick logistical question. If we are going to**
 02:55:52 19 **refer to that, is this mapping somehow going to**
 20 **be an exhibit?**
 02:55:56 21 **MR. GILL: Yes. We will mark it**
 02:55:57 22 **as exhibit PC-18, and I can transmit electronic**
 02:56:03 23 **versions of that to all of the parties or to**
 02:56:05 24 **you for distribution to all of the parties and**

02:56:07 1 to Mr. Kaplin tomorrow morning.
 02:56:09 2 **MR. MCKENNA: Thank you.**
 02:56:10 3 **MR. GILL: We don't have**
 02:56:11 4 **multiples. We don't have it on a CD this**
 02:56:13 5 **evening or on a flash drive.**
 02:56:22 6 **BY MR. GILL:**
 02:56:24 7 **Q. Mr. Moir, when you were present this**
 02:56:28 8 **evening for Mr. Harris' testimony did you hear**
 02:56:31 9 **a reference to a Hessian officer named**
 02:56:35 10 **Lieutenant von Wurmb?**
 02:56:37 11 **A. Yes, I did.**
 02:56:40 12 **Q. Is Lieutenant von Wurmb's recollection**
 02:56:44 13 **of the battle as related by Mr. Harris included**
 02:56:49 14 **in the map which you prepared?**
 02:56:51 15 **A. Yes. Von Wurmb's Hessian Jaegers are**
 02:56:56 16 **one of the boxes on this map.**
 02:57:00 17 **Q. Okay. So I'm going to ask you to very**
 02:57:04 18 **quickly -- well, firstly, why don't you tell us**
 02:57:07 19 **what we are looking at on Exhibit PC-18?**
 02:57:09 20 **A. Oh, yeah, yeah. This is the beginning**
 02:57:11 21 **of the battle, the morning of, and you can see**
 02:57:14 22 **on the right, the blue boxes represent brigades**
 02:57:18 23 **of Continental troops, and the red, the red**
 02:57:21 24 **boxes -- thank you -- are British troops, and**

02:57:24 1 **the green being the Hessians who worked with**
 02:57:27 2 **the British.**
 02:57:28 3 **And you can see the Americans,**
 02:57:31 4 **the Continental forces are on the east side of**
 02:57:33 5 **the Brandywine Creek. The British and Hessians**
 02:57:37 6 **are coming from approximately Kennett Square.**
 02:57:40 7 **And as Mr. Harris pointed out,**
 02:57:42 8 **the troops did split. And through the**
 02:57:45 9 **animation we can kind of show how the troops**
 02:57:48 10 **split under Cornwallis, who went north, and**
 02:57:52 11 **Knyphausen, who went east. And I could bring**
 02:57:56 12 **this all the way over to Westtown.**
 02:57:58 13 **Q. I'm going to ask you to stop for a**
 02:57:59 14 **moment. You are advancing the arrow at the**
 02:58:01 15 **bottom of the screen, and there appear to be**
 02:58:03 16 **time references at the bottom of the screen.**
 02:58:05 17 **Do those reference time of day on September**
 02:58:07 18 **11th, 1777?**
 02:58:08 19 **A. Yes, this is all September 11th, 1777.**
 02:58:11 20 **At the beginning, the 5:00 a.m. is where we**
 02:58:13 21 **started, and that was the morning of September**
 02:58:15 22 **11th. And I have just advanced the timeline to**
 02:58:19 23 **about 2:30 in the afternoon as the British are**
 02:58:23 24 **pausing on Osborne Hill and the Continental**

02:58:27 **1 forces are moving towards Birmingham Knoll.**
 02:58:30 **2 Q.** Okay. I see a reference right above
 02:58:32 **3** the word "Birmingham" of "Sandy Hollow Park."
 5 **4** Is that the Sandy Hollow Park, to the best of
 02:58:38 **5** your knowledge, to which Mr. Harris made
 02:58:39 **6** reference during his testimony?
 02:58:41 **7 A.** Yes, it is.
 02:58:41 **8 Q.** Okay. Would you continue then to
 02:58:43 **9** advance throughout the day.
 02:58:49 **10** I'm going to ask you to stop here
 02:58:51 **11** at about approximately 3:30. Are we about 3:30
 02:58:56 **12** in the afternoon?
 02:58:56 **13 A.** Yes, that is correct.
 02:58:57 **14 Q.** What are we looking at now?
 02:58:58 **15 A.** Right now the Continental line, with
 02:59:01 **16** the divisions under Sullivan, Sterling and
 02:59:04 **17** Stephen's from west to east have taken their
 02:59:05 **18** positions, Stephen being over there near Sandy
 02:59:09 **19** Hollow Park. And at this point I believe that
 02:59:14 **20** both armies can see each other on their
 02:59:16 **21** respective hills.
 02:59:17 **22 Q.** Okay. And can you describe for us the
 02:59:20 **23** elements of the British force up around Route
 23 **24** 52, what is now Route 52?

02:59:26 **1 A.** Okay. Up here, and I just put my mouse
 02:59:28 **2** over the front green box which is the Hessian
 02:59:32 **3** Jaegers, who are the unit in question, who we
 02:59:35 **4** are going to see in a moment marching across
 02:59:38 **5** the Crebilly Farm.
 02:59:41 **6 Q.** Okay. Would you please then proceed.
 02:59:45 **7 A.** Okay. So what I'm going to show first
 02:59:47 **8** is to, just to show how, as the troops move,
 02:59:51 **9** you are going to see the British line is going
 02:59:53 **10** to form, and what happens is the British have
 02:59:56 **11** the Americans in like a pincher movement, in
 02:59:59 **12** kind of like a vice grip, and they are going to
 03:00:01 **13** squeeze Washington's Army and successfully
 03:00:05 **14** going to send them eastward towards Chester,
 03:00:09 **15** which is, which is, this is the British victory
 03:00:13 **16** as the Continental forces retreat towards
 03:00:18 **17** Chester.
 03:00:18 **18 Q.** By 7:30/8:00 o'clock in the evening the
 03:00:21 **19** American forces are in full retreat?
 03:00:23 **20 A.** That is correct.
 03:00:23 **21 Q.** Okay. Would you please wind us back
 03:00:26 **22** then to approximately 4:30 in the afternoon.
 03:00:29 **23 A.** Yes, I will.
 03:00:30 **24 Q.** What are we looking at here?

03:00:34 **1 A.** What I would like to show you here,
 03:00:35 **2** this is the beginning of the advancement, and
 03:00:37 **3** what I can do is put on a different layer here
 03:00:42 **4** which now shows the Crebilly proposed
 03:00:47 **5** development, and I can zoom in, and here we can
 03:00:51 **6** see these are the Hessian Jaegers, again, and
 03:00:53 **7** this is Stephen's artillery firing, as Mr.
 03:00:56 **8** Harris talked about earlier. So you can see
 03:00:59 **9** the artillery and possibly landing in the
 03:01:03 **10** Crebilly area.
 03:01:04 **11** But the important thing here is
 03:01:05 **12** that the Hessian Jaegers are in formation and
 03:01:10 **13** about to march towards Stephen.
 03:01:13 **14 Q.** Would you proceed then?
 03:01:15 **15 A.** Okay. So you see them going across the
 03:01:21 **16** property, go across the proposed development.
 03:01:24 **17** And then we know what happened next, that the
 03:01:27 **18** lines, the Continental line collapsed and they
 03:01:31 **19** retreated.
 03:01:32 **20** But I could take that back again
 03:01:34 **21** and you can see --
 03:01:35 **22 Q.** Please take us back to the Hessian
 03:01:37 **23** Jaegers crossing the Crebilly property.
 03:01:39 **24 A.** I'll show that again.

03:01:44 **1 Q.** Okay. And again, would you please,
 03:01:47 **2** specifically with regard to this portion of the
 03:01:49 **3** battle, would you please relay for us again
 03:01:51 **4** your sources.
 03:01:52 **5 A.** Yeah, this is, this section right here,
 03:01:55 **6** in fact, the Hessian Jaegers marching across
 03:01:58 **7** this property is really exclusively from the
 03:02:01 **8** Archibald Robertson map, which is the firsthand
 03:02:04 **9** account of the battle from someone who was
 03:02:06 **10** there and drew it within days.
 03:02:11 **11 Q.** All right. You heard Mr. Harris'
 03:02:14 **12** testimony with regard to the possibility of
 03:02:17 **13** American artillery landing on the Crebilly
 03:02:22 **14** property. Correct?
 03:02:23 **15 A.** Yes, I did.
 03:02:23 **16 Q.** Based on your work reviewing sources
 03:02:27 **17** and preparing the map, did you reach any
 03:02:30 **18** additional conclusions with regard to action on
 03:02:33 **19** the, on or around the Crebilly property?
 03:02:35 **20 A.** Okay, yeah. First of all, I agree with
 03:02:39 **21** Mr. Harris that it is likely that artillery
 03:02:42 **22** would have landed on the property. But I also,
 03:02:47 **23** looking at von Wurmb, von Wurmb's account, I do
 03:02:52 **24** have some additional testimony I can give to

03:02:55 **1 kind of give it, give an idea of how there may**
 03:02:58 **2 have been some actual skirmishing on the**
 03:03:00 **3 property itself.**
 03:03:04 **4 Q.** All right. And in order to do that, do
 03:03:07 **5 we need to do anything to the map in terms of**
 03:03:14 **6 overlays or showing topographical information?**
 03:03:16 **7 A.** What I'll show here, if you allow me,
 03:03:18 **8 I'll put on a different map here. And this**
 03:03:21 **9 shows the same general vicinity right here in**
 03:03:23 **10 this southwest corner of Westtown. And the**
 03:03:26 **11 important thing to keep in mind here is that**
 03:03:32 **12 the tan areas show contour lines, so that this**
 03:03:34 **13 light tan here is basically going to be about**
 03:03:37 **14 300-foot elevation gain, and these green areas**
 03:03:39 **15 are the woodlands of the time.**
 03:03:41 **16 Because the woods, as Mr. Harris**
 03:03:44 **17 pointed out at one point, the woods where we**
 03:03:46 **18 have trees now aren't necessarily where we had**
 03:03:50 **19 trees before. From the Robertson map we were**
 03:03:52 **20 able to get exactly where the trees were at the**
 03:03:54 **21 time of the battle. And we know where the**
 03:03:56 **22 contours are because the contours are basically**
 03:03:58 **23 the same. But we also know from Robertson's**
 03:04:00 **24 map where the trees were.**

03:04:01 **1 Q.** Okay. I see a reference on the
 03:04:03 **2 background to a tab for 1777 base. What, if**
 03:04:08 **3 anything, would that show?**
 03:04:08 **4 A.** Those are just different layers. They
 03:04:10 **5 are not necessarily too relevant for today's**
 03:04:13 **6 discussion. But we could, we could show an**
 03:04:17 **7 aerial view, a satellite view, we could show**
 03:04:21 **8 1777 road system and so on.**
 03:04:23 **9 Q.** Okay. So the wooded areas that we are
 03:04:30 **10 seeing here and the American artillery around**
 03:04:33 **11 Stephen, is that the area, again, where Sandy**
 03:04:36 **12 Hollow Park is today?**
 03:04:37 **13 A.** Yes, where Stephen is, and where the
 03:04:39 **14 artillery is, and the 4th Virginia Brigade that**
 03:04:44 **15 is around, that is the Sandy Hollow area.**
 03:04:46 **16 Q.** Would you please advance us then to
 03:04:48 **17 about 4:30/4:45 in the afternoon?**
 03:04:51 **18 A.** I can do that. I could also give you
 03:04:53 **19 von Wurmb's account and show you how his**
 03:04:59 **20 written, his written account corresponds with**
 03:05:01 **21 the movements. Would that --**
 03:05:04 **22 Q.** Is it your conclusion when you formed,
 03:05:06 **23 when you prepared this map, that what you are**
 03:05:08 **24 about to show us in the troop movements is**

03:05:08 **1 based on von Wurmb's description?**
 03:05:11 **2 A.** Well, this map was created solely based
 03:05:16 **3 on the Robertson lines, where Robertson drew**
 03:05:19 **4 the lines. It was actually after this map was**
 03:05:23 **5 created, actually a couple years later that I**
 03:05:25 **6 looked at von Wurmb's account and saw how it**
 03:05:29 **7 corresponded very, very closely with Robertson.**
 03:05:34 **8 So it is, it was a -- it backed up, backed up**
 03:05:39 **9 Robertson's map with text.**
 03:05:41 **10 Q.** Okay. Well, then, go ahead and advance
 03:05:43 **11 the map and, as you said, you are going to tell**
 03:05:46 **12 us about von Wurmb's statements.**
 03:05:48 **13 A.** Okay. So what we are going to see here
 03:05:50 **14 in this, there are three points of interest we**
 03:05:52 **15 are going to look at. As I said, the tan areas**
 03:05:54 **16 show elevations. So this is what I believe in**
 03:05:59 **17 this account is going to be referred to as**
 03:06:01 **18 "bare hill." There is a hill right there, and**
 03:06:03 **19 we are going to talk about three sections of**
 03:06:05 **20 woods. Here is the first woods here, second**
 03:06:07 **21 woods, and third woods. So I'm going to read**
 03:06:10 **22 the account from von Wurmb and it goes like**
 03:06:13 **23 this, he said --**
 03:06:14 **24 Q.** I'm sorry, Mr. Moir, where are you

03:06:16 **1 reading from?**
 03:06:16 **2 A.** This is an account from Lieutenant
 03:06:21 **3 Colonel Ludwig von Wurmb's from his -- I don't**
 03:06:24 **4 recall if it was from his diary or from, with**
 03:06:27 **5 some account where he -- this is his exact**
 03:06:30 **6 words.**
 03:06:30 **7 Q.** Okay. Please proceed.
 03:06:32 **8 A.** A quote from him, from von Wurmb. He
 03:06:34 **9 said: "I saw that the enemy wanted to form for**
 03:06:38 **10 us on a bare hill," and I am saying that I**
 03:06:42 **11 believe it is that hill there, "so I had them"**
 03:06:46 **12 --**
 03:06:46 **13 Q.** I'm sorry, Mr. Moir. I don't want to
 03:06:49 **14 interrupt your pattern here, when you say it is**
 03:06:51 **15 this hill here or that hill here, you are**
 03:06:53 **16 indicating just to the east of, at 4:15 in the**
 03:06:56 **17 afternoon, where the Hessian Jaegers were?**
 03:06:58 **18 A.** As the eye of the Hessian Jaegers
 03:07:00 **19 approaching a bare hill at about, at 4:15, 4:15**
 03:07:04 **20 p.m.**
 03:07:04 **21 Q.** Please proceed.
 03:07:05 **22 A.** And von Wurmb continues and said, "so I
 03:07:08 **23 had them greeted by our two amusettes..."**
 03:07:11 **24 Amusettes are larger than a**

03:07:12 **1 musket, smaller than a cannon.**
 03:07:15 **2 And this -- he says also, "and**
 03:07:16 **3 this was the beginning of General Howe's**
 03:07:20 **4 column's" participation.**
 03:07:22 **5 So that's important to why this**
 03:07:24 **6 is significant. This is the beginning of**
 03:07:26 **7 General Howe's participation in this Birmingham**
 03:07:28 **8 Hill section of the battle.**
 03:07:28 **9 Q. General Howe was present north of the**
 03:07:31 **10 American troops in the area where we see**
 03:07:33 **11 Cornwallis' name written on the map?**
 03:07:35 **12 A. That is correct.**
 03:07:36 **13 Q. Okay. Please proceed.**
 03:07:37 **14 A. And von Wurmb continues in his account,**
 03:07:40 **15 he says: So we drove the enemy from this hill**
 03:07:42 **16 and they proceeded or they positioned**
 03:07:44 **17 themselves in a woods.**
 03:07:45 **18 So you are going to see them go**
 03:07:48 **19 over the hill and then into a woods.**
 03:07:51 **20 And from -- and they positioned**
 03:07:53 **21 themselves in a woods from which we dislodged**
 03:07:55 **22 them.**
 03:07:56 **23 So it is important for me to**
 03:07:58 **24 point out here that I'm not showing any**

03:08:00 **1 Continental troops getting shot at or getting**
 03:08:03 **2 dislodged, but what I'm seeing corresponds with**
 03:08:06 **3 the Hessian movements.**
 03:08:07 **4 And so it says: They positioned**
 03:08:12 **5 themselves in the woods from which we dislodged**
 03:08:14 **6 them and then the second woods -- you see here**
 03:08:17 **7 they go from the first woods into the second**
 03:08:19 **8 woods -- where we found ourselves 150 paces**
 03:08:23 **9 from their line which was on a height in a**
 03:08:26 **10 third woods.**
 03:08:27 **11 So here they are on a, in line,**
 03:08:30 **12 in the third woods, on a height. So the**
 03:08:33 **13 important thing here is that we have we go**
 03:08:36 **14 back, we have the bare hill, the first woods,**
 03:08:38 **15 the second woods, and the third woods on the**
 03:08:40 **16 height.**
 03:08:41 **17 And why this is important is**
 03:08:42 **18 because they say they were driven from the bare**
 03:08:45 **19 hill by the amusettes and they were dislodged**
 03:08:50 **20 from the first woods. So in my opinion, that**
 03:08:54 **21 would mean that shots were likely fired at**
 03:08:57 **22 those two positions at the location in this**
 03:09:00 **23 southeast portion of Westtown, and if I put it**
 03:09:00 **24 back onto this map here, you can see how this**

03:09:04 **1 section corresponds exactly with the Crebilly**
 03:09:09 **2 proposed development.**
 03:09:10 **3 Q. So, Mr. Moir, to make sure I understand**
 03:09:12 **4 your opinion, when you relate Lieutenant von**
 03:09:17 **5 Wurmb's words: "I saw the enemy wanted to form**
 03:09:20 **6 for us on a bare hill so I had them greeted by**
 03:09:22 **7 our two amusettes," it is your conclusion based**
 03:09:25 **8 on your review of that statement and based on**
 03:09:30 **9 your review or preparation of the map earlier,**
 03:09:32 **10 that that is, that amulette fire occurred on**
 03:09:36 **11 the Crebilly Farm property?**
 03:09:37 **12 A. That is my opinion, yes.**
 03:09:39 **13 Q. Okay. Regardless of that opinion, do I**
 03:09:44 **14 understand you correctly that you agree with**
 03:09:50 **15 Mr. Harris' conclusion that at the very least**
 03:09:54 **16 American artillery fire was received by the**
 03:09:57 **17 Hessian troops on Crebilly, on the Crebilly**
 03:09:59 **18 property?**
 03:09:59 **19 A. I would also say there would have been**
 03:10:01 **20 artillery fire landing on the Crebilly property**
 03:10:04 **21 as well, yes.**
 03:10:05 **22 Q. Now, I want to be clear here, you are**
 03:10:07 **23 not stating with any definitiveness that this**
 03:10:12 **24 amulette fire did, in fact, occur from the**

03:10:15 **1 Crebilly property, correct?**
 03:10:17 **2 A. Yeah, I can't say definitively. Like I**
 03:10:19 **3 said, I am not a historian. I'm just, I'm just**
 03:10:23 **4 showing my map, which was made based on the**
 03:10:27 **5 Robertson map and was made with Tom McGuire's**
 03:10:30 **6 blessing, this map tends to line up almost**
 03:10:34 **7 exactly, it seems, with the von Wurmb**
 03:10:36 **8 description.**
 03:10:37 **9 So in my opinion, mapping up,**
 03:10:39 **10 matching up the von Wurmb description with the**
 03:10:42 **11 animated map, it seems to indicate that there**
 03:10:45 **12 was likely some firing and some engagement on**
 03:10:49 **13 the Crebilly property.**
 03:10:50 **14 Q. Okay.**
 03:10:51 **15 A. Or at least it is worth looking into, I**
 03:10:53 **16 would say.**
 03:10:53 **17 Q. And did you hear Mr. Harris' testimony**
 03:10:56 **18 with regard to the value of an archeological**
 03:11:00 **19 investigation of the Crebilly Farm property?**
 03:11:01 **20 A. I did hear that.**
 03:11:02 **21 Q. Would an archeological investigation --**
 03:11:06 **22 well, how, if at all, would an archeological**
 03:11:09 **23 investigation help in further developing more**
 03:11:12 **24 precise mapping of the battle?**

03:11:14 1 **A. Well, if you found a trail of musket**
 03:11:17 2 **balls or belt buckles or anything, if you**
 03:11:20 3 **found, anything you would find on the property**
 4 **would indicate where the action was.**
 03:11:26 5 **Q.** Okay. Have your maps of the Battle of
 03:11:29 6 Brandywine been reviewed, or have they been
 03:11:32 7 reviewed by any governmental agencies?
 03:11:35 8 **A. Yeah, okay, maybe that is an important**
 03:11:37 9 **point, that all the maps we did, it was the**
 03:11:40 10 **Chester County Planning Commission, I was**
 03:11:43 11 **working with the Chester County Planning**
 03:11:45 12 **Commission to develop these, with Tom McGuire,**
 03:11:47 13 **who submitted them to the American Battlefield**
 03:11:51 14 **Protection Program and the National Park**
 03:11:52 15 **Service, and since, since these maps were**
 03:11:55 16 **created there has been additional projects and**
 03:11:59 17 **additional studies of the area by other Ph.D.**
 03:12:03 18 **historians who have not tried to change**
 03:12:07 19 **anything on this map.**
 03:12:09 20 So it has been viewed and
 03:12:12 21 reviewed a number of times in the last ten
 03:12:14 22 years by other experts.
 03:12:16 23 **Q.** Are you familiar with the Chester
 7 24 County Planning Commission's battlefield swath?

03:12:20 1 **A. Battlefield swath, yes.**
 03:12:21 2 **Q.** Is it your testimony that the work that
 03:12:25 3 you did with regard to mapping and the other
 03:12:28 4 work of which you have made reference informed
 03:12:30 5 the Chester County Planning Commission's
 03:12:32 6 development of the battlefield swath?
 03:12:34 7 **A. I believe that they used a lot of my**
 03:12:37 8 **work to create that, yes.**
 03:12:39 9 **Q.** Okay. Do you have anything further to
 03:12:42 10 add with regard to the troop movements after
 03:12:45 11 approximately 4:30, 4:45?
 03:12:48 12 **A. Nothing that's really relevant to what**
 03:12:49 13 **we are talking about tonight. I got plenty to**
 03:12:52 14 **say, but that's all that's relevant here, I**
 15 **believe.**
 03:12:54 16 **MR. GILL: Okay. Thank you.**
 03:12:55 17 **That's all I have for Mr. Moir on direct.**
 03:13:00 18 **MR. MCKENNA: Mr. Kaplin, cross.**
 03:13:01 19 **CROSS-EXAMINATION**
 20 **BY MR. KAPLIN:**
 03:13:02 21 **Q.** Mr. Moir, could you point out to me on
 03:13:10 22 this map where the Birmingham Meetinghouse is?
 03:13:19 23 **A. The Birmingham Meetinghouse is right**
 03:13:21 24 **there, right in this little circle right there.**

03:13:24 1 **We even have a picture.**
 03:13:25 2 **Q.** So the Birmingham Meetinghouse is south
 03:13:28 3 of the Crebilly Farm?
 03:13:31 4 **A. That is correct. It looks like it is**
 03:13:33 5 **southwest, yes.**
 03:13:33 6 **Q.** Now, in Mr. Harris' book, on page 315
 03:13:39 7 and 316 he cites the same quotation, I believe,
 03:13:46 8 from von Wurmb, "I saw that the enemy wanted to
 03:13:51 9 form for us on a bare hill so I had them
 03:13:56 10 greeted by our two amusettes and this was the
 03:14:01 11 beginning of General Howe's column's
 03:14:07 12 [arrival]."
 03:14:08 13 Is that the same language that
 03:14:09 14 you are relying on?
 03:14:10 15 **A. That is the same quote.**
 03:14:12 16 **Q.** Mr. Harris disagrees with you, doesn't
 03:14:19 17 he?
 03:14:19 18 **A. We have talked about it, and I don't**
 03:14:22 19 **know if he disagrees or not.**
 03:14:23 20 **Q.** Well, his book says the bare hill
 03:14:27 21 described by von Wurmb was the eastern
 03:14:31 22 extension of the rise that Birmingham
 03:14:37 23 Meetinghouse sits upon. So if Mr. Harris is
 03:14:42 24 right, that the bare hill that you have tied

03:14:46 1 your analysis to actually is where the
 03:14:50 2 Birmingham Meetinghouse is, then he disagrees
 03:14:55 3 with your interpretation?
 03:14:57 4 **A. Well, it depends --**
 03:14:59 5 **Q.** Excuse me?
 03:14:59 6 **A. Go ahead.**
 03:15:00 7 **Q.** I think my question, first of all, I
 03:15:04 8 think my question is susceptible of a yes or no
 03:15:08 9 answer. You are permitted to explain however
 03:15:11 10 you want. But you have said that the bare hill
 03:15:15 11 is up on the Crebilly Farm, and Mr. Harris has
 03:15:19 12 said that it is where the Birmingham
 03:15:22 13 Meetinghouse is. Isn't that correct?
 03:15:24 14 **A. I do not believe that is correct, what**
 03:15:26 15 **you just said.**
 03:15:27 16 **Q.** Didn't I just read that?
 03:15:29 17 **A. I don't think he said it was at the**
 03:15:30 18 **Birmingham Meetinghouse. He said it was along**
 03:15:33 19 **a rise that's --**
 03:15:35 20 **Q.** He says --
 03:15:37 21 **MR. GILL: Can the witness be**
 03:15:38 22 **allowed to answer the question? The witness**
 03:15:39 23 **has now twice been in the middle of an answer**
 03:15:42 24 **and Mr. Kaplin has cut him off.**

03:15:44 1 MR. MCKENNA: Agreed. Mr. Moir,
 03:15:45 2 I don't know if you had more there to offer.
 03:15:47 3 THE WITNESS: The point I'm
 8 4 trying to make, when we talk about elevations,
 03:15:50 5 is that this bare hill I'm mentioning here is
 03:15:54 6 all part of this rise in the ground, it is
 03:15:57 7 above 300 feet, which loops around here and
 03:16:00 8 goes down to the Birmingham Meetinghouse. So
 03:16:03 9 it is all part of the same hill.
 03:16:06 10 BY MR. KAPLIN:
 03:16:06 11 Q. Well, what this says, and I'll read you
 03:16:08 12 the words again --
 03:16:10 13 A. Okay.
 03:16:10 14 Q. -- the bare hill described by von Wurmb
 03:16:15 15 was the eastern extension of the rise that
 03:16:20 16 Birmingham Meetinghouse sits upon. Do you hear
 03:16:27 17 that?
 03:16:27 18 A. Yeah. To say it is the eastern
 03:16:29 19 extension, I'm not sure if I would phrase it
 03:16:31 20 like that.
 03:16:32 21 Q. I'm not asking you what you are
 03:16:34 22 phrasing it. I am asking, I'm trying to -- you
 03:16:40 23 seem to be saying something significantly
 2 24 different from --

03:16:46 1 MR. GILL: Objection. We don't
 03:16:47 2 need to characterize what the witness is
 03:16:48 3 saying, whether it is significantly different
 03:16:50 4 or not.
 03:16:50 5 MR. KAPLIN: But this is
 03:16:51 6 cross-examination.
 03:16:52 7 MR. GILL: Excuse me, Mr. Kaplin.
 03:16:54 8 Excuse me. He is reading the text and he is
 03:16:55 9 asking the witness if that's the bare hill that
 03:16:58 10 the witness is referring to.
 03:16:59 11 MR. KAPLIN: No, that's --
 03:17:00 12 MR. GILL: If that's the
 03:17:01 13 question --
 03:17:02 14 MR. KAPLIN: That's not the
 03:17:03 15 question.
 03:17:03 16 MR. GILL: I'm not sure what the
 03:17:04 17 question is.
 03:17:05 18 MR. MCKENNA: We haven't heard it
 03:17:06 19 yet so why don't we get to the question.
 03:17:06 20 BY MR. KAPLIN:
 03:17:12 21 Q. Mr. Wurmb, would you show me again
 03:17:16 22 where the --
 03:17:18 23 MR. GILL: I would love to
 03:17:19 24 present Lieutenant Wurmb as a witness.

03:17:21 1 Unfortunately, he is not here. This is Mr.
 03:17:26 2 Moir.
 03:17:26 3 MR. KAPLIN: Just wanted to see
 03:17:27 4 whether you were listening.
 03:17:28 5 MR. GILL: It has been a long
 03:17:30 6 day, but I'm listening.
 03:17:32 7 BY MR. KAPLIN:
 03:17:33 8 Q. Okay. So, Mr. Moir, I apologize.
 03:17:34 9 A. Sure.
 03:17:35 10 Q. Would you again show us where the
 03:17:37 11 Birmingham Meetinghouse is?
 03:17:39 12 A. The Birmingham Meetinghouse is right
 03:17:41 13 here in this circle.
 03:17:42 14 Q. Okay. If we went to the east of the
 03:17:46 15 Birmingham Meetinghouse where would we go?
 03:17:49 16 A. To the east, we would go over here, but
 03:17:52 17 this is northeast. I mean it is --
 03:17:56 18 Q. I'll tell you what, do me a favor, just
 03:17:59 19 answer my question.
 03:18:01 20 A. Sure.
 03:18:02 21 Q. It is, all I want to know in this
 03:18:03 22 question is what is east of the Birmingham
 03:18:06 23 Meetinghouse?
 03:18:09 24 A. Everything along this, to the right of

03:18:12 1 that line is east of the Birmingham
 03:18:14 2 Meetinghouse, including the bare hill,
 03:18:16 3 including here.
 03:18:18 4 Q. Show me the Birmingham Meetinghouse
 03:18:21 5 again.
 03:18:22 6 A. Birmingham Meetinghouse is here.
 03:18:23 7 Q. Take that --
 03:18:24 8 A. Everything in Westtown Township --
 03:18:26 9 MR. MCKENNA: Guys, we can't talk
 03:18:28 10 at the same time. Mr. Moir, wait for a
 03:18:30 11 question.
 03:18:30 12 THE WITNESS: Sure, sure.
 03:18:31 13 BY MR. KAPLIN:
 03:18:32 14 Q. Can you put that arrow back. Where is
 03:18:37 15 your north arrow? Where is your north arrow?
 03:18:43 16 A. North is straight up and down.
 03:18:46 17 Q. So east would be to the right, correct?
 03:18:49 18 A. Yes, that is right.
 03:18:50 19 Q. Okay. So put your marker on the
 03:18:53 20 Birmingham Meetinghouse and move the marker to
 03:18:57 21 the right, which would be to the east.
 03:18:59 22 A. Okay. I don't think it is -- okay.
 03:19:02 23 Here is due east.
 03:19:07 24 Q. So what Mr. Harris said, again, the

03:19:16 1 bare hill described by von Wurmb was the
 03:19:20 2 eastern extension of the rise that the meeting,
 03:19:24 3 the Birmingham Meetinghouse sits upon, correct?
 9 4 **A. That's what he said, yes.**
 03:19:31 5 **Q.** And that's different than what you are
 03:19:33 6 saying, that's significantly different than
 03:19:36 7 where you placed the bare hill? You placed the
 03:19:40 8 bare hill to the north?
 03:19:42 9 **A. To the northeast.**
 03:19:47 10 **MR. KAPLIN: No, sir. If that's**
 03:19:49 11 **the scale going up and down, what you are doing**
 03:19:52 12 **is going to the north, not to the east.**
 03:19:56 13 **I have no further questions.**
 03:20:00 14 A VOICE: Extension, eastern
 03:20:01 15 extension.
 03:20:02 16 **MR. MCKENNA: We will go through**
 03:20:03 17 **our party list. Mr. Crawford, any questions**
 03:20:09 18 **for Birmingham Township?**
 03:20:12 19 **MR. CRAWFORD: No questions for**
 03:20:13 20 **Birmingham.**
 03:20:14 21 **MR. MCKENNA: Ms. Labrum, for**
 03:20:15 22 **Thornbury?**
 03:20:17 23 **MS. LABRUM: No questions for**
 6 24 **Thornbury.**

03:20:19 1 **MR. MCKENNA: Mr. Thompson,**
 03:20:20 2 **anything for Neighbors of Crebilly?**
 03:20:22 3 **MR. THOMPSON: Just one second,**
 03:20:23 4 **Mr. McKenna.**
 03:20:30 5 **CROSS-EXAMINATION**
 03:20:31 6 **BY MR. THOMPSON:**
 03:20:31 7 **Q.** Mr. Moir, if you could put back the
 03:20:34 8 three woods that you described.
 03:20:35 9 **A. Yes.**
 03:20:36 10 **MR. MCKENNA: Mr. Thompson, make**
 03:20:37 11 **sure your microphone is on, please.**
 03:20:41 12 **Q.** Is there any discrepancy concerning the
 03:20:43 13 location of those woods in the accounts of the
 03:20:50 14 battle that you reviewed?
 03:20:52 15 **A. I'm not sure I understand.**
 03:20:53 16 **Q.** The first, the second and the third
 03:20:56 17 wood, as it relates to von Wurmb's description,
 03:20:59 18 those are taken directly from the --
 03:21:04 19 **A. Robertson map.**
 03:21:07 20 **Q.** -- Archibald Robertson map?
 03:21:08 21 **A. Yes, yes, yes.**
 03:21:08 22 **Q.** And those woods are used in describing
 03:21:10 23 the movement of the Hessian troops; is that
 03:21:12 24 correct?

03:21:12 1 **A. That is correct.**
 03:21:13 2 **Q.** Are there any other woods that could,
 03:21:16 3 those woods could possibly be other than the
 03:21:19 4 ones that you have described or shown on this
 03:21:20 5 map?
 03:21:21 6 **A. Not in my opinion.**
 03:21:23 7 **Q.** So that given the fact that those woods
 03:21:26 8 are in the location they are in would
 03:21:30 9 necessarily have to account for the movements
 03:21:33 10 of the Hessians across the Crebilly property;
 03:21:36 11 is that accurate?
 03:21:38 12 **A. Yes, that's accurate, yes.**
 03:21:39 13 **Q.** So in your opinion, just to be clear,
 03:21:42 14 your opinion is that those troops were on the
 03:21:45 15 Crebilly property, correct?
 03:21:47 16 **A. Yes.**
 03:21:49 17 **Q.** And that shots were fired at those
 03:21:52 18 troops, more likely than not, on the Crebilly
 03:21:55 19 property?
 03:21:55 20 **A. That is my opinion, yes.**
 03:21:57 21 **Q.** And that those troops may have fired
 03:21:59 22 shots based on von Wurmb's account?
 03:22:02 23 **A. Correct.**
 03:22:02 24 **Q.** Now, in your opinion, is that Crebilly

03:22:05 1 property part of a battle of the American
 03:22:07 2 Revolution?
 03:22:08 3 **A. I would certainly say yes.**
 03:22:10 4 **MR. THOMPSON: Thank you.**
 03:22:12 5 **MR. MCKENNA: Mr. DuFault, any**
 03:22:13 6 **questions for Brandywine at Thornbury?**
 03:22:18 7 **MR. DUFALT: No questions.**
 03:22:20 8 **MR. MCKENNA: Mr. Bevilacqua, for**
 03:22:24 9 **West Glen HOA or the school district?**
 03:22:26 10 **MR. BEVILACQUA: No questions.**
 03:22:27 11 **MR. MCKENNA: Mr. McFalls, for**
 03:22:28 12 **the Presbyterian Church?**
 03:22:30 13 **MR. MCFALLS: No questions.**
 03:22:31 14 **MR. MCKENNA: Mr. Spackman,**
 03:22:32 15 **Thornbury Farm Trust?**
 03:22:35 16 **MR. SPACKMAN: I have no**
 03:22:35 17 **questions. Thank you.**
 03:22:36 18 **MR. MCKENNA: Mr. or Mrs.**
 03:22:37 19 **Harkins, any questions?**
 03:22:38 20 **MS. HARKINS: No questions.**
 03:22:39 21 **MR. MCKENNA: Mr. Mammucari, I**
 03:22:41 22 **don't know if you are still here. Any**
 03:22:42 23 **questions?**
 03:22:43 24 **Mr. Phillip Jones, any questions?**

03:22:46 **1** MR. JONES: No questions.
 03:22:48 **2** MR. MCKENNA: Mr. Pavelchek, any
 03:22:51 **3** questions?
4 MR. PAVELCHEK: No.
 03:22:52 **5** MR. MCKENNA: Jennifer or Jeffrey
 03:22:54 **6** Kramer, any questions?
 03:22:55 **7** MS. KRAMER: No questions.
 03:22:56 **8** MR. MCKENNA: Mr. Skros, any
 03:22:57 **9** questions?
 03:22:57 **10** MR. SKROS: No questions.
 03:22:58 **11** MR. MCKENNA: Eileen Carey, any
 03:23:00 **12** questions?
 03:23:02 **13** Dennis or Patricia McFadden, any
 03:23:05 **14** questions for the witness?
 03:23:06 **15** MR. MCFADDEN: No questions.
 03:23:06 **16** MR. MCKENNA: Carol Weller, any
 03:23:08 **17** questions?
 03:23:08 **18** MS. WELLER: No questions.
 03:23:09 **19** MR. MCKENNA: Does the Board have
 03:23:10 **20** any questions?
 03:23:13 **21** MS. DEWOLF: Sure do. I can't
 03:23:14 **22** see them. Could we turn the lights on a little
 03:23:17 **23** bit? Thanks.
24 For the American, for the

03:23:23 **1** American Battlefield Protection Program, which
 03:23:27 **2** is established by the National Park Service,
 03:23:28 **3** correct?
 03:23:29 **4** THE WITNESS: That is correct.
 03:23:30 **5** MS. DEWOLF: And since 1996 I
 03:23:34 **6** guess there have been 559 grants that have been
 03:23:39 **7** awarded to preserve battlefield areas, and by
 03:23:47 **8** their website I have seen that they have
 03:23:52 **9** \$18,442,955 that they have helped to preserve
 03:23:57 **10** historic battlefields associated with wars on
 03:24:00 **11** American soil. And before they do so, they do
 03:24:05 **12** a lot of research and documentation before they
 03:24:07 **13** make these awards.
 03:24:10 **14** Are you familiar with Osborne
 03:24:12 **15** Hill and its association with this particular
 03:24:15 **16** battle?
 03:24:16 **17** THE WITNESS: With Osborne Hill,
 03:24:17 **18** yes, certainly.
 03:24:18 **19** MS. DEWOLF: It was associated
 03:24:20 **20** with this battle, correct?
 03:24:21 **21** THE WITNESS: Yes. I believe I
 03:24:22 **22** mentioned it, yes.
 03:24:23 **23** MS. DEWOLF: Yes. And the
 03:24:27 **24** federal government, as I understand, has

03:24:32 **1** defined this battle as a significant battle
 03:24:35 **2** that they would like to fund and protect, and
 03:24:40 **3** at this time Osborne Hill is being conserved as
 03:24:46 **4** a first step to the tune of support by many
 03:24:53 **5** partners right now. Are you familiar with that
 03:24:57 **6** particular Osborne Hill piece being an
 03:25:01 **7** important piece of this?
 03:25:02 **8** THE WITNESS: Osborne Hill is an
 03:25:04 **9** important piece. I don't know of any
 03:25:06 **10** particular grant for Osborne Hill itself. But
 03:25:08 **11** I just might be unaware of that.
 03:25:11 **12** MS. DEWOLF: Yes. And as I
 03:25:13 **13** understand from Chester County as well, this
 03:25:15 **14** area is an important area because of the
 03:25:21 **15** Brandywine Battlefield to conserve in some way
 03:25:25 **16** or to protect, and that there are funding
 03:25:30 **17** sources and resources to be able to do so.
 03:25:36 **18** Would you agree that in your
 03:25:37 **19** experience with Chester County and working with
 03:25:39 **20** them on your mapping program and their research
 03:25:41 **21** that they have done in the last year or two
 03:25:44 **22** that this is so as well?
 03:25:46 **23** THE WITNESS: Yes, for the last
 03:25:47 **24** ten years, maybe even three, maybe even four

03:25:50 **1** grants from the National Park Service
 03:25:53 **2** specifically for the Battle of Brandywine.
 03:25:55 **3** MS. DEWOLF: And I believe that
 03:25:57 **4** the battlefield program from the federal
 03:26:00 **5** government is supporting millions, as well as
 03:26:04 **6** other sources to do so. So my point being that
 03:26:10 **7** there are resources to have a conservation
 03:26:17 **8** easement or protection efforts if the township
 03:26:21 **9** so desired, given that, would you understand
 03:26:25 **10** that to be true?
 03:26:26 **11** THE WITNESS: I don't know of any
 03:26:28 **12** specific easements that are being sought. But
 03:26:32 **13** there, the grants in these projects are showing
 03:26:35 **14** the significance of these areas, and I guess as
 03:26:39 **15** a natural follow-up to that is to say they
 03:26:43 **16** should be preserved in some way.
 03:26:45 **17** MS. DEWOLF: I think it was
 03:26:51 **18** somewhat understated, your work that has been
 03:26:54 **19** significant in Chester County. I'm
 03:27:00 **20** disappointed at Mr. Kaplin's analysis and
 03:27:05 **21** questioning, given that he has been the key
 03:27:09 **22** resource for Chester County in their mapping
 03:27:12 **23** and their recent research efforts to protect
 03:27:16 **24** the battlefield as well.

03:27:18 1 So my question is: You were key
 03:27:23 2 in developing the Chester County maps, correct,
 03:27:27 3 that have been significantly researched and
 4 prior to being documented by you?
 03:27:34 5 THE WITNESS: Right, that is
 03:27:35 6 correct. And the important thing is that
 03:27:36 7 working with historic, expert historians, I do
 03:27:41 8 the mapping interpretation.
 03:27:44 9 MS. DEWOLF: Is it true that
 03:27:45 10 Chester County itself is also pursuing or
 03:27:50 11 interested in efforts regarding the protection
 03:27:53 12 of the Brandywine Battlefield --
 03:27:56 13 THE WITNESS: Certainly.
 03:27:57 14 MS. DEWOLF: -- as a significant
 03:27:58 15 location in the county?
 03:27:59 16 THE WITNESS: Yes.
 03:28:00 17 MS. DEWOLF: I had another
 03:28:09 18 question if I can find it. If somebody else
 03:28:11 19 wants to go before I finish. Do either of you
 03:28:25 20 have questions?
 03:28:28 21 THE CHAIRMAN: No, I don't.
 03:28:51 22 MS. DEWOLF: As I understand,
 03:28:52 23 PHMC has also determined this to be eligible
 24 for the historic register. Are you familiar

03:28:57 1 with that?
 03:28:57 2 THE WITNESS: Yes, I believe the,
 03:29:01 3 all these grants for the National Park Service
 03:29:03 4 have all involved the PHMC, the Pennsylvania
 03:29:06 5 Historic Museum Commission.
 03:29:12 6 MS. DEWOLF: And in their
 03:29:13 7 analysis it was the entire site, as I
 03:29:19 8 understand.
 03:29:22 9 THE WITNESS: I don't have the
 03:29:22 10 boundaries with me. I don't recall whether the
 03:29:24 11 boundaries actually went across -- there is
 03:29:27 12 different boundaries of where the battlefield
 03:29:30 13 is. It depends on which boundary you call the
 03:29:33 14 right one as to whether this property is within
 03:29:35 15 the boundaries.
 03:29:38 16 MS. DEWOLF: All right. I think
 03:29:39 17 that's all I have.
 03:29:41 18 MR. MCKENNA: Any other Board
 03:29:42 19 member?
 20 Any redirect, Mr. Gill?
 03:28:47 21 MR. GILL: No redirect, no.
 03:29:50 22 MR. MCKENNA: Mr. Kaplin, any
 03:29:51 23 recross based on the questions from Ms. DeWolf?
 03:29:56 24

03:29:56 1 RE-CROSS-EXAMINATION
 2 BY MR. KAPLIN:
 03:29:56 3 Q. Mr. Moir, you were just asked about --
 03:29:58 4 MR. GILL: Excuse me. Is the
 03:30:00 5 opportunity for recross available without
 03:30:01 6 redirect?
 03:30:02 7 MR. MCKENNA: I believe it is
 03:30:03 8 based upon the fact that there was questioning
 03:30:05 9 by the Board after the fact that he had a
 03:30:09 10 chance to ask questions.
 03:30:10 11 MR. GILL: Well, I didn't say
 03:30:11 12 that in the nature of redirect, of cross. But
 03:30:15 13 go ahead.
 03:30:17 14 BY MR. KAPLIN:
 03:30:18 15 Q. You were just asked whether the
 03:30:20 16 Crebilly Farm has been determined to be
 03:30:21 17 eligible for I assume the national register.
 03:30:27 18 Correct?
 03:30:29 19 A. I believe that might have been the
 03:30:31 20 question, yes.
 03:30:32 21 Q. And you said yes?
 03:30:35 22 A. I said yes, that it was part of the
 03:30:39 23 national, that it was eligible?
 03:30:41 24 Q. Yes. I think that's what you said.

03:30:43 1 A. I said -- I was talking about whether
 03:30:47 2 the PHMC was involved in this project. I guess
 03:30:51 3 maybe is the direct answer to her question.
 03:30:57 4 Q. So you don't know whether the PHMC or
 03:31:02 5 anybody else has determined that the Crebilly
 03:31:05 6 Farm is eligible for the national register?
 03:31:10 7 A. That I don't know off the top of my
 03:31:11 8 head. I'm sure it is something that can be
 03:31:14 9 very easily --
 03:31:15 10 MS. DEWOLF: It was provided in
 03:31:16 11 prior testimony.
 03:31:17 12 MR. KAPLIN: Yes. But what was
 03:31:19 13 provided in prior testimony was that it was
 03:31:20 14 eligible not as a battlefield but as a
 03:31:24 15 gentleman's farm, and that's not what was put
 03:31:27 16 into the record. So we would like the record
 03:31:29 17 to properly reflect that the eligibility, if it
 03:31:36 18 exists, has nothing to do with Mr. Moir's
 03:31:38 19 testimony. It has to do with the gentlemen
 03:31:41 20 farms or the equestrian farms that are on the
 03:31:44 21 property.
 03:31:46 22 MR. MCKENNA: I believe that's
 03:31:47 23 what Mr. Wise testified to.
 03:31:48 24 MR. KAPLIN: I agree.

03:31:50 **1** MR. MCKENNA: Anything further?
 03:31:52 **2** MR. KAPLIN: No.
 03:31:52 **3** MR. MCKENNA: Mr. Gill, anything?
4 MR. GILL: No.
 03:31:54 **5** MR. MCKENNA: Thank you, Mr.
 03:31:55 **6** Moir.
 03:31:55 **7** THE WITNESS: Thank you.
 03:31:56 **8** (Witness excused.)
 03:31:57 **9** MR. MCKENNA: Ms. Camp, anything
 03:31:57 **10** further from the Planning Commission this
 03:31:59 **11** evening?
 03:31:59 **12** MS. CAMP: We have nothing else
 03:32:00 **13** for this evening. We have one further witness,
 03:32:03 **14** John Snook, we would like to call on September
 03:32:05 **15** 19th, and the Planning Commission will be
 03:32:06 **16** resting.
 03:32:07 **17** MR. MCKENNA: Okay. And that was
 03:32:10 **18** our expectation, at least, were the four
 03:32:12 **19** witnesses we could get through tonight,
 03:32:14 **20** hopefully. To be honest, I'm a little
 03:32:16 **21** surprised we were able to get through them
 03:32:18 **22** based upon where we are today. However, I am
 03:32:20 **23** pleased by that fact.
24 Yes, Mr. Kaplin, I'm not going to

03:32:22 **1** give you a hundred percent of that credit.
 03:32:24 **2** So what I would say to all the
 03:32:27 **3** other parties, I'm just going to go in order
 03:32:29 **4** that we have them, so Birmingham Township,
 03:32:33 **5** Thornbury Township, Neighbors for Crebilly,
 03:32:35 **6** Brandywine at Thornbury, ladies and gentlemen,
 03:32:38 **7** it is time to begin preparing the cases if you
 03:32:42 **8** have them. But I expect the Planning
 03:32:45 **9** Commission will finish with their case pretty
 03:32:47 **10** promptly in September, and we are going to move
 03:32:49 **11** on to Birmingham, and then everyone else. So
 03:32:52 **12** if you have testimony, evidence, witnesses that
 03:32:57 **13** you are likely to present, now is the time to
 03:32:59 **14** marshal them between September and October. So
 03:33:03 **15** please be prepared. Come prepared.
 03:33:05 **16** I can't guarantee you that your
 03:33:07 **17** witness will get reached on any one night, as
 03:33:10 **18** we couldn't for the applicant, as we couldn't
 03:33:13 **19** for the Planning Commission. I realize that is
20 in convenient to many, but that is the reality
 03:33:17 **21** of the situation we find ourselves in.
 03:33:19 **22** The next meeting will be here at
 03:33:21 **23** Rustin at 6:00 p.m. on September 19th. The
 03:33:27 **24** hearing after that is in October, it is October

03:33:30 **1** 24th. That hearing will be at Stetson. With
 03:33:35 **2** school back in, the scheduling of the location
 03:33:38 **3** rears its ugly head. So I apologize, but in
 03:33:40 **4** October we will be at Stetson. It has already
 03:33:43 **5** being sent out numerous times by the township,
 03:33:47 **6** will be announced every time so there is no
 03:33:50 **7** confusion.
 03:33:51 **8** So we will stand in continuance,
 03:33:53 **9** unless there is anything further from anyone,
 03:33:55 **10** this evening until 6:00 p.m. on September 19th.
 03:33:58 **11** Thank you.
 03:34:02 **12** Thank you, Vince, and everybody
 03:34:04 **13** here at Rustin for your tremendous help. I
 03:34:07 **14** very much appreciate it. Thank you.
 03:34:08 **15** (Proceedings conclude at 9:26
16 p.m.)
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21
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24

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3 PLANNING COMMISSION EXHIBITS

4 PC-14 - Growth Management Plan, title page,
5 page identifying adoption, pages 19 and 82

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7 PC-15 - Malin CV

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9 PC-17 - Exhibit A-6, conditional use plan, as

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10 marked up by Mr. Harris during testimony

11

12 CERTIFICATE OF REPORTER PAGE 1361

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1 Commonwealth of Pennsylvania)

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2 Chester County)

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5 CERTIFICATE OF REPORTER

6

7 I, Eleanor J. Schwandt, Registered
8 Merit Reporter and Notary Public, do hereby
9 certify that the foregoing record, pages 1188
10 to 1360 inclusive, is a true and accurate
11 transcript of my stenographic notes taken on
12 August 29, 2017, in the above-captioned matter.

13

14 IN WITNESS WHEREOF, I have hereunto
15 set my hand and seal this 9th day of September,
16 2017.

17

18



Eleanor J. Schwandt

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