BEFORE THE OHIO POWER SITING BOARD

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In the Matter of the Application of Kingwood Solar I LLC for a Certificate of Environmental Compatibility and Public Need.	:	Case No. 21-117-EL-BGN

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PROCEEDINGS

before Mr. Michael Williams and Mr. David Hicks, Administrative Law Judges, at the Ohio Power Siting Board, via Webex, called at 9:04 a.m. on Wednesday, March 9, 2022.

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VOLUME III

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Wednesday Morning Session,
March 9, 2022.

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ALJ HICKS: Let's go on the record.

We are reconvening in Case No. 21-117-EL-BGN, Kingwood Solar I LLC. As we did yesterday, I'm just going to take a quick appearance, sort of attendance here so we know who was on today, and I will just run down the roster. If you could just state your name for each party. And we will start with the Applicant.

MR. SETTINERI: Good morning, your Honors. On behalf of Kingwood Solar I LLC, Michael Settineri, Anna Sanyal, and Nathaniel Morse today.

ALJ HICKS: Thank you.

And on behalf of Staff.

MS. BAIR: Thank you, your Honor. On behalf of the Board Staff, Jodi Bair, Werner Margard, and Shaun Lyons, Assistant Attorneys General.

ALJ HICKS: Thank you.

And for the Ohio Farm Bureau Federation.

MS. MILAM: Good morning, your Honors. Amy Milam on behalf of Ohio Farm Bureau Federation.

ALJ HICKS: Thank you.

And on behalf of the Board of Trustees of

Cedarville Township.

MR. BROWN: Good morning, your Honor. This is Daniel Brown for Cedarville Township.

ALJ HICKS: Thank you.

And for the Board of Trustees of Xenia Township.

MR. DUNN: Good morning, your Honor. Kevin Dunn and David Watkins with Plank Law Firm.

ALJ HICKS: Thank you.

Board of Trustees of Miami Township.

MR. SLONE: Good morning. Lee Slone, Dinsmore & Shohl.

ALJ HICKS: Thank you.

For In Progress.

MR. HART: Good morning. John Hart.

ALJ HICKS: Thank you.

And for the Tecumseh Land Preservation Association.

MR. SWANEY: Good morning. Charles Swaney on behalf of Tecumseh Land Preservation Association.

ALJ HICKS: Thank you. On behalf of Citizens for Greene Acres and associated Intervenors.

MR. VAN KLEY: This is Jack Van Kley of Van Kley & Walker.

ALJ HICKS: And for the Greene County Board of Commissioners.

MR. BOGGS: Good morning. Thad Boggs and Jesse Shamp, Frost Brown Todd, for the Board of Commissioners.

ALJ HICKS: Thank you.

It looks like we have a full attendance here. Before we call our next witness, I am going to turn it over to Judge Williams.

ALJ WILLIAMS: Thank you. I just wanted to put on the record a ruling, actually a ruling holding in abeyance on the motion for subpoenas that was filed by Applicant in regard to the Power Siting Board Staff. That motion was filed and Staff filed its reply last Friday, March 4. And then Applicant filed its reply to Staff's response yesterday. And in Applicant's most recent filing they've requested that the ALJs hold in abeyance a ruling on the motions for subpoena.

We are going to hold in abeyance that ruling, though as I've mentioned briefly off record, the consideration of this matter will certainly be contingent on Applicant's pursuit of testimony from witnesses that Board Staff have made available. It's my understanding Board Staff has made available

approximately 10 witnesses which is a significant portion of the entirety of the Board Staff and that they've provided two of the witnesses who were named in the subpoena request, namely, Matt Butler and Grant Zeto.

Further, it is my understanding Grant Zeto is the person who oversaw the entirety of the review of the application, and we would certainly expect Grant Zeto to provide testimony in satisfaction of the issues that are raised in Applicant's request for subpoenas and appearances of the witnesses.

So if witnesses are unable to respond to reasonable questions in regard to the activity that led to the publication of the Staff Report, this matter would be further considered, but at this time the ALJs anticipate Board Staff will be able to respond. They have sponsored the entirety of the Staff Report.

Accordingly, we would hold this matter in abeyance, subject to further review after cross-examination occurs in regard to the entirety of the Staff witnesses.

Any questions regarding that ruling, Mr. Settineri?

MR. SETTINERI: Thank you for asking, your Honor. I don't have questions at this time.

ALJ WILLIAMS: Ms. Bair?

MS. BAIR: No, I have no questions. Thank you, your Honor.

ALJ WILLIAMS: All right. Thank you, everyone.

David, I will turn it back over to you to get our first witness going.

ALJ HICKS: Okay. I will turn it over to Mr. Settineri or Ms. Sanyal. I believe our next witness -- well, go ahead and call them but I believe I know who it is.

MR. SETTINERI: Thank you, your Honor. Good morning. Kingwood Solar I LLC will call Mr. Brent Finley to the stand, please.

MR. SCHMIDT: Mr. Finley, you've been promoted. If you can enable your audio and video.

ALJ HICKS: I can see you.

MR. FINLEY: Hold on. You can hear?

ALJ HICKS: I can hear you.

MR. FINLEY: Okay.

ALJ HICKS: If you could just raise your right hand.

(Witness sworn.)

ALJ HICKS: Okay. Please proceed, Mr. Settineri.

MR. SETTINERI: Thank you, your Honor. Before I start, I would like to mark an exhibit. Kingwood Exhibit 12 would be the direct testimony of Brent Finley.

ALJ HICKS: It is so marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

MR. SETTINERI: All right. Thank you.

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BRENT FINLEY

being first duly sworn, as prescribed by law, was examined and testified as follows:

DIRECT EXAMINATION

By Mr. Settineri:

Q. And good morning, Mr. Finley.

A. Good morning.

Q. Could you please state your name and business address for the record, please.

A. Sure. Brent Finley, 231 Front Street, Brooklyn, New York 11211.

Q. And do you have a copy in front of you what's been marked as Kingwood Exhibit 12?

A. Well, I don't know what that is, but if it's my testimony, yes.

Q. Okay. Do you have a copy of your direct testimony in front of you?

A. Yes.

Q. And that was prefiled in this proceeding, correct?

A. Yes.

Q. Okay. And Kingwood Exhibit 12 has been marked as your direct testimony so, along with -- but can you identify what's been marked as Kingwood Exhibit 12?

A. It's my direct testimony; is that what you are asking?

Q. Yes. Was that prepared by you or at your direction?

A. Yes.

Q. Okay. Do you have any changes or revisions to that testimony today?

A. No.

Q. Okay. If I asked you the questions in that direct testimony, would your answers be the same?

A. Yes.

MR. SETTINERI: Okay. Thank you.

At this time, your Honor, the witness is available for cross-examination.

ALJ HICKS: Thank you, Mr. Settineri.

We will go in the same order as we have been doing, so we will start with the Ohio Farm Bureau Federation for cross.

MS. MILAM: No questions, your Honor.

ALJ HICKS: Thank you.

Then we will go to CGA and Mr. Van Kley.

MR. VAN KLEY: Thank you, your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. And good morning, Mr. Finley.

A. Morning.

Q. Let's talk a little bit about your testimony and in particular your testimony about whether or not pollutants can be released from solar panels into the environment. We will start with that topic. Let me, first of all, ask you whether you are aware of whether any solar projects have had fires.

A. I don't know one way or the other, no.

Q. All right. Now, do you know whether the Kingwood Solar project may have vegetation that is growing around the solar panels?

A. I did look at the application and saw the questions and responses, and I -- my recollection is

at least some of it that land is vegetated.

Q. Are you aware that the Applicant has proposed to plant perennial plants in its solar arrays?

MR. SETTINERI: I am going to object. Object again to the type of question. It's assuming facts -- there's been no foundation laid and no facts in evidence. It's the missing word of whether in the question, your Honor. Are you aware that perennials will be planted versus are you aware whether. And that form of the question is very important in the record and the transcript, sir.

MR. VAN KLEY: Your Honor, that's absolutely untrue. The application has the information that I assumed in the question. And if the witness is unaware of it, if the witness hasn't read that part of the application, he can say so.

ALJ HICKS: Overruled. The witness can answer as to whether he knows.

A. I recall seeing something about that in the application, maybe, again, it was in one of the responses but that wasn't something I was looking for really for my opinion and my testimony, but I think I recall something like that.

Q. Do you know whether perennials in Ohio

dieback in the winter?

MR. SETTINERI: I would just object at this time. This is outside the scope of the direct testimony, your Honor.

MR. VAN KLEY: Your Honor, as these are introductory questions and to set up subsequent questions dealing with the release of pollutants from solar panels, in order to ask those questions, I'm sure Mr. Settineri would insist that I establish a foundation and that's what I am doing here.

ALJ HICKS: Overruled. He can answer as to his knowledge.

A. Do I -- am I aware whether perennials dieback, I think was the question. I don't have any idea.

Q. All right. Well, if -- if there were dead perennial vegetation around the solar panels in the Kingwood Solar project, would you expect that though -- that vegetation could catch on fire under certain circumstances such as lightning?

A. That is -- I mean, that's way outside of my area of expertise. I could take a guess, but I suppose it's possible.

Q. Okay. Well, are you aware -- I'm sorry.

A. I don't know that.

Q. Are you aware that that lightning sometimes starts fires in vegetation?

A. Yes. I -- my understanding or my -- my knowledge is that it surely can start forest fires. That happens all the time. I don't know whether it starts grass fires. Maybe it does.

Q. All right. Now, if the solar project caught fire, would the solar panels in that fire release any contaminants into the environment as a result of that fire?

A. It would depend on if the panel was -- integrity of the panel was such that, you know, the inner layer where the metals are was exposed and whether there was precipitation following that that could leach out some of the metals. I couldn't rule it out completely, but I don't think there would be -- several things would have to happen in order for any leaching to occur from the panel following a fire.

Q. And what would those things be that would have to happen?

A. Like I said, you would have to have -- the panel would have to break, crack into pieces, or fracture at least. There would have to be some sort of precipitation. The metals don't just leach out on

their own. There has to be a carrier and that's water. But even then I don't believe that there would be any significant leaching of the metal out of the panel.

Q. Well, does lightning often occur during rain events?

A. I've seen it with rain events, without rain events, probably more with rain events.

Q. Okay. All right. So with a rain event, you would have the panels exposed to rainfall, correct?

A. There could be some rainfall if there was lightning, sure.

Q. All right. And can you tell me whether solar panels can burn?

A. Well, it's mostly plastic and glass. I would imagine -- I mean, would a grass fire ignite a panel? I don't know.

Q. So if you're making an opinion -- if you are testifying about an opinion concerning whether or not pollutants can leave solar panels, wouldn't it be important to know whether or not a fire in a solar array can release pollutants into the environment?

MR. SETTINERI: Just object, mischaracterizes the testimony. To the extent he is

referring to the direct testimony, he should point the witness to the direct testimony he is referring to.

ALJ HICKS: Mr. Van Kley.

Q. (By Mr. Van Kley) Yes. Let's just start close to the beginning, Mr. Finley. Do you have Kingwood Exhibit No. 12 in front of you?

A. Yes.

Q. Let's go to your answer to question 9 on page 3. Tell me when you're there.

A. I'm there.

Q. All right. Question 9 asks as follows: "Is there a potential risk of hazardous or toxic substances being released into the environment as a result of the Kingwood Solar project using solar panel technology?" Do you see that question?

A. Yes.

Q. All right. And you expressed an opinion in response to that question, correct?

A. I did.

Q. Okay. So going back to my question, in order to express an opinion in response to question 9, isn't it -- isn't it important for you to know whether a fire in a solar array can release contaminants into the environment?

A. No. I don't think I need to look at each individual potential catastrophic event like a fire or tornado or a hailstorm or hurricane individually. The fact is the metals in these panels are very difficult to extract even under very aggressive leaching conditions, so as I say in my report, I don't think any force of nature is going to create a condition where a significant amount of metal or even a trivial amount of metal is going to leach out of a panel in the field.

Q. Well, how can you express that opinion when you don't even know whether a fire can release contaminants from a solar panel?

A. I don't think a fire can release it unless -- several things have to happen which I've already described. And even then I think the release would be negligible.

Q. Well, can you tell me whether a fire can penetrate the coating of a solar panel?

A. No.

Q. You can't tell me that?

A. That is not something I have studied at all, no.

Q. Do you know whether firefighting liquids contain contaminants?

A. Contaminant? I'm not sure what you mean.

Q. Well, have you ever heard of a family of chemicals known as PFASs, P-F-A-S?

A. Yes.

Q. All right. And PFASs are sometimes used in chemicals by fire departments that -- to suppress fires, right?

A. Right. But they are there intentionally. They are not a contaminant.

Q. All right. If PFASs get into the water, that's not a good thing, is it?

A. It would depend on how much gets in the water and what kind of PFAS it is. There are literally dozens, maybe hundreds of different forms of PFAS compounds. I would -- I wouldn't say it's a good thing certainly, but whether it's going to pose a health hazard will depend on those factors at least.

Q. Are you aware that the U.S. Environmental Protection Agency has been taking regulatory action in order to prevent the contamination of groundwater by PFASs?

MR. SETTINERI: Object, form of question again, your Honor. Assumes facts not in evidence, no foundation. It's form of the question.

MR. VAN KLEY: Your Honor, this is -- this is cross-examination of a hostile witness.

MR. SETTINERI: Your Honor --

MR. VAN KLEY: Please don't interrupt me, Mike. I am not finished.

ALJ HICKS: Go ahead, Mr. Van Kley.

MR. VAN KLEY: Yeah. I'm entitled to ask leading questions, your Honor, as you know. Apparently Mr. Settineri doesn't want me to but that's my right and that's a leading question that I have the right to ask.

MR. SETTINERI: Your Honor, if I may.

ALJ HICKS: Sure.

MR. SETTINERI: The form of question is essentially Mr. Van Kley testifying as to the existence of whatever -- any regs or positions. It's the form of question that matters. And so he's -- he's presenting basically testimony that something exists and asking the witness if he is aware that it exists, so the form of the question is very important. For instance, are you aware whether there are regulations, but he is leaving that word out. And that's my issue, your Honor, when it comes to the transcript.

MR. VAN KLEY: And, your Honor, that's

exactly what I'm complaining about. Mr. Settineri doesn't want me to ask leading questions, and my questions are not evidence. That's basic Rules of Evidence. Attorneys' questions are not evidence. They can't be cited in a post-hearing brief, and they can't be relied on by the decision maker as evidence to support any points in the hearing.

So there's nothing wrong with my questions. They don't contaminate the record. They are simple leading questions that are common place in any evidentiary proceeding.

ALJ HICKS: Karen, can you read the question back.

(Record read.)

ALJ HICKS: I am going to overrule the objection. The -- Mr. Van Kley can certainly ask leading questions. He asked if he is aware. The witness can clarify.

THE WITNESS: So I can go ahead and answer? Okay.

ALJ HICKS: Yes.

A. Yes, yes. I know that they have sent, for example, reference notices for PFOA. I believe that they have set a timeline to have PFASs removed from various products including, I thought,

firefighting foam. I'm not even sure the PFASs are allowed in firefighting foam any more. Yes, the EPA is certainly aware there are areas around the country where PFAS, PFLA, has made its way into groundwater.

Q. Thank you. Can you for the record tell us what PFOA stands for?

A. Polyfluorinated octanoic acid.

Q. And also for the record what does PFA stand for?

A. It's just a general catchall term for polyfluorinated alkyls.

Q. All right. Thank you. Do you know -- do you know whether it is common for solar farms to use chemicals in the water or -- that's used to clean solar panels?

A. No, I don't know anything about that actually.

Q. Now, you -- are you aware that in the process of constructing a solar array that posts are driven into the ground for the purpose of installing a foundation for the solar array?

A. Yes. Well, I don't know if it's typical, but I do recall reading that in the application.

Q. And do you know how deep those posts will be driven into the ground in the Kingwood Solar

project?

A. No, not exactly. For some reason I remember 10 feet. That might not be right but.

Q. Isn't it true that the process of driving a post into the ground will create a preferential pathway for contaminants to seep from the soil surface through the soil following that --

MR. SETTINERI: Just object. Just object. Lack of foundation that he is aware of the process. There has been no foundation laid as to that. Your Honor, that's my objection.

ALJ HICKS: The objection is noted, but the witness can answer if he is aware.

A. It might, and it might not. I mean, it depends, site specifics. But, yeah, that's the best I can answer that.

Q. All right. Well, what are the site specifics that you just referred to?

A. I would imagine it's going to depend on the nature of the soil, how the post is put in, whether -- whether there really is any room for additional downward migration of rain that wouldn't normally have existed. You know, I just don't know beyond that.

Q. All right. Are you aware of any solar

farm that has sampled its groundwater to determine whether the solar farm has polluted the groundwater?

A. I -- that's -- I don't know one way or the other. That's not something I've looked into.

Q. All right. So in answering question 9 of your testimony, isn't -- isn't it important for you to know whether any solar farm in the country or even in the world has ever sampled its groundwater to determine whether hazardous or toxic substances have been released into the environment?

A. I mean, if that information exists, it would be interesting to look at but the -- what I am relying on, what I cite to in my report -- I should say my testimony are studies that have attempted to extract metals out of panels under very aggressive conditions, very little leaches out. And there are studies that have even assumed that all of it leaches out, all of the cadmium, for example, leaches out of a CP, cadmium panel, and goes directly to the groundwater with no loss to the soil column or anything like that, and the predicted levels in the groundwater are below drinking water standards.

So from what I have seen, it's highly unlikely that panels intact or not intact are going to leach metals to the extent the groundwater would

be impacted.

Q. Well, what, if anything, did you do in preparation for your testimony to find out whether any solar farm has ever sampled its groundwater to find out whether contaminants were being released from the solar array?

A. I did not look into that, like I said. I relied on published studies of leaching in the field and under laboratory conditions of metals out of panels.

MR. VAN KLEY: All right. Thank you very much. I have no further questions, your Honor.

ALJ HICKS: Thank you, Mr. Van Kley.

Up next we have Miami Township.

MR. SLONE: No questions for Miami Township for this witness. Thank you.

ALJ HICKS: Next is Greene County Board of Commissioners.

MR. BOGGS: No questions from the Board of Commissioners for this witness, your Honor.

ALJ HICKS: Thank you.

Xenia Township.

MR. DUNN: No questions for Xenia Township, your Honor.

ALJ HICKS: Cedarville Township.

MR. BROWN: No questions, your Honor.

ALJ HICKS: In Progress.

MR. HART: No questions. Thank you.

ALJ HICKS: Tecumseh Land Preservation.

MR. SWANEY: No questions, your Honor. Thank you.

ALJ HICKS: And Board Staff.

MS. BAIR: No questions. Thank you.

ALJ HICKS: Okay. With that I believe we are finished with Mr. Finley.

MR. SETTINERI: Not yet, your Honor. If I may just have a few minutes to consult and see if I have any redirect.

ALJ HICKS: My apologies. We've got such momentum going today, I was ready to keep trucking along. I got excited. Certainly.

MR. SETTINERI: Drop for 5 and come back, that would be great.

ALJ HICKS: Sure. About 9:40, nice even number.

MR. SETTINERI: All right.

ALJ HICKS: Thanks. We are off the record.

(Recess taken.)

ALJ HICKS: We will go ahead and go back

on the record.

Mr. Settineri, you've had some time to confer to see if you have any redirect.

MR. SETTINERI: Thank you, your Honor. At this time we do not have any redirect for Mr. Finley.

ALJ HICKS: Okay. So I think officially now, before I jumped the gun, we are finished with Mr. Finley.

Go ahead.

MR. SETTINERI: At this time we would move for the admission of Kingwood Exhibit 12 into the record.

ALJ HICKS: Okay. Any objections?

Hearing none, Kingwood Exhibit 12 is admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ HICKS: I think Mr. Finley has been demoted, but I will just thank him for his time and turn it back over to you, Mr. Settineri, to call your next witness.

MR. SETTINERI: Thank you, your Honor. At this time Kingwood Solar I LLC would call Dr. John Nealon to the stand, please.

MR. SCHMIDT: Dr. Nealon, you've been

promoted. If you can enable your audio and video.

ALJ HICKS: I think I can see you.

DR. NEALON: Can you hear me?

ALJ HICKS: I can hear you. If you would raise your right hand.

(Witness sworn.)

ALJ HICKS: Okay. Mr. Settineri, please proceed.

MR. SETTINERI: Thank you, your Honor. And at this time I would like to mark an exhibit. I would like to mark as Kingwood Exhibit 13 the direct testimony of Dr. John S. Nealon.

ALJ HICKS: It is so marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

MR. SETTINERI: Thank you.

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JOHN S. NEALON, Ph.D.

being first duly sworn, as prescribed by law, was examined and testified as follows:

DIRECT EXAMINATION

By Mr. Settineri:

Q. And good morning, Dr. Nealon.

A. Good morning.

Q. Do you have before you what has been marked as Kingwood Exhibit 13, sir?

A. I do.

Q. And can you please identify that for the record.

A. It is my direct testimony.

Q. All right. And was that prepared by you or at your direction?

A. It was prepared by me.

Q. Okay. And do you have any changes or revisions to that testimony at this time?

A. I do have a couple of changes.

Q. All right. Can you please carefully and slowly walk through those for the court reporter, please.

A. Yes. On page 4, line 6, which is answer 10, please insert the following sentence "I have also reviewed Condition 8 of the Joint Stipulation which remains unchanged from the Staff Report."

Q. And do you have any other revisions to your testimony at this time?

A. One more. On page 6 on line 18, from the word "therefore" through line 19 to the word "condition," please strike.

Q. Okay. And for the record would -- can you just read the sentence as it would -- with your revision.

A. Yes. Starting in line 17 "While I do not disagree with the wording of Condition 8, it is my opinion that the certificate need not include geotechnical recommendations."

Q. All right. Thank you, Dr. Nealon. Do you have any other revisions to your testimony at this time?

A. I do not.

Q. Okay. If I asked you the questions in your direct testimony today, would your answers be the same today as you had revised?

A. Yes, sir.

MR. SETTINERI: All right. Thank you, Dr. Nealon.

Your Honor, the witness is available for cross-examination, and upfront I will move for the admission of Kingwood Exhibit 13, subject to cross-examination.

ALJ HICKS: Thank you, Mr. Settineri.

Okay. Up first Ohio Farm Bureau Federation.

MS. MILAM: No cross. Thank you, your Honor.

ALJ HICKS: Okay. And I will turn it over to CGA and Mr. Van Kley.

MR. VAN KLEY: Thank you, your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Would you go to your answer to question 3, please.

A. Yes, sir.

Q. This is a question about your educational and professional background, correct?

A. Yes, sir.

Q. I see the word "geotechnical" or a variation of "geotechnical" several places in this answer. Can you tell me what a -- what the term geotechnical means?

A. Geotechnical engineering is a branch or subset of civil engineering that deals essentially with I like to describe it as the marriage of earth and concrete or steel, the study of how your -- how the ground will impact what you are building and how what you are building will impact the ground.

Q. Do you consider your field of expertise to be a geotechnical engineer?

A. Yes.

Q. You are not a hydrogeologist, are you?

A. I am not.

Q. Going down to -- into this answer on page 2, line 11, I would like to direct your attention to the sentence that starts on that line. And there the sentence reads "I have also worked on groundwater related studies, including dewatering and water supply." Can you describe what those studies are all about?

A. When I worked for the Illinois State Water Survey -- well, first of all, let me ask you when you asked me if I was a hydrogeologist, did you ask me if my primary expertise was in hydrogeology? I have done plenty of hydrogeology in my career. When I worked for the Illinois State Water Survey, I worked in the groundwater section, and my responsibilities included aquifer testing, groundwater resource evaluation in support of municipal well installation.

I also worked as a -- as a consultant to the Environmental Protection Agency in their Underground Injection Control Program.

Q. So was the extent of your hydrogeologic work the work that you performed for that agency?

A. That was the most of it. I have done hydrogeological assessments at times through my career as well.

Q. Approximately what percentage of your time during your career has been spent on hydrogeologic projects?

A. I worked for the State Water Survey for four and a half years. I have done some hydrogeologic projects, I don't know how to assign a percentage of that, maybe another couple of years.

Q. All right. So approximately six years of your -- let me restart.

So the hy -- the bulk of the hydrogeologic work you have done in your career was performed during the first -- approximately first six years of your career?

A. First five.

Q. Okay. Just to get a more recent feel for this topic, during the year 2021, what percentage of your time approximately was spent on hydrogeologic work?

A. Very little of it.

Q. And how about during the last 10 years, same question?

A. During the last 10 years, I -- I worked on one project for about a year performing a hydrogeologic assessment of an earth dam in Louisville, Kentucky. That would have been the bulk

of it.

Q. Okay. How was that earth dam related, if at all, to groundwater?

A. The -- the purpose of the assessment was not only to evaluate the -- the stability of the existing dam but also to evaluate its hydrogeology in terms of is it -- is it leaking, what does -- what is the groundwater table like, how does the -- how do water levels in the bedrock underneath it compare to water levels in the embankment as -- as a means of evaluating the overall health of an older dam.

Q. And what year did you do that work on the dam?

MR. SETTINERI: He's already established himself as knowledgeable and good, so he's off to a good start.

ALJ HICKS: Mr. Settineri, you are unmuted.

MR. SETTINERI: Oops. Oh, that's really great. Sorry. My apologies.

A. 2013.

Q. Okay. And since 2013, approximately how much of your time has been spent on hydrogeologic work?

A. Could you repeat that question, sir?

Q. Sure. Since you finished the project on the earth dam, I assume that was in 2013?

A. Yes, sir.

Q. Okay. Since you finished your work on the hydrogeo -- since you finished your work on the earth dam in 2013, approximately how much of your time has been spent on hydrogeology work?

A. Little. Mostly -- mostly I have consulted with colleagues who are working on earth dam projects in terms of how to approach evaluating seepage characteristics through the embankment placement of piezometers and such.

Q. What, if any, hydrogeologic work have you done with the Kingwood Solar project?

A. Only relating to establishing water levels in test borings.

Q. And how was that done?

A. Well, the process is simple, the drilling the hole, leaving it open, and measuring the water level, or noting if there is a water level before you fill it up, backfill it.

Q. To your knowledge has anybody else performed any hydrogeologic work on behalf of Kingwood Solar for this project?

A. Not to my knowledge.

Q. Have you reviewed the application in this case?

A. I have done a cursory review of the application, a more detailed review of the geology writeup.

Q. Do you have Appendix L to the application in front of you?

A. I do.

Q. In Appendix L is a geotechnical report, correct?

A. Yes, sir.

Q. Did you play a role in preparing this document, Appendix L?

A. I managed the project, and I wrote the document.

Q. So you are familiar with its contents?

A. Pardon me?

Q. So you are familiar with its contents?

A. Yes, sir.

Q. Let's go to page 7 of Appendix L. And let me know when you are there.

A. I am there.

Q. All right. Please take a look at Table 2 on page 7. All right. Does Table 2 contain the results of the observations about the groundwater

depth in the borings that you've just mentioned?

A. Yes, sir.

Q. Interpret this table for me. Let's start with the first column labeled "Boring." That's a list of the borings that were conducted in the Kingwood Solar project area?

A. That is the list of the borings in which groundwater was encountered.

Q. Okay. How many total borings were drilled in the project area?

A. 30.

Q. So groundwater was encountered in 9 of those 30 borings?

A. Yes, sir.

Q. And the second column is labeled "Groundwater Depth During Drilling." Could you tell me what that column represents.

A. That represents the depth during drilling at which we noted that there was water in the hole or -- or the first indications when the drill string or the tools are brought up, they have water on them.

Q. Okay. Then go to the fourth column labeled "Groundwater Depth Upon Completion." Can you tell me what the information in that column represents?

A. Yes. Once -- once the last sample is taken, the drillers or the geologists will measure groundwater one last time before the hole is backfilled.

Q. So the numbers in that fourth column represent the depth below the surface of the soil at which the groundwater was contained; is that correct?

A. Yes, the depth below the ground surface.

Q. So, for example, for boring B-11 the groundwater was 8 feet below the surface of the ground.

A. Yes, sir.

Q. And the most shallow depth was in boring B-29, correct?

A. Yes, sir.

Q. And that was at a level of 4.3 feet below --

A. Yes.

Q. -- the surface. Okay. Did any -- did either you or anybody under your direction look at any drilling logs for any wells in the project area?

A. We did not.

Q. Did you or anybody under your direction look at any drilling logs or wells located on adjacent properties to the project area?

A. We did not.

Q. Do you know whether drilling logs for wells in Ohio are kept by a public agency in Ohio?

A. I know that groundwater -- I know that -- I'm sorry. I know that well logs and locations are available online, yes.

Q. Okay. And they are online at -- on a website that is provided by the Ohio Department of Natural Resources, correct?

A. I assume that is the agency that would keep them, yes.

Q. Okay. But neither you nor anybody under your direction took a look at those -- at any of those drilling logs?

A. No. And I -- I would not -- I would not look at those logs -- I was drilling the holes 14 feet. There would not be any water well logs that were completed at a depth of 14 feet so that information would not have been useful to me in this report.

Q. Well, how do you know there were no such drilling logs when you didn't even look for them?

A. I assumed there would not be drilling logs because there would not be groundwater sufficient for domestic use at a depth of 14 feet.

Q. Well, did you even do any investigation to find out what the depths of the wells are on the properties adjacent to the project area?

A. I did not.

Q. Let's go to page 11 of Appendix L. If I could direct your attention to Section 6.4 entitled "Solar Panel Foundations."

A. Yes, sir.

Q. Directing your attention to the first paragraph in that section, I would like you to look at the first sentence in that paragraph. Do you see the reference to "W6x9 piles penetrating to depths ranging from approximately 7 to 12 feet"?

A. Yes, sir.

Q. Let me start out by asking what's meant by W6x9?

A. A W6 by 9 pile is -- it's an H pile shape and what the 6 refers to is the width of the pile flange in inches which is actually 5.9, almost 6. The 9 refers to the weight of the pile per lineal foot, so the W6 by 9 pile has a 6-inch wide flange and weighs 9 pounds per foot.

Q. And the word "piles" as referenced in this sentence refers to what a layperson would call a post; is that right?

A. It could. We refer to a pile as a deep foundation element that can support construction.

Q. Okay. Can you put that in lay language?

A. Well, a W6x9 pile is essentially a -- an H section of steel shaped like an H that is driven with a hammer into the ground surface to a specified depth that allows for support of construction above the ground.

Q. And to what depth will these piles be driven in the Kingwood Solar project?

A. I have -- I have heard about 10 feet. In terms of exact depth, I'm unaware. I have not reviewed their -- not been asked to review their final design, but it will be in approximately 10 feet, as I understand it.

Q. Do you know whether this project has a final design at this point?

A. I do not know.

Q. So what's the width of the piles that will be used in this project?

A. Would you repeat the question, please?

Q. Yeah. What is the width of the piles that will be used in this project?

A. The -- the outer dimensions of the pile will be 4 inches by 6 inches approximately.

Q. So if the piles are driven to a depth of 10 feet below the surface, then it's likely that they will be -- some of them will be driven into groundwater based on the results you provided for the borings in Table 2, correct?

A. Yes, sir.

Q. Do you know whether any measures have been included in the application in this case to protect the groundwater during the process of driving these piles into the soil?

MR. SETTINERI: Your Honor, at this time I'll object. I've been patient, but this line of questioning is outside this witness's direct -- scope of this witness's direct testimony which is related to site geology. It's not tied to groundwater.

MR. VAN KLEY: Your Honor, it's form book law of evidence of Ohio that cross-examination is not limited to the scope of the direct examination. The witness so far has answered the questions that I have asked. It's evident that he knows the extent and the limitations of the information about groundwater that's included in the application.

No other witness has been provided by the Applicant that can answer these questions. It's clear that this witness can. So this -- the

questions that I am asking are clearly relevant to potential impacts of this project on groundwater, and to the extent that this witness knows the answers to the questions, I'm entitled to find that out.

MR. SETTINERI: Your Honor, if I may.

ALJ HICKS: Go ahead.

MR. SETTINERI: In my experience the practice before the Board as well as the Public Utilities Commission of Ohio is that is a valid objection when cross exceeds -- well exceeds here the boundaries of the direct testimony that's been offered.

MR. VAN KLEY: Well, your Honor, I certainly haven't experienced that in any of the other cases that I've been involved with before the Board. In my experience at least it's not the Board's practice to suppress relevant evidence by using a tactic of the nature that Mr. Settineri has proposed, and certainly -- certainly limiting the ability of cross-examiners to obtain information that's relevant to the case is -- is not a practice that would provide the Board with -- with the opportunity to learn relevant evidence about the project that apparently the Applicant here is trying to suppress.

ALJ HICKS: So I will overrule the objection. The witness has been answering questions on groundwater. It was asked if he knows. He is certainly free to let us know the limitations of his knowledge if he needs to in his answers.

MR. VAN KLEY: Thank you, your Honor. Can we have that question reread because I have now forgotten what it was.

(Record read.)

A. I am not aware of any.

Q. If you could keep your finger in Appendix L on page 11 where we have had our discussions so far about that page and also turn back to your direct testimony in Kingwood Exhibit 13. I would like to ask you some questions about answer 14 on page 5. Tell me when you're there.

A. I am there.

Q. Now, this answer is a discussion about what happens or what can be done if Kingwood Solar encounters karst while it is building its project, correct?

A. Yes, sir.

Q. And I believe that you have provided a procedure in this answer pursuant to which karst openings can be filled in order to enable

construction, right?

A. Yes, sir.

Q. And that -- those karst openings could include the filling -- I'm sorry. Those measures to fill the karst could utilize a net material such as grout or concrete?

A. Yes, sir.

Q. In your experience as a geotechnical engineer, how large a cavity in karst can be filled in that manner and still enable construction of a foundation or other thing to occur?

A. That -- well, that would be limited by -- by economics. The process is generally to excavate material out of the feature, treat the throat of the feature, and then backfill it, so the answer to the question would depend on -- on how -- how -- the extent to which a -- a client or a -- client and owner would be willing to fund, pay for remediation of the sinkhole.

Q. Is there any technical limitation on the size of a -- a cavity that -- that can be successfully filled in order to enable construction?

A. Could you repeat the question, please?

Q. Yeah. Is there any technical limitation on the size of the cavity that can be successfully

filled in order to enable construction?

A. Technically I don't know of such a restriction. Again, it would depend on -- it would depend on economics, what would the cost be to remediate it.

Q. Is it your testimony that karst openings can be filled in that manner if they are encountered during the installation of the piles for the solar arrays?

A. I -- if the sinkhole could be remediated in that manner in the installation of piles?

Q. Yes.

A. I think it would depend on -- it would depend on the depth of the feature, the nature of its infill, but in -- in the case of Kingwood Solar, my understanding is that most of the solar panels are to be constructed in the areas where the bedrock is more than -- or exceeded the depth of our borings which was greater than 14 feet, so I don't know that karst would play any role in the -- in driving piles.

Q. If that's the case, then why did you provide the information in answer 14?

A. Because the -- the project will also include improvements such as small structures, transformer pads that have slabs on grade, and if you

did have a sinkhole at a location where you wanted to build a slab on grade, you would want to remediate it first so that you would not see any post-construction settlement that would affect the performance of your slab or your foundation.

Q. What is the anticipated depth of the foundations for the types of structures that you had just identified?

A. The minimum required frost depth in Greene County, I understand, is 32 inches, and shallow foundations need not be supported any deeper than that unless you had a situation, excuse me, where you excavated for a foundation, and if you saw thicker plow zone soils or you saw soils that you -- you would not want to support your foundation on, you would have the option to either remove those soils and replace them or simply excavate deeper and lower the bearing surface of the footing.

Q. In preparation for building any of the foundations for this project, do you anticipate that borings will be drilled in the area of those foundations to find out the nature of the soil or bedrock under those foundations?

A. I -- I don't anticipate that Kingwood will do that nor was it a recommendation on my part

that they do. Typically if you are going to construct shallow foundations after a geotechnical report is done, an owner does have the option to drill more borings if he wishes to if he or she wishes to further explore subsurface conditions or -- or they have the option of excavating for foundations, and our recommendation is that foundation excavations always be reviewed by a geotechnical engineer to verify those bearing surfaces are consistent with the recommendations of the geotechnical report.

Q. What is the largest foundation that you anticipate will be built as part of this project?

A. The largest shallow foundation?

Q. The largest of any kind of foundation.

A. Oh, well, the -- the piles I expect to be driven to depths of 10 feet or so. Structures that are supported on shallow foundations I anticipate foundations will be excavated to either the minimum frost depth or deeper if required to lower them through the plow zone. And those continuous foundations would be about 16 inches wide, column foundations probably a minimum of 2 feet square.

Q. What about the substation, does it have a foundation?

A. Substation can be supported on -- I'm not -- I'm not sure I -- I haven't seen a final design. I don't know what they will support the substation on. But in other substation projects I've done, equipment is supported on concrete pads, reinforced concrete pads.

Q. What's the typical width of such a pad?

A. That completely depends on the element it's going to support.

Q. Do you have any idea how large the pad for the Kingwood Solar substation will be?

A. I do not know.

Q. Do you have any idea how much weight such a foundation will be holding?

A. If I did, that information would be in the front end of the report which indicate -- did indicate that the site development would include 50 inverter skids that would each weigh about 40,000 pounds.

Q. Isn't it true that karst openings under the surface can collapse under the weight of equipment such as an inverter if they are close enough to the bottom of the foundation?

A. They could if they were present.

MR. VAN KLEY: All right. Your Honor, I

have no more questions at this time.

ALJ HICKS: Thank you, Mr. Van Kley.

Up next is Miami Township.

MR. SLONE: Thank you, your Honor.

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CROSS-EXAMINATION

By Mr. Slone:

Q. Good morning, Mr. Nealon.

A. Good morning.

Q. My name is Lee Slone. You can probably see that on the screen. I represent Miami Township in this matter.

A. Yes, sir.

Q. Did you review any geological surveys of the area before conducting your study?

A. I reviewed available geologic mapping to determine the probable nature of the bedrock and the likely thickness of overburdened soils in the area.

ALJ HICKS: Could we hold on for just a second? I am getting feedback. I don't know if other folks are. So if you could mute if you are not speaking, that would be helpful.

Sorry for the interruption. Go ahead.

MR. SLONE: Thank you.

Q. (By Mr. Slone) Okay. So let me go back.

You reviewed available geologic surveys of the area for the position of the bedrock and the overburdened soil?

A. We -- we typically look for information about the thickness of the overburdened soils when we cost out our geotechnical program in terms of boring depth, whether or not we are going to core bedrock and such. We like to have an idea of how thick the overburdened soils are and what the bedrock will consist of when we reach it or if we reach it.

Q. Just for clarification, when you say overburden, are you talking about all the stuff between the ground surface and the bedrock?

A. Yes, sir.

Q. Thank you. And in your review of the area of geology, does the bedrock undulate?

A. Yes, it does in terms of its depth, yes. In response to -- it undulates in response to however the ground surface looked before the glaciers came through and covered it with tills and outwashes.

Q. Okay. Is the -- when I look at the ground surface in the project area, would you say it's described as -- as gently rolling?

A. Yes.

Q. Does the bedrock follow that gently

rolling shape?

A. It -- well, that depends on the, I mean, the bedrock. It doesn't follow it perfectly or else the soil thickness would be the same everywhere. In -- in areas where there are preglacial buried valleys that it undulates greatly because those valleys have been filled and -- by postglacial soils. So the undulation is not perfect, no. Or, I'm sorry, it doesn't parallel perfectly.

Q. Thank you. So standing on the ground surface looking at the topography of the surface, you can't tell what the -- what the bedrock is doing in terms of its shape, can you?

A. In general, no. The -- the one -- one feature of glaciation in Ohio and Kentucky is that the present day streams tended to follow the preglacial paths fairly closely, so if you -- you look at rivers such as the Miami, you can be fairly certain that the bedrock valley is beneath it.

Q. Who designed the study that is presented as Exhibit L, Kingwood -- I'm sorry, Appendix L to Kingwood's Exhibit 1?

A. Yes.

Q. Do you have Appendix L in front of you?

A. Yes, sir.

Q. Who designed that study?
A. What do you mean by designed the study?
Q. Did you -- did you decide where to take the soil borings, for instance?
A. Yes, sir.
Q. And how did you make that decision?
A. I looked at the -- I looked at the area that was proposed for possible development and proposed a boring plan that would cover generally the areas that could be developed and that plan is in the back of the report.
Q. I am looking at a PDF copy. I assume you have a paper copy in front of you.
A. I do.
Q. The PDF copy page that I am looking at is page 32 which is a boring and resistivity plan.
A. Yes.
Q. It looks like an aerial photograph of the project area with targets, for lack of a better word, showing where each of the 30 or so borings were taken.
A. Yes, sir.
Q. Is that what you see?
A. That's what I see.
Q. What did you decide -- what was your

methodology for deciding where to put those boring targets?

A. Well, I wanted to represent as -- as much of the parcel area as I could. So the first consideration is that all of the borings be placed within areas that could be developed. The exception was boring 14. I was asked to add that one.

Q. Generally within the project area, were these 30 borings taken at areas of high -- how do I describe this? Were they at high points in the rolling topography or in low points in the rolling topography?

A. I didn't consider the topography. I just considered the coverage, the coverage of the area.

Q. Can you step me through how you came up with these boring locations?

A. Well, as I said, I wanted to get them within the parcels of interest that might be developed. After that, you like to make sure that the -- how do I say this? It's -- it's easier to -- it's easier to estimate how -- or come up with the model of what the geology might be between borings rather than outside of borings, so you like to get coverage of the perimeter of the area as much as you can and then in the middle as much as you can and how

many -- how many borings you get to drill and where you place them is a matter of economics. Everyone knows you can't drill everywhere.

Q. It appears to me from this -- this boring and resistivity plan that there is approximately one boring for each green square which I assume is a parcel; is that right?

A. Yes. It appears that way.

Q. Do you know what a transect is?

A. I do not. Or I would ask you to define that so I am sure I do.

Q. Well, I can do that. My understanding of a transect is a line placement area generally used in sampling of an area of ground.

A. Such as cross-section, to facilitate a cross-section?

Q. Well, I don't know what you mean by cross-section but let's move on. You are telling me you place these borings in such a manner to -- to your eye to cover the project area; is that right?

A. Yes, sir.

Q. And you didn't consider topography of the area when deciding whether to place the borings?

A. I did not.

Q. Can you decide where to place the borings

simply by looking at aerial photographs?

A. I decided where to place the borings by looking at this map.

Q. This map only?

A. Yes, sir.

Q. This map does not have topography shown on it, does it?

A. It does not.

Q. I see there's a scale on this map in the bottom right corner. Do you see that?

A. Yes.

Q. Did you attempt in placing your soil boring locations to place them a certain distance apart from each other?

A. My -- my intention was to get the most even coverage of the area. And in terms of the map itself, this is from Google Earth and Google Earth does allow you to run your cursor around the field and get some indication of variations in topography, but I again did not consider those in boring placement.

Q. Okay. Thank you. So based on your understanding of the undulating bedrock, is it possible that one boring in an area could show 10 feet to bedrock below ground but a few feet to the

side could be shallower to bedrock?

A. Yes, sir. In 11 of the borings that did encounter bedrock here, the depth varied from 2 feet to 12-1/2.

Q. Thank you. Do you know how many posts or piles will be used to construct the solar array in the project area?

A. I do not.

Q. Do you know anything about solar array construction?

A. I know that -- I know that each solar panel is -- is supported on generally two or three piles. I do not know -- I have not seen a final design here, so I don't know how -- how many piles each of these panels will be used for support.

Q. Okay. Did you know that proposed for this project is approximately 410,000 panels?

A. That is my understanding.

Q. And if each panel received or had an associated pile, post, then we would have 410,000 posts driven into the ground?

A. If each -- if each panel only required one pile, yes.

Q. Were there any other borings taken that are not represented by Appendix L?

A. No, there were not.

Q. So these 30 borings are the only borings that your company took or that you designed?

A. Yes, sir.

Q. Okay. Let's look still at Appendix L. It's page 13 of the PDF which is, I am looking for it, page 8 of the study.

A. Page 8? Okay.

Q. Do you see at the top is Table 3?

A. Yes, sir.

Q. "Soil Corrosivity Designations"?

A. Yes, sir.

Q. And the first full paragraph below that table, can you read that for me, please?

A. "Based on the laboratory resistivity test results and on Table 3, the lean clay soils of the plow zone and the glacial till are mildly corrosive to steel, while the non-till lean clay soils are moderately corrosive to steel."

Q. Did you conduct the laboratory resistivity test?

A. We conducted the laboratory resistivity tests in support of their design, yes.

Q. And are -- the overburden in this project area, does it consist of lean clay soils and glacial

till?

A. Yes, sir.

Q. Why did you choose the language "mildly corrosive to steel"?

A. Because Table 3 was specifically -- it was specifically assembled by the National Association of Corrosion Engineers for -- for steel.

Q. Are the piles in this case constructed of steel?

A. Carbon steel.

Q. Carbon steel.

A. Yes, sir.

Q. Is that different than the steel presented in your study?

A. In Table 3 you mean?

Q. Yeah.

A. I -- I don't -- I don't know exactly what kind of -- what specific alloy or alloys of steel were considered in the assembly of Table 3. That's -- I include it as a guideline.

Q. Could lean clay soils or glacial till be more corrosive to carbon steel than to steel?

A. I do not know.

Q. In your direct testimony, Exhibit 13, did you --

A. Yes, sir.

Q. I'm sorry. Forgive me. Do you have that in front of you?

A. I do, sir.

Q. Anywhere in your direct testimony did you discuss the overburden's corrosivity to the steel piles used in this project?

A. In direct testimony, I did not.

MR. SLONE: Okay. Thank you. No further questions.

ALJ HICKS: Thank you, Mr. Slone.

Up next I believe is the Greene County Board of Commissioners.

MR. SHAMP: Thank you, your Honor. No questions on behalf of Greene County.

ALJ HICKS: Okay. Xenia Township.

MR. DUNN: No cross for Xenia Township.

ALJ HICKS: Cedarville Township.

MR. BROWN: No cross for Cedarville Township.

ALJ HICKS: In Progress.

MR. HART: No cross. Thank you.

ALJ HICKS: Tecumseh.

MR. SWANEY: No cross, your Honor. Thank you.

ALJ HICKS: And Board Staff.

MS. BAIR: No cross. Thank you.

ALJ HICKS: Okay. Mr. Settineri, I assume you need a little time, and I am going to guess everyone else could probably use a personal break at this point. 10 minutes work for everybody?

Okay. Let's come back -- we will go off the record. We'll come back at 10:50.

(Recess taken.)

ALJ HICKS: We can go ahead and go back on the record.

Mr. Settineri, I will turn it over to you if you have any redirect.

MR. SETTINERI: Just a few questions. Thank you, your Honor, very much.

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REDIRECT EXAMINATION

By Mr. Settineri:

Q. Mr. Nealon, in your experience is it common to have steel piles below groundwater levels on a project?

A. Very common. I -- I have designed and seen implemented many pile foundations that extend below the groundwater table.

Q. Okay. And you were asked some questions

about the bedrock in the area and specifically to borings identified as being, I guess I will say in my own words, shallow bedrock, and I will refer to Table 1. Well, strike that. Let me make a specific reference for you here. Just a moment, please.

You were asked some questions about bedrock in the area. Do you recall that?

A. Yes, sir.

Q. Okay. If you could turn to your -- it would be Exhibit 1, Appendix -- or Attachment L. This would be the geotechnical report.

A. Yes.

Q. Okay. And if you look at Section 5.1.5 which is page 6 of your report. Tell me when you are there.

A. I'm there.

Q. Okay. And there -- there is Table 1, is a summary of the bedrock surface depths. Do you see that?

A. Yes, sir.

Q. On that table what depths would you consider shallow bedrock?

A. Well, for -- for purposes of this project, I would consider shallow bedrock any -- any depth that is less than that required for piles to be

driven.

Q. Have you done any analysis of -- besides your borings of the location of the shallow bedrock throughout the project area?

A. I have. I submitted a -- a map that included a base plan showing the -- I posted the boring locations on a plan of the area that's being targeted for solar arrays. And I was interested in seeing if there were clusters of borings or if I could identify areas where the bedrock would be deep enough, greater than 10 feet, where pile driving could -- could be done uninhibited by bedrock.

And there are large areas on the west end of the project and on the east end where the bedrock is -- is deeper than 14 feet because we did not encounter it. There's a section in the middle where the bedrock is 2 to 4-1/2 feet deep. What Kingwood has done is they have -- they have assigned areas where they desire to put in solar arrays that are -- the vast majority of which are in the areas where the borings suggest or indicate that the bedrock will be deeper than the piles.

MR. SETTINERI: Thank you, Mr. Nealon.

No further questions, your Honor.

ALJ HICKS: Thank you, Mr. Settineri.

Mr. Van Kley, any questions on redirect -- or recross? Excuse me.

MR. VAN KLEY: No, your Honor.

ALJ HICKS: Mr. Slone, any questions on recross for Miami Township?

MR. SLONE: None. Thank you, your Honor.

ALJ HICKS: Okay. So I believe that concludes our time with Mr. Nealon.

MR. SETTINERI: Your Honor.

ALJ HICKS: Yes.

MR. SETTINERI: Before we have Mr. Nealon depart, just for the record can we assure that other parties don't have recross?

ALJ HICKS: I believe Mr. Van Kley and --

MR. SETTINERI: Are they the only two?

ALJ HICKS: -- and Mr. Slone are the only two parties that conducted cross-examination.

MR. SETTINERI: Thank you, sir.

ALJ HICKS: Mr. Nealon, we thank you for your time.

THE WITNESS: Thank you.

ALJ HICKS: Mr. Settineri, I believe you had previously moved for the admission of Kingwood Exhibit 13.

MR. SETTINERI: That is correct, your

Honor, and again, I would renew the motion to admit Kingwood Exhibit 13 into the record, direct testimony of Dr. John S. Nealon.

ALJ HICKS: Any objections to the admission of Kingwood Exhibit 13?

Hearing none, it is admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ HICKS: Mr. Settineri, if you would like to call your next witness.

MR. SETTINERI: Your Honor, could we have 5 minutes just to swap our witness station, please?

ALJ HICKS: Certainly.

MR. SETTINERI: Thank you.

ALJ HICKS: Go off the record. Come back around 11:00.

(Recess taken.)

ALJ HICKS: Let's go back on the record.

And I will turn it back over to Mr. Settineri to call Applicant's next witness.

MR. SETTINERI: Thank you, your Honor. Kingwood Solar I LLC would call Mr. Noah Waterhouse to the stand, please.

ALJ HICKS: Micah, if you could promote him. There we go.

MR. SCHMIDT: It took me a minute to find

him in the list. Mr. Waterhouse, you've been promoted. If you can enable your audio and video.

MR. WATERHOUSE: How's that?

ALJ HICKS: Perfect. If you can just raise your right hand.

(Witness sworn.)

ALJ HICKS: Thank you.

Please go ahead, Mr. Settineri.

MR. SETTINERI: Thank you, your Honor. Your Honor, at this time we will mark two exhibits. We will mark as Kingwood Exhibit 14 the direct testimony of Noah Waterhouse filed February 23, 2022.

ALJ HICKS: It is so marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

MR. SETTINERI: And next we will mark as Kingwood Exhibit 15 the supplemental testimony of Noah Waterhouse filed March 4, 2022.

ALJ HICKS: It will also be so marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

MR. SETTINERI: All right.

- - -

NOAH WATERHOUSE

being first duly sworn, as prescribed by law, was examined and testified as follows:

DIRECT EXAMINATION

By Mr. Settineri:

Q. And good morning, Mr. Waterhouse.

A. Good morning.

Q. Could you split -- please state your name and business address for the record, please.

A. Sure. Noah Waterhouse, business address is 10025 Valley View Road, Suite 140, in Eden Prairie, Minnesota.

Q. Okay. And do you have before you what's been marked as Kingwood Exhibit 14?

A. I do.

Q. And can you identify that for the record, please.

A. That is my direct testimony.

Q. Okay. And was that prepared by you or at your direction?

A. Yes, it was.

Q. Okay. And staying on that exhibit, do you have any revisions or changes to that testimony today?

A. There was a revision on question 5 to

correct the date to "October 29."

Q. And for the court reporter, can you give the exact line number?

A. Line 22.

Q. All right. And specifically what is the exact revision you are making?

A. Changing the date from "October 19" to "October 29."

Q. Okay. And do you have any other revisions to your direct testimony?

A. I don't.

Q. Okay.

ALJ HICKS: For the record can we just clarify that revision? I am not sure I caught the page number. My apologies.

THE WITNESS: Sure. It's page No. 2, line 22.

ALJ HICKS: Thank you.

Q. (By Mr. Settineri) And I may have asked this but let me check again, do you have any revisions -- any other revisions to your direct testimony?

A. I do not.

Q. Okay. If I asked the questions written in that testimony today, would your answers be the

same as you have revised?

A. Yes, sir.

Q. All right. Turning to Kingwood Exhibit 15, can you identify that for the record, please.

A. It's my supplemental testimony.

Q. Was that prepared by you or at your direction?

A. It was.

Q. And do you have any changes or revisions to that testimony at this time?

A. I do not.

Q. And if I asked you the questions in that testimony as written, would your answers be the same today?

A. They would.

MR. SETTINERI: Thank you.

Your Honor, at this time the witness is available for cross-examination.

ALJ HICKS: Thank you, Mr. Settineri.

Up first is Ohio Farm Bureau Federation.

MS. MILAM: No cross, your Honor.

ALJ HICKS: Thank you.

I will turn it over to Mr. Van Kley on behalf of CGA.

MR. VAN KLEY: Thank you, your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Good morning, Mr. Waterhouse.

A. Good morning.

Q. What, if anything, did you do to prepare for your testimony today?

A. I reviewed the Applicant's -- I reviewed the application and I reviewed some studies that were prepared for it and I made a visit to the site to observe the site in its current conditions.

Q. When did you make that visit to the project area?

A. Yesterday.

Q. You didn't visit the site at any time before preparing your testimony for this case?

A. Correct. Yesterday's site visit is the only site visit that I have made.

Q. Let's go over a few things in your written direct testimony marked as Kingwood Exhibit 14. We are going to start on page 3 with answer 8.

A. Okay.

Q. And I would direct your attention to the

three bullet points in that answer. What's the purpose of the discussion you included in those bullet points?

A. Sorry. What was the question?

Q. What's the purpose of the information you provided in those three bullet points?

A. The purpose was to describe some typical methods that can be used to locate drain tile and the experience that we've had in previous similar projects.

Q. In the portions of the -- let me ask this first, what portions of the application did you review at any time?

A. Let me look through a list here. I've reviewed aerial photographs that were provided in some land use maps. I've reviewed the vegetation management plan. I've reviewed the Joint Stipulation. I've looked at the proposed site layout. I reviewed the geotechnical report. And I took an extensive look at aerial photographs of the project area.

Q. In any of the portions of the application that you have reviewed, did you notice any statements that Kingwood is committing to using any of the techniques contained in the three bullet points of

answer 8 of your testimony?

A. What I found in the application was that the intention is for the Applicant to locate drain tile prior to construction. To the extent that specific methods were listed, I believe that they were not. Rather, the intention was to use whichever methods are the most appropriate for the situation.

Q. So the answer to my question is no?

A. I did not see any specific references to these methods.

Q. Do you know whether the project area contains any drainage tiles?

A. I suspect that it does. I think it would be typical that it would, and based on my visual inspection of the site yesterday, I did see evidence of drain tile in some areas. I did physically observe drain tile myself.

Q. Have you looked at any maps of drain tiles in the project area?

A. Yes, I have. I was shown by the Applicant one such map that was provided by a -- one of the landowners of a map that they have of one of the mains through one particular area of the site.

Q. Are you aware of the purpose or purposes of any drain tiles about which you are aware are

located in the project area?

A. Yes, I am. The purpose of the drain tile is to remove unwanted surface water.

Q. Did you notice farm fields in the project area when you visited?

A. Yes, I did.

Q. Do you know what the purpose of a drainage tile in a farm field is?

A. Yes, I do.

Q. Okay. What is it?

A. It's -- it's to remove unwanted surface water from -- from the land, and it's also to control moisture content to better support agricultural farming practices.

Q. Can you tell me what, if anything, would happen to crops in a farm field where a drainage tile was broken or blocked?

A. Yes. I mean, it depends on a lot of different factors, what type of drain tile it is, how the drain tile network is -- is linked together, and what the specific purpose of a drain tile is. In some cases the -- there would be ponded surface water that would be detrimental to the growth of crops. In other cases the effect could be significantly less if the broken tile was what we call a lateral, in which

case it's not really removing surface water. It's just reducing the moisture content, and it would have a significantly less but still somewhat detrimental impact on the growing of crops.

Q. And what are those detrimental effects that can occur to crops?

A. Potentially reduced yield.

Q. Can flooding from tile damage also kill crops?

A. It could, yes. If uncorrected, it could.

Q. If the crop is a young one, such -- for example, if the crop is smaller than 1 foot in height, is it in your experience -- is the crop in your experience more prone to being killed during a flooding event?

A. That I can't speak to not being in the agriculture industry myself.

Q. Have you ever noticed crop fields that have air locations in them that you interpreted as being the result of flooding?

A. Is the question specific to solar or just anywhere in agriculture in general?

Q. Anywhere in agriculture in general.

A. Yes, I have.

Q. Do drainage tiles sometimes get damaged

during the construction of solar projects?

A. Yes, sometimes they do.

Q. What causes that damage?

A. Typically it would be construction practices like trenching for -- open trenching for cable, any other construction type that disturbs the ground, but typically it would be trenching.

Q. Are tiles broken during solar facility construction during the process of pile driving from solar arrays?

A. They can be. It's less likely because of the nature of pile driving. It's almost entirely through trenching, but it is possible that it can happen from pile driving as well.

Q. Are you familiar with the noise that is produced in the process of pile driving?

A. It's not my area of expertise, but I am aware there is noise generated from a pile driver.

Q. Given that there is noise from pile driving, do you believe that a person involved in that process of pile driving would hear the sound of any impact of the pile on a drainage tile?

A. I can't speak to whether that's likely or not.

Q. If a drainage tile is damaged by pile

driving, how would that damage be discovered?

A. What I've observed is when water flows through a drain tile that's damaged, in particular being pierced by a pile, the water then has a path to flow up and out of the ground, and so typically we would observe water flowing out of the ground somewhere in the vicinity of the pile itself and then can be traced back to the source of the damage.

Q. So how does that work when water comes out of the ground if a pile is driven into a tile? Does it come up along the sides of the post?

A. Correct. Upstream -- upstream water in -- within the -- sorry, the tile within the pipe creates a head pressure that would then push the water upwards, and it would follow -- generally follow the path of that pile and come out of the ground somewhere in the close vicinity of the pile itself.

Q. So the water coming up from the tile would generally occur around the edge of the pile?

A. Correct.

Q. So is there a pathway then around that pile that allows the water to come up?

A. Correct.

Q. Are you aware that plants will be planted

in the solar arrays for the Kingwood project?

A. Yes. I have reviewed the vegetation maintenance plan, and it states that everywhere on-site that's not an equipment pad or a gravel road will be revegetated with grasses and plants.

Q. Do you know whether any of those grasses and plants will be a species of plants native to Ohio?

A. According to the vegetation maintenance plan, it is intended that they will be -- the grasses will be native.

Q. Do you know how extensive the root systems for Ohio native plants are?

A. I know that they are more extensive than nonnative plants.

Q. The roots of native species of plants tend to grow deeper than other types of plants?

A. That's correct, correct.

Q. Do you know whether roots from plants can partially or completely plug drainage tiles?

A. I'm not aware of any instances that that has been documented, but I would admit that it is a possibility.

Q. Well, isn't it common knowledge that -- that roots can grow into drainage tiles?

A. Yes.

Q. And isn't it common knowledge that if roots do grow into the drainage tiles, they absorb water, that is, they use water from the drainage tiles to nourish the plants?

A. Yes.

Q. And isn't it common knowledge that when that happens, the -- the root expands inside of the drainage tiles?

A. I wouldn't necessarily say that's common knowledge.

Q. But you know it, right?

A. I don't necessarily know that to be true. I don't know that roots expand just because of the presence of water.

Q. Okay. Well, you do know though that it's common knowledge that roots can clog a drainage tile, right?

A. I would agree that it's possible.

Q. Let's go to page 5 of your testimony, answer 12.

A. Okay.

Q. And line 3 of answer 12 you state that "the large gaps between panel arrays to prevent shading and other open areas," et cetera, and I

wanted to ask you about the "gaps between the panel arrays" as you use that term there. Can you tell me what the size of the gaps will be between the solar panels at Kingwood Solar?

A. I'm sorry. Can you repeat the question?

Q. Sure. The testimony you gave in answer 12, can you tell me what the size of the gaps will be between the panel arrays in the Kingwood Solar project?

A. Oh, I do not have the exact information on the size of the gaps. From the preliminary layouts that I reviewed, it looks to be typical of solar projects that we've done -- designed for in the -- in Ohio and elsewhere.

Q. What is the typical size of the gap between solar panels?

A. I mean, it does vary, but it's typically -- typically what I see is about roughly twice the width of the actual solar panels themselves.

Q. Uh-huh. In your experience with solar projects, approximately what percentage of the land inside of a solar array is covered by the panels?

A. I guess that would -- that would be a guess if I had to answer that right now. I would

have to -- I would have to measure that to know.

Q. Can you provide me with a reasonable estimate?

A. Not that I would be comfortable with the level of accuracy.

MR. VAN KLEY: Your Honor, I have no more questions at this time.

ALJ HICKS: Thank you, Mr. Van Kley.

Up next is Miami Township.

MR. SLONE: Thank you, your Honor.

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CROSS-EXAMINATION

By Mr. Slone:

Q. Good morning, Mr. Waterhouse.

A. Good morning.

Q. Looking at page 4 of your direct testimony, Kingwood Exhibit 14, I would like to talk a little bit more about answer 9.

A. Okay.

Q. Starting at line 6, let me know when you are there.

A. I'm ready.

Q. I read "If advance identification is not possible, it should be possible, during construction, to identify damaged drain tile and repair it at that

time"; is that correct?

A. Correct.

Q. "Damaged drain tile" -- continuing on "Damaged train tile generally can be identified by the presence of water flowing out of the ground in an unexpected location," correct?

A. Correct.

Q. And then skipping a sentence, I will start again at line 10, "The construction period for a project of this nature should be long enough for an ample number of rain events to reveal any locations in which tile was damaged but not immediately discovered and repaired"; is that right?

A. Correct.

Q. Do you know anything about the construction process for this project?

A. My expectation is that it would be typical of projects that we've done in the past. I don't know of -- I guess I don't know specifically what you are asking about how much of the construction process I am aware of.

Q. Do you know how long this construction process will be for this project?

A. No, I don't have specific dates, but based on the size of the project, I anticipate that

it would be, again, enough time for these ample number of rain events to occur.

Q. More than six months?

A. Probable.

Q. More than a year?

A. I don't know. I don't know for sure. I wouldn't say necessarily that it's more than a year.

Q. Where do you live, Mr. Waterhouse?

A. I live in Minnesota, Minneapolis area.

Q. Are you familiar with the climate in southwest Ohio where the project is located?

A. Yes.

Q. How many rain events do you expect during construction?

A. I don't -- I don't know how to answer that. Some. I mean, in a typical -- in a typical construction season, I would expect there to be more than 10.

Q. But certainly enough to discover damage to drain tile.

A. Right.

Q. That's your opinion?

A. Correct.

Q. Do you know if construction will be performed during rain?

A. It will -- I would assume that construction will be performed during a time period that would include rain. I can't say whether -- I can't say how much construction would be actively completed during a rain event.

Q. Do you know if construction will be performed directly after a rain event?

A. I don't -- I don't think that I can -- I don't think that I can say that. That would be up to the contractor's decision on how and when to cease construction but it's always been my experience that even during and immediately adjacent to rain events, the contractors still have personnel on-site performing typical post-rain event inspections for their erosion control and that kind of thing so perhaps not physically operating equipment but certainly maintaining a presence on the site at the very minimum for observation purposes.

Q. I have one other question. Moving away from that answer 9 to page 5 of your direct testimony, answer 12, lines 15 through 17, let me know when you are there.

A. Okay.

Q. You wrote, "In fact, when compared to a fallow field, I would expect the Project to have

superior drainage and runoff characteristics, due to the year-round vegetation maintained in and around the Project Area." I guess my question is what is a fallow field?

A. A field that has not been tilled or plowed for agriculture. So the purpose of that statement is to compare the ground conditions, the ground cover conditions from a farming activity which is, you know, tilled, cultivated ground that is predominantly bare earth.

Even when there is crops growing, the majority of the ground itself is bare, and comparing the conditions to when fallow would be when grasses are -- when there's not farming activities being conducted, then the ground is in more of a native grass covered condition.

Q. So I need to understand, make sure I understand. Your definition of a fallow field is --

A. Not farmed.

Q. -- not farmed. Has vegetation on it?

A. Correct.

Q. Trees?

A. Trees if that's what the native condition is.

Q. Maybe shrubs?

A. Correct.

Q. Flowers and grasses and the like?

A. Yes.

Q. And that's your definition of a fallow field?

A. Yes.

Q. And your opinion that that fallow field with all that vegetation is not going to be drained as well as a field full of solar panels?

A. No. I think what -- I think the question is, you know, what's the definition of better? And I think what I meant here is the -- the more vegetation that -- that the land area has the less runoff it will generate; and, therefore, a solar field that has full vegetative ground cover below the solar modules, below the solar panels will produce less runoff than when the ground is farmed because of how much bare earth is involved in the farming process.

Q. That's not what the sentence says, is it? The sentence compares the project with a fallow field which you defined as being a fully vegetated field, not farmed certainly but without solar panels. I just want to make sure I understood.

A. Yeah. I would compare the drainage conditions while the solar plant is in operation to a

fallow field because of the fact that it has vegetation below the modules. So making a correlation between the ground coverage conditions when the land is farmed versus when the land is not farmed.

MR. SLONE: Okay. Thank you, Mr. Waterhouse.

Nothing further.

ALJ HICKS: Thank you, Mr. Slone.

Up next is Greene County Board of Commissioners.

MR. BOGGS: I have no questions for this witness, your Honor.

ALJ HICKS: Thank you.

Xenia Township.

MR. DUNN: No cross for Xenia Township. Thank you, your Honor.

ALJ HICKS: Cedarville Township.

MR. BROWN: No cross for this witness. Thank you.

ALJ HICKS: In Progress.

MR. HART: No cross. Thank you, sir.

ALJ HICKS: Board Staff.

MS. BAIR: Thank you. We have no cross.

ALJ HICKS: Okay. Mr. Settineri, I am

going to assume you need some time to confer? 5?

All right. We will go off the record. Come back at 11:40.

(Recess taken.)

ALJ HICKS: Before I turn it over to you, Mr. Settineri, I think in going down my list I may have skipped over Tecumseh to ask if they had any cross.

MR. SETTINERI: No problem, your Honor.

ALJ HICKS: So I will open it up to Tecumseh Land Preservation, if they have any cross. Going once.

MR. SCHMIDT: I am actually not seeing Mr. Swaney connected any more. He was this morning. It looks like he is not now.

ALJ HICKS: Okay. Mr. Swaney is not on, I will take that as a no, and we are good to continue as planned.

If I didn't say it, hopefully we are on the record for that one, Karen.

I will turn it to you, Mr. Settineri, if you have any redirect.

MR. SETTINERI: Thank you, your Honor, I do.

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REDIRECT EXAMINATION

By Mr. Settineri:

Q. Mr. Waterhouse, you were asked a series of questions about the last sentence in answer 12 of your direct testimony, Kingwood Exhibit 14. Do you have that in front of you?

A. I do.

Q. All right. So, first of all, in line 16, you say "I would expect the Project to have superior drainage and runoff characteristics." What do you mean by "superior drainage and runoff characteristics"?

A. In this case superior means that the completed project will -- will actually produce less runoff than when the project area is farmed because of the change in land use and surface conditions.

Q. Okay. And there was some discussion about fallow field and what that means. You know, what is a fallow field to you?

A. A fallow field is simply a field that has not been planted, is not being farmed.

Q. Okay. And to be clear for the record, would you expect the project to have superior drainage and runoff characteristics compared to the project areas that exist today?

A. That is correct.

Q. Okay. You were asked some questions about drain tiles, if I recall, subject to check, being broken but of water working its way up to the surface via the pile; is that right?

A. Correct.

Q. Okay. Does it -- I mean, does it require pressure for the water to be -- to come to the surface?

A. Yes, it does. It requires an upstream head pressure in order to force that water up through the break in the pipe to follow the path along -- along the pile.

Q. And can you provide a magnitude for that head pressure approximately and in laymen's terms perhaps?

A. I think it will be hard for me to pick an exact unit of pressure. But typically -- no, I guess it would be hard for me -- it would be hard for me to define that in units, I guess in typical pressure units, but it's just something that I've seen very typical in areas where piles have -- where drain tile has been broken from solar or from other types of, you know, damage to drain tiles.

It's common for water to flow out of the

ground and that's the method that's used to locate the broken tile.

Q. And to reach the surface, would that water pressure have to exceed the hydrostatic pressure that would exist for the water level to the surface?

A. Correct.

MR. SETTINERI: Thank you.

MR. VAN KLEY: Your Honor, I couldn't hit my mute button fast enough, but I object to that question. That's beyond the witness's area of expertise. He is not a hydrogeologist.

MR. SETTINERI: It -- the question has been answered, your Honor.

MR. VAN KLEY: I am moving to strike it.

MR. SETTINERI: And I don't know what a hydrogeologist has to do with hydrostatic pressure. Hydrostatic pressure is -- I can tell you as an engineer, that's a very traditional, and I would be more than glad to ask the witness what is hydrostatic pressure.

MR. VAN KLEY: He is not qualified as an engineer either. There hasn't been any qualifications established for this witness that would allow him to provide an expert opinion on this

topic.

ALJ HICKS: I will deny that motion to strike and let the testimony stand that the witness has testified about damage to drain tile and water flowing out, so the testimony will stand.

Q. (By Mr. Settineri) Mr. Waterhouse, are you -- are you a licensed professional engineer in the state of Minnesota?

A. Yes, I am.

Q. Okay. And what is hydrostatic pressure in laymen's terms, if you can?

A. It's just the -- it's the -- it's the amount of pressure that exists when water is static, and so it has to do with depth measured from any particular reference surface. In this case it would be the amount of pressure that would be required in order for water to flow up instead of flowing along the pipe in its native flow path.

Q. You were asked some questions about gaps between arrays. Do you recall that?

A. Yes.

Q. In your experience for what you -- for a typical solar project, is there sufficient room to repair or replace drainage tiles?

A. Yes, there is.

Q. Okay. Do you have any personal experience with any drainage tile repair at solar projects?

A. Yes. I have observed it being done on projects before using typical small excavation equipment that can be maneuvered in between and even underneath the solar arrays as necessary to expose the tiles and repair or reroute.

Q. Okay. And you were asked questions about your field visit. Do you recall those?

A. Yes.

Q. Did anything in your field visit result in any change of your opinions in your testimony today?

A. No. Everything I observed on-site looked to be what I expected based on past experience both in Ohio and elsewhere in the midwest with solar projects.

MR. SETTINERI: Thank you, Mr. Waterhouse.

Your Honor, I have no further questions.

ALJ HICKS: Thank you, Mr. Settineri.

Mr. Van Kley, any recross?

MR. VAN KLEY: Yes, your Honor.

ALJ HICKS: Please go ahead.

RECROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Waterhouse, are you a soil scientist?

A. I am not a soil scientist.

Q. I am not sure I completely understood the testimony you just gave about water coming up out of the ground from the drainage tiles so let me ask you a few questions there to clarify. When damage to a drainage tile causes water to come up out of the ground, is that an occurrence that results from the blockage of the drainage tile?

A. Yeah, partially from the blockage and partially from the fact the pile itself creates a conduit or flow path to the surface for the water to follow, whereas, in its prior condition it would not have had that flow path to follow.

Q. And I think you previously testified that if that event occurs, that provides the solar company with a sign that tile damage may have happened, right?

A. That's correct.

Q. And that occurrence would provide the solar company with the opportunity to discover the damage and fix the damage, right?

A. Correct.

Q. Okay. So if a tile is damaged and the water does not come up out of the ground, then what, if any, mechanism does the solar company have to find out whether pile damage has occurred?

MR. SETTINERI: Just object. It's outside the scope of my redirect.

ALJ HICKS: Overruled.

MR. SETTINERI: Okay.

ALJ HICKS: You can answer, Mr. Waterhouse.

A. Is the -- is the question specifically related to damage from pile driving?

Q. No, any kind of damage from any source.

A. Well, other types of damage frequently would involve physical observation of a broken pipe. In the case of a pile -- of a driven pile, that does not expose the pipe. The other options would be whether it can be in any way observed by the pile driver, but water flowing out of the ground is the primary -- primary method of observing a likely tile break when we're specifically talking about from pile driving.

Q. So if the persons involved in the pile driving damage a pipe but they don't notice that fact, would it be your expectation that an owner of

land downstream from that pipe may be the first to discover the damage when that landowner's field floods?

A. If the landowner is downstream of a broken pipe, it's very unlikely that they would experience any issue because their drainage tile would still be functioning.

Q. Okay. Good point. Same question with regard to any upstream landowner.

A. If it's an upstream landowner, the expectation is that by definition if that pipe serves an upstream adjacent or any upstream landowner, that it would be of the more significant drain tile main which are generally much easier to locate. The expectation is that the locations of those would be known prior to construction. It's only the lesser known harder to find laterals that typically only impact the project area that are likely to be not as well known during construction and, therefore, hit with a pile driver.

Q. But the scenario that I asked about in my question could occur if the tile main in question was damaged and nobody associated with the solar company knew about it, correct?

A. It is significantly less likely, but it

is possible.

MR. VAN KLEY: Okay. No more questions, your Honor.

ALJ HICKS: Thank you, Mr. Van Kley.

Mr. Slone, any recross from Miami Township?

MR. SLONE: No recross. Thank you, your Honor.

ALJ HICKS: Okay. That is it for recross. I believe we are wrapped up with Mr. Waterhouse. Thank you for your time today, Mr. Waterhouse, and your testimony.

THE WITNESS: You're welcome.

ALJ HICKS: Mr. Settineri, I assume you would like to handle exhibits?

MR. SETTINERI: Yes, thank you. At this time we would move for the admission of Kingwood Exhibit 14, the direct testimony of Noah Waterhouse, as well as Kingwood Exhibit 15, the supplemental testimony of Noah Waterhouse, please.

ALJ HICKS: Okay. We'll start with are there any objections to the admission of Kingwood Exhibit 14?

Hearing none, it is admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ HICKS: Any objections to the admission of the Kingwood Exhibit 15?

Hearing none, it is also admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ WILLIAMS: Do you want to go off the record for a second?

ALJ HICKS: Sure. Off the record.

(Recess taken.)

ALJ HICKS: Let's go back on the record.

MS. SANYAL: Thank you. And, your Honor, our next witness is Mr. Alex Roedel.

ALJ HICKS: Thank you. And I will hand it off to Mr. -- Judge Williams.

MR. SCHMIDT: Mr. Roedel, you have been promoted. If you can enable your audio and video.

MR. ROEDEL: Yes, I have. Can you guys hear me?

ALJ WILLIAMS: Loud and clear. Would you raise your right hand, please.

(Witness sworn.)

ALJ WILLIAMS: Thank you.

Please proceed Ms. Sanyal.

MS. SANYAL: Thank you, your Honor. At this time I would like to mark an exhibit. I would like to mark as Kingwood Exhibit 15 -- I'm sorry,

Kingwood Exhibit 16 which is the direct testimony of Alex Roedel, and it was filed on February 23, 2022.

ALJ WILLIAMS: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

MS. SANYAL: Thank you, your Honor.

- - -

ALEX ROEDEL

being first duly sworn, as prescribed by law, was examined and testified as follows:

DIRECT EXAMINATION

By Ms. Sanyal:

Q. And, Mr. Roedel, do you have a copy of Kingwood Exhibit 16 in front of you which is your direct testimony?

A. I do, yes.

Q. Excellent. And do you have any edits to your testimony this morning or this -- I guess it's still morning for both of us?

A. Yes. We have some minor edits.

Q. Okay.

A. Simply the capitalization of "hurricane" and "cyclonic" on page -- one moment. Page 6 --

Q. Page 6.

A. -- line 1. In addition on page 5, line 13, it should say "in order to allow," not "and

allow."

Q. And just so the court reporter has it correctly because we are virtual, would you mind reading out the sentence so we know how it should read?

A. Yes. "Nextracker places anemometer wind sensors around the site in order to allow the trackers to go into a safe wind still position."

Q. Thank you. And I think I forgot to ask you but, Mr. Roedel, was your direct testimony prepared by you or under your direction?

A. It was, yes.

Q. Okay. And subject to the revisions you made just now, would your answers to the questions in your direct testimony remain the same if I asked them again today?

A. They would be, yes.

MS. SANYAL: And at this time, your Honor, Mr. Roedel is available for cross-examination.

ALJ WILLIAMS: Thank you, Ms. Sanyal.

First, we will turn to the Ohio Farm Bureau.

MS. MILAM: We have none. Thank you, your Honor.

ALJ WILLIAMS: Thank you. Next Citizens

for Greene Acres.

MR. VAN KLEY: Thank you, your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Is Nextracker the only manufacturer of trackers for solar projects?

A. No, they're not. There's probably roughly 15 major suppliers; however, of which the top 2 are American companies. Nextracker specifically is the global market leader at about 30 percent market share in the market.

Q. Do you know what company Kingwood Solar will purchase its trackers from?

A. Sure. While the exact purchase order has not been made, given the relationship between the two companies in a previous experience, you know, it's very likely that Nextracker will be chosen for the tracker of choice here.

Q. But you don't have a contract for that purpose yet?

A. Technically a contract has -- has not been signed.

Q. I take it from your testimony that you are familiar with how trackers are designed?

A. Definitely, yes. That's the core of my job, yes.

Q. And you are familiar with the components of trackers, that is, the parts?

A. Absolutely, yes.

Q. Do you know whether any of the components in trackers produce noise?

A. The only component that would produce noise would be the motor itself which is -- produces a small amount of noise. There is a motor test we've conducted which is about 50 dBs which is the noise of maybe a soft conversation.

Q. What kind of mechanical motion produces noise from a tracker motor?

A. The tracker itself moves to track the sun throughout the day so starting obviously in the east with the sunrise and moves to the west throughout the day. Depending on the time of year, this would be 1 or 2 degrees every 5 minutes or so. During that movement, that movement is maybe 3 to 5 seconds during that time to track the sun.

Q. And it's during that movement of 3 to 5 seconds that noise is produced?

A. That's correct.

Q. What causes the noise during the movement

of the tracker motor?

A. The tracker itself is moving but most notably the motor itself is -- is the moving part of that portion of the tracker. There's also a slew gear, and which is more or less a gearbox, that helps move the tracker as well and then there is some slight rubbing of steel. However, of those components the motor is the one that produces the noise.

Q. Do some models of tracker motors produce more noise than other models?

A. Certain models would. I, of course, can only speak for the models from my company; but overall regardless of the company, the noise coming from a solar tracker is minimal regardless of which tracker provider is used.

Q. Are you aware of any information disclosing the distance from which the tracker motor noise can be heard?

A. Yes. Adjacent to it is 50 dBs. If you move more than 300 feet away according to our test, the noise is inaudible.

Q. What kind of test did you perform to obtain that information?

A. This was conducted by a third-party

laboratory which I can get the exact testimony of. One moment.

MS. SANYAL: Yeah.

ALJ WILLIAMS: I'm sorry. Is he checking an external source?

MS. SANYAL: Yeah.

ALJ WILLIAMS: Mr. Roedel, we need to make sure you keep your testimony and sources that are on the record, so we are not --

THE WITNESS: Sure.

ALJ WILLIAMS: We are not going to ask you to check for an external source during your testimony.

THE WITNESS: Okay. The test was not conducted by myself but a laboratory test. I don't have the full details of that in front of me. I just know the results of the test.

Q. (By Mr. Van Kley) Who is the test conducted for?

A. Our company, Nextracker.

Q. Does Nextracker have a website?

A. We do, yes.

Q. Are the results of the test you just mentioned contained on that website?

A. They are not. They are typically a

separate form that is given to owners or, you know, reviewers, people of that nature. It's not something that is typical on a particular website which is more or less made for sales purposes rather than technical data.

Q. Do you know whether any similar testing has been performed on other tracker models besides those marketed by Nextracker?

A. Similar tests are performed on all different tracker types. However, not being part of those companies, I can't fully tell you the results of those tests, but it is standard industry practice to do that test on all trackers, yes.

Q. Can you tell me the results of any of those tests?

A. I cannot, no, only Nextracker. I can comment, however, on my experience through previous companies as well. Tracker noise and noise on solar sites is general -- is minimal because I have been on sites, you know, outside of my company as well in previous employment experience.

Q. Yeah. Have you ever personally measured the volume of tracker noise at an operating facility?

A. I have not personally measured it, no.

Q. Have you ever hired anybody to do that?

A. Not under my direction but I've seen different tracker tests in previous companies that produce more or less similar results.

Q. Are there mitigation measures that can be used for a tracker motor to reduce the amount of noise produced by it?

A. Sure. Over -- over time there may be an increase in noise. We are -- our motor per our life cycle testing lasts about 15 years so there is a simple replacement of that particular motor at about the 15-year mark per our standard O&M practices.

Q. Are you aware of whether the application for Kingwood Solar requires the replacement of the tracker motors in 15 years?

A. I'm not aware of that. That's a contract that's done with our customer.

Q. With regard to the trackers manufactured by your company, do all of the trackers in a solar array move simultaneously, or are they staggered in some way?

A. They would move simultaneously within maybe a tolerance of a few seconds of one another.

Q. And do those trackers move during the entire day or just during part of the day?

A. They would move more or less throughout

the day. However, they're segmented as previously testified, so probably depending on the time of year, every 3 to 5 minutes and, again, just a couple degrees which lasts about 3 to 5 seconds.

Q. Do they move at all after darkness occurs?

A. There would be a single point at the beginning or end of the day in which the rotation would go back from our degrees is a positive 60 to a negative 60 so from east to west.

Q. And at night or at the end of the day, when that event occurs that the tracker moves back to the east from the west, is the timing of that movement based on how the tracker has been programmed or is there some sort of automatic device that determines the timing of that movement to the west?

A. It is preprogrammed, so this portion we put in the exact latitude and longitude, and through our algorithm we know exactly where the sun is on each day throughout the particular year. So that movement typically, you know, at sunset, which is calculated each day, it moves back at that specific time, but it is preprogrammed. There's no sun sensors that would move it back.

Q. Is that preprogramming done by Nextracker

or by the solar operator, or can it be done by either?

A. It's done by Nextracker. There is what we call a commissioning process that's done at the end of the project after it's fully done prior to interconnection to the grid.

Q. Are you aware of any solar facilities that have the timing of that switch from west to east occurring after darkness occur -- starts?

A. Should you choose the definition of after darkness after the sun goes down just below the horizon, that is when it occurs for all companies.

Q. How close to the edge of the solar array is the tracker located?

A. I believe you might mean boundary. I would consider the edge of the solar array to be considered a tracker. There, of course, is a separate fenced boundary that's outside of this. I do not have that exact dimension from memory, no. But typically there is a road outside of it which would be at minimum about 20 feet, that perimeter road, and then the fence would be outside of it more.

Q. If I am understanding your answer correctly, you're saying that the tracker is at the -- the edge of the solar panels, right?

A. Correct. The solar panels are attached to the tracker itself, so just from a nomenclature perspective in the solar industry, most consider the nomenclature of a solar array to be the modules and tracker themselves and then there is a second -- there would be the site boundary which is -- typically has a -- a, you know, road around the perimeter and then there is a fence that is put outside of that particular road, the solar facility, especially one of this size, is only available to, you know, sort of official personnel that are done with the permission of the owner. It's -- it's fully fenced in. You know, no public is allowed into that particular facility.

Q. And where is the tracker motor located with respect to the outside edge of the solar panels?

A. The tracker motor is at the center of the tracker.

Q. And the tracker is at the edge of the solar array.

A. There's trackers throughout that particular site. So there are -- each row, each individual tracker has its own motor.

Q. Okay. I wanted to make sure that I understand how the trackers are connected to the

solar panels and the other components of the solar array. Can you lead me through that? What's connected to what, et cetera?

A. Sure. Starting at the solar panel, there is a -- what we call a module rail that is attached through sort of a permanent rivet fastener. This is made such that it cannot be removed mechanically or something of that nature without a full drill out. That particular attachment is both approved by Nextracker through structural calculations as well as the module manufacturer as well. There is a testing process.

From there the module rail is attached to a tube. That tube is used for, of course, rotation of the tracker throughout that particular day that extends the length underneath the solar panels and the attachment modular rail. From there that is attached to a gearbox and motor at the center of that particular tracker. And then throughout that to hold up the tube, there are foundations known as piers which are essentially I-beams that hold up the tubes off the ground.

Q. Okay. And by the I-beams or the piers, you -- you mean the -- what's essentially a post in the ground?

A. That's correct, directly driven. I will comment there is also photos attached to my testimony that can also give a visual of this as well.

Q. Okay. So starting at ground level --

A. Sure.

Q. -- you first have the post, right?

A. That's correct.

Q. And then there is the tracker connected to the top of the post?

A. It -- it would be. There's sort of a housing that attaches to the tube on top of that I-beam, yes.

Q. Okay. And then the tracker is -- is attached to the tube through the -- through that mechanism, right?

A. That's correct.

MS. SANYAL: Your Honor, at this point not really an objection but I believe we were -- it would just be helpful to refer to the photos that are already in the testimony, if that's what Mr. Van Kley is doing.

ALJ WILLIAMS: I will let Mr. Van Kley ask the questions how he wants.

Q. (By Mr. Van Kley) And then the solar panels are mounted on top of the tracker; is that

right?

A. That's correct, yes.

Q. Okay. Now, your testimony provides us with some statements about how wind damage is prevented to the trackers, right?

A. That is correct, yes.

Q. And I believe that answer 16 on page 7 may address that question. If you could turn there.

A. It does, yes. Is there a specific question regarding that point?

Q. There will be in just a moment.

A. Sure.

Q. So when you say in the first sentence after yes that "The trackers expected to be utilized for this Project will be rated to a minimum of 105 mile per hour winds, based on the application of ASCE 7-16." That's based on the assumption that Nextracker trackers are going to be used for this project, first of all, right?

A. Well, as part of a standard process, any tracker would have to submit a set of calculations to a structural engineer of record as provided by Greene County. During that process, they would be subjected to this code as it's stated in the Ohio Building Code. That refers to ASCE 7-16 which is more or less

a lookup of the required wind speeds of a particular site as well as different load combinations and equations that must be used for sizing of steel components or other components that we talked just previously.

Q. So with respect to the information in this sentence, does this rating of a minimum of 105 mile per hour winds pertain to any specific part of the -- the solar arrays or to the entirety of the solar arrays?

A. It would be to the entirety of the solar arrays. However, to explain more in depth, we obviously would have sort of standard components. So there's different levels of upgrading depending on that particular component so we make sure that the minimum component is rated to 105, whereas, some standard ones, such as say the module fastener, will be rated up to, you know, 140 miles per hour which we use on every single project.

Q. So does that rating apply -- the rating of 105 apply to the mechanism that attaches the solar panels to the trackers?

A. It would, yes.

Q. All right. Does it also apply to whether the solar panels themselves would be damaged?

A. It would, yes. We submit not just structural calculations but a pressure calculation to the module manufacturer as well to be approved.

Q. Now, does Nextracker manufacture solar panels as well as trackers?

A. We do not, no.

Q. Okay. And does Nextracker then have any way to guarantee that the way that the solar panels themselves are manufactured will withstand winds up to 105 miles per hour?

A. Nextracker itself cannot guarantee that. However, there is a separate certification process through the module manufacturer that holds that portion accountable.

Q. Is there any similar rating that would protect solar panels from damage due to hail?

A. There is actually, yes. There are different testing manufacturing that all solar panels need to go through, a portion of which has to do with a hail test. And within the industry typically the overall design criteria for hail is around 2 inch. It must be able to withstand 2 inch. Any hail above 2 inch actually our -- our company has different processes such that in the event of a hailstorm, we actually rotate to a 60-degree angle to avoid a

direct impact with the solar panels.

Q. Is that tilting of the solar panel guaranteed to prevent damage from hail that is larger in size than 2 inches?

A. Technically it could be not guaranteed because hail could be up -- in upwards of 5 inches in rare instances. However, it's void preventative. In the event of hail specifically, however, the damage itself would just be to the glass on the solar panel, and it would not -- it would not happen such that a solar panel would be dislodged from the tracker itself. This within the industry is deemed more as a performance issue rather than a safety issue.

Q. And so if the -- and you're actually familiar with the -- the prevention of hail damage to solar panels, right?

A. I am, yes. Actually I have written a published paper on that particular subject which was placed in the testimony. It's called "Extreme Weather."

Q. Yeah.

A. Yeah.

Q. Yeah. In fact, I think I read that about 1:00 a.m. this morning, so I am familiar with it.

A. Great.

Q. So with regard to hail, when hail damage occurs to a solar panel, does it damage just the glass, or does it impact any of the materials under the glass as well?

A. It would not impact the material underneath the glass because the glass is the exposure. The tracker is more or less hidden underneath that particular solar panel.

Q. Well, what about in the solar panel itself, what's under the glass on the top of the solar panel?

A. There is around the outside, which gives it structural integrity, is an aluminum frame that goes around the outside of that particular panel. In addition, there is typically a -- what we call a back sheet which would be a laminate on the back of the glass. Different solar panel designs have different options. Some have what we call a dual glass so there is glass on the front and then there is the actual silicone cells itself and there is glass on the back. Other ones are one-sided solar panels which have glass, then the silicone cells, and then just a standard back sheet.

Q. All right. With respect to the rating for 105 mile per hour winds that are referenced in

your answer 16 to your testimony, are those winds that blow more or less in a straight line or winds that may rotate or both?

A. This -- this would be both. So there's a radiating system for downforce and uplift that is utilized by Nextracker.

Q. So are you familiar with the speed of winds that occur during tornadoes?

A. I am, yes.

Q. Can you give me a range of the speeds of wind that occur in tornadoes?

A. Sure. It is on an EF scale, and they could range from, you know, as low as 65, 70 miles an hour to up to 250 miles per hour depending on the tornado.

Q. So it sounds like you are familiar with the EF scale?

A. I am, yes.

Q. Does that stand for Enhanced Fujita Scale?

A. It does, yes.

Q. All right. And the -- the Fujita Scale rates tornadoes from an F0 to an F5; is that right?

A. That's correct.

Q. Do you know from memory what the mile per

hour estimation for a category 5 tornado is?

A. Not completely from memory, no. I know it goes up to roughly 250 miles per hour, but I don't have from memory the exact scale reference.

Q. Okay. Do you have access to Citizens Exhibit 19?

A. I do not at current time.

Q. All right. Maybe Mr. Settineri could provide you with that exhibit.

MS. SANYAL: Mr. Roedel, I believe it was --

MR. VAN KLEY: Pardon me, Ms. Sanyal. I forgot.

MS. SANYAL: It's okay, Mr. Van Kley.

MR. VAN KLEY: I have been watching Mike all morning.

MS. SANYAL: It's okay.

Mr. Roedel, you should have it via e-mail.

ALJ WILLIAMS: Go off record while the witness finds the document.

(Discussion off the record.)

ALJ WILLIAMS: Back on the record.

Q. (By Mr. Van Kley) All right. You have in front of you what's been marked as Citizens --

MR. VAN KLEY: Let me first ask, your Honor, could we have this document marked as citizens Exhibit 19.

ALJ WILLIAMS: It is so marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

Q. (By Mr. Van Kley) Okay. Mr. Roedel, do you have in front of you what's been marked as Citizens Exhibit 19?

A. I do, yes.

Q. And does this document include information from the National Weather Service website?

A. It does, yes. It shows the Fujita Scale of the tornadoes as we just discussed.

Q. Okay. And looking at the Fujita Scale, do you see the F scales, the different levels of tornadoes?

A. I do, yes.

Q. Uh-huh. And if you would look down at the category 5 tornado, can you tell me what the estimated winds for a category 5 tornado are?

A. Would be 260 to 318 miles per hour.

Q. And for a category 5 tornado, do you see there under the column for "Description" a description of the amount of damage that can be

caused by a category 5 tornado?

A. I do, yes.

Q. And according to this exhibit, that damage can include "strong frame houses lifted off foundations, carried considerable distances, and disintegrated; auto-sized missiles airborne for several hundred feet or more; trees debarked." Do you see that?

A. I see that, yes.

Q. Okay. And based on your knowledge of winds and tornadoes, do you agree that that's the type of damage that can occur in a category 5 tornado?

A. I do, yes.

Q. And then for a category 4 tornado, you see there that speed of the winds?

A. I see it, yes.

Q. And those estimated winds range from 207 miles per hour to 260 miles per hour?

A. I see that, yes.

Q. Uh-huh. And then the description of potential damage is referred to as devastating damage, right?

A. I see that, yes.

Q. And that damage is described as

"Well-constructed houses leveled; structures with weak foundation blown some distance; cars flown; large missiles generated." Do you see that?

A. I do, yes.

Q. And based on your knowledge of wind speeds and tornadoes, do you agree that that's the type of damage that can occur in a category 4 tornado?

A. I do, yes.

Q. Going back for a moment to the category 5 tornado, the type of damage --

MS. SANYAL: Objection.

ALJ WILLIAMS: Basis?

MS. SANYAL: I'm sorry. I don't think I allowed Mr. Van Kley to finish his question. Would you like to finish it at the moment, and then I can?

ALJ WILLIAMS: Okay. We will overrule the objection for now.

Please proceed, Mr. Van Kley.

Q. (By Mr. Van Kley) So with respect to a category 5 tornado, the description of the type of damage in the Fujita Scale is described as incredible damage, right?

MS. SANYAL: Okay. I'll go ahead and object now, your Honor.

ALJ WILLIAMS: Basis?

MS. SANYAL: Foundation, relevance, not really sure where we are going here, how this is related to the project as discussed. I mean the project at hand.

ALJ WILLIAMS: The objection is overruled. We will allow the questions to continue relative to potential for tornado damage.

Q. (By Mr. Van Kley) Do you have the question?

A. The question was in reference to category 5 in which you listed as incredible damage. I wasn't sure if there was an exact question. I do agree with the description of that particular category 5 and the damage.

Q. Yeah. My question was whether the Fujita Scale as you have it in front of you describes that damage as incredible damage.

A. It does, yes.

Q. Okay. Now, going back to your testimony -- and keep Exhibit 19 in front of you, please. Going back to answer 16 of your testimony, the answer, as we've discussed, states that trackers are expected to be utilized that will be rated to a minimum of 105 mile per hour winds, right?

A. That's correct.

Q. And at a wind speed of 105 miles per hour, if it -- if the winds are in a tornado, that would be classified as a class 1 tornado, right?

A. That -- that would be. However, the winds are inherently different and that is different than what is stated in the code. As mentioned within ASCE 7-16, which is referenced by Ohio Building Code, it shows that tornadoes are absent from the code with respect to different risk categories. In this a risk category 1, just like it would a standard building, is also applied to a solar tracker.

Q. Yeah. I don't think I understand that answer. Are you saying that the ASCE Code does not apply to tornadoes, or are you saying something different?

A. It does not apply to tornadoes depending on the type of structure that is -- that is built. Within that there are given different risk categories, 1 through 4, based on a different building type. For example, what is applied to a tornado are dwellings of people housing 50 people or more or hospitals, schools, buildings of that particular nature.

A solar tracker is defined as a basic

building. It's sort of referenced here as well indirectly such that well-constructed houses which the same risk category level would essentially be leveled as a result, you know, that same methodology of safety and risk levels apply to solar trackers.

Q. Well, let me ask you a question in perhaps a simpler manner.

A. Sure.

Q. Based on your knowledge of wind and tornadoes, how fast will -- let me back up.

Based on your knowledge, will Nextracker's trackers withstand the winds of a category 5 tornado?

A. I don't have proper reference to that based on our experience. Again, we design completely to the code. That does not take into account, you know, tornadoes as referenced to our structure. As put in our testimony, one project has been hit by a tornado. However, it's on the lower scale. There was -- some damage occurred. However, that damage was minor.

Q. You don't know what category that tornado was?

A. It was an EF0.

Q. Okay. The lowest, the F0 classification

pertains to the weakest of the tornadoes, right?

A. That's right. At our particular site winds were measured around 80 miles per hour.

Q. Okay. So if I understand your answers accurately, you don't know whether your trackers will withstand winds in a tornado that are in a category 5 tornado?

A. That is correct, yes. We haven't had experience with winds of that nature.

Q. Okay. And how about a category 4 tornado? Do you know whether your trackers will stay intact during a category 4 tornado?

A. I wouldn't have knowledge of that, no.

Q. How about a category 3 tornado, same question.

A. I would not, no.

Q. How about a category 2 tornado, same question.

A. I would not.

Q. How about a category 1 tornado, same question.

A. I would not.

Q. So if the tracker does not stay intact during a tornado, what happens to the solar panels that are mounted on the tracker?

A. Well, typically when we have had, you know, that one singular instance that's stated in the testimony, actually the modules themselves were -- only some were slightly displaced throughout the particular site. On this site there was, you know, sort of thousands of trackers. Something in the nature of 40 to 50 trackers showed minor to I would call it moderate damage in which they were displaced. And I put within that testimony about 10 feet from that particular structure, nothing was technically thrown in the air nor injuries were reported.

Q. When you say the panels were displaced, do you mean that the panels were removed from the trackers?

A. Only partially, yes, meaning a -- the panels attach through four different fastener points as previously described and portions of which were detached. Other portions of the damage included the pier that we described earlier, that I-beam, and the attachment method to the torque tube was partially dislodged as well.

Q. And in that one weather event that was described just now, was that weather event a tornado?

A. It was, yes.

Q. Is that the same category 0 tornado that

you reference in a prior answer?

A. Yes. And to be clear, looking at Exhibit 19, that is an EF0 rating as compared to a Fujita scale. I am familiar with that there is two different rating systems. That would be an EF rating, yes.

Q. An EF rating is what?

A. That would be the Enhanced Fujita Scale which is shown in the second section, the line there, if we are judging by the Fujita scale on the top section, it would be an F1 which was, again, as mentioned, it was roughly 80 mile per winds were measured at that site.

Q. Okay. So looking back then at Citizens Exhibit 19, we have a table for the Fujita Scale, right?

A. Uh-huh, correct.

Q. And that's the scale that we've been reading from.

A. Sure. Yes.

Q. Okay. And then below that we have another table with the Enhanced Fujita Scale, right?

A. That's right.

Q. Okay. And what's the difference between those two scales?

A. I don't have full familiarity. It's just what is referenced previously, and the Nextracker standpoint the EF scale was presented to Nextracker, so it went with that basis. And as opening to the testimony, it was referenced as EF scale. So I believe going back to the previous question, we might need to adjust the response. We would have experience with an F1 Fujita Scale, but overall I don't have direct familiarity with the difference in measurements between the scales.

Q. Okay. Well, just make sure that we're clear on the record.

A. Sure. Yes.

Q. For the Enhanced Fujita Scale, we also have five categories of tornadoes, right?

A. We do, yes, yeah.

Q. And they range from 0 to 5, right?

A. Correct.

Q. And the rating for the wind estimate for the category 0 is 65 to 85 miles per hour, right?

A. That would be on the EF scale, yes.

Q. Yeah. And on the EF scale a tornado of 105 miles per hour would be a category 1 tornado, right?

A. That's correct, yeah.

Q. Because the range of wind speeds for category 1 tornadoes are 86 to 110 miles per hour, right?

A. That's correct.

Q. Okay. A category 5 tornado on the EF scale is a tornado that has only 200 miles per hour winds, right?

A. That's correct.

Q. And for a category 4 is 166 to 200 miles per hour?

A. That's correct.

Q. 3 is 136 to 165 piles per hour?

A. That's correct.

Q. No. 2, a category 2, is 111 to 135 miles per hour.

A. That's correct.

Q. And those winds are based on the 3 second gust, right?

A. Yes.

Q. So going back to my line of questions before we kind of diverted in this discussion of the scales, I was asking you about whether solar panels would be dislodged by wind at various wind speeds from the tracker.

A. Yes.

Q. Again on that line of questions, can you tell me what speed of wind in a tornado would be withstood -- let me start over because that was a pretty lousy question.

Do you know what wind speeds in a tornado can be endured by the Nextracker trackers without the solar panels becoming dislodged from the trackers?

A. We don't have full knowledge based on that because the tornadoes do not apply to solar trackers. And if I could explain a bit more in depth. As stated with an ASCE Code, tornadoes are exempted from that risk category 1 structure which solar trackers would apply to. Within that the difference between winds is that the main driver of winds in around the country as stated by the code would be either thermal winds, down sloping winds say for mountains, thunderstorms, or hurricanes, of those nature, they are spread out over a very large area. You know, an example for hurricane hundreds of potential miles and that wind concentration force is different in structure than that of a tornado. So meaning the same applicable wind speeds that apply from ASCE Code as deemed responsible for our tracker is -- is inherently different than a concentrated force from a tornado.

Q. So are you saying then that the ASCE Code that you're familiar with --

A. Yes.

Q. -- does not apply to tornadoes.

A. For our type of structure, it does not apply to tornadoes, yes.

Q. And are you aware of any other information -- information that would tell you what category of tornado, if any, could be endured by your trackers without the panels coming off of the trackers?

A. There's no direct study of tornadoes with respect to our trackers as deemed by the code. Our only experience with tornadoes is the singular project that was mentioned in my testimony.

Q. Based on your knowledge of wind speeds and tornadoes, do you have an opinion on whether a tornado of any size could hold or blow the solar panels off of the trackers?

A. When you say a size, can you -- do you mean to scale for reference?

Q. Yeah. We can apply -- let's start with a category 5 or a tornado. Do you have an opinion as to whether a category 5 tornado would blow the solar panels off of the trackers?

A. I don't. It's hard to know because we don't have full experience with that, so it would be completely inquisitive. One would assume that the nature as described in there of the damage would be in excess of our experience with the -- with the tornado of 80 miles an hour in Texas, yes.

Q. Okay. And the same question with regard to a category 1 tornado. Do you have an opinion on whether a category 1 tornado would dislodge the solar panels from the tracker?

A. If we are talking about the Fujita Scale category 1, we have experienced that as mentioned so there would be what I would consider minor damage associated with it. And fully, as mentioned, the disengagement of the panels from the solar tracker was only partial.

Q. Uh-huh. So with regard to a category 2 tornado using the EF scale, do you have an opinion on whether a tornado of that scale would dislodge the solar panels from the tracker?

A. I wouldn't because we don't have experience with that.

Q. Are you familiar with the history of tornadoes in Greene County, Ohio?

A. I have a brief familiarity with it, yes.

Q. Okay. Are you aware of a category 5 tornado that passed through Xenia in that county?

A. Yes, I am. I believe it happened in the early '70s.

Q. In 1974.

A. Sure.

Q. Okay. And do you know whether that category 5 tornado passed through the project area of the Kingwood Solar project?

A. I don't have familiarity with the exact location of it, only that it occurred within Greene County in the '70s.

Q. Are you aware of any other tornadoes that have occurred in Greene County, Ohio?

A. Yes. I've conducted some previous research. Online resource indicated that 17 tornadoes have existed in Greene County since 1950.

Q. And do you know whether any of those passed through the project area?

A. I don't have direct knowledge of any tornadoes' exact location, only the quantity of tornadoes in Greene County since 1950.

MR. VAN KLEY: Okay. All right. Thank you for your testimony.

I have no further questions at this time.

ALJ WILLIAMS: Thank you, Mr. Van Kley.

Miami Township.

MR. SLONE: Yes, thank you. Just a couple. I don't want to stand between lunch and --

ALJ WILLIAMS: Take what time you need.

MR. SLONE: You understand.

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CROSS-EXAMINATION

By Mr. Slone:

Q. Thank you very much. You testified that housing connects each post -- I'm sorry. Let me back up.

I want to talk a little bit about the construction of the tracker system. You testified that each housing -- that the housing connects the post which is driven into the ground and supports the tube, the tracker tube; is that right?

A. That's correct, yes.

Q. Do you know how the housing is constructed?

A. The housing is a stamped part made of galvanized steel in which there are attachments to it. Five portion -- five attachments attach the overall different stamped portions together and then as well there is a cast bracket attaching the pier to

that particular housing as well. That particular portion -- let me see if it's shown in the visual. It may not be inherently clear from the particular photos. The post in image 1 of the testimony is a motor post which is slightly different from what we call an array post. Technically that array post can be seen on image 2 on the outside of the tracker. However, it is zoomed out. On the outer portion of that, you can see the I-beams, the piers that go into the ground, and then there is a housing on top of that.

Q. You said the housing is made of galvanized steel?

A. That's correct, yes.

Q. Do those pieces of steel rub against each other as the tracker rotates?

A. No. There's a pin structure that's -- that's there on top of the housing. That pin is attached to the torque tube. Unfortunately there's not a direct zoomed in version of that particular portion in the testimony.

Q. Has Nextracker measured whether the housing produces any noise during operation?

A. We have not. That one is deemed essentially inaudible from our expertise.

Q. If you haven't measured it, how can you deem it inaudible?

A. From experience being on-site, if you are, say, actually within image 2 that is myself standing there pointing towards the array. Particularly at that portion of time just following the noise with your ear, it is barely audible from the point in which I am standing, and efforts to hear it you would need to be at the center point in which you would actually see a small gap in the solar panels of image 2 which is the location of the motor.

Q. Are the workings of the housing protected by or from weather?

A. Yes. They are galvanized which is a typical practice with steel, to have a zinc coating outside the steel that inherently would provide a protection from weather in general.

MR. SLONE: Okay. Thank you very much.

Nothing further.

ALJ WILLIAMS: Thank you, Mr. Slone.

Next we have Greene County.

MR. BOGGS: I have no questions for this witness, your Honor.

ALJ WILLIAMS: Thank you.

Xenia Township.

MR. DUNN: No cross, your Honor.

ALJ WILLIAMS: Cedarville Township.

MR. BROWN: No cross, your Honor.

ALJ WILLIAMS: In Progress.

MR. HART: Likewise, no cross.

ALJ WILLIAMS: Tecumseh.

MR. SWANEY: No cross, your Honor.

ALJ WILLIAMS: And Staff.

MS. BAIR: No questions, your Honor.

ALJ WILLIAMS: Thank you.

Ms. Sanyal, I assume you want a few minutes to confirm redirect?

MS. SANYAL: That would be excellent. May we have until 1:10?

ALJ WILLIAMS: That seems a little long. Everybody is hungry. How about 1:05?

MS. SANYAL: 1:06? I'm kidding. So 5 will work.

ALJ WILLIAMS: So 5. We are off the record.

(Recess taken.)

ALJ WILLIAMS: Back on the record. Do you have any redirect?

MS. SANYAL: Yes. Thank you, your Honor.

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REDIRECT EXAMINATION

By Ms. Sanyal:

Q. Mr. Roedel, just a few questions. Let's go to page 3 of your direct testimony. And let's look at image 1. And I believe you had a lot of questions about the motor and a tracker. So my first question is this, what is the biggest source of sound from a tracker?

A. The tracker motor.

Q. Okay. And then looking at this image, can you explain to us where the tracker motor lives?

A. It's at the center of it. You can see the gearbox is that gold portion, and then it's just on the other side of that which is a small motor.

Q. Okay. And then if we flip to page 4 of your testimony which is image 2 and you mentioned you are standing here in this photo.

A. That's correct.

Q. So in this picture where would the tracker motor be?

A. It's at the center of the tracker, and you can notice a small gap there. If you can sort of reference between image 1 and image 2, you can see that there is a small gap on both sides there as well.

Q. And would you happen to know how far away that is from --

A. It depends on the particular site but roughly 150 feet depending on the size of the solar panel.

Q. Okay. Okay. Looking at image 2 again, you're standing in the middle, so where from there is the tracker motor located?

A. As you move forward within that particular tracker, again, there's a gap that's sort of shown. That tracker motor is located there.

Q. Is that the first gap or? I see several gaps.

A. That's because several trackers are placed adjacent to one another.

Q. Okay. Thank you. That was helpful.

A. Sure. The first gap would be the motor itself. The second gap would technically be the space in between the Nextracker, and then it might not be as fully visual here. Then that next gap would be a motor again.

Q. Thank you. And then I believe you received a lot of questions about tornadoes in Greene County. Do you believe Greene County has a higher risk of tornadoes compared to other areas of the

country?

A. No, I don't.

Q. Okay. And could you explain why.

A. According to FEMA and known tornado maps, for example, Tornado Alley, which is commonly referenced, is throughout north Texas, Oklahoma, and Kansas has the highest risk in which we have. Of those particular portions we have multiple projects in north Texas and a high risk versus Ohio.

Q. Turning to page 7, this is question and answer 16, you talk about ASCE 7-16. If the Ohio Building Code does not apply, will Nextracker still utilize the ASCE 7-16 Code?

A. We would, yes. For any project within the United States we will reference that particular code, yes.

Q. And how many projects have you worked for for Nextracker solar projects?

A. I would say probably about 4 to 5 hundred projects in total over my seven years with Nextracker.

Q. Okay. And out of those 4 to 5 hundred projects in seven years, is that west Texas tornado that we -- that you mentioned earlier the only weather event that's affected a project?

A. Anything of notable damage, yes.

MS. SANYAL: Okay. Those are all the questions I have, your Honor.

ALJ WILLIAMS: Thank you, Ms. Sanyal.

Any recross, Mr. Van Kley?

MR. VAN KLEY: Yes, your Honor.

ALJ WILLIAMS: Please proceed.

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RECROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Roedel, please go back to image 2 on page 4 of your direct testimony, please.

A. I have it in front of me.

Q. Okay. So if I'm understanding what you're saying accurately, you are depicted in the lower part of that image, right?

A. That's me with the hand pointing, correct.

Q. Okay. Unfortunately I have a black and white copy and that's not coming through very well.

A. I am the center person --

Q. Uh-huh.

A. -- in that image.

Q. Okay. You are approximately in the center from left to right of the photograph?

A. Sorry. It's slightly to the right. I am the -- there are three people shown. I am the middle person shown in that particular image.

Q. Okay.

A. Which technically I would call it slightly to the right of center in the front of it.

Q. Okay. Now, the solar array that you are looking at, or that you were looking at when up at this location, has rows of solar panels, right?

A. That's correct. There's probably close to a thousand rows at this particular site. This photo only shows one portion of this particular site.

Q. And in this photograph, you are standing at the end of the rows, right?

A. That's correct, yes.

Q. And just for clarity sake, how far from the end of the row -- the closest row are you standing?

A. I would deem it maybe 15 feet or so from the end of the row.

Q. And then in that row, what's the distance between the closest tracker motor and you?

A. Roughly about 150 feet would be the tracker length, so then another 15 feet would be about 165 feet I would approximate in this particular

photo.

Q. Okay. Now, if -- if you were standing to the side of these rows of trackers, or solar panels, rather than standing at the end of the row, you are standing at the side of the row, how far would you be from the tracker motor?

A. We -- I could -- within the fence line I could technically be adjacent to it, right? So if you don't have access to the site, probably I would say at a minimum you would probably be about 50 feet or so if you went up to the fence line. However, I don't have the exact minimum measurement from this particular site.

Q. Okay. Let's assume -- just to make sure the record is clear here, let's assume that -- that there's a distance of 20 feet between the solar array fence and the closest solar array.

A. Sure.

Q. And further assume that the panels are running parallel to the fence.

A. Yes, uh-huh.

Q. What would be the distance between the solar fence and the tracker motor?

A. I would say prob -- from experience an approximation would be about 30 feet or so.

Q. With regard to your tornado research, did you see any statistics on the frequency of tornadoes in Greene County -- let me back up because I think you actually answered that question already.

When you say that you don't believe the incidents of tornadoes in Greene County are any higher than tornadoes elsewhere, were you comparing the number of tornadoes in the State of Ohio to tornadoes elsewhere or the number of tornadoes in Greene County to else -- to tornadoes elsewhere?

MS. SANYAL: Objection.

ALJ WILLIAMS: I will let him answer.

A. It would be both. Per my research it showed that 17 tornadoes have existed in Greene County since 1950, whereas, the top county in Ohio was 33. However, from memory I don't have the reference of that particular name of that county. Within the Ohio map from memory, it was about medium, you know, roughly in the middle of the different counties in Ohio.

However, overall if you take Ohio as a state and compare it to different portions of the United States, the risk level of occurring is -- is lower than that in a particular section of, you know, previously stated Tornado Alley which is north Texas,

Oklahoma, Kansas.

Q. Uh-huh. And where -- where does the number of tornadoes in Greene County compare to the number of tornadoes within the entire country?

A. I don't have the exact reference of Greene County versus the rest of the country. I just have the reference of the full map of the United States which shows the overall risk level most often denoted by different color types and which dark would indicate a high risk based on frequency and light colors low risk. Greene County in Ohio is typically deemed in that lighter color or just based on the overall maps. I don't technically have the specification of 17 tornadoes like existed in the past 70 years as compared to other counties, just the reference of the full map of the United States.

Q. Do you know the number of square miles inside of Greene County, Ohio?

A. I do not, no.

Q. Did you see any statistics that indicated whether the area of the parcel area or its immediate surroundings has a higher incidence of tornadoes than the rest of the county?

A. I don't have reference to that, no.

MR. VAN KLEY: All right. I have no more

questions, your Honor.

ALJ WILLIAMS: Thank you, Mr. Van Kley.

Miami Township.

MR. SLONE: Yes, thank you.

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RECROSS-EXAMINATION

By Mr. Slone:

Q. On redirect you said that the noisiest part of the tracker is the motor noise; is that right?

A. That's correct.

Q. Did Nextracker make those measurements?

A. Nextracker has done measurements of the motor noise, yes.

Q. And when were those measurements made?

A. I don't have the exact record of when those measurements would be made. However, I can say our motor type has not changed within the past seven years since I've been there and that the same motor is being used based on that measurement, you know, as compared to what would be used today.

Q. Has Nextracker made noise measurements of its tracker motors in the field?

A. This was done in a laboratory. However, based on our experience, the measurement, you know,

based on my experience in the field, it does line up with that sort of a low conversation about noise of the tracker movement.

Q. And tell me more about your experience in the field.

A. Sure. I've been in solar for about 12 years. I'm a well known figure within the industry. Under my engineering tutelage, I have constructed what was deemed the -- I have been in charge of engineering, not technically constructed, of the largest sites in the world several times over including the largest project in the United States that is currently being constructed in Indiana.

I also am in charge of engineering of currently the largest site in the western hemisphere which is in Mexico as well as the largest site -- solar sites on several other continents.

Q. That is really pretty impressive.

A. Thank you.

Q. Does that keep you very busy?

A. Very much so. Nextracker has more solar plants installed than any other composition by something like 3X, and I am in charge of the full engineering team which would be about 50 engineers that report up to me under my umbrella, yes.

Q. Sure. As part of your duties, do you revisit solar arrays after they are constructed?

A. I do, yes. As noted in image 2, this one was after construction. However, it would be a combination of any construction and after construction depending on the needs.

Q. Is it part of your duty to visit a solar array after it has been in operation for more than a year?

A. There is not technically a requirement to do so. Otherwise, I would have to visit, you know, hundreds and hundreds of sites. But in particular, you know, for engineering measurements, things of that nature, I do visit sites after construction, yes.

Q. How about noise measurements?

A. We have not conducted noise measurements -- or I personally have not conducted noise measurements on a particular site.

Q. So I think I've heard that you haven't measured the tracker motor after the motor has been in service and operation for a year.

MS. SANYAL: Objection.

ALJ WILLIAMS: We'll let him answer.

A. Well, technically that is true. However,

I think there's an order of magnitude difference where should you be having a talking conversation as one who as part of some duties I had given tours of particular sites to customers during which the tour I would be talking. I would have to stop talking in an effort to hear the motor because I wanted to point out that the tracker is actually tracking. Should I have continued talking, it would be considered inaudible.

Q. Have you given tours at all of the sites?

A. No. Tours are typically not as part of my main duties, however, can come up from time to time when our sales team wants a technical reference there. Typically I am going to look at performance aspects or things of that nature of a particular site after it's constructed.

MR. SLONE: Okay. Thank you.

No further questions.

ALJ WILLIAMS: Thank you, Mr. Slone.

That concludes our recross. Mr. Roedel, you are excused. Thank you for your time and testimony today.

THE WITNESS: Great. Thank you.

ALJ WILLIAMS: Ms. Sanyal, I notice your -- there you are. Pick up your exhibit. I'm

sorry. You're muted.

MS. SANYAL: Sorry about that. May I just have 2 minutes to go off the record and briefly discuss one thing?

ALJ WILLIAMS: Sure. We will go off the record for a couple minutes. Everybody stay on camera, please.

(Discussion off the record.)

ALJ WILLIAMS: We will go back on the record, Ms. Sanyal.

MS. SANYAL: Thank you. And at this time I would like to move into the record what has been previously marked as Kingwood Exhibit 16.

ALJ WILLIAMS: Any objections?

Hearing none, that exhibit is admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

MS. SANYAL: Your Honor, I would also like CGA Exhibit 19.

ALJ WILLIAMS: I think we are marking those Citizens exhibit.

MS. SANYAL: Sorry, Citizens Exhibit 19.

ALJ WILLIAMS: Any objection to the admission of that document?

It's also admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ WILLIAMS: Okay. Let's go off the record.

(Discussion off the record.)

(Thereupon, at 1:27 p.m., a lunch recess was taken.)

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- - -

ALJ WILLIAMS: Okay. We are back on the record.

Call on the Applicant to call their next witness.

MS. SANYAL: Thank you, your Honor. The Applicant would like to call Mr. Andrew English to the stand.

MR. SCHMIDT: Mr. English, you have been promoted. If you can enable your audio and video.

ALJ WILLIAMS: Mr. Hicks, I will turn it over to you, sir.

ALJ HICKS: Yes. There I can see you. Mr. English, if you could raise your right hand.

(Witness sworn.)

ALJ HICKS: Thank you.

Please go ahead, Ms. Sanyal.

- - -

ANDREW ENGLISH

being first duly sworn, as prescribed by law, was examined and testified as follows:

DIRECT EXAMINATION

By Ms. Sanyal:

Q. Good afternoon, Mr. English.

A. Good afternoon.

MS. SANYAL: At this time, your Honor, I would like to mark two exhibits, Exhibit -- Kingwood Exhibit 17, which is the direct testimony of Andrew English, and then Kingwood Exhibit 18, which is the supplemental testimony of Andrew English.

ALJ HICKS: They will both be so marked.

(EXHIBITS MARKED FOR IDENTIFICATION.)

MS. SANYAL: Thank you, your Honor.

Q. (By Ms. Sanyal) Mr. English, we'll go through Kingwood Exhibit 17 first. Do you have a copy of that in front of you?

A. I do.

Q. Okay. And could you tell me what is Kingwood Exhibit 17.

A. It's my direct testimony.

Q. Okay. And was your -- was your direct testimony drafted by you or under your direction?

A. It was.

Q. Okay. And then do you have any changes to Kingwood Exhibit 17 today?

A. I don't.

Q. Okay. If I asked you all the questions that are in this exhibit today, would your answers remain the same?

A. They would.

Q. Okay. And if you would then turn to Kingwood Exhibit 18. Do you have that in front of you?

A. I do.

Q. Kingwood Exhibit 18, do you have it in front of you? Okay.

A. Yes.

Q. Could you please let me know what that is.

A. That is my supplemental testimony.

Q. Okay. Was your supplemental testimony drafted by you or under your direction?

A. It was.

Q. Okay. And do you have any changes to Kingwood Exhibit 18 today?

A. I do not.

Q. And if I asked you the questions that are in this exhibit, would your answers be the same?

A. They would.

MS. SANYAL: Okay. Your Honor, Mr. English is now available for cross-examination. And in case I forget, I would like to move Exhibit 17 and 18, subject to cross-examination.

ALJ HICKS: Thank you.

We will start with Ohio Farm Bureau Federation.

MS. MILAM: Yes. Thank you. No cross for this witness, your Honor.

ALJ HICKS: Thank you. Turn it over to Mr. Van Kley and CGA.

MR. VAN KLEY: Thank you, your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Good afternoon, Mr. English.

A. Good afternoon.

Q. Let's go to your written direct testimony which has been marked Kingwood 17 and please go to page 3.

A. Okay. Got it.

Q. All right. Directing your attention to lines 14 through 19, there's a discussion of medium screening and light screening. Do you see that?

A. I do.

Q. Now, the figure attached to your supplemental testimony shows where light and medium screening is being proposed, right?

A. Uh-huh.

Q. Yes?

A. Yes.

Q. All right. Did you play a role in determining where the light screening and the medium screening would be proposed?

A. So after reviewing Haley & Aldrich's landscape plan, the original landscape plan, the thing that I noticed was that their plan, which was very good, did not show existing vegetation which, you know, plays a pretty important role in terms of screening.

So having done this exhibit, there was also some modifications that we thought was appropriate to supplement the screening, you know, showing the existing screening as well as changing some of the boundaries that they had but at the same time I think adding about another 4,000 linear feet of screening.

So a lot of this was Haley & Aldrich's original work and the boundaries that they set in

their original landscape plan, but this plan kind of modifies that a little bit based on the information -- based on our study and the information we had at the site.

Q. Right. So did you change any of the light or medium screening in your supplemental figure?

A. I can't speak directly because there was so many areas, but the one thing that I would note on this is that this is a conceptual look at where different screening types would go and my -- you know, whatever the final -- whoever the landscape architect is who would do it probably may determine that it would be best to modify a one screening to a different type of screening.

So I think we need to look at this exhibit as more conceptual as to where screening would go, and then, you know, I think the next level of actually doing landscape plans would -- may modify that or tweak that a little bit.

Q. All right. Based on what you did with the figure that's attached to your supplemental testimony as well as your review of the figure that had been prepared by Haley & Aldrich prior to your involvement here --

A. Uh-huh.

Q. -- what is your view on when light screening should be used and when medium screening should be used instead of light screening?

A. Well, the light screening really focuses in on evergreen. You know, there's actually three -- three types of evergreen. So you are going to use that in areas where you need to get an impact. And what I will tell you the study that I looked at, Haley & Aldrich, the plants that they are specifying is that they are all sort of broad spreading so tall, broad spreading which is able to, you know, screen. And I think they put it best in their testimony -- or in their plan that the intent is not to fully screen but to, you know, to get a screening that is consistent with the existing vegetation around -- around the site.

So medium screening would be where we want to match, you know, the existing landscape buffers that they have, do a really good job of screening parts of that. And what we are trying to do is replicate that with, you know, plant material that was specified.

Q. Looking at the sentence on page 3 of your testimony, Exhibit 17 --

A. Uh-huh.

Q. -- that starts at line 15, you state "These," referring to medium screening, "would be utilized in areas where the project may be closer to a residence or right of way." Do you see that?

A. Yep.

Q. Okay. Do you have a definition for how close is "closer" as you've discussed it in that partial sentence?

A. I don't, but I would -- the one part of the visual impact analysis goes back to the viewpoints, and I think it's Figure 9 of the Haley & Aldrich, where they kind of look at different viewpoints around the site. And I think it does a nice job of showing how solar panels -- the view of solar panels is going to be some are -- some are at a distance. Some are closer. I think what we are talking about the utilization of residences that are, you know, closer would be I think a viewpoint -- I would say like 13, 14, and I think there is -- yeah, those viewpoints do a good job of kind of showing the different levels of how -- how an individual is going to view those -- view those panels. So that -- so I don't have a direct like, hey, at this distance that's close, but I would probably refer to that

viewpoint analysis as the different types of situations that you would have. So things that are close, we want an immediate screening so that would be, you know, your light screening, you know, potentially your medium screening as well.

Q. When you referred to 13 or 14, were you looking at a document?

A. Yeah, I'm sorry. It is in the visual impact analysis, and it is Figure 9. And it says "Photo Simulation Locations."

Q. Okay. So you are in Appendix Q of the application, right?

A. Correct, correct.

Q. Okay. All right. We will be going back to that appendix soon but let me just ask a few more questions about your testimony first. Go to page 4 of Exhibit 17.

A. Okay.

Q. And I'm curious about some language on lines 15 and 16 on that page where it says "the massing appears denser when not looking directly at the Project." Do you see that?

A. Uh-huh.

Q. Okay. Maybe I should just read the whole sentence for context. It says "For the Tall

Screening scenario, glimpses of fence and panels would be viewed from certain angles, but the massing appears denser when not looking directly at the Project." Did I read that whole sentence correctly?

A. Yep.

Q. Okay. Now, do you know whether non-participating landowners will be able to see the project from their homes or their yards while looking directly at the project?

A. There -- there may be points that they will see the project but this will have a visual -- it will limit views. And the sentence that you are referring to, if you look at Figure 6, it's the visualization or the simulation. What they are referring to is because the plant material on this exhibit are more on the tree end of things and they have what they call -- so they have more of the canopy or what I would say the screening up and they have a trunk which we call the -- you know, what the canopy height is, there may be areas where you are going to see underneath that.

But in this scenario when you take all of that plant material and you put it together and you view it at an angle, it becomes a really, really heavy mass that, you know, that really limits the

view of the -- you know, of the project. But if you are looking perpendicular at it, there may be areas where you are going to be able to see through that and catch a glimpse of the solar panel field.

Q. Uh-huh. And isn't it true that for all three of the screening options that have been developed, persons looking directly at the screen will be able to see the project between the trees as well?

A. Well, the one thing we also have to take into account is from initial planting to mature growth, a lot of the plants that Haley & Aldrich have specified, and we are talking species that they grow anywhere between a foot and 2 feet a year, so what -- you know, every year that view is going to change to a point where they reach full maturity and that's where we are kind of identifying, you know, 15, 15 to 16 feet high by 12 feet wide.

Q. That would be the dimensions of the trees?

A. Well, of -- of a particular species. You know, each species is going to have its dimensions based on its -- its overall growth. But the trees obviously are going to be bigger. They are going to be more in the 30 feet range with a canopy of 30 feet

over time.

You know, that's the one thing I always tell people, landscape, it's ever changing. It's one of those dynamic elements you can't -- you know, once it goes in day one, that's what you are going to see. It's constantly growing, and we will be limiting the views over time.

Q. Okay. Going back to page 3 of your direct testimony, Exhibit 17, let's go back to one of the sentences you and I have already discussed --

A. Uh-huh.

Q. -- which is on lines 15 and 16. Now, here aren't you stating that medium screening would be placed in an area that would want a denser screening?

A. Yeah, it could. The medium screen is utilizing where plant species -- actually some of the species that are also used in the light screening option. Those plants -- kind of the same thing that we were just discussing about the tall screening, when you put all of those plants together, that it provides, you know, and their growth over time, it's going to start limiting -- it's going to start limiting the views. And we are talking whether it's a light screening, medium screening, or tall

screening. They are all going to over time start limiting the views of the -- of the solar panel field. And that's really what the -- you know, what we are trying to achieve with -- you know, with this screening diagram.

Q. Now, go back to page 4, starting on line 19. And there you state "When using the Light Screening scenario, the use of more limited varieties of evergreen species allows for a slightly denser screening of the Project, although with a more regimented and consistent feel."

A. Uh-huh.

Q. So my question is how do you rec -- do you reconcile the statement there that light screening is a slightly denser screening with the statement on page 3, lines 15 and 16, that the medium screening will be placed where it warrants a denser screening?

A. I think what we need to -- I think what we need to look at is there may be areas that we want of -- more of an evergreen and, remember, we are trying to stay consistent with the existing vegetation. I mean, one of the -- one of the things I always get asked is why don't you just put arborvitae, you know, an evergreen wall. I mean,

that would be, you know, the way to do it.

It looks out of place. It draws attention to itself. So the thing we are trying to do with these different screening scenarios are what Haley & Aldrich is proposing and what we are looking at is that what we are trying to do is we are trying to, No. 1, work within the existing, you know, the natural state of things but where we need an evergreen screen, we can rely on the light screening option. But like the medium screening option includes evergreen, deciduous, things like that in order to provide more of a -- more of a natural feel.

Q. So which screening provides for a denser screen between the two of light or medium screening?

A. To be honest with you, and in looking at both of them, I -- they both do. It's not like one or the other. They both provide a good dense screen. One is just implementing deciduous varieties, and the other one is really relying on evergreen. So it's kind of putting tools in our toolbox allowing landscape architecture eventually to have tools in their toolbox to decide what kind of buffer they want to -- what type of buffer they want to use in a certain situation.

Q. Go to page 5 of your testimony, please.

A. Uh-huh.

Q. Answer 14. I would like to direct your attention to the sentence that starts on line 17 at the end of that line which reads "So, to the extent a solar facility is significant in size, the number of affected views is likely to increase." Do you see that sentence?

A. I do.

Q. All right. So the -- let me ask you this, do you know whether the shape of a facility of this nature will influence the number of feet of its boundary with adjoining landowners?

A. Can you rephrase the question?

Q. Sure.

A. I think I understand, but I'm -- I want to make sure I understand it.

Q. Yeah. My question is can you tell me whether the shape of a facility such as the solar project will influence the number of feet of boundary between the solar project and adjoining landowners? So, for example, just to illustrate, if a -- if a project area is rectangular in size versus the shape of the project area for the Kingwood solar project, will that make a difference in the number of feet along the boundary of the solar project?

A. I think it would just because your -- you know, it's -- it's kind of -- the way I would refer to it is it's more geometry if it's rectangle than, you know, you have got four sides. If you are looking at some of -- you know, a field that, you know, the solar panels go in and out, you are going to increase the boundary that it has and the potential screening that you would need to do.

Q. So given the shape of the Kingwood Solar project, you would expect the number of feet in the boundary to be higher than a project that was, for example, rectangular in shape?

A. Yeah. It's kind of hard to -- it's kind of hard to take a -- you know, take the Kingwood site and -- and relate it to a site that's not, you know, like -- you know what I am saying? I'm -- I know the Kingwood site, but to take another site and say, well, how does this relate to another more uniform rectangular site, it's hard to -- it's hard to say.

I mean, I know that the boundaries that -- that the Kingwood site have are adequately screening the views from a lot of -- you know, a lot of different angles and that would be residents, that would be motorists that are driving up and down the road. But the one thing that impressed me about

being on-site and touring the site was that how much the topography and the existing vegetation plays a role in minimizing a lot of the views that the solar panel field is going to have.

Q. Going back to my question, you indicated that a boundary that goes in and out, as I think you phrased it, may have a longer boundary than a solar facility that is rectangular in shape.

A. Yeah, it could. I mean, the other -- the other way you could attempt to minimize the amount of boundary area is -- is just to treat it like a rectangle, you know, treat your boundaries of the solar panel like a rectangle. Instead of your boundaries going in and out, you just -- you know, you just limit the amount of, I guess, segments that that area would have. So you could -- you could literally take a very complex solar field area and just bound it by four, and you would limit the number of linear field feet that you would have.

Q. Have you calculated or do you know the number of linear feet boundary of the Kingwood Solar project?

A. I don't have the number off the top of my head, but I think it was around 4 -- if I recall, it was around 47,000 linear feet prior to our plan which

added an additional 4, I believe. The number -- I know I have seen a number someplace that is around 47,000 is what sticks out.

Q. Yeah. That's the number of feet in which landscaping is proposed, right?

A. Right.

Q. All right. That's not the number of feet around the entire boundary of the facility.

A. Oh, yeah. I don't know that. I don't know that.

Q. Would you go to your supplemental testimony as Exhibit 18.

A. I have it.

Q. Go to page 2.

A. Got it.

Q. All right. Starting at line 7, there is a sentence that reads as follows: "In some areas, we also extended the buffers proposed on the 2021 Plan, such as to reduce views from Wilberforce, Clifton Road, and OH-72." My question is does this sentence refer to part of the buffer that was included in the 4,000 feet of additional screening corridor in the modified plan that you prepared?

A. It does.

Q. After the trees and bushes in the

screening corridor for the Kingwood Solar project are planted, did you expect that it would be necessary to water those trees and bushes to keep them alive?

A. Well, based on my background, and I did several years in design build, which for those that don't understand design build, it's where, you know, both design and the construction happen in-house so you get to learn about, you know, it's not -- it ends with the design, and then it's somebody else's area to figure out.

But my design build background basically says that there's certain times of the year for planting to be planted. And we really identified that in the spring and going to about June and what I am talking about is optimal planting times. So from the time the ground is thawed to about June, you would have a planting window. And then obviously in Ohio things get a little hot and that's where you would need to probably do supplemental watering. And then you have a period starting in about August that goes into the ground freezes that becomes a planting window.

I think it would be up to the landscape architect working with the ultimate company that's going to construct this or actually install the

landscape to kind of figure out a schedule to make sure that the plantings that are planted are done on a window that optimizes that -- that growth period.

So if that -- that would be where I would probably put more on the emphasis of the -- the contractor that's going to install it because they are also going to be responsible for making sure that the plants don't die. One of things that I thought was really good in the testimony -- or in the thing is typically any kind of a project that we do it's on the landscape contractor to maintain the plants for a one-year period. And I know that in the Stipulation, the owner is looking at five years, so I thought that was a pretty astounding piece.

Q. Can you give me a rule of thumb as to how much water is necessary for the supplemental planting that are in the area around Greene County given its climate?

A. I don't have that. It's really going to be dependent to some summers we are -- have very cool like, for example, last summer it was fairly cool and mild. We did get rain May, June, even into July, and then we had a pretty dry period. So I don't think you can just say, hey, this is how it's going to operate from year to year. You really are reacting

to the conditions that mother nature is providing us.

Q. Let's go to Appendix Q which you will find is entitled the "Visual Impact Analysis."

A. Okay.

MR. VAN KLEY: And for those looking online, we are going to go to part 2 of Appendix Q as it is stored online. And please find the landscaping plan that is Attachment C. For those online, that would start at PDF page 68 of 85. And that will be the cover sheet of the landscaping plan.

Q. (By Mr. Van Kley) Mr. English, have you found that?

A. I have.

Q. Okay. Now, I would ask you to find the page -- the page numbers are not numbered --

A. Right.

Q. -- in the landscaping plan.

MR. VAN KLEY: For those who are searching online, you will find that at PDF page 72, so it will be about eight pages after the cover page.

Q. (By Mr. Van Kley) Mr. English, if you can find that. Towards the top is a title that is "Planting Options." Just tell me when you've found that.

A. Yeah.

Q. Okay.

A. Got it.

Q. All right. Looking at the first paragraph under the heading of "Planting Options," I would like to direct you to the sentence that starts on the third line from the bottom of that paragraph. It starts with the words "For optimal success." Tell me when you've found that.

A. I have it.

Q. And the sentence states "For optimal success, younger plant material would be planted; the illustrations of each landscaping design reflect the appearance approximately 8 to 10 years after initial planting, under ideal growing conditions." Do you see that sentence?

A. I do.

Q. Okay. How old is the "younger plant material" that's referenced here?

A. I think in our industry we -- we kind of talk about young -- young plant materials in terms of size. And that's how it's -- you know, for example, the landscape architect when they -- when they produce the final plan may specify the evergreen trees at 5 to 6 feet. There may be some other plants at 36 inches and that's 36 inches from the ground to

the top of the plant. Now, that's at installation.

And referring back to what I had said, some of these plants are going to put on anywhere between a foot to 2 feet a year, so in one year it could go from 3 feet to 5 feet and then, you know, subsequent years it gets bigger.

So the reason why you want to go with younger plant material is it establishes quicker and in my joint -- I think it's in my Joint Stipulation. Oh, no. It's in Exhibit 17, question 10. I kind of talk about -- I give an example of planting a 2-inch caliber tree and, you know, a lot of time you say, well, isn't a 4-inch caliber tree bigger and -- bigger and better for visual? Well, initially, yes.

But what we are interested in is making sure that these plans establish themselves. And in Ohio, the reason why -- when I -- when I refer back to typical landscape installation projects, we make the contractor warrant it for a year.

The reason why it's one year is because any kind of establishment is going to happen in that one year and but the bigger -- the big plant material that you get, it takes it longer to establish. So going with smaller means it establishes quicker and actually starts putting on new growth which in the

same kind of time frame, the younger plant or the smaller plant at installation could actually be bigger than the larger plant material that you put in at installation, if that makes sense.

Q. Yeah. I understand that point. My next question is how tall will the trees be at the time of planting in this project?

A. I would probably think a reasonable size would be 2 inches. That's kind of what you see whenever -- like we specify plant material we'll do 2 inches because we found that that's -- that's a good spot. Those are -- depending on the type of tree could be 10 to 12 feet at installation depending on the species.

Now, if you are looking at a medium-sized tree like a crab apple or something like that, that may be in the 6-, 7-foot range at installation. And then shrubs, shrubs are actually, you know, smaller than that. So it's going to vary based on the species. And the one other thing I will tell you it's also going to be based on availability, you know, what they have in the nurseries around the project site.

Q. When you refer to a 2-inch tree, you are talking about the caliber, right?

A. Correct, yeah.

Q. What about the size of the evergreen trees that would be planted?

A. Those are usually specified in height and just like a 2-inch caliber tree, typically a 5- to 6-foot evergreen tree is standard practice for a new installation because it's right -- it's that middle ground of it will establish but not too big that you have to worry about it taking longer to establish and then ultimately, you know, die.

Q. Looking again at the same page of landscaping plan, I would like to direct your attention to the third paragraph under the title of "Planting Options" where the tall screening option is discussed.

A. Uh-huh.

Q. All right. And it states there that "The Tall Screening option would only be an option in specific locations along the northern boundary of the Project, where shading would not impinge on the function of the solar panels." Do you see that?

A. Yes.

Q. Couldn't Kingwood Solar provide tall screening on the other sides of the project besides the north if they increased the setback more in order

to prevent shading from the trees on the solar panels?

A. I can't speak to that. I think it's going to be determinate on where it happens, you know, the location. I know that the plan that we -- you know, that we put together does focus those -- you know, those areas on the north side of the solar field. So I think it's going to be -- you know, we would have to look at the specific area and evaluate, you know, whether the shading would occur, you know, whether shading would be an issue in that.

Q. What would be the criteria you would use to make that determination?

A. I think that's -- as stated here, it says it's -- you know, that shading would not -- you know, where shading would not impinge the function of the solar panels.

Q. Uh-huh. Earlier in your testimony you mentioned trees at the height of 30 feet after they've grown for a while. How much time would it take between planting those trees and the time they reached 30 feet in heighth?

A. I think it's going to be dependent on the microclimate, the type of soils that are -- you know, that it's being planted in. The fortunate thing that

we have in this planting here is that a lot of the plantings are going to go into agricultural fields so those have been tilled. They've been, you know, fertilized. They have a lot of organic materials so, you know, not -- I would -- I would suspect that we would see plant material grow a little faster just because of the conditions it has.

But it's really going to be dependent on the species that, you know, we are talking about, but I would say if we look at 8 to 10 years, you are probably going to be -- you know, if they are planted 10 to 12 feet, I am going to guess probably in that 8 to 10 -- 8- to 10-year range, it will be anywhere between 20 -- you know, 20 and 25 feet. But again, it's species -- it's species driven, also microclimate. There is a lot of factors that get involved in saying, you know, you know, what are trees going to do or not do.

Q. And how long would it take for the trees that are adjoining each other to fill the gap between them?

A. Well, the canopies are where I would focus on, not the overall height. I would be focusing on the canopies, and the canopies tend to fill out a little -- a little better than the height

because you've got, you know, ferns going out in either direction. So I would say the same time frame and, you know, 8 to 10 -- 8 to 10 years you are probably going to start seeing those canopies touch one another.

And then the last piece is how close the landscape architect, you know, in the final landscape plans is going to space those plants from one another. So, you know, a younger, if you are planting it closer, those canopies will grow together, you know, so it also determines the density that you are going to -- you are going to specify those plants at when you do the actual plants.

Q. And when you refer to a tree with a canopy, you are talking about a deciduous tree?

A. Yes.

Q. So with --

A. Yeah, deciduous tree. Sorry.

Q. All right. So for the evergreen trees that are included in the list of plants in the landscaping plan for this screening, how long would it take those evergreen trees to grow together?

A. They -- again, depending on species, depending on microclimate, those usually put on anywhere between 3 and 4 inches of new -- of new

growth every year, but you've got a lot more of them. And again, they are growing out on either side or all the way around the evergreen tree. So I would say in that 8 to 10 if you planted a 5- to 6-foot evergreen tree, say it has the same type of a base of 4 to 5 feet, you are probably looking at it being 10 feet in either direction after 8 to 10 -- after 8 to 10 years.

But again, all this is conjecture on my part to say, you know, these are -- there's a lot of factors to get involved in terms of what a plant is going to do or not do.

Q. Uh-huh. And those factors would include the quality of the soil, correct?

A. Correct. Yeah, that's the microclimate that I am talking about.

Q. It would also be influenced by how well the trees were taken care of, for example, by watering them when necessary?

A. Yeah. What we -- what we find is that after the plants establish, it's going to basically have a root system that's going to find yet a little less need on watering it after the first -- you know, the first year because it's going to have root structure that's going to be able to maintain what it

needs to do.

Q. Let's go forward into the landscaping plan contained in Appendix Q. Would you find Figure 2.

A. The light screening simulation?

Q. Yes, sir.

A. Okay.

Q. So --

MS. SANYAL: Is it possible to have a PDF page number, Jack? Please and thank you.

MR. VAN KLEY: I don't think I have that. I can tell you that it's the ninth page of the landscaping plan.

ALJ WILLIAMS: PDF 76.

MR. VAN KLEY: Yeah. Are you there, Anna?

MS. SANYAL: Yes. Thank you.

A. Oh, yes. Oh, Anna. Sorry.

Q. All right. So Figure 2, as you stated, that is a simulation of the light screening option, correct?

A. Correct.

Q. Now, can you tell me how high the solar panels are that are depicted in this simulation?

A. I believe if -- I've read through most of

the visual impact analysis but I can't speak for this simulation but I know that a lot of it was at 14 feet where they would be at the highest point in either the morning or the evening but I can't speak to what the -- what Haley & Aldrich put together on this light screening option and how high those panels would be.

Q. Yeah. Do you know how high the fences are predicted to be for the Kingwood project?

A. As I understand it, they are 7 feet.

Q. Okay. My understanding in regards to that is apparently you didn't put this simulation together, but perhaps can you tell me why the panels appear to be no higher than the fence in the simulation?

A. I think that it says that this is from 8 to 10. At 8 to 10 years would be growth, so from a simulation standpoint I can only -- I can only comment based on what I am seeing but, you know, the thing that it's 8 to 10 years. So a lot of these plants are still going to continue to grow, you know, back to my earlier testimony that, you know, landscape is kind of an ever evolving thing that just, you know, the views are going to change. So 8 to 10 years, you know, they probably picked it --

again, I can't speak for them but, you know, where things would be at in that time frame.

Q. Yeah. I guess my question is whether you could explain to me why the 14-foot pole panels in this simulation do not appear to be any higher than the 7-foot fence.

MS. SANYAL: Objection.

ALJ HICKS: Go ahead.

MS. SANYAL: Your Honor, I think the witness has already indicated that he's just reviewed this appendix, and he did not create it, so he would not know why the panels are not depicted to 14 feet.

MR. VAN KLEY: That's why I phrased my question the way I did by asking whether he can provide me with an explanation or not. If he can't, that would be a perfectly acceptable answer to the question.

ALJ HICKS: The witness can answer, and if he doesn't have knowledge, he can indicate as much.

A. And I don't have knowledge.

Q. Now, Figure 2 is -- is a simulation of the screening corridor from a side-view of the corridor, right, a perpendicular view?

A. Yes, as it appears.

Q. All right. But as you look at the simulation, it appears that even with the side-view there are gaps between the evergreen trees at the size depicted in the simulation?

A. Not seeing the -- you know, what that side simulation would be, it's kind of tough to see what -- or say what that would be.

Q. Yeah. Well, for example, just looking at the first tree from the left and the second tree from the left, you see a gap between them?

A. Yes.

Q. Okay. And you can see the fence and the solar panels in that gap, right?

A. Yeah, I would assume.

Q. Uh-huh. And that's despite the fact that this is a simulation of the view from the side rather than a simulation of the view from the perspective of a person standing perpendicular to the screen.

A. Yeah. And it also depends on where those plants were placed, you know, how far away from -- away from each other that they were because, you know, if they are placed closer to one another, you know, you would, you know, obviously cut down on any -- on any gaps. So that -- it's hard to say, you know, what they used in terms of the offset from one

plant -- one plant type to the other.

Q. All right. Let's go to Figure 4 which would be two pages after Figure 2. And that is a simulation of the medium screen, right?

A. Right.

Q. And can you tell me by looking at this simulation how old these trees appear to be?

A. Yeah. It goes back for what Haley & Aldrich said in their -- I think it depicted it 8 to 10 years.

Q. Uh-huh. That would be 8 to 10 years after this vegetation was planted?

A. That's the way I understand it, yes.

Q. And, here again, you see a simulation -- a simulation which appears to show the heights of the solar panels?

A. Yeah. I can't speak -- I can't speak to the height that that was aligned to.

Q. Yeah. But according to the simulation, the solar fence and the solar panels appear to be at about the same height, right?

A. Visually, yeah. But, I mean, the only thing I would say is because the fence is closer to the viewer and the panels are further away, that could be changing how you -- how you see the -- you

know, the different heights because they're -- they're not right next to each other. That would be -- that would be the only thing that I can think of that -- you know, why one looks like it's the same height as the other because they are not right next to each other.

Q. And, here again, on simulation 4 you can see fence and panels between the plantings, right?

A. Yeah.

Q. And, here again, the simulation shows a side-view of the screen rather than a perpendicular view, right?

A. Uh-huh, yeah. I don't know why they chose -- you know, what the -- that particular angle but I think in looking at under the -- I read something that basically the intent is not to totally obscure but to provide a visual screen.

Q. Yeah. You've already testified about that in your testimony today.

A. Yeah.

Q. Let's move on to Figure 6 which would be two more pages beyond Figure 4.

A. Uh-huh.

Q. And again, here we have a side-view of the screen?

A. Yes.

Q. And despite that fact that it's a side-view, we can still see solar panels and fence between the trees?

A. The way I look at it, yeah, there are areas.

Q. And you would consider the size of the trees in this simulation to represent the amount of growth 8 to 10 years after those trees were planted?

A. That's what's stated in their plan.

Q. All right. Let's move on two more pages to a map in the landscape plan that is entitled "Sheet 1 of 3."

A. Okay.

Q. Then there is a "Sheet 2 of 3" and a "Sheet 3 of 3," right?

A. Got it.

Q. Yeah. And these three pages constitute the maps that show where each of the three screening options is proposed to be placed at the time Appendix Q was submitted to the Board, right?

A. Correct.

Q. And at least as of this time, the number of feet of tall screening was proposed to be 4,915 feet, right?

A. Yeah. I am looking at it, yes.
Q. So the answer to my question is yes?
A. Yes, correct.
Q. And that would be compared, for example, to the number of footage for medium screening of 29,416 feet, correct?
A. Correct.
Q. And also the light screening is proposed to be 8,723 feet, right?
A. Correct, the way I read it.
Q. Let's go back to your supplemental testimony, Kingwood Exhibit 18. And there's a figure attached to that testimony that is an update to the three sheets that we just discussed, right?
A. Correct.
Q. And does -- does that figure show the number of feet of tall screening that is proposed in that updated figure?
A. Can you revise your -- or can you ask that question again, please?
Q. Yeah. With regard to Attachment A to your supplemental testimony, Kingwood Exhibit 18, looking at this figure, can you tell me how many feet of tall screening is being proposed -- proposed today?

A. I can't. I think it was the net, so on the Haley & Aldrich plan that was originally submitted, they were at 43,000. If I add those three numbers up, it's 43,054 linear feet. And as we previously discussed, I think my recollection -- recollection was 47,000 which is the -- which is the 4,000 difference of additional vegetative screening.

Q. Yeah.

A. But I am not sure -- how that broke down, you know, from an overall, you know, what would be tall, what would be medium, and what would be light. It was just kind of an overall.

Q. Was any additional footage of tall screening added to Attachment A that was not already included in Appendix Q?

A. I would have to go back and relook at both -- you know, both of them, you know, from -- from my attachment -- or our change to the original Haley & Aldrich plan.

Q. Do you recall whether any tall screening was added?

A. I don't recall.

MR. VAN KLEY: All right. Your Honor, I have no more questions at this time.

ALJ HICKS: Thank you, Mr. Van Kley.

Look to Miami Township.

MR. SLONE: Nothing from Miami Township for this witness. Thank you.

ALJ HICKS: Thank you.

Greene County Board of Commissioners.

MR. BOGGS: Nothing from the County for this witness, your Honor.

ALJ HICKS: Thank you.

From Xenia Township.

MR. DUNN: No cross for Xenia Township, your Honor.

ALJ HICKS: Cedarville Township.

MR. BROWN: No cross for Cedarville as well.

ALJ HICKS: Thank you. In Progress.

MR. HART: Actually I have one, please.

ALJ HICKS: Okay. Please go ahead.

MR. HART: Thank you.

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CROSS-EXAMINATION

By Mr. Hart:

Q. When you were reviewing the landscaping plan or in the plantings, was there any consideration given to berming underneath the landscape so that you could raise the elevation of the early plantings into

a higher height?

A. That is one way of screening. It's an option for screening. I don't think it's -- I don't think it's being proposed by Haley & Aldrich in terms of my thing just because from, you know, you don't see it a whole lot. And I think the intent is to kind of mesh into the -- you know, into the natural surroundings so you don't -- you know, you are not seeing -- same thing, that you are not seeing things that draw attention, that you wouldn't typically see in the natural landscape is the way -- is the way I read it.

Q. And I don't recall whether you had actually visited the site or done just viewing from afar but earlier -- in earlier testimony the topography was described as gently rolling.

A. Uh-huh.

Q. Do you have an opinion as to whether that's accurate in your description?

A. I would say that's accurate. I did visit the site and looked around and there are areas where that -- the rolling topography actually is going to help mitigate the visual areas.

Q. And in that regard when references are made to particular heights of screening or densities

of screening, that would take into account from whatever ground level existed so follows the topography or contours of the land rather than an arbitrary straight line footage; is that correct?

A. Correct, yeah.

Q. And is there a benefit -- lastly a benefit to berming or a harm to berming in order to raise or change the screening generally speaking?

A. Is -- is that a question to me?

Q. Yes, sir.

A. Oh, I'm sorry. Could you repeat that?

Q. Yes. You mentioned that it could be an option. I am just wondering if you would suggest whether there is a benefit or a harm generally speaking to berming in order to raise the level of the screening.

A. I have personally used mounding. I think it's a case-by-case basis or, you know, the areas that, you know, the landscape architect producing the plans may utilize that technique, but I can't speak to it now.

MR. HART: Thank you. That's all I have.

ALJ HICKS: Thank you, Mr. Hart.

Next is Tecumseh. I will take silence as no.

And now we have Board Staff.

MS. BAIR: Thank you, your Honor. Yes, I have a couple of questions.

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CROSS-EXAMINATION

By Ms. Bair:

Q. Good afternoon, Mr. English. My name is Jodi Bair, and I represent the Staff of the Power Siting Board.

A. Uh-huh.

Q. And my first questions I would like to ask you would be regarding Kingwood Exhibit 18 which is your supplemental testimony. Could you please bring that up.

A. I have it.

Q. You have it?

A. Yep.

Q. Okay. On page 1, question and answer No. 5, specifically on line 16, you said "I prepared the enhanced screening plan for the Project." And you are referencing that to Condition 16, correct?

A. Correct.

Q. When you say "enhanced," the Stipulation added just more linear footage. Is that what "enhanced" means?

A. Yeah. Enhanced would mean that -- you know, that more additional screening was provided.

Q. But I am trying to make a distinction between adding it as a matter of more lengthwise or within the plan more screening -- more plants were added.

A. More -- more linear foot.

Q. Okay. Thank you.

A. Uh-huh.

Q. Just kind of just supplemental, moving on to page 3 of your testimony.

A. Uh-huh.

Q. And I am focusing over on line 7 through 9 on the non-participating landowners. Condition 16 is supposed to ensure the effectiveness of mitigation for adjacent non-participating landowners, correct?

A. Correct.

Q. And then I think there are two prongs to that. In the two prongs that you are talking about there, you say first and second. Those -- are we talking about non-participating landowners there?

A. Yes.

Q. Okay. So, first, the Applicant will replace or substitute, I see that now, any failed plantings during the first five years of

construction. And in some of these figures I noticed that the landscape plan relies upon existing landscaping, correct?

A. It is part of the screening, you know, the screening package that Haley & Aldrich is proposing. I mean, they do talk about a natural -- using the natural screening to reduce visual -- you know, the visual impact.

Q. I guess I am looking at -- and we can move on back, but it looks to me when those lines are drawn, some of them say "existing screening," so I'm assuming that they are not adding anything.

A. Existing vegetation, existing vegetation.

Q. I'm sorry, existing vegetation. So there's no plan to add additional vegetation where it says "existing screening"; is that correct?

A. Correct.

Q. Okay. Let's see, I would like to ask you, please, in the application at Appendix X -- no, I'm sorry, Appendix P, it's -- that's Kingwood Exhibit 1. And it should be noted as Appendix P. I am looking at page 2.

A. "Structures Within."

Q. Yes.

MS. SANYAL: Your Honor, this witness has

not indicated that he has reviewed Appendix P.

MS. BAIR: This is specifically tied to landowners and non-participating landowners. This witness is sponsoring 16 as bringing in additional benefits to non-participating landowners. I think it's very related.

MS. SANYAL: Again --

ALJ HICKS: Go ahead.

MS. SANYAL: I would just indicate that the -- I would just reiterate this person has not reviewed Appendix P and has not indicated so in his direct testimony.

ALJ HICKS: I'll overrule the objection to let Ms. Bair ask the question. If he has no knowledge or can't answer the questions, he can certainly indicate that.

Q. (By Ms. Bair) Have you found Appendix P, page 2?

A. I have.

Q. Okay. And could you please look on line 9, and am I understanding correctly that there is a house at a distance of 32 feet away from the project area that is a non-participating landowner; is that correct?

A. Again, I have not reviewed Appendix P, so

I can't -- I mean, this is the first time I've looked at any of this data on here. So I really am uncomfortable saying anything about it.

Q. Okay. Could we please move on to Attachment A of your supplemental which is Kingwood Exhibit 18.

A. Uh-huh.

Q. Can you tell -- I have got the black and white printed. I am having trouble pulling it up. Can you tell from this Attachment A which of these homes are participating and non-participating?

A. We didn't map those on this -- on this plan.

Q. So your intent here was to show the different types of screening at the different locations on the project area?

A. Yeah. It was taking Haley & Aldrich in their -- in their plans, and it's in Q actually, has those maps, non-participating and participating. And those are Figure 8, sheet 1, 2, and 3 that actually has that information.

Q. Okay. There are -- on Attachment A you have a key there that says "Existing Vegetation," correct?

A. Uh-huh, correct.

Q. So there are areas on that map that just have existing -- existing vegetation, correct?

A. Correct.

Q. And so the homes that are near some of that existing vegetation, which I could point out if I were standing there with you, some of them are very close to the project border, correct, according to this map, according to your map?

A. Yeah. I mean, it's not knowing exactly what the distance is but just looking at, you know, where a structure would be versus where the -- where the project is.

Q. Okay. And you do have a distance key on your map down there, right?

A. Yeah.

Q. Okay. So some of the houses are definitely, you know, within -- less than probably 50 or 70 feet according to your key, correct?

A. I don't have a scale in front of me; but, you know, it would be scaled off, yeah, I think so.

Q. Okay. Now, some of those houses that are that close to the border but also have the existing vegetation, do you know what -- have you visited the site enough to know what the vis -- the vegetation existing is?

A. No. I mean, I visited the site but, you know, not actually walking through the fields walking up to those existing vegetation rows looking what's in them, you know, that sort of thing. It was more of a looking at it holistically. And what's in those existing vegetation rows, I can't comment.

Q. And as you had talked to Mr. Van Kley earlier, do you recognize that many of these trees out here are deciduous trees; is that correct?

A. Yeah. It's one thing that I -- that I failed to mention is that the one thing I did appreciate that the Haley & Aldrich team did is all of the pictures that they have showed them in the current state they are in now without leaves. And I personally think that's how you have to evaluate, you know, landscape and landscape screening is when leaves aren't on, because when the leaves do come on -- and the other thing was that, you know, I'm not really looking at is the amount of crops that could potentially grow in front of these things which are also going to limit the visual impact that these have.

But I think if you are going to do an adequate screening plan, you have to do it without the leaves on, but the one thing I did notice by

driving around and looking at is a lot of these vegetative rows are -- even though they are deciduous are pretty dense, you know, just because of the amount of understory growth and that sort of thing, they actually do a pretty good job currently of screening. And then you just add that on when the -- you know, when they start to leaf out here in another month or so how much more that's going to add to it.

Q. So during this time of the year, during the winter months, you can see through those because the leaves are gone.

A. You can, but the only thing you have to look at is you've got to look at the branching pattern of -- of the plant material and even though it doesn't have leaves on it, the branches that actually provide an opaque boundary to it or visual buffer to the things behind them.

Q. So were there any standards such as distance for adding vegetative screening for the non-participating residents? Do you know of any standards that were used in a uniform way like 25 feet? 30 feet? Distance I mean.

A. The only thing I know is that the -- in the -- I'll refer to the Joint Stipulation and Recommendation and certificate conditions. It

states -- see if I can find it. "The final design shall incorporate a minimum setback from the project's fence line of at least 250 feet from non-participating residents as of the application filing date." So that -- that -- I can only speak to that is that it's 250 feet from a non-participating resident.

Q. Okay. Let me ask you -- speaking of the Stipulation, and I think you're sponsoring paragraph 16 or Condition 16 to that, could you go to the Stipulation, please.

A. Sure.

Q. And it's on page 5, No. 16.

A. Uh-huh.

Q. I am going to the middle of the paragraph there. It starts with "Unless."

A. Yep. Got it.

Q. Okay. "Unless alternative mitigation is agreed upon with the owner of any such adjacent, non-participating parcel containing a residence with a direct line of sight to the fence of the facility, the plan shall provide for the planting of vegetative screening designed by the landscape architect to enhance the view from the residence and be in harmony with the existing vegetation and viewshed in the

area." Now, as we discussed before, in those plans where it says existing vegetating screening, they are not going to enhance every single non-participating, correct, because that's not what your Attachment A shows.

A. So the way I read this is that this -- unless the landscape architect, whoever is that, meets with a resident, like a resident says, hey, I -- you know, I have conditions, and they meet with them to develop a specific -- a specific plan for their view, it kind -- it kind of defaults back to the plans of Haley & Aldrich have in their Appendix Q.

But the intent is to -- you know, the way I read it is that the existing vegetation areas wouldn't be supplemented. And the ones that are shown on here are the ones that have a fairly -- a fairly good impact meaning, you know, back to what I was saying, they have a really good understory. They have been there. They are going to do their job of -- of screening parts of the project.

Q. But even though -- those are deciduous plants but your -- I don't -- because there aren't evergreens in the plan, I think you said earlier.

A. Yeah. Those unless -- it comes in a

particular -- because I know in this area there are some junipers that are grown naturally and those vegetative rows may have some of those. I just can't speak for any one of these vegetative what's in it. You know, again, it would take somebody to sit down and go through it, inventory it, you know, identify it, but I will tell you that I was actually surprised with how -- how well some of these vegetative buffers, the existing ones, do a good job of screening, and they are only going to get better here in about another month until they lose their leaves again and, you know, in November and December.

MS. BAIR: Thank you, Mr. English. I don't have any more questions.

ALJ HICKS: Thank you, Ms. Bair.

Real quick, it was brought to my attention that Tecumseh counsel may have been having some audio issues, so I will just open it up to ask for him to confirm whether they do or do not have any cross for this witness.

MR. SWANEY: Thank you, your Honor. No questions. Thank you very much.

ALJ HICKS: Okay. Thank you. I believe that is all the parties for cross.

Ms. Sanyal, I assume you would like a few

minutes?

MS. SANYAL: Please. May we have until 4:45?

ALJ HICKS: Perfect. We will go off the record until 4:45.

MR. BOGGS: 3:45, I assume.

ALJ HICKS: 3:45. I wish it was 4:45.

(Recess taken.)

ALJ HICKS: Karen, if you are ready to go back on the record.

Ms. Sanyal, any redirect for Mr. English?

MS. SANYAL: I have no redirect for Mr. English.

ALJ HICKS: Okay. Then I believe we are done with Mr. English. Mr. English, we thank you for your time and testimony today.

THE WITNESS: Thank you.

MS. SANYAL: And at this time, your Honor, I would like to renew my motion to move Exhibits 17 -- Kingwood Exhibit 17 and 18 into the record.

ALJ HICKS: Okay. Starting with Kingwood 17, are there any objections to Kingwood Exhibit 17?

Hearing none, it is admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ HICKS: And any objections to Kingwood Exhibit 18?

Hearing none, it is also admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

MS. SANYAL: Thank you, your Honor.

At this time, your Honor, our next witness is ready, but we may need a couple of minutes to do a witness swap in our witness room, so could we have a quick 2-minute tech break?

ALJ WILLIAMS: Come back at 3:50 -- or before we go off the record, we talked about possibly putting the Greene County representative on today, and we indicated we would give a time when that was no longer practical. I think that time is now, so we will go ahead and release that witness. So our last witness today will be presumably Mr. Saunders.

MR. BOGGS: Okay. Thank you, your Honor. And so then should I just have him available 9:00 a.m. or a few minutes before tomorrow morning then?

ALJ WILLIAMS: Ms. Sanyal, is that your first witness tomorrow then?

MS. SANYAL: I believe we also have Ms. Marvin so would depend on -- Ms. Marvin had a pretty limited schedule, correct, Mr. Van Kley?

MR. VAN KLEY: Yes. We will be appearing

in the afternoon tomorrow.

MS. SANYAL: Okay.

MR. SETTINERI: We can be flexible, Mr. Van Kley, on that.

ALJ WILLIAMS: Okay.

MR. VAN KLEY: Say again, Mike.

MR. SETTINERI: I said we can be flexible in the afternoon for her.

MR. VAN KLEY: Yeah.

ALJ WILLIAMS: The answer to the question of will Green County be our first witness tomorrow, it appears that answer is yes.

MR. BOGGS: Okay. Thank you.

ALJ WILLIAMS: Okay. We are off the record until 3:51.

(Recess taken.)

ALJ WILLIAMS: We are back on the record.

I will invite Applicant to call its next witness.

MR. MORSE: All right. Good afternoon, your Honors. At this moment we would like to call Mr. Lee Saunders.

ALJ WILLIAMS: Good afternoon, Mr. Saunders. I see you've been promoted. Can you see and hear me?

MR. SAUNDERS: I can. Good afternoon.

ALJ WILLIAMS: Would you raise your right hand.

(Witness sworn.)

ALJ WILLIAMS: Please proceed, Mr. Morse.

MR. MORSE: Great.

- - -

LEE SAUNDERS

being first duly sworn, as prescribed by law, was examined and testified as follows:

DIRECT EXAMINATION

By Mr. Morse:

Q. Good afternoon, Mr. Saunders.

A. Hi. Good afternoon.

MR. MORSE: At this moment we would like to mark Kingwood -- what's been prelabeled as Kingwood Exhibit 19.

ALJ WILLIAMS: Which is?

MR. MORSE: Which is Mr. Saunders' direct testimony.

ALJ WILLIAMS: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

Q. (By Mr. Morse) Mr. Saunders, do you have a copy of Kingwood Exhibit 19 in front of you?

A. I do.

Q. And can you identify Kingwood Exhibit 19?

A. This is my direct testimony.

Q. And was your testimony drafted by you or at your direction?

A. It was.

Q. Okay. And do you have any revisions that you would like to make at this moment to Kingwood Exhibit 19 today?

A. I do, just a few.

Q. Okay. And can you slowly walk us through those now for the court reporter.

A. Yes. Starting on page 3, line 3 under answer 5, I would like to add the sentence "I have also reviewed the Joint Stipulation filed on March 4, 2022."

Q. Okay. Just to clarify, Mr. Saunders, you would like to add that sentence after the word "Yes."

A. Correct.

Q. Okay. Thank you. Did you have any other revisions?

A. I do. On page 8, under -- at the end of answer 14, on a new line after line 22, I would like to add the sentence "The Joint Stipulation filed on March 4, 2022, also contains the same condition."

ALJ WILLIAMS: Can we go a little more

slowly? Our court reporter is taking this down word for word, so can you go back and start that over again?

THE WITNESS: Yes. Sorry. "The Joint Stipulation filed on March 4, 2022, also contains the same condition of renumbered as 35."

Q. (By Mr. Morse) Okay. And then did you have any other revisions?

A. Yes. On page 16, answer 26, starting line 16, I would like to strike the last two words of that sentence "as follows" so that that sentence reads "As Mr. Stickney testified, the Applicant proposes to revise Condition 19," and then I would like to add the sentence "This condition was revised in the Joint Stipulation." And then I would like to strike lines 18 through 22.

ALJ WILLIAMS: Did you get that, Karen?

Okay.

A. And then finally on page 17 at the end of answer 26, I would like to add the sentence "In addition, Condition 19 as proposed in the Joint Stipulation directs the Applicant to share information with the Greene County Department of Building Regulation and the Greene County Soil and Water Conservation District."

Q. All right. Mr. Saunders, did you have any other revisions to your direct testimony at this time?

A. I do not.

Q. Okay. And if I asked you the questions in Kingwood Exhibit 19, would your answers be the same as they were revised today?

A. They would.

MR. MORSE: Okay. At this moment we would like to make Mr. Saunders available for cross-examination.

ALJ WILLIAMS: Thank you, Mr. Morse.

Farm Bureau.

MS. MILAM: None, your Honor. Thank you.

ALJ WILLIAMS: Thank you, Ms. Milam.

Citizens for Greene Acres.

MR. VAN KLEY: Thank you, your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Saunders, why don't we start off with a few questions about your direct testimony. Let's go to page 17, answer 26 which you just modified.

A. That's correct.

Q. And there you mention Condition, is it,

19 in the Joint Stipulation?

A. That's right.

Q. Okay. And let's go to the Joint Stipulation which has been marked as Joint Exhibit 1.

A. Okay.

Q. All right. And you will find condition 19 on page 6 so if you can go there, please.

A. I have it.

Q. All right. I would like to direct your attention to the sentence starting on the fifth line of proposed Condition 19.

A. Okay.

Q. And this sentence reads as follows: "Following the completion of final project engineering design, the Applicant shall perform pre- and post-construction stormwater calculations to determine if post-construction best management practices are required." Do you see that sentence?

A. I do.

Q. And that sentence was added in the Joint Stipulation after not appearing in the Staff proposed condition in the Staff Report, correct?

A. I believe that is correct.

Q. Okay. Do you understand what's meant by the reference to the "pre- and post-construction

stormwater calculations"?

A. Yes, I am.

Q. Okay. Would you describe them for me, please.

A. Certainly. Very standard calculations, especially when developing stormwater pollution prevention plans or what we refer to as SWPPPs. You are comparing the preexisting conditions of a project site against those that are proposed following construction, do a comparison of those two. Oftentimes that includes looking at the amount of pervious or impervious surface as well as the surface types, the amount of runoff that would be expected for those, and again, comparing the amount and the velocities of runoff before construction and those after construction.

Q. Okay. Is any of -- are any of those calculations currently included in the application?

A. I don't believe they are.

Q. If you can set aside your direct testimony for now. What have you done to prepare for your testimony today?

A. I have reviewed the application, the Staff responses, the Staff Report, and I've also visited the site itself.

Q. By the site you are talking about the Kingwood project area?

A. That's right.

Q. When did you visit the project area?

A. I believe that was back in January of this year.

Q. Based on your review of the application, can you tell me whether the application includes any description of the existing water quality of the streams that receive runoff, if any, from the project area?

A. What do you mean specifically by water quality?

Q. Any sampling, for example.

A. I am not aware of anything specifically.

Q. Are you aware of any sort of description of the water quality of those streams?

A. Not in particular, no.

Q. Based on your review of the application, can you tell me where the application includes an estimate of the quantity of discharges from the site clearing and construction operations for the project?

A. No, I don't think there is anything specifically about that. I believe that would occur after final design of the layout is created.

Q. Can you tell me if the application includes any estimate of the quality of any discharges from the project area during clearing and construction?

A. I'm not aware of any particular values or levels described in the application.

Q. Can you tell me whether the application describes any equipment that will be proposed for controlling runoff into receiving streams or other bodies of water?

A. At any particular stage in the construction or during operation?

Q. Yeah, during construction.

A. I believe it talks about best management practices for erosion and sediment control which is, again, very typical of a construction site. They are very typical types of controls, materials, designs of elements, or you might consider it equipment or methods of reducing and -- and managing erosion and sediment within the construction area. So I think it's included examples such as construction entrances, silt fence, possibly sedimentation traps as needed.

Q. Okay. Based on your review of the application, can you tell me whether the application

describes any changes in flow patterns or erosion during site clearing and grading operations?

A. I don't recall any specific language in the application discussing that.

Q. Does the application contain any quantitative flow diagram or description for water through the proposed facility? That would include information about the runoff from the soil and other surfaces.

A. So you mean surface water from -- or stormwater in particular?

Q. Yes, sir.

A. I'm sorry. You are asking about the quantity and whether it's discussed in the application?

Q. Yeah. Either through quantitative flow diagram or a description of some sort.

A. No, I am not aware of that in the application, and I don't think that would be expected at this point in the process.

Q. Does the application include a grading plan for construction?

A. Of proposed grading?

Q. Yes.

A. No, I am not aware of a proposed grading

plan. Again, I don't know that it would be expected at this point.

Q. So is there any information in the application showing where grading may occur?

A. It would be minor grading would be expected probably along access roads as well as per the inverter pads and the project substation and gen-tie location. I do believe it discusses those being locations of more substantial grading.

Q. So that's not necessarily where all of the grading will occur?

A. Again, the application states no substantial grading is anticipated.

Q. So going back to your statement that the areas along the roads and the substation, I think you said one other area, don't have -- let me start over.

Could you clarify whether the application shows any areas in the project that will be graded?

A. I don't recall the application, excuse me, specifically showing areas where there will be grading. It more or less discusses where they might potentially occur.

Q. Have you reviewed any maps showing the elevations of the project area?

A. I believe there was one included as one

of the attachments or appendices to the application.

Q. All right. Would you pull up Figure 02-1 of the application.

A. I'm sorry. Could you say that number again?

Q. Yes. Figure 02-1 which is entitled "Project Location on Topographic Map."

A. Almost there. I'm sorry. Just one moment.

ALJ WILLIAMS: Off the record.

(Discussion off the record.)

ALJ WILLIAMS: We will go back on the record.

We were off for just a few minutes while Mr. Saunders located the document that Attorney Van Kley is referencing. Please proceed.

Q. (By Mr. Van Kley) All right. Mr. Saunders, you've located your 02-1?

A. Correct.

Q. All right. Is this the map that you just mentioned in your testimony that contains elevation information for the project area?

A. That's right, yeah.

Q. All right. All right. Can you tell me how to identify the elevations of the surface of the

land on this figure?

A. Yes. This appears to be a USGS topographic map that has 10-foot contours and so the elevation would be read based on those contour elevations and your location in association with those.

Q. I couldn't hear what you said, the interval of the contours are, did you say, 10 feet or something different?

A. 10 feet, yes.

Q. And how do you find the contours on this map just for the record?

A. So the contours are all the squiggly lines around the site. And if you look closely, there are numbers along those contours that indicate the elevation on 10-foot intervals such as ranging from -- one of the distinct major contours that I see is elevation 1050 right near the bio center of the figure. Just to the upper left of the north compass and then moving into the project area, you can see other contours, you know, above or below that elevation.

Q. Do you see anything on the figure or its legend that states the contour markings are 10 feet apart?

A. The contours are not 10 feet apart. The elevations as labeled on the contours are 10-feet difference in elevation.

Q. I see. Okay. And then we have a scale at the bottom of the figure that can be used to show the difference in feet or the distance in feet between the contour lines for the elevations, correct?

A. Horizontally, yes.

MR. VAN KLEY: Okay. Very good. Thank you, Mr. Saunders. I have no more questions at this time.

ALJ WILLIAMS: Next we have Miami Township.

MR. SLONE: None from Miami Township. Thank you.

ALJ WILLIAMS: Greene County.

MR. BOGGS: I have no questions for this witness, your Honor.

ALJ WILLIAMS: Xenia Township.

MR. DUNN: No questions, your Honor.

ALJ WILLIAMS: Cedarville Township. Attorney Brown?

Okay. In Progress.

MR. HART: No questions. Thank you.

ALJ WILLIAMS: Tecumseh Land.

MR. SWANEY: No questions, your Honor. Thank you.

ALJ WILLIAMS: Staff.

MS. BAIR: Thank you. We have no questions.

ALJ WILLIAMS: Mr. Morse, do you need a little bit of time to decide whether you have redirect?

MR. MORSE: We would appreciate that, your Honor.

ALJ WILLIAMS: How about 4:25?

MR. MORSE: That would be great. Thank you.

ALJ WILLIAMS: We're off.

(Recess taken.)

ALJ WILLIAMS: All right. We are back on the record.

Mr. Morse.

MR. MORSE: All right. Thank you, your Honors. Just one quick redirect question for Mr. Saunders.

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REDIRECT EXAMINATION

By Mr. Morse:

Q. Mr. Saunders, you and Mr. Van Kley were discussing the topographic map on Figure 02-1 from the application. Can you just clarify the difference between the contours shown in the body of the map and the horizontal -- and the scale in feet shown in the legend of the figure?

A. Yes. So the contours in the body of the figure, body of the map are used to distinguish the vertical elevation or the vertical distance between those elevations, and the scale at the bottom of the figure is used to distinguish the horizontal distance between elevations.

MR. MORSE: Okay. Thank you.

We have no further questions, your Honors.

ALJ WILLIAMS: Thank you, Mr. Morse.

Mr. Van Kley, any recross relative to that issue?

MR. VAN KLEY: No, your Honor.

ALJ WILLIAMS: Okay. Thank you.

That concludes your testimony, Mr. Saunders. I want to thank you for your participation this afternoon and wish you a good

afternoon and evening.

THE WITNESS: Thank you very much.

ALJ WILLIAMS: Mr. Morse, take up your exhibit.

MR. MORSE: Yes, your Honor. At this time I would like to move to admit Kingwood Exhibit 19, the direct testimony of Mr. Saunders.

ALJ WILLIAMS: Any objection?

Hearing none, that is admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ WILLIAMS: I don't think we need to put anything else on the record this afternoon, so we will go off record and plan our tomorrow.

(Discussion off the record.)

(Thereupon, at 4:27 p.m., the hearing was adjourned.)

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CERTIFICATE

I do hereby certify that the foregoing is a true and correct transcript of the proceedings taken by me in this matter on Wednesday, March 9, 2022, and carefully compared with my original stenographic notes.

_____
Karen Sue Gibson, Registered Merit Reporter.

(KSG-7246)

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Summary: Transcript in the matter of the Kingwood Solar I LLC hearing held on 03/09/22 - Volume III electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Gibson, Karen Sue Mrs.