## In Re:

SEC 2015-04 PSNH,D/B/A EVERSOURCE ENERGY APPLICATION FOR CERTIFICATE OF SITE \& FACILITY

## ADJUDICATIVE HEARING - DAY 9 AFTERNOON ONLY October 15, 2018

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STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE

October 15, 2018 - 1:35 p.m. 49 Donovan Street Concord, New Hampshire
\{Electronically filed with SEC 10/23/18\}
IN RE: SEC DOCKET NO. 2015-04
Application of Public Service Company of New Hampshire,d/b/a Eversource Energy, for a Certificate of Site and Facility.
(Adjudicative Hearing)

PRESENT FOR SUBCOMMITTEE/SITE EVALUATION COMMITTEE:
Patricia Weathersby Public Member

> (Presiding Officer)

David Shulock, Esq. Elizabeth Muzzey, Dir.

Public Utilities Commission Charles Schmidt, Admin. Dept. of Transportation Christopher Way, Dep.Dir. Div. of Economic Dev. Michael Fitzgerald, Dir. Dept. of Env. Services Susan Duprey Public Member

ALSO PRESENT FOR THE SEC:
Michael J. Iacopino, Esq., Counsel for SEC Iryna Dore, Esq.
(Brennan, Lenehan, Iacopino \& Hickey)
Pamela G. Monroe, SEC Administrator
(No Appearances Taken)
COURT REPORTER: Susan J. Robidas, LCR No. 44
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PROCEEDINGS
(Resumed at 1:35 p.m.)

PRESIDING OFFICER WEATHERSBY: Good afternoon. Attorney Brown, you may start your questions.

CROSS-EXAMINATION
BY MS. BROWN :
Q. Good afternoon, Mr. Raphael. My name is Marcia Brown, and I represent Donna Heald in this matter. I'm also a spokesperson for the Durham Residents Group. And I wanted to clarify a couple questions. Waiting for my exhibit to load up.

You were previously asked some questions on the vantage points of Exhibit 186. Do you have a display in front of you?
A. Yes, I do.
Q. All right. So let me enlarge. This is electronic Page 4 of Exhibit 186. And there was some question about the base photo and the date. And you had testified on cross-examination with Attorney Ludtke that the picture for the simulation came from August, but I --
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A. Yes, I misspoke about that. I realized it was, yeah, not in August. That was -- I got confused with when we filed the testimony versus when we -- yeah. So I'm not good sometimes with dates. I apologize for that.
Q. So, just to clarify for the Committee, the base photograph on Page 4 of Exhibit 186, which has a date of June 29, 2017, and a time of 1:27 p.m., is accurate?
A. Yes, I believe so.
Q. And with respect to the timing of the tide, you testified that you thought the low tide or mean low tide was about noon-ish; is that correct?
A. Yeah. Again, I mean, I wouldn't fall on my sword on that. I'd have to go back and look at my notes and timing, to be honest with you. But I know whatever time it might have been when I arrived there, it was very much low tide.
Q. Okay. If I could help you refresh, perhaps. Under cross-examination with Attorney Ludtke, you had mentioned -- or maybe it was with Attorney Patch -- that you had referred to
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tide charts. Do you recall that?
A. I'm sorry. Did I what?
Q. That you had referred to tide charts; is that correct?
A. I actually -- I took -- I didn't refer to the tide chart. I went online to find out high tide, low tide times. I can't even remember the web site I used. And then I talked with somebody, $I$ believe at Normandeau, to kind of confirm timing for that day.
Q. So would you agree that, since you're familiar with the tide charts, that the Dover Point tide station is the closest to the Project?
A. Yes.
Q. Okay. And using your June 29th, 2017 date, and I'm going to scroll through -- I have here NOAA tide predictions. Is that accurate what I'm describing --
A. Yes.
Q. -- and showing you?
A. Yes.
Q. And this is for Dover Point, 2017?
A. Yes.
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Q. And then I'm scrolling down to the June 29th tides.
A. Yes.
Q. And so what is the low tide on -- or what is the timing of the low tide on the 29th?
A. Looks like 10:04 a.m. No. I'm reading 3:43 a.m.
Q. I'm reading on June 29th, 11:37 a.m. Is that accurate?
A. Say that again?
Q. 11:37 a.m.
A. Yes. I guess I was in the wrong 29.
Q. So your recollection of about noontime, this reference on the NOAA chart would be about consistent with that; correct?
A. Yes.
Q. Now, are you familiar with the numbers 7.3 and 6.9, what those represent? Are those the tide heights?
A. I believe so, yes.
Q. Okay. And it's fair to say, is it, that some tides may be 6.7 feet, some will be 7.3 , and some will be 8.1 feet and change?
A. Yes, tides can be variable.
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Q. All right. So on June 29th, then, the tide was measuring in the morning a 7.3-foot differential; is that accurate?
A. Yes.
Q. Okay. And a tide that has a differential of 8 feet would expose more mud flat than a 6-foot tide; is that accurate?
A. Yes.
Q. I believe you already testified that you didn't have a quantification of the extent of mud flat; is that right?
A. Not specifically, no.
Q. So you don't then know what the mud flat exposure would be, the difference between a 6-foot or 8-foot tide -- let me rephrase that question.
A. Again, $I$ used the mean, you know, the diagrams that $I$ relied on, the engineering plans that I relied on, you know, used the MLLW mark as a basis, understanding that tides can -- low tides can be below that or above that.
Q. Okay. So going back to the base photo, then, are you saying that from this photo taken at
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1:27 p.m., that you adjusted that to back it into the mean low and the low watermark?
A. No. The simulation simply represents where the water level was at the time that $I$ took the photograph.
Q. Okay. So the simulations are then based at a tide on June 29th, 2017 at 1:27 p.m. then; is that correct?
A. Correct.
Q. Okay. Now, another clarification about the tinting. I just want to make note that on Page 6 of 10 of Exhibit 186, this note says that the mattresses are without any color tinting; is that correct?
A. Yes.
Q. And then on this Page 7 of 10 , it states that the mattresses are with color tinting; is that correct?
A. Yes. I realized during the break that we had actually prepared and submitted this simulation. And I had forgotten that, frankly.
Q. Okay. So my clarification, then, is the notations that you have put on this exhibit,
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where they say that there is tinting and there is no tinting, are accurate; is that correct?
A. I believe so, yes.
Q. Now, with your testimony as an expert witness in general, have you ever participated in a utility project as an expert where you found that there was an unreasonable visual impact created by the installation of the utility project?
A. Yes.
Q. And what, if you recall, what project was that?
A. Well, in Vermont, where I've done a number of projects related to transmission under the employ of the Vermont Department of Public Service, for the Northwest Reliability Project I found that in several locations the Project would have an undue adverse effect, or "impact" as it's referred to in the Vermont statute, on the aesthetics and scenic beauty of the area primarily because the Applicant had failed to take reasonable and available mitigation steps to reduce the
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impact of the Project. So there's a different process in Vermont, where the mitigation process is actually factored into whether or not you can determine a project has an undue adverse impact, which would be certainly comparable to an unreasonable adverse effect on scenic beauty in New Hampshire. But the determination in this case statutorily includes a criterion that asks whether a client -- an Applicant has taken, again, reasonable or generally available mitigating steps to reduce the impact of a project. If there are reasonable steps that can be taken, then it's up to the Applicant to employ those steps. If they had not employed those steps, then the Project could be found to have an undue adverse effect.
Q. And what year was that?
A. Oh, a number of years. I mean, I've worked on projects for the Vermont Department of Public Service since the mid 1990s, and I am still in their employ as we speak.
Q. I'd like to turn to planting plans. And
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LandWorks created a planting plan for Ms.
Heald's property; is that correct?
A. For whose property?
Q. Ms. Donna Heald.
A. Yes, I believe so.
Q. You said "believe so." Do I need to show you --
A. I think a staff member of mine did that before I took over the landscape plan preparation.
Q. Okay. And would you be surprised -- or I guess affirming that the recommendation on Ms. Heald's property was to plant 3- and 5-foot trees?
A. No.
Q. Okay. So I want to go back to a picture that I will state for the record was taken from the corner of Ms. Heald's house. And this is Exhibit 1, electronic Page 45 of 46 . And let me just enlarge this for you so you can see. Do you discern the orange tape that's
strung among the trees?
A. Yes. I can see that, yes.
Q. Let me back out so you get a fuller picture.
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So I'll make an offer that that is the edge of the easement as we know it for the power line.

So with that, if the easement was cleared to that line, and the planting plan of trees of 3- to 5-foot trees were used as screening for this location, do you have an estimate of the number of years it will take for the screening to hide that hundred-foot pole that's proposed here?
A. Well, two things. One, it would depend on the plant materials being used because they would have different growth rates. And then I would have to assess the viewing location relative to the structure. For example, if you were 6-foot -- if you had a 6-foot plant and you were standing right next to it and you were 5 feet, it could potentially block the view of the structure. If you're obviously far back from that or perhaps up on a porch, it obviously would not necessarily block that structure in the immediate -immediately when it was installed.
Q. So let me explain this hypothetical a little
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bit further then. It's our understanding that a pole could be relocated to behind this little knoll. And we understand from the record that the pole's about a hundred feet. And would this being -- using the view from this vantage point, do you have any estimate of how many years it's going to take for the screening to be effective at screening the pole?
A. Well, again, it depends from the vantage point. I mean, again, depending on where you're standing, it could be effective relatively quickly, and again, depending on the plant material choice. Or if you're standing in a different location and much further back, then --
Q. My hypothetical was for this vantage point.
A. For this vantage point. Again, I mean, it might only take a couple of years, depending on if it was a pine. Again, I'd have to look at the planting plan. There were some planting plans done initially by another member of my staff that $I$ did not participate in that was done with her. And I think she,
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presumably Mrs. Heald -- I don't recollect for sure. So I'd have to look at the planting plan and the location and understand the topography in between. But, again, if you're standing right next to this, it may only be a few years, depending on the plant selected.
Q. Yes. And the hypothetical was from this vantage point rather than standing closer. Is it true, then, that shade may adversely impact the growth of trees?
A. Sure. I mean, it depends on the trees. Some trees like shade, grow well in the shade, others not as well. And it depends how much shade and where the orientation of the sun is, of course.

MS. BROWN: That's it. Thank you. PRESIDING OFFICER WEATHERSBY: MS.

Mackie for the Durham Historic Association. CROSS-EXAMINATION

BY MS. MACKIE:
Q. Hello. My name is Janet Mackie from the Durham Historic Association, and I have a few questions.
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First of all, in your selection of scenic sites in Durham, and within 10 miles of the transmission line in Durham and Newington, $I$ was wondering why you didn't include the view from the Route 95 bridge?
A. That's not a scenic resource.
Q. No, but it looks at a scenic resource, at the estuary.
A. We're charged with creating simulations from the scenic resource, you know, to the project view, which typically the project's not located in a scenic resource. So we're really looking at what is the visual effect to the scenic resource.
Q. So you don't consider the place where the line runs to be scenic at all as a whole?
A. I'm sorry. I don't understand the question.
Q. In other words, you can look over a valley, or in this case it is a valley, and you look over the water and you look over the land and it's scenic. But you didn't consider that to be scenic?
A. Well, I mean, as I've said many times, many parts of New England, and Northern New
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England in particular, are scenic in a general sense. But we're asked, you know, to evaluate the nature of the scenic resource and whether the Project is going to, you know, have an effect on the experience of the user of that scenic resource or from the vantage point that the scenic resource would be seen from.
Q. Then why did you do the view from Scammell Bridge?
A. We did add some representative photos and simulations, and certainly we are looking in that regard at a scenic resource. And we were assessing whether from the longest distance view how visible the lines might be. And it was, I think, a point of information to understand, you know, the breadth of the Project, you know, and its visual presence in the landscape.
Q. And what's the elevation of the Scammell Bridge that the view would be from?
A. I'm not sure. I don't -
Q. Maybe 20 feet?
A. What's that?
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Q. Maybe about 20 feet above sea level?
A. Very possible.
Q. Well, that's why I'm asking about the big bridge over the Piscataqua River, because from 95 you're way, way high above and you can see the whole estuary.
A. Sure. But it is a -- remember, it's a view in motion. So it's very limited. And you have to be looking directly in the direction of the Project and knowing what it looks like to pick it out. So that's an important consideration from that view in particular.
Q. It is a beautiful view. You can see Mount Pawtuckaway. I mean, to my mind, that's a very important scenic view. Also --

PRESIDING OFFICER WEATHERSBY: Ms.
Mackie, please don't testify.
MS. MACKIE: Yes.
BY MS. MACKIE :
Q. Is it correct, also, you took the same rationale? You didn't include the Little Bay Bridge that goes over the Piscataqua between Newington and Dover?
A. Again, that's not a scenic resource.
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Q. Even though it's a scenic view like the Scammell Bridge.
A. There's a difference between a scenic view that you or other people might consider as a scenic view and a designated or identified scenic view which we are charged to evaluate. And that's, you know, explained in the methodology how we identify scenic resources, and it's based on the actual definition of what a scenic resource is in the SEC rules.
Q. Okay. What about, did you consider Hicks Hill in Madbury and the public trails on that hill?
A. We may have. I'd have to go back and look at our documentation.
Q. I can't find it in your list.
A. In the original list of all the scenic resources, I'd have to check why that didn't appear. So...
Q. Would you agree it might be a scenic resource if it's 335 feet above sea level, has, you know, benches that faces the transmission line and it's only less than a mile from the transmission line?
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A. Well, I'm surprised that wasn't identified. So I'd want to go check and determine whether we had in fact perhaps identified it under a different name. If it's --
Q. It's also called Moharimet's Hill.
A. But if --
Q. It's called Moharimet's Hill or Hicks Hill in Madbury.
A. Again, I'd have to go back and look at my report to determine whether we had that in our inventory and what the determination was.
Q. I noticed on Appendix No. 32, Page 40, you have a map of timber clear-cuts and agricultural land. I was wondering what's the source of that data. It's on Page 46 of 167.
A. I don't seem to have it in what $I$ have before me. I'd have to --
Q. It's in Appendix 32.
A. Yeah, I don't know why I'm not seeing it.
Q. On Page 46 of --
A. Yeah, I don't seem to have it in front of me.
Q. It would be Page 40 on the actual document.
A. Let me see. Okay. Oh, okay. I'm sorry.
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Thank you. Yes, I mean, that's certainly part of just our review of the Project context.
Q. No. I asked what's the source of the data that goes into the map.
A. It probably would be from the New Hampshire GRANIT database for GIS information. And obviously we didn't seem to list that here.
Q. From what information?
A. I think it's derived from the New Hampshire system, geographic information system, which is a database that typically has these types of data sets in them. So my guess is that's where its source was. I could look through this and get back to you and certainly confirm its location. But that's my sense, that this type of map would have come from the state's geographic information database.
Q. Did you know it does not include UNH Forestry Department clear-cuts that go along the transmission line?
A. Well, it's possible that there's a date on this that preceded those clear-cuts, or the clear cuts were maybe not picked up or
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cataloged for this map. I don't know the reason why they're not on there. And it may be that the clear cuts that are smaller than a certain size weren't picked up. I don't know the reason why it's not on there.
Q. Okay. I also had a question on Page 42 of 167 of the same exhibit. It's probably six pages earlier on the hard copy. So that would be around Page 30 .
A. What is it? What's the map title?
Q. It's not a map.
A. Oh, I'm sorry.
Q. It's a statement you make. You make the statement that the number of months that leaves are not on the trees are typically five months.
A. On Page 30?
Q. Thirty-something. I said 42 of 67 electronically, so it would be Page 36 .
A. Oh, okay. I'm sorry.
Q. Anyway, the point is do you think --
A. Yes.
Q. -- that's an accurate statement?
A. I see that. I'm sorry. Forgive me.
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Q. Are you saying that we have no leaves on the trees for only five months here?
A. Well, I say it's typical. You know, October to April, May, you know, the leaf-out is earlier --
Q. Well, right now it's mid-October, right, and the leaves come back in mid-May. So that's seven months, isn't it?
A. Well, there's still leaves on the trees right now here.
Q. They're falling off quickly. So that's more like --
A. But they're not bare --
(Court Reporter interrupts.)
Q. I'm questioning the accuracy of the
statement. Would you agree that maybe it's more like 6-1/2 to 7 months?
A. No. No, not at all. Leaves are still on the trees right now. And typically leaf-out starts, in this part of the New England, leaf-out starts April to May. And by the end of May it's fully leafed-out. But, you know, I'm talking about the period when there are no leaves on the trees. Right now, most
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## [WITNESS: RAPHAEL]

trees around here are fully foliated. They're turning colors. But they are starting to get bare in places up high and in the swamp areas. But I said "typical." So sometimes it could be longer, sometimes it could be shorter.
Q. Well, would it be fair to say that all the leaves are off by the end of October and they're all out again by the end of May?
A. It depends on the year. But by the end of May they're out, and usually sometime in early November they're gone.
Q. Would you disagree with the statement that the leaves are off the trees for six months of the year?
A. Not completely, necessarily. Depends where you are.
Q. Okay. Now, in your prefiled statement on the last page, 17 of 17 , you're talking about the buried segment of the line that goes through Durham. And you say that this particular mitigation measure is an effective step to reduce, if not eliminate, any adverse visual
effects in this particular location.
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And my question is: Do you think there was anything scenic about that location that would have suffered an adverse effect if they hadn't been buried?
A. Could you -- I missed the phrase. Forgive me. I missed -- what page are you on so I know what you're referring to?
Q. It's the last page of your prefiled.
A. Oh, okay. One sec. Forgive me.
(Witness reviews document.)
A. Exhibit 17?
Q. Whatever number your original prefiled testimony is.
(Witness reviews document.)
A. So what is your question again? Forgive me.
Q. Well, you say that this burying the line was a mitigation measure that was an effective step to reduce, if not eliminate, any adverse visual effects in this particular location.

And my question is: Since you do scenic evaluation assessments, whether you thought the line across Main Street at UNH in Durham between a 10-acre parking lot and a 30-acre football stadium would have been an adverse
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effect to the scenic view there.
A. I believe that the above-ground option could have co-existed with the existing utility corridor. But I think it's safe to say that undergrounding it is, you know, a better solution because it certainly eliminates the structures and their visibility in that area.
Q. Would you agree with the statement that that particular section of the easement through Durham is at least scenic?
A. Well, yes and no. And we had a lot discussion about this because, you know, we recognize that the University of New Hampshire campus in and of itself would not necessarily be considered or designated as a scenic resource. But it has a very high cultural value. It has a large population of people coming and going. It's an important asset and place in the state of New Hampshire.

So I guess the overall conclusion would be, any efforts -- and Eversource I think took a number of them -- to improve, you know, or reduce the visual effect of this
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project and the new structures would be warranted.
Q. So it wasn't really a scenic decision.
A. Well, again, well, $I$ think it was an aesthetic consideration.
Q. So is there a difference between aesthetics and cultural and scenic or --
A. Yes. And I think we used -- you know, scenic in this case is really connected to the understanding and identification of specific scenic resources and whether they've been identified by the public or by a town plan as scenic.

Aesthetics refers to sort of the overall sense that an individual might have of a view from any one location, whether it's scenic or highly scenic or pleasant.
Q. Well, that leads me to my next question. You have no before and after photo simulations of our two scenic roads that are affected in Durham, the Durham Point Road and Bennett Road. Can you explain why not?
A. Why we haven't --
Q. Why didn't you do that?
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A. Visual simulations there? We didn't do visual simulations for every single scenic resource.
Q. Well, as I understand your modeling, you start off with both Bennett Road and Durham Point Road on the "possible" list, and then you gave them three points for cultural value because the town voted them "scenic." But then you gave them a "low" scenic rating because it didn't appeal to your aesthetics. And then because of that, they both just drop off the list and they don't get evaluated for the width of the easement or the height of the poles or anything. And how is that realistic?
A. Well, first of all, we did not make a determination because it didn't appeal to our aesthetic. We made a determination based on the methodology that $I$ kind of walked through already in which we identify certain qualities that would determine whether a project rises to a level of having a moderate to high or high visual sensitivity. And the methodology explains how and why we get to
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that conclusion, and then we move on from there. And the places that -- you know, the nine resources that we evaluated in detail came through that analysis with a moderate to a high and/or high potential level of visual sensitivity. And I believe that from a number of those vantage points of those scenic resources, we didn't provide simulation. So we don't provide simulations of every single scenic resource. That would be, you know, cost-prohibitive and time-prohibitive.
Q. Don't you think it's unreasonable that the state has a scenic roads program and scenic roads protection statutes, and the town people think it's scenic, that you only give it points for cultural? I mean, if the town people think it's scenic, why would the Bureau of Land Management or U.S. Forest Service standards make any difference?
A. Again, we're asked to make distinctions between scenic quality, between low and high. And while -- as I explained earlier,

Newington, you know, roads that local people
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consider scenic, you know, certainly I would not argue with that consideration or that sentiment. But we compare that road with other scenic roads in the area and the region and generally speaking to ascertain how scenic it is. And obviously, in our evaluation, we found that it lacks certain qualities that a higher-level scenic resource would typically have. And that again is explained in the methodology. We have a little graph and graphic that sort of hopefully demonstrates that, as to the degrees of, you know, scenic and visual sensitivity.
Q. I just don't understand the methodology and how that can be applied to a local situation.

PRESIDING OFFICER WEATHERSBY: Ms.
Mackie, ask a question and --
BY MS. MACKIE :
Q. I mean, is there any other explanations you can give me that supports your determination that a scenic road is not adequately scenic to be considered a scenic road?

MR. NEEDLEMAN: Objection. That was
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not the testimony. And I think there is an extensive explanation in the materials before the Committee to answer that question.

PRESIDING OFFICER WEATHERSBY:
Sustain the objection.
BY MS. MACKIE :
Q. Now, we also have Newmarket Road, which this is a state cultural byway -- a state scenic and cultural byway. Are you saying the same methodology used applies to that, where it's considered a scenic byway at the state level?
A. Again, we evaluate every scenic resource with the same methodology. And depending on the characteristics of the road and the vantage points and its relationship to other scenic resources of a similar nature, we arrive at the level of visual sensitivity before we evaluate it for viewer effect and --
Q. That's why you didn't do an after picture, a before and after picture with a simulation?
A. Well, again, as $I$ said a moment ago, first of all, we don't do visual simulations from every scenic resource. And secondly, typically we would do them for those that do
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have a high, moderate to high, or high visual sensitivity. And even at that, depending on the number, we might not simulate all of them. Again, I don't believe there's any requirements in the rules for the exact number of visual simulations to provide. But I think we've made a good-faith effort and a comprehensive approach to providing as many simulations so that the Committee and the public has a sense of what this project is going to look like from any number of vantage points.
Q. Now, on your Appendix 32, you have the Sweet Trail listed as a "potential scenic trail." And you say there is no visibility from the Sweet Trail.
(Witness reviews document.)
PRESIDING OFFICER WEATHERSBY: Is there a question there?

BY MS. MACKIE :
Q. My question is: How did you determine there is no visibility of the lines from this trail when the trail is something like 5 miles long? What point did you use on the trail?
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A. Well, again, we rely on the aerial photography. We rely on the viewshed mapping. And then, if there is a question of potential visibility, we would typically do one of two things, which is to conduct, again, using software, a line-of-sight view from one or more locations to test visibility, or conduct a site visit to ascertain visibility.

Well, did you know that 0.15 --
MS. DUPREY: Excuse me. Madam Chair.
Excuse me. I believe that the questioner is limited before our Committee to historic matters. And I'm not clear on what these questions -- how they relate to historic matters.

MS. MACKIE: Which question?
PRESIDING OFFICER WEATHERSBY: I
think Ms. Duprey's --
MS. DUPREY: The entire series of these questions.

PRESIDING OFFICER WEATHERSBY: You're allowed to intervene -- the Durham Historic Association was allowed to intervene --
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MS. MACKIE: Well, I'm asking about the Sweet Trail because it goes through a very historic, old farming area of Durham.

MS. DUPREY: Then I think the questioner should ask about that specific piece. And all these other questions that are relating to roads and overpasses and whatnot, there's been no identification of the historic nature of the questioner's --

MS. MACKIE: Oh, I'm sorry. Both roads I asked about are in historic districts.

MS. DUPREY: Okay.
PRESIDING OFFICER WEATHERSBY: So You may proceed, again, as long as they have to do with historic sites and --

BY MS. MACKIE:
Q. Do you know that where the Sweet Trail intersects Longmarsh Road, which is 0.15 miles from Pole No. 80, that the Sweet Trail is 60 feet above sea level at that point? And did you know that 0.15 miles to the north, Pole 80 is 175 feet above sea level? And I can't imagine why that couldn't be seen from the trail, for example.
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A. Well, I can't comment on that. That's your opinion.
Q. Well, it's only a few hundred feet, and it's a huge change in elevation.
A. But there could be intervening trees. There could be intervening elements. I don't --
Q. But it's more than 100 feet difference.

MS. DUPREY: The witness is
testifying --
MR. NEEDLEMAN: Objection.
MS. DUPREY: The questioner is
testifying --
MS. MACKIE: It's a question. I'm asking how could that be.

PRESIDING OFFICER WEATHERSBY: MS.
Mackie, he answered.
MS. MACKIE: He doesn't know.
PRESIDING OFFICER WEATHERSBY: He answered your question.

MS. MACKIE: All right.
BY MS. MACKIE :
Q. I'd also like to know for town land, which is the old Langmaid Farm, and it's called Longmarsh Preserve. And you had Longmarsh
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Preserve on your initial list. But again you say it's not scenic because it's not called scenic. And I'm just wondering. It says on the town web site, "It offers great views of marshes, open water, rocky outcrops, mature oak, pine forests and lots of wildlife." So doesn't "great views" rise to the level of "scenic"?
A. I don't know where $I$ said it was not scenic. Could you point me to that, where that was listed that it was --
Q. Oh, yes. It says on your Table 6, which is on -- let's see. Well, anyways, on your Table 6, it's No. 24 --
A. Yes.
Q. -- and it says, Description: No local scenic designation, rating low.
A. I'd have to go back and look at the documentation that lead to that. But it may have not been preserved primarily for scenic values. It may have been preserved or protected for wildlife and other ecological values, and scenic values was secondary. And there may be internal views.
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Again, but this is really -- yeah, I mean, I think that's probably why I would have to go back and check the language we relied on to come to that conclusion. But typically we look for a formal statement, a designation that this is considered primarily a scenic resource; it's been protected or preserved for its scenic values versus for its agricultural, historic or wildlife values.
Q. Well, I have to ask you then. How does that square with the SEC's Site 102.45, "scenic resources" means -- and then it says scenic trails -- I mean recreational tails, parks and areas bought with public funds?
A. Again, if they have a scenic purpose. Many conservation areas are not necessarily conserved because they have scenic views. They may have open space values. They may have agricultural or historic values, as I said, or wildlife values, or as a buffer for development. And so the scenic aspect while there may not have been the primary or specific reason that the property was
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preserved, designated or used.
Q. Okay. Because once it's rated low like that, it drops off the list completely.
A. Correct.
Q. And the same thing happened with East Foss Farm. Well, you have a view called West Foss Farm, but I think you mean East Foss Farm, the one under the lines; right?
A. Well, no, it doesn't -- I mean, if there's a high scenic rating that combines with that sensitivity, that can elevate that resource and then it has further review. So this is one of two steps in the first part of the methodology that arrives at whether a project, you know, has a certain level of scenic quality that would then be -- would warrant further review.
Q. Right. I was asking you about those two because they're both historic and they're both scenic. And they both dropped off the list because of the fact they didn't advertise themselves as "scenic"; is that right?
A. Well, I think it was a combination of the
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cultural designation. Then I have to go look at the visual designation as well to see why it dropped off.
Q. Aren't there two different categories?

There's cultural and then there's scenic;
right?
A. Yes, yes.
Q. And even if it's cultural and scenic low, you come up moderate and it drops off the list; right?
A. Correct.
Q. Okay. Let's talk about Wagon Hill Farm, which is a historic farm which made the cut of the 30. Now I want to ask a question.

You have an Inventory and Evaluation chart on Page 62 -- and these are the different qualities that are used to score the last 30 that made the cut. And I want to specifically ask you about the Water category --
A. Okay.
Q. -- which says if it's clear and clean, still or cascading white water, any of which are a dominant factor in the landscape, they get
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the highest score of five; right?
A. $\mathrm{Hmm}-\mathrm{hmm}$.
Q. If it's flowing or still, but not dominant in the landscape, it gets a three; right?
A. Correct.
Q. Otherwise it gets a zero.
A. Correct.
Q. Now, Wagon Hill Farm was graded a three. Can you explain why?
A. I'd have to go back and look at my notes and review it. I can't tell you off the top of my head. I would have to depend on the analysis. I can't recollect the determination on that.
Q. Well, Wagon Hill Farm on the Oyster River where it meets Little Bay, wouldn't that make the water resource a fairly dominant part of the landscape?
A. Well, I think we gave it a three. So we recognized that it was a part of the landscape. But I think it depends on where that water is relative to the overall property and how central that water is to the experience of the property.
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Q. And is there -- what category would you fit tidal water into here?
A. I'm sorry. What category?
Q. Which category would tidal water fit into?
A. It falls under Water.
Q. Under clear and clean and cascading, or flowing or still, but not dominant?
A. I mean --
Q. There doesn't seem to be a category for tidal
water. That's why my question is --
A. Well, I think we're looking at the water certainly for its qualities and then its presence as part of the landscape. So those were certainly a point of departure. You know, if the water was the dominant reason and central feature of that landscape, then it might have gotten a higher rating. But I believe the dominant feature of the farm is the farm and the landscape of the farm as opposed to the shoreline.
Q. My next question is about the photo simulation you did at Wagon Hill Farm. It's on Page 138 and 139 of 167.
A. Bear with me for a second.
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PRESIDING OFFICER WEATHERSBY: Ms. Mackie, 142 is not 167. Oh, I see. It was 137 --

MR. ASLIN: This is Exhibit 52.
PRESIDING OFFICER WEATHERSBY: Fiftytwo? Thank you.

BY MS. MACKIE :
Q. Now, according to the specs on here, your camera was at 66 feet above sea level, which means it was at the wagon on the hill, which is the principal viewpoint on that particular farm. You were looking to the southwest, and you were looking for Pole No. 81; correct? (Witness reviews document.)
A. Yes.
Q. And if you look at the next two pages, which are the before and after with the photo simulation, there's nothing showing at all; correct?
A. I'm sorry. I haven't been able to find my copy here. I've got so many simulations in here. Give me a moment perhaps to find it. (Witness reviews document.)
A. We point out where that visible structure is
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located in the landscape, but you really can't see it because of the backgrounding of the vegetation. That's what the visual simulation yielded, that when you put that structure in, because it doesn't exceed the height of the background vegetation, it is visually sort of compatible, or at least not rendered -- it doesn't stand out because it's backgrounded and absorbed visually by the surrounding landscape.
Q. So there's no arrow in the picture pointing to where it's supposed to be, is there?
A. Yes, there is. Yes, there is. At the top of the picture there's an arrow.
Q. I couldn't see that. But anyway, you can't see whatever it is.

My next question is why did you choose that pole?
A. Because that would be the visible pole that you would potentially see from this site.
Q. So from Wagon Hill you sort of look to the southwest and you see basically where the eastern, the part coming east turns to go south, or right around that corner; is that
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|  |  |  |
| :---: | :---: | :---: |
| 1 |  | correct? |
| 2 | A. | Yes. |
| 3 | Q. | Pole 81 is back east about four poles back |
| 4 |  | towards Sandy Brook from that corner. Right |
| 5 |  | there. Why would you choose a pole that's |
| 6 |  | back from the closest place? |
| 7 | A. | We didn't choose the pole. We simulated what |
| 8 |  | would be visible from that vantage point. |
| 9 | 2. | Well, there are poles that are closer to the |
| 10 |  | Wagon Hill Farm that are taller. Why didn't |
| 1 |  | you use those? |
| 12 | A. | That are not visible because of the |
| 13 |  | vegetation. You know, again, if you |
| 14 |  | understand how simulations are created, |
| 15 |  | they're put into a three-dimensional model, |
| 16 |  | and they're placed via coordinates on that |
| 17 |  | model. And then the photography and tree |
| 18 |  | heights are sync'd with the CAD 3D model and |
| 19 |  | overlaying. And based on certainly tree |
| 20 |  | heights in the area, as well as the interface |
| 21 |  | of the CAD environment with the simulation |
| 22 |  | environment, which is typically done using |
| 23 |  | both SketchUp and Photoshop, or 3D modeling |
| 24 |  | tools, it tells us what you can and can't |
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see. We don't make it up. We don't select a pole to show or not to show. It's what the simulation provides. And the simulation methodology that we use has been accepted in every court of law and proceeding that I've ever been in as the correct and accepted professional method for simulation.
Q. Well, all the other viewshed renderings I've ever seen are always done from one spot, like you do here. You're looking southwest. The only viewshed illustration that you have in your testimony are Exhibits 1 and 2 -MS. DUPREY: The questioner is testifying.

BY MS. MACKIE :
Q. My question is: Why didn't you do a viewshed exhibit from here, you know, a separate one? You have one combined viewshed exhibit for all nine scenic things, and it's unintelligible because you can't tell from what --

PRESIDING OFFICER WEATHERSBY: Ms.
Mackie, your question is why didn't he do a simulation from a specific location.
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MS. MACKIE: Right.
PRESIDING OFFICER WEATHERSBY: And that location is? What is the location?

MS. MACKIE: Wagon Hill Farm, for example.

BY MS. MACKIE :
Q. Why didn't you do a specific --

PRESIDING OFFICER WEATHERSBY: Didn't he testify, and we see in reviewing the photo simulation, he did do one from Wagon --

MS. MACKIE: No, I'm not talking about a photo simulation. I'm talking a viewshed illustration.
A. The viewshed mapping that we provide is for the whole project. We use that as a point of departure for then testing visibility on a site-by-site basis. We went to Wagon Hill Farm, and we modeled it with the data we were provided, which is pretty accurate. And this simulation represents what you will see from Wagon Hill Farm from that particular vantage point.
Q. It says that you used 40-foot trees; correct?
A. Correct.
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Q. Okay. So if I understand it, you took the picture at an elevation of 66 feet above sea level --
A. No, we used 40-foot trees, excuse me, for the viewshed analysis, just to make it -- for the mapping of the viewshed. We didn't use 40-foot trees for this. We used the actual photograph with the actual trees and their actual heights. We didn't change the photograph to --
Q. No, but to do this --
(Court Reporter interrupts.)
A. We didn't use the 40 -foot height for the visual simulation. We used the 40-foot height as a conservative estimate for tree heights in the project viewshed to map potential visibilities. And I say "conservative," because in many locations there are trees that are higher and certainly some places where trees are lower. But that's an accepted height for visual simulations, which are different than the viewsheds. We don't -- we use the real photograph. And as I said, we drape that
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photograph in a CAD environment over an accurate 3D model of the topography and contours. We place the structure at its accurate height at scale into the simulation, and then we place the photograph over it. We test the photograph for its synchronicity with the underlying topography. And they're always in sync because we're doing the modeling from that particular vantage point. And that's the simulation that results from that step-by-step process to try and accurately simulate what you'll see from that vantage point at Wagon Hill Farm.
Q. Well, for Pole 81 you have on your specs there that it's 93 feet tall; right?
A. Correct.
Q. And what's the elevation above sea level that that pole sits on?
A. Again, I would have to go out and actually measure the trees right next to it. But in the simulation, it accurately places the pole heights within the context of the real photo. So you're seeing what that's going to look like from that vantage point.
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Q. I'm having a problem understanding how you get your simulated pole because -- my question is: You're standing at 66 feet above sea level. The combined height of the pole and the ground that it rests on is 175 feet. So how can it possibly be behind trees?
A. Again, it depends on the topography, the relative height of the view, the relative height of the trees in front of it and behind it that visually accommodate the structure. The simulation doesn't lie. I'm not going to say the simulation is necessarily exact. But I will say that we have gone back on many instances and checked our simulations with the actual constructed project, and we are always not surprised, but pleased to note that we are right on usually. The only thing that changes might be obviously atmosphere and color and how things look on any given day.

But we model the structure accurately
from the information provided us by the engineers at Eversource, and we put that into
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a CAD, a computer-aided design environment, at scale. So what you see is as accurate as possible a representation of that view from that location.
Q. Well, I took the same drawings from Eversource, and this is what I come up with --

PRESIDING OFFICER WEATHERSBY: Ms. Mackie, this is not your time to testify.

BY MS. MACKIE:
Q. Well, I'm trying to ask a question about how come these combined pole heights above sea level at the base of the pole are obviously going to be above the tree line --

PRESIDING OFFICER WEATHERSBY: Ms.
Mackie --
Q. -- and yet you're not showing it.

PRESIDING OFFICER WEATHERSBY: Ms.
Mackie, he already explained his whole methodology of how that could be in response to your last question. Please move on to your next.

MS. MACKIE: I'm sorry. I just keep
asking questions because $I$ can't believe it.
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PRESIDING OFFICER WEATHERSBY: I know that you don't like his answer, and I understand that. But by asking it more and more times, you're not going to get a different response.

MS. MACKIE: Evidently.
BY MS. MACKIE :
Q. Do you know that the average height of the bases of all the transmission poles --

PRESIDING OFFICER WEATHERSBY: Ms.
Mackie --
Q. -- in Durham is 70 feet?

PRESIDING OFFICER WEATHERSBY: You're testifying again. Please ask him a question.

MS. MACKIE: I am.
BY MS. MACKIE :
Q. Do you know that the average base of the transmission line poles in Durham is 70 feet above sea level?
A. I would have to take your word for that. Every location is different. And just again to reaffirm, we used GPS data. Our camera records our latitude, our longitude, our elevation when the picture is taken, so that
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it can be properly placed within the context of the photograph.

And I understand what your problem is. You're relating, you know, the structure to the sea level elevation right next to the structure. But what happens over the distance of a view is that you have intervening topography. You have trees that are closer to you that may not be as high as the pole but certainly are high enough to block them. So you have to understand you're seeing a foreshortened view, and there's a lot of other elements and vegetation between your vantage point and the actual pole location. Hopefully that helps you understand why it's different than just taking the height of the structure and the height of a tree right next to it.
Q. Well, I looked at LIDAR and I still have a question.
A. Please.
Q. And would you agree that from the vantage point on the hill at Wagon Hill, it's an open field all the way to the river?
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A. Certainly.
Q. I mean, certainly lower elevation than what you're looking at.
A. Yeah.
Q. And then you go across the river and then you go to this pole?
A. Again, as I said, there's intervening vegetation between your view, the roll of the hill below you and then where the pole is --
Q. Well, let me ask you a different question then. Since the average height of the transmission poles in Durham is 88 feet, would you say that that's generally above or below the tree line in Durham?
A. In some places it's at the tree line and in some places it's above the tree line probably.

MS. MACKIE: Thank you. No further questions.

PRESIDING OFFICER WEATHERSBY: Ms. Frink.

CROSS-EXAMINATION
BY MS. FRINK:
Q. Good afternoon, Mr. Raphael. My name is
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Helen Frink, and I represent the Darius Frink Farm that you see here. I'm going to ask you first, do you have Attachment D to your supplemental prefiled testimony of July 27th?
A. I probably do. Yes, I do, right here.
Q. I'm looking at the top of Page 2, and I'd like to ask you if you could read the first two sentences where you describe Nimble Hill Road.
(Witness reviews document.)
A. I'm sorry. You're at Attachment D, not B. Yes?
Q. I'm sorry. Attachment D, Page 2, the top of the page you describe Nimble Hill Road.
A. Sorry.
(Witness reviews document.)
A. You want me to -- what would you like me to do?
Q. Top two sentences begins, "Nimble Hill Road is a main street..."
A. "Nimble Hill Road is a 'main street' for the town of Newington, and as such has several town properties and facilities along it and is characterized by a sense of open, mowed
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areas, intermittent tree lines, as well as low-density residential uses. It is typical of many rural and suburban roads in this region and does not have any identified vantage points, scenic resources (aside from the Darius Frink Farm) or unusual or compelling landscapes along its length."
Q. Thank you. I'd like to note that it's Darius Frink Farm.

I'm going to show you now the visual simulation that you prepared and ask a few questions.
A. Sure.
Q. Mr. Raphael, this represents the existing conditions.
A. Yes.
Q. And I'm going to go on now to the next page.
A. I see that.
Q. I believe that you stated that in July -this is part of your July 27th testimony. Excuse me. And you stated that you revised this visual simulation to reflect the change in the design of the rise of structure on the Darius Frink Farm; is that correct?
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A. Yes.
Q. And what is the date when you did this new visual simulation?
A. It says the date on the drawing, which $I$ can't read. I have to look it up here.
Q. On the side it says April of 2017.
A. Yes.
Q. Is that likely to be correct?
A. It may be referencing the date of the picture, when the picture was taken. It may be that the simulation was added afterwards and we did not perhaps change the date of the simulation. As I said earlier, I'm not good on the dates and the sequence. We revised any number of simulations in this project at different points.
Q. Perhaps I could help. If I went back to Page 1, I think it says that the existing conditions were photographed in 2015, and then at some point after that you came back and changed the design of this tower, this transition structure. Does that seem likely? Do you remember doing it twice?
A. I'm sorry?
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Q. Do you remember doing the visual simulation twice?
A. We did several visual simulations here, yes.
Q. Can you confirm for me that there was a change in the design of this monopole transition structure and that's why you did the simulation a second time?
A. Yes, I believe previous there was a three-pole structure.
Q. Yes, that agrees with the information that $I$ have.

So, at some point Eversource provided you an image or a photo of the new monopole transition tower; is that correct?
A. Well, we would have been provided with several things: The actual structure dimensions and characteristics, and then an example of the type of structure that it would be and look like, and we based our modeling on that information.
Q. This transition structure is shown here from quite a distance. Would you have been provided with an image that showed it a little more close up?
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A. Well, I mean, we could zoom in to give you a sense of, you know, what it would look like closer up, or we could have gone into the middle of the field and used a photograph from there to provide a closer view. But typically we don't go onto private property to do that kind of work unless we're asked or have permission.
Q. I guess I need some help understanding the visual simulation process. In the visual simulation process, when you changed -- when you were asked to change your simulation to show the new design, would you have needed to go onto the property again, or would you have used an existing photograph and inserted the new design into that?
A. You wouldn't necessarily need to go onto the property. What you accounted for would probably be right. We could have used that existing photograph and then based the new simulation on that original photograph.
Q. In your work with this new photograph, did you have any information about the dimensions of this structure?
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A. Yes. It would have been provided in the model or the data we received from Eversource to model it.
Q. And excuse me, but I read earlier on the first page here, which we could go back and look, that it's 75 feet tall. Does that seem right to you?
A. Yes.
Q. It looks like it has a $T$ structure at the top, like a $\mathbf{T}$ bar?
A. Yes.
Q. How wide might that be?
A. Again, I'd have to go back to the engineering drawings to confirm the width as shown. I couldn't say offhand from this view what that width is.
Q. And have you any way of knowing whether there was any sort of lighting on it? This is pretty close to the Pease runway.
A. If there's any lighting on the structure itself?
Q. Yes, like on that $T$ bar.
A. Yeah, I wouldn't know. I mean, typically, again, depending on proximity and the
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possibility. Would you look at the top right-hand diagram. I'm going to see if I can enlarge it so you can see a little better.
A. I can see that.
Q. And this shows the proposed structure, Structure No. 109, which is to be located on the Frink Farm. Does this match the design in your visual simulation?
A. No.
Q. And does it match the design that $I$ showed you earlier that the landowners received from Eversource?
A. No, it's different, slightly different than that one as well.
Q. And while we're here, take a look at the trees that are adjacent to this monopole transition structure. What kind of trees would you call those? Deciduous? Evergreen?
A. Well, I think it's symbolizing a typical evergreen type of tree. I think they're just -- I wouldn't say that those were presented for, you know, an accurate rendition of the trees that were there, but
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just as a scale relationship to show that the trees adjacent to the corridor are roughly that size and scale, but not necessarily the exact same trees.
Q. Good. And if the structure that we see is about 75 feet tall, the diagram would indicate that the trees are about the same height?
A. Certainly in the diagram, yes.
Q. I'm now moving down a little. And I'm not sure if you can see down here where my mouse is. But down along the property line to a place where you see F107/109, and 109 is the what matches the structure that we've just been talking about.
A. I see that, yes.
Q. Thank you. That represents the location of the transition structure that you showed in your visual simulation and adjacent to an existing pole that I'd liked to show.

Mr. Raphael, I'm going to need a little help interpreting here. For identification purposes, this is a photo of the pole that is nearest where the transition structure will
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be located. If I'm looking at a pole that's 35 to 40 feet high here, how high would you estimate that the trees are surrounding it?
A. You know, it's very hard to do that from the photograph. I don't know. I would have to, again, go out and look at the actual location because I think the picture can be deceiving. That looks like a fairly tall tree. You know, $I$ would guess that is 60 to 70 feet tall, potentially --
Q. Let me --
A. -- just judging from its girth and the trunk and its height. Again, I don't know from this picture and that particular tree. Again, you're much closer to the pole in the picture. So the tree is some distance in the background, so it's not going to appear in exact scale relationship with the pole.
Q. Thank you.

Does this help to indicate any better the height of the trees in relation to the height of the pole? Let me go and see if I have any better images. Does that help you estimate the height of the trees?
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A. Not really. I think the one before was a little better maybe. You could sort of see -- yeah, that one. You can see in that photograph the trees behind it, particularly to the right, are more than topping out at probably twice the height of that pole, which I believe is probably 35 to 40 feet.
Q. And here we have the height of the trees closer to the height of the pole. Would you still say that the trees are that much higher than the pole, or are we closer to the 35, 40 feet?
A. Well, again, $I$ don't know about that specific tree, so it's very hard to tell. But it's clearly -- again, because you're so close to the pole, the pole appears larger in relationship to the tree behind it.
Q. I see. I guess would you please repeat what you said last, the last sentence?
A. Because the photograph is taken close to the pole, the pole appears larger in relationship to the tree behind it than it otherwise might be.
Q. I see. So the pole appears taller in
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relationship to the trees behind it than it really would be.
A. Or the tree conversely appears shorter --
Q. Okay.
A. -- than it actually would be based on, again, the foreshortening of the photograph and the proximity to the pole.
Q. I'm going to go back now to your --

MS. DORE: Ms. Frink, may I stop you for a second?

MS. FRINK: Hmm-hmm.
MS. DORE: Just for the record, the last photograph was your Exhibit No. 28, Page 2 --

MS. FRINK: Yes, it is.
MS. DORE: -- and the pictures of other poles was your Exhibit No. 8; yes?

MS. FRINK: Would you please repeat the question?

MS. DORE: We had a number of pictures of different poles where you tried to show the different perspective, and that was your Exhibit No. 8; yes?

MS. FRINK: Exhibit No. 8 is the
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revised environmental map with the diagram at the top that shows the pole.

MS. DORE: Would you please identify the pictures, the various pictures? That was all in Exhibit 28?

MS. FRINK: And your question again?
MS. DORE: Exhibit 28 --
MS. FRINK: This is Exhibit 28.
MS. DORE: Thank you.
MS. FRINK: Is that all you need to know? And these are actual photographs. I took the photographs on October 12th. Is that clear enough?

MS DORE: Yes.
MS. FRINK: Thank you.
BY MS. FRINK:
Q. Mr. Raphael, I'm going to return for a moment to your visual simulation, if I may.
A. Sure.
Q. This is Page 3 of you visual simulation. And behind this transition tower that we see, the poles behind are H-frame poles. Do you know how tall those are?
A. You know, I don't, off the top of my head,
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know the actual height of those poles.
Q. I believe that they are 65 feet high. I think it says that on Page 1.
A. Okay.
Q. Is that acceptable to you?
A. Sure.
Q. And from what vantage point or what observation point did you take this photo? If this were an actual photograph, where would you have been standing?
A. Well, it is an actual photograph, and we were standing on Nimble Hill Road. Again, we actually use the actual photograph of the existing conditions and then we bring it into the simulation process. We don't change the photograph other than to simulate the corridor and the structure within it.
Q. I'm going to go back one page. And this is the existing conditions. So here we see the actual photograph; is that correct?
A. Yes.
Q. This is existing conditions.
A. Yes.
Q. Once again, this is your visual simulation.
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And how wide is the width of the right-of-way that we see here?
A. In the existing conditions?
Q. Yeah. I believe it's 100 feet, but I would like you to confirm that, please.
A. Again, I don't -- what did you say you thought the width --
Q. I believe it's 100 feet.
A. Well, the actual, $I$ believe, width is 100 feet, yes.
Q. Thank you. So your visual simulation represents the view from the edge of Nimble Hill Road; is that correct?
A. Yes.
Q. And did you also do a visual simulation of how this structure would appear to people working in the fields closer up?
A. No, we didn't because, again, we typically do simulations from public vantage points.
Q. And I assume that there's no vantage point shown from the view of this transition structure or tower from closer to the house.
A. No. Again, you know, unless we're asked or have permission or there's, you know, a
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directive to do that, the bulk of our visual simulations are done from public vantage points.
Q. Did I understand correctly from your earlier testimony that you also have a background in landscape architecture?
A. Yes, I'm a licensed landscaper.
Q. And based on the visual simulation that you provided and familiarity with this site, do you believe that this transition tower will be concealed by vegetation?
A. No, I don't think it will be concealed by vegetation. It won't be hidden in that sense, in this particular view. But, again, depending on your vantage point -- you know, let me go back here.

If you're, let's say in the vicinity of the farmhouse, that view would be, you know, off to the left in the widest part of your view. I mean, the broadest view a human eye can take into with blurring on the side is about 120 degrees. So, you know, the primary cone of vision that you can focus on is about 45 degrees. So it would be probably just
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## [WITNESS: RAPHAEL]

that transition structure might be visible from different vantage points because of that from the farm property.
Q. But in any case, did I understand you correctly to say that you believe it will not be concealed by vegetation?
A. It won't be concealed as much as it will be accommodated, to some extent, in that it doesn't -- at least from the vantage point that we're showing and from other vantage points at that distance, the scale of the structures do not, you know, exceed, generally speaking, the higher tops of the whole canopy there as you can see from the visual simulation. Certainly as you get closer, you know, you will see this potentially. The closer you get, the higher it's going to look to you in person. That's certainly true. But $I$ wouldn't use the word "concealed" as much as that the tree line and certainly the corridor as it proceeds through the tree line will certainly conceal the remainder of the corridor from all but the head-on vantage point that the simulation
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shows. The structure itself will -- you know, it's right at the edge of the tree line. So from some points it will be nicely backgrounded. If you're looking again straight down the corridor, it will not, to the extent that again you see in the simulation. So the fit there is certainly better than if, $A$, the structure was taller and, $B$, if the structure was further out in the field.
Q. Thank you, Mr. Raphael. No further questions.
A. You're welcome.

PRESIDING OFFICER WEATHERSBY:
Attorney Aslin.
MR. ASLIN: Thank you, Madam Chair. CROSS-EXAMINATION

BY MR. ASLIN:
Q. Good afternoon, Mr. Raphael. How are you?
A. Good afternoon. I'm fine. Yourself?
Q. Well, thank you. For the record, my name's Chris Aslin. I'm designated as Counsel for the Public in these proceedings. I want to pick up on a few questions about your
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methodology to start.
This methodology is one you've used before in your career?
A. Yes.
Q. And is it fair to say this is something that you or your firm developed?
A. Yes. It's a combination of a long evolution of visual analysis methodology.
Q. Thank you.

And for this particular project, do I understand correctly that for the identification process, you identified all scenic resources within a 3-mile radius of the corridor? And then -- so for the 3-mile radius it was all -- the scenic resources were identified; is that right?
A. Correct.
Q. And then outside of that, going from 3 to 10 miles out, you only looked at scenic resources that were within the area of potential visibility; is that correct?
A. Correct.
Q. So you had -- and why is there a distinction between the two when the total study area is
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10 miles?
A. Well, with transmission structures in particular, when you get out beyond 3 miles, the presence, visibility and scale of transition structures diminish with distance.
Q. Were you adding something, or is that --
A. No. I mean, again, you know, again, as we would in -- we wouldn't go through the process necessarily of identifying every single resource. You know, that would be a 20-mile corridor over the 12-plus-mile length of the Project. So, being responsive, we wanted to identify those scenic resources that we knew would have visibility to be able to account for that distance and to, you know, respond to the rules in that regard.
Q. Okay. Thank you.

To paraphrase, I guess, beyond 3 miles it's unlikely -- well, not unlikely, but you didn't want to waste time with things that probably were not visible.
A. Well, I mean, I guess I wouldn't say waste time. But I just think we wanted to focus on those resources that we knew would have
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visibility and did need to be accounted for with regard to that visibility.
Q. Thank you.

With regard to the various categories of resources that you looked at as potential scenic resources, one of those categories is historic sites; is that correct?
A. Well, we would only look at a historic site if that historic site had a distinct scenic or visual component to it, if the resource was clearly oriented to a view and its "raison d'être" is because of the view rather than, you know, it's a historic resource because it has architectural value. So there's this distinction in particular.
Q. Sure. I understand that. I don't want to try and trick you. But the rules in Site 102.45(e) states "historic sites that possess a scenic quality." Is that what you're getting at?
A. Yes.
Q. So, not a historic site that is historic just because it's old, but that has some scenic quality.
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A. Right.
Q. But with regard to historic sites, in terms of your analysis, is it correct that you only looked at historic sites that were listed in the national registry or the state registry of historic places?
A. Yes. We would not have any other means necessarily, unless we were alerted to an eligible listing that would have had that potential. There would be no means to determine whether there was a scenic component to an unlisted resource.
Q. And through the course of the proceedings or the runup to the proceedings, did you work with the Applicant's historic resources expert to determine if there were any eligible resources that had been identified?
A. Yes. My staff worked back and forth with the historic experts.
Q. And I didn't see that any of the eligible resources identified by the historic expert were included in your analysis.
A. No, they were not. We left that up to her.
Q. Okay. So you did not --
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A. No.
Q. -- perform any analysis of those eligible sites.
A. Not that I can recollect.
Q. Okay. Thank you.

You have in your report, on Page 10, electronic Page 16, and it's Applicant's Exhibit 51, a list of some of the types of resources that you included in your identification process; is that fair?
A. Correct.
Q. Okay. I wanted to ask you about state-conserved lands with a specific public use or scenic resource component. That was one of the categories you looked at?
A. Correct.
Q. In looking for state-conserved lands, did you consider the funding source for all conservation easements within the Project area?
A. I don't think specifically, no. We were just -- I mean, we did look at state or other conserved lands. We didn't limit it to just state conservation areas. I think if there
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were other conserved lands that had a public use or public access, that would fall into that category.
Q. Okay. So I guess I'll ask a different way. Did you look at conserved lands that may be not owned or held by the state but that were purchased using state funds or federal funds?
A. Yes, I would imagine we did if they were listed in data banks or, you know, information that we had available to us publicly. Yes, we would have.
Q. Okay. And so if a -- let's say a town held a conservation easement, and it was purchased using state funds that have a purpose of scenic or natural resources as part of their funding mechanism. Would that affect your designation of the cultural designation for that resource in your analysis?
A. Well, I mean, it just -- we would want to look at the cultural designation in light of its qualities. And, you know, again, we have the criteria in the methodology that describes how we rate cultural value. And
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it, you know, considers a couple of elements of the resource to determine how valued that resource might be, you know, culturally to local, state or, you know, national populations.
Q. Okay. And partly what I'm getting at is the definition of "scenic resources" includes Subpart D, again Site 102.45. But Subpart D says, "recreational trails, parks or areas established, protected or maintained in whole or in part with public funds." Are you familiar with that part of the rule?
A. Yes.
Q. And I think you testified earlier in regard to trails, that in following with that category, it would only qualify in your analysis if it had some scenic quality or scenic purpose to it.
A. I think that's correct.
Q. And I'm curious. In the rule, I don't see any reference with regard to this subpart to a scenic purpose. It just relates to publicly funded.
A. Right. But then we do have to plug in, in
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evaluating its sensitivity and its importance, you know, how it was designated and how it's used, how it's considered, you know, locally, regionally or statewide.
Q. Yes. And that would go to the cultural designation; is that right?
A. Yes.
Q. So if it's designated either with public funding or some other way, it could get a higher cultural designation. But I thought you testified earlier that you wouldn't even consider a trail as a scenic resource if it didn't have some scenic purpose in the designation. Maybe I misunderstood.
A. Well, I mean, again, if you're walking on a wildlife trail and it's, you know, within the woods and there are no views, then that would not be something that would end up probably being evaluated because there would be no visual effect from the Project. So that would be one way in which a trail might not be, you know, elevated to further review.

Not all trails are created equal. Some serve different purposes. You know, as I mentioned
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the Great Bay Wildlife Trail, from all accounts, is more focused on the wildlife viewing, which is, again, as I said, certainly part of the scenery. But the primary purpose is for its ecological value and wildlife viewing. And I think the scenic drama is probably secondary.
Q. And under your methodology, where would that distinction come out? I mean, would that be something that's a cultural designation piece of --
A. I think it probably would be realized or at least reviewed within the context of both the cultural designation and scenic quality. And on the converse, if a trail was not necessarily highlighted for its scenic purpose or was part of a conserved area for another purpose, but that it rose to a level of having a high scenic value or dramatic views, then its scenic quality rating would, you know, be higher, and the chances are then it would be evaluated further.
Q. Okay. And under the Scenic Quality portion of your analysis, that's really looking at
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the scenery from the resource; is that right?
A. Yes, experience in the resource at the scenery, and to the extent in which the Project as proposed relates to that scenery and that view.
Q. And there's not a part of the scenic quality review itself that looks at the purpose of the scenic resource or the purpose of the view; is that right?
A. Well, I think that it's implicit that, you know, if there's a vantage point that's been identified as having a long, distant view or is a viewing point, again, unless it's primarily designated for, you know, some particular resource that was not scenic-related, it would certainly be acknowledged and evaluated further.
Q. No, I understand that. But under Scenic Quality, you're looking at, I think, six or seven subcategories; correct?
A. Right.
Q. And none of those subcategories deal with the intent of the viewer or --
A. No, that's true, that's true.
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Q. It's intrinsic to the view itself.
A. Right.
Q. One other question in terms of these resource areas. You have a category of Non-Motorized Trails.
A. Yes.
Q. I think at both the state and local level?
A. Yes.
Q. Did your analysis consider ATV or snowmobile trails as potential scenic resources?
A. I think if they were co-located or part of, you know, a designated scenic area or scenic resource, yes. But if not, probably no. I mean, it's more a recreational resource than a scenic resource.
Q. But a non-motorized trail in a state park is part of your list. And I guess my confusion is why wouldn't a snowmobile trail in a state park have equal value or at least be worth looking at, and actually might qualify identifying it whether it has a scenic quality or not?
A. I mean, I am sure that some of the scenic resources we may have evaluated in state
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parks or other locations would have snowmobile trails or ATV trails there that wouldn't necessarily come under the review because of their presence. So it would probably be covered in that regard.
Q. Okay. Thank you.

So with regard to the viewshed mapping, if I understand correctly, you start with the bare earth condition in your model, and then you add in the land cover data; is that correct?
A. Yes.
Q. And for any forested cover, that was a set 40-foot height for trees?
A. Yes.
Q. And is that assumed to be an opaque 40-foot?
A. For the most part, yes.
Q. And without regard to whether the trees are evergreen or deciduous or leaf-off conditions?
A. No. And that's a good question. You know, we found that even in leaf-off conditions, that once you get to 50 or 100 feet of even deciduous forest in the winter, there's a
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pretty effective screening capability. And the Forest Service has done studies to that effect.
Q. Okay. So, essentially they're still fairly opaque, leaf off.
A. Yes. And then when we get to the site-specific level, then we can assess what degree of opacity exists and certainly, you know, base our analysis on that.
Q. Okay. Thank you.

And I believe it states somewhere on Page 14 here of your report, which is electronic Page 20, that you did incorporate actual tree heights when you had that data.
A. Yes, on certainly site-specific locations.
Q. And I guess my question is: Was that incorporated into the viewshed mapping or into the 3D modeling?
A. 3D modeling.
Q. So the viewshed mapping was just 40 feet?
A. Yes.
Q. All right. Thank you.

And I think you testified earlier that
while at 40 feet you would be deem it to be
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conservative, there are some areas where the trees are shorter than 40 feet; is that right?
A. Yeah, and that's why $I$ think 40 feet is a good balance.
Q. Okay. Now, with regard to the method you used, you started with $I$ believe 181 scenic resources that you had identified --
A. Correct.
Q. -- within the study area. And then using the viewshed mapping, 151 of those were
eliminated as not having potential visibility?
A. Correct. But there were some, $I$ think in the footnotes, that we tested to be sure, either in the office or in the field as needs be.

Footnotes $I$ think in that list sort of
identify those which were reviewed in that regard.
Q. Okay. But you ended up having 30 scenic resources that you analyzed using your full methodology.
A. That's correct. Yes.
Q. Okay. And the methodology that you employed
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has essentially a three-tiered approach, where you start with an overall visual sensitivity analysis, and then if the resource passes that level, it goes on to a visual effect analysis, and then if it passes that level, it goes to an effect on viewer analysis? Is that the summary?
A. That's correct. Yes.
Q. Okay. And in that first step, the visual sensitivity has two prongs, a cultural designation and a scenic quality; is that right?
A. Yes.
Q. And each of those is rated on a low, moderate or high scale?
A. Yes.
Q. And then the two categories are combined together to have a low to high range. But now there's intermediate, low moderate, and moderate high?
A. Yes.
Q. And in order to progress past that first stage of analysis, you need to have a moderate high or a high rating; is that
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right?
A. That's right.
Q. So in order to do that, you have to have at least one of the two subcategories rated high?
A. That's right.
Q. And if you have a low rating for either category, you will not progress.
A. Typically not, unless for some reason that's overruled, which occasionally it could be, based on other sources of information or, you know, as I said -- for example, UNH initially would not be necessarily considered a scenic resource, but we treat it as though it was. So there are some exceptions to the rule. But this is the general, and specific, I should say, process that we follow.
Q. Okay. And I think what you're getting at is at the identification level you added back in some resources that may not have qualified on the surface, but then once they're identified they went through your model.
A. That's right.
Q. Okay. And then this chart on Page 63 and 64
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of your report, which is electronic Pages 69 and 70, and it's Applicant's Exhibit 51, shows the ratings for those two categories and then the overall sensitivity rating for each rating; is that right?
A. Right. Yes, it is.
Q. So resources like Little Bay, which is Item 5, were deemed moderate for both subcategories and therefore moderate overall and did not move forward?
A. Right.
Q. And the same thing was true for Newington Historic Center District -- I said that backwards -- the Newington Center Historic District which had, in this case, a high cultural designation, but a low scenic quality rating?
A. Yes.
Q. And so that also didn't move forward.
A. Correct.
Q. At the end of your analysis for this first stage, only nine resources moved forward; is that correct?
A. That's right.
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Q. And then the second level of review is the Visual Effect category, and there are three subcategories; is that right?
A. Yes.
Q. And then again, this is rated a little differently. There's some points awarded for each one rather than a high, medium, low?
A. Yes.
Q. And the three subcategories are: Scale and Spatial Presence, Prominence, and Compatibility?
A. That's correct.
Q. And am I correct that you essentially -well, let's... you have a chart -- or you have a series of score sheets for these categories that start on Page 81 of your report, which is electronic Page 87. And just scrolling through those, it appeared to me that of the nine resources here, they mostly scored zeros on most categories.
A. Right.
Q. Do you have an explanation for why they are such low ratings or low scores for these resources?
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A. Because the presence of the structure, the visibility of the structure and the scale of the structure has to be noticeable, has to be -- has to kind of meet the visual effect ratings in order to, you know, rise to -- I mean to move to the next level. So, you know, again, we base it on these criteria. And one of the interesting things about this project is that, you know, from a distance, almost beyond a mile or mile and a half, the relative scale of the structure, you know, the visibility of any clearings for the structure, the number of structures that are visible within that scale and within that view were not such that they rose to a level of even being noticeable unless you were looking for them. I think in some of the simulations, certainly one or two we've reviewed, point that out. I mean, if that's the case, then there's going to be little, if any, viewer effect. That's why we wouldn't go that next step.
Q. Would it be fair to say that for this project, if the Project doesn't cross through
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or very, very close to a scenic resource, it was going to get a nominal score in this section?
A. I mean, again, it depends on what the view looks like from that scenic resource, whether it's, you know, near or far. I mean, depending on the angle of the view, how visible the clearing could be, that would, you know, be different. I mean, one of the mitigating factors certainly, you know, despite some conversation about elevation, is that this is mostly in the coastal plain and that it's a fairly level landscape where, you know, the presence of transmission structures are not as noticeable as they might be in a more hilly landscape where you can see corridors going up hillsides and, you know, skylining and things of that nature.
Q. So at the end of this second part of your analysis, only Little Bay Road moved forward; is that correct?
A. I believe so, yes.
Q. And then you amended your report later on after the undergrounding of the Project
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through the Frink Farm area and Hannah Lane area; is that correct?
A. Yes.
Q. And $I$ guess also the movement of the transition structure near Gundalow Landing.
A. Yes.
Q. And in your addendum, you found -- you revised the rating for Little Bay Road down to low; is that correct?
A. Yes.
Q. And that's in the Applicant's Exhibit 95 at Page 8.

So, based on that, none of the resources made it past the second stage of your analysis?
A. That's right.
Q. Okay. In the third stage, you get at some of the factors that really have to do with the interaction with the viewer; is that right?
A. Yes. Although, again, you know, in the previous one we've just been discussing, visual effect, you know, the scale and spacial presence, prominence, compatibility, it's all based on viewing characteristics and
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an analysis that we conduct within those characteristics. So all throughout this we are really thinking about the viewer and what the viewer sees.

In the last stage, obviously, then we get to the point of really assessing what is this going to mean to the activity and the use of the resource for that viewer.
Q. Okay. But for the last section of your analysis, it's determining the effect on the viewer. And you have four subcategories; is that right?
A. Yes.
Q. Those are Activity, Extent of Use, Duration of View, and Remoteness?
A. Correct.
Q. In this portion of your analysis, the scoring is again low, medium and high for each of those categories?
A. Yes.
Q. And I think you have down here a Footnote 134 on Page 89 of your report, which is electronic Page 95 of Applicant's Exhibit 51, that explains how the points are combined
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between these categories?
A. Yes.
Q. And so in order to score high, you need to have 12 points, which represents the highest score on all four components; is that right?
A. Yes.
Q. And to get a moderate high, you need to get 10 or 11 points. And that would require a high score on at least two of the four components?
A. That sounds right.
Q. Okay. And it struck me, one of the components is this concept of remoteness. Let me find the right page here. And so remoteness, if $I$ understand it correctly there, it's a measure of the lack of kind of human impact on the environment in that area or landscape. Is that a fair summary?
A. It's the extent of human development and human alteration of that landscape, or human presence.
Q. And you have five kind of subratings for remoteness; is that right?
A. Yes.
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Q. Let's see if $I$ can find... and in order to score high in remoteness, you need to be in the primitive rating, characterized as "primitive"?
A. Yeah.
Q. Are there any locations in the state of New Hampshire that you would deem "primitive" under your rating system?
A. Certainly. There are areas that, particularly in the northern part of the state, that are not highly developed, have a more natural aspect without extensive, you know, alteration and structures, things of that nature. So, yeah, I mean, I think areas around the White Mountains, portions of the White Mountains that are wilderness areas in the White Mountains and, you know, less developed areas in the northern counties certainly have stretches of -- you know, there aren't truly pristine environments, but certainly much less developed, more, again, natural-appearing.
Q. Okay. I found what $I$ was -- the reference in your report. It's on Page 28, which is
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electronic Page 24, where you describe the subcategories of remoteness. For primitive, it says, among other things, that the area is 2 to 3 miles from maintained roads, railroads or trails designated for motorized or mechanized use.
A. Yes. And, again, this classification is not ours. You'll note there is a footnote. This comes from sort of the work of a number of people in relation to what's called the "recreational opportunity spectrum." That is a tool used by the U.S. Forest Service for management purposes. So this is a classification system that we relied on and did not invent ourselves.
Q. Understood. But to score high in remoteness,
you need to be primitive. And that requires an area with little or no development and little or no motorized or mechanized use, roadways, et cetera.
A. Yeah. I mean, I think where you see this
( come into play more so, frankly, are in places, you know, in the far northern reaches of New England. Maine has great expanses of
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y
landscapes like that where wind projects and transition lines are often located. In fact, I'm aware of one in Maine right now that is going through that type of an area. And that's where this classification would certainly come into play.
Q. And for one of your other subcategories under Effect on the Viewer, you have a category of Extent of Use; is that correct?
A. Yes.
Q. And that is looking at how much people go to that location and utilize it. Is that fair?
A. Duration of View is really -- Extent of Use is -- yes, that's right -- what's the use level and... yeah, among other things.
Q. We can look at the specifics on the prior page. This is Page 27 of your report, electronic Page 33. You have a low, medium and high, or moderate high designation for Extent of Use. And in order to score high, you have to have quick, obvious and easy access, multiple boat launches, campsites, maintained facilities, large number of people, motorized or mechanized use. So a
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fairly high-use area in order to score high in Extent of Use; correct?
A. Right. But again, this doesn't necessarily imply that all of those things have to be present. It could be one that's, you know -it could be just access is quick, obvious and easy, and therefore it's clear either from observations or data that it has a high use, a high level of activity.
Q. And so the reason for my questions here is it seems the Extent of Use and Remoteness categories are kind of two sides of the coin to some extent. You can't have a primitive area that has a high extent of use because there are not all these facilities and access points. And some of the same components, such as motorized or mechanized use receive the opposite weighting in these two subcategories. Would you agree with that?
A. Yes and no. I mean, again, I'll just use the main example. There's some very remote lakes in central Maine, northern Maine, that have a highly developed boat launch area that gets a lot of use for fishing, hunting, and
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recreation. But once you're off on the lake or, you know, traveling beyond that boat launch, it is totally undeveloped. I mean, there's no evidence of human activity. And so these aren't necessarily always incompatible.
Q. So it would be theoretically possible to score high in both components?
A. Possibly, yes. I mean, think of perhaps a very popular section -- I mean, take -- it's probably not applicable. But, you know, Katahdin is in a very undeveloped, non-motorized, but, you know, readily accessible state park. Very, very popular. Can't even get a campsite there. But it has a high level of use.
Q. Well, the park does. Katahdin may not itself.
A. Katahdin -- if you've been to Katahdin on certain days, you will know it does.
Q. Right. But in terms of your analysis here, the mountain itself does not have parking areas, maintained facilities, motorized or mechanized use.
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A. Right. But, you know, any given day, all the areas around the park of Katahdin could be fully occupied. And past those points there's no development, but there's a high level of use because there's a large number of hikers.
Q. Okay. Fair enough.

You've referenced Maine a few times as having more remote high-use areas. Are there any in New Hampshire that you can think of that might be able to score well in both of these categories at the same time?
A. I'd have to think about that. I can't... nothing bubbles up right off. I'm sure I could scour my memory experience and think of one or two.

You know, again, I've been in the White Mountains and the Pemigewassett Wilderness and run into, you know, high numbers of hikers on a typical fall hiking day. As I'm sure you know, the parking lots get overflowed. But once you're in the wildness, you're in the wilderness. So that would be a remote area with a high level of use,
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potentially.
Q. Okay. But again, it doesn't have motorized or mechanized use or --
A. That's right.
Q. -- or facilities.
A. That's right.
Q. So maybe moderate as opposed to high --
A. That's possible.
Q. -- for extended view?

With regard to your overall approach,
the rules for the SEC require -- and I'm looking at Site 301.5, Subpart (b) (6). I can put it up on the Elmo if that's helpful. MR. ASLIN: Dawn, want to switch me over?

BY MR. ASLIN:
Q. So this is the rule on the Effects of the Aesthetics, for the things you need to include in the Application. Are you familiar with this rule?
A. Yes.
Q. And Part 6 -- or (b) (6) requires a characterization of the potential visual impacts of the proposed facility on
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identified scenic resources as high, medium or low, based on consideration of the following factors. I skipped a little in the middle, but did I read that correctly?
A. Yes.
Q. Okay. And then there's a list of seven factors that are considered.
A. Yes.
Q. Now, based on your testimony earlier, I would assume that your answer is yes. But does your methodology look at each of those factors?
A. Yes. I mean, even if we don't take one of those 30 resources or 9 resources to the full level of our analysis, we also, as we do the lead-up through this step-by-step process, you know, we consider all of these types of things. And, you know, we may not codify them with regard to the ones that emerge for every one, but it's certainly -- these are touch points for our analysis.
Q. But with regard to your methodology, certain components that get more specifically at these subcategories may fall in the later
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stages of your methodology; is that a fair statement?
A. Yup.
Q. And not all the resources get through the gauntlet to those later stages.
A. Not a full analysis, but an analysis has been undertaken.
Q. And do I understand your interpretation of this rule to be that only the scenic resources that you deemed to be visible or potentially visible need to have this kind of analysis?
A. Yes.
Q. Okay. Now, in your report, after going through the analysis and finding that none of the 30 resources met the criteria for kind of significant effect, you then went on and took a second or further look at four resources; is that right?
A. Yes.
Q. And those were Little Bay Road, the Little Bay Shore transition structures, the Great Bay National Wildlife Refuge and Main Street in Durham, or the UNH campus?
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A. Yes.
Q. Why did you feel it was necessary to return to those four scenic resources if they didn't meet the criteria of your methodology?
A. You know, as I said earlier, we follow the methodology obviously for the most part. But there are exceptions to the methodology certainly. And we recognize that those resources had, you know, a higher degree of interest and concern and warranted another review.
Q. And the result of that review, was it -- did it sort of corroborate your methodology that said it would not be a significant impact?
A. Yes.
Q. In your supplemental testimony, which is Applicant's Exhibit 42, you had a critique of Mr. Lawrence, who's Counsel for the Public's aesthetics expert; is that correct?
A. Yes.
Q. So, on Page 5 of your supplemental testimony, which is electronic Page 6 of Applicant's Exhibit 142, you state that 11 of the 13
locations identified by Mr. Lawrence do not
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meet the definition of a "scenic resource." Do you see that?
A. Yes.
Q. Okay. And are you familiar -- well, let me put it up, be a little easier.

The 13 scenic resources that are referenced there, are these listed here in Mr. Lawrence's report? Do you recognize those?
A. Yes.

MR. ASLIN: Okay. And just for the record, that's Counsel for the Public's Exhibit 4A, and it's electronic Page 14. It's Page 9 of Mr. Lawrence's report. There's a list of A through $M$, the various resources.

BY MR. ASLIN:
Q. Am I correct that the two that you do feel are scenic resources were the Route 108 crossing -- no. I'm sorry. That's not one of the ones you deemed; is that correct? I want to ask you which two you deemed to be scenic resources.
A. Well, I think it was the UNH Main Street because we accommodated that in our scenic
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resource review, and I believe it was Durham Point Road.
Q. Okay. And so the other ones -- let's take Route 108, where I was going. You're aware that 108 is a state-designated scenic byway; right?
A. Yes. Maybe that was the one. Maybe I misspoke. I couldn't remember. There was one scenic road in this list that I...
Q. So maybe that was one of the ones that you felt was a scenic resource?
A. That's probably right.
Q. Now, you included in your analysis the UNH campus; is that correct?
A. I'm sorry. Yes, we did.
Q. Okay. And Mr. Lawrence included a number of locations within the UNH campus. But you seem to feel those are not scenic resources. Could you explain the distinction between your review of the campus as a whole and Mr. Lawrence's review of portions of the campus.
A. Sure. So I think the essence of the scenic area, or the area with a large number of
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## [WITNESS: RAPHAEL]

people and a certain expectation with regard to the experience of the campus is in the campus core. You know, the location, the other locations that were of concern to Mr. Lawrence -- and I'm not certainly questioning his concern. He has a right to those concerns. And he identified them, and we certainly responded to that. But, you know, some of them were views from parking lots, I think in the apartment complex and, you know, weren't scenic in of themselves, did not have scenic views, were outside of the core part of the campus. I think that's perhaps the distinction. I mean, you certainly could argue that if you're considering the campus as a whole, then these would fall into that potential review and analysis. And I think we certainly, as I said a moment ago, took that at face value and went back and certainly reviewed Mr. Lawrence's analysis and his recommendations, and I think as you know, we've made an effort to address them.
Q. Yes. I appreciate that.
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So $I$ did find the reference to the 2 of the 13 that you did think were scenic resources, and that's here on Page 5 of your testimony, Line 5 .
A. Okay.
Q. You said aside from Fox Point Road and Durham Point Road --
A. Okay. So $I$ must have missed one that --
Q. So you would agree that 108 is a scenic resource.
A. Yeah.
Q. I think 1 of 30 you referred to.
A. Yeah.
Q. And then on the UNH campus, you were talking about the parking lot area as one you would disagree with. The other two that

Mr. Lawrence identified in UNH -- well, the other three were Main Street, which you did look at, and then the Gregg Hall vicinity -do you recall where Gregg Hall is?
A. Yes.
Q. Is it correct that one of your visual simulations is looking across from the campus onto Gregg Hall?
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A. Yes.
Q. Okay. But you don't think that that is part --
A. Well, again, if you --
(Court Reporter interrupts.)
Q. -- of a scenic resource?
A. I guess you could if we were going to, you know, consider the campus as a whole, then that would fall within that. I think, you know, we did that simulation certainly to understand what the Project would look like from that vantage point on the campus. But, you know, Gregg Hall is, again, immediately adjacent to, you know, the existing rail and utility corridor. It's just up the road from the physical plant area. It's not probably the most aesthetically pleasing portion of the campus. The architecture is, you know, high quality. But the scenery I would not say is -- you know, it's typical of that portion of the campus, so...
Q. Okay. Thank you.

You also had a criticism on Page 6 of your testimony regarding the identification
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of key observation points. Do you see that, starting on Line 21 of your testimony?
A. Right.
Q. Make that a little bigger.

And you seem to be stating here that a key observation point needs to be also a scenic resource. Is that your understanding under the rules?
A. No. I think, you know, as the last sentence in my answer states, that key observation points are typically selected because they're designated viewpoints or locations that are public areas designed for viewing and frequented by the public for recreation or cultural activities that have a scenic or visual component. So a key observation point could be on point literally. That could be an overlook or pull-off from a scenic road, for example, or on an unscenic road that could rise to a level of having certain scenic values, or a view of the Project that was prominent and therefore would be a key observation point.

I do not typically consider road
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crossings key observation points because people typically do not stop at those crossings to observe the crossings. They usually walk, bike or drive by them, and they don't usually attract people to stop and look at them. And that's the distinction I was making.
Q. So the distinction is more about the viewpoint aspect rather than scenic resource aspect.
A. Well, yes. Both the viewing point and whether the view itself is of something scenic. And again, a key observation point, I mean, well, the view of the road crossing from that road would not be considered a place that people would congregate to view the transmission corridor. That's how I interpreted it, and that's how I evaluated those crossings. I mean, again, unless the crossing is somehow interconnected with a pull-off or a place where you can really observe, $I$ would not necessarily see it as a key observation point. That doesn't mean the road crossing might not be aesthetically
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sensitive or require mitigation, if that were appropriate or necessary.
Q. So, for example, if it's a designated scenic road of some kind, you might not say that the right-of-way crossing is a key observation point, but there's still something to be assessed at that location.
A. Certainly.
Q. Okay. Thank you.

I wanted to just wrap up with one clarifying question about a couple of your photo simulations.
A. Sure .
Q. I understand from prior testimony by the construction panel, and I think it's specified in some of the revised engineering documents, that some of the structures on the UNH campus are proposed to be galvanized steel as opposed to weatherized steel. Are you familiar with that?
A. Yes.
Q. And I can show you all the maps, but I think you can skip to it. What I'm showing you is part of Applicant's Exhibit 52, and it's
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Exhibit 7, which is the simulation of kind of the UNH campus area.

Are you -- would you agree that the pole that's shown here in front of Gregg Hall is one of the poles that's proposed to be galvanized steel now?
A. That may be possible. I don't know that certainly. I do know there were some proposals to consider the galvanized option.
Q. We can clarify that quickly I think if you have your magnifying glass. This is Page 6 of Applicant's Exhibit 149 and --
A. I see that they are listed as galvanized.
Q. Okay.
A. That may have been adjusted from the time we originally made the simulations, that we did not change the simulations.
Q. So $I$ just wanted to clarify that.
A. Thank you.
Q. This one in Exhibit 7 of Applicant's Exhibit 52 I believe is going to be galvanized. So this simulation hasn't been updated. And then similarly, the Main Street crossing --
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A. I think, yeah.
Q. -- the first two or three poles here, I think it's the first, the transition structure and the first two poles going up the road, the right-of-way, are also proposed now to be galvanized. Do you accept that? And this photo simulation has not been updated. And this is Applicant's Exhibit 96, Exhibit 8A of the Proposed Conditions.

Okay. Thank you. I have no further questions.
A. Thank you.

PRESIDING OFFICER WEATHERSBY: We're going to take a very short break, be back just after four when we'll take some questions from the Committee.
(Recess was taken at 3:54 p.m.
and the hearing resumed at 4:07 p.m.)
PRESIDING OFFICER WEATHERSBY: Okay.
We'll get started with questions from the Committee. Ms. Duprey.

MS. DUPREY: Thank you, Madam Chair. INTERROGATORIES BY SEC MEMBERS AND COUNSEL: BY MS. DUPREY:
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Q. Good afternoon.
A. Good afternoon.
Q. Susan Duprey, public member. I want to talk about Little Bay for a few minutes and the mattresses there, the concrete mattresses. I'm trying to get a sense of the scale here. My recollection is that the width of the mattresses is going to be about 24 feet. And I'm wondering if you have any notion of what the length of that channel of Little Bay is. Are we talking about 1,000 feet long, 2,000 feet long? Any notion what it is?
A. You mean the width of the channel --
Q. No, the length.
A. The length of the channel.
Q. $\mathrm{Hmm}-\mathrm{hmm}$.
A. I'd have to look at a map. But it's probably a couple of miles --
Q. Okay. So we're talking --
A. -- from one end of Little Bay to the next I would imagine.
Q. So a boater going down the Little Bay channel will go by 24 feet in length of mattresses while going down a mile or two of channel?
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A. Yes.
Q. Okay. That helps me. Thank you.

My next question is: Are you aware of whether any individual will be able to see the concrete mattresses from their home, or is that not something you would know?
A. Well, $I$ can't say with certainty. But certainly based on the site visits and then the SEC trips that we took to those locations, most of the homes are up on a little bluff above the water itself. So whether there's actually visibility from the home, I couldn't say with certainty because I have not been in any of the homes. But I did look at that, and certainly there will be a couple of homes on the Newington side that probably, if they walk out in their yard to the edge of their property over the shoreline and looked down, they would probably be able to see the installation.
Q. Okay. But that's different from what the view might be from their home, inside.
A. Yes.
Q. Okay. Thank you.
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My last question about that aspect of things is: I think that you had said, and I believe from looking at the exhibits, that there are no photo simulations of the concrete mattresses on the Newington side. And I was just wondering why.
A. Well, $I$ think, you know, we felt that the Newington side -- there's several reasons. One is that, first of all, we felt the Newington -- the Durham side would be representative to give us a sense of what they might look like on a shoreline. There's probably more inherent visibility of the Newington -- of the Durham side, rather, because of the shoreline configuration. The concrete mattresses on the Newington side are tucked in a little, a very small sort of, wouldn't call it a bay, but there's a little point around which the concrete mattresses will be located. So as you are traveling, you know, from north to south, you would not see the concrete mattresses at all until you're past them. So there's less inherent visibility of those mattresses from the
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water. And it really wasn't until late that we thought maybe it might be useful, but we just didn't have the time to do it.
Q. So if I understand you, am I correct in saying that you took the worst case of the two?
A. I think so, yes, in terms of potential visibility and number of viewers that would see it.
Q. Okay. And is it your estimation that from the Frink home, that they would be able to see the transition structure?
A. Well, again, I've not been at the home.
Q. Right.
A. I think it's possible, yes.
Q. Do you mean the whole structure? The top of it? Or what do you mean?
A. Again, without being on site, $I$ wouldn't want to say with certainty. There will be some intervening vegetation. We certainly proposed some landscaping in the field on a preliminary basis. But regardless of that, the visibility will be lessened somewhat by the backgrounding and presence of the
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surrounding vegetation. So it's not going to, I don't believe, really stick out and be untoward in terms of its view. But it is -and then also the use of the weathering steel will help reduce its visual presence. I think taken together, while it will be a change, when you look at it in reference to the net gain of the undergrounding for the rest, if not the entire of the remainder of the property, and the view of that meadow now being free of utility structures, I think it is a definite net gain visually.
Q. So I guess I had thought that that transition structure was inside of the tree line on both sides.
A. It is. It's right on the edge. So, again, only having seen it from the road, you know, as I said, $I$ don't think it's going to be highly visible. But I wouldn't want to say that it won't be able to be seen from the property to some extent. From the home, I can't tell you. I don't know. The windows, looking out the windows, you might have to crane your neck or stick your head out the
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window to try and see it. But again, I can't say for certain.
Q. Have you had a chance to read Mr. Lawrence's report?
A. Yes.
Q. His prefiled testimony?
A. Yes.
Q. And you are aware, I assume, that he was critical of your methodology, describing it as "overly complicated," it says, standards or whatever?
A. Yeah, I don't recall that specifically, but... yes. I mean, he -- yeah. I mean, I guess he didn't -- he did not employ a methodology, per se, himself. So I don't know whether -- a specific methodology. So I don't know where that was coming from. But a difference of opinion, difference of an approach.
Q. Okay. I'm curious as to whether in the industry, whether there's a best practices type of approach. Is your approach similar to approaches of other people? Is this something created out of whole cloth? I
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think you said it was based on BLM and some other standards. Tell us a bit so we have some context of how you derived this methodology.
A. So this methodology is derived from, dare I say, you know, over 40 years of experience with actual transmission structures and aesthetics. My graduate program, when I was studying, had a real focus on aesthetics. In fact, the landscape architecture program at Harvard was a progenitor of the GIS system of evaluating landscape change. And we were schooled in this type of analyses, in terms of weighing different factors and evaluating visual vulnerability and sensitivity. Subsequent to that, the schooling and experience over the years has allowed me to understand different ways of looking at visual analysis. So the Forest Service, the Bureau of Land Management, even the National Park Service, all employ visual analysis techniques. And slowly but surely, we've winnowed those techniques down to this methodology which has been used, for example,
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here in New Hampshire for the Antrim Wind Project. This was the same methodology we employed to perform the visual analysis for that project. This is an analysis that I think has been accepted and, you know, regarded as a standard and accepted practice in Maine.

I'm now working for the State of Maine on visual consulting for them for reviewing projects. And I think there is a certain -I think if you were to put, you know, several different visual experts in a room and look at this, I think they would all agree. You know, maybe the details they might do differently, but the methodology is fairly well established, fairly widely adopted. And to that extent, I've been asked to write an article about it for my professional magazine. So I think it has been well received, and we feel it's a robust methodology. I wouldn't sit here and tell you that any methodology is perfect. But I think we have tried very hard to, you know, create a comprehensive and as objective as
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possible means of working through the analysis of scenic resources and the Project effects on those scenic resources.
Q. You say you had a chance to look at Mr. Lawrence's report?
A. Yes.
Q. And he obviously comes to a different conclusion than you do. And I'm curious as to your opinion as to that report.
A. Well, I mean, in one sense he definitely agreed with me, that he did not find that the Project in and of itself rose to the level of being an unreasonable adverse effect from the visual analysis necessarily and, you know, focused more on some areas that he felt were worthy of further review that perhaps we did not consider for that purpose. Since that time, we've worked with Mr. Lawrence and Counsel for the Public to address those satisfactorily, I would hope, to accommodate those interests. But as I said, you know, he sort of basically focused more on road crossings and a few other views or vantage points that $I$ did not necessarily consider
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"scenic resources" by virtue of the definition.

MS. DUPREY: Thank you.
PRESIDING OFFICER WEATHERSBY: Mr. Schmidt.

QUESTIONS BY MR. SCHMIDT:
Q. Yeah, I've just got a few questions regarding your comment on the phasing of the sensitivity of the scenic resources, the cultural and the scenic. Did you also review any of those findings with any local organizations, commissions or anything, or are these all from more or less an arm's-length, your evaluation?
A. Yeah, I mean, we certainly, when there are opportunities to understand what the official position of the community might be, you know, either through planning documents or similar types of sources, you know, we certainly respect and acknowledge and accommodate that. But it's challenging to go out and work specifically with the officials. We sort of have to keep this more or less at arm's length and conduct a review independently
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from any outside influences, whether -- you know, obviously we're working on behalf of the Applicant. But before I take a job, I have to make sure that what I'm going analyze and the conclusions that I reach will support the Project, you know, not that I personally support or oppose any project that $I$ work on. So with that in mind, we still try to be objective and conduct the analysis within the parameters of the methodology and, again, the accepted practice that we as professionals use. And that does not typically involve a lot of outreach or anecdotal, you know, review with individuals.
Q. And then you alluded to the fact that if there was a trail, or something to that effect, purchased with public funds that would designate it as a cultural resource or scenic resource, the funding source itself wouldn't necessarily throw it into the category of your evaluation, that it would depend on locations, et cetera. Did you actually have people walk any of those? I heard reference to a 5-mile trail.
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What I'm wondering is if there were areas along that trail that may have visual impacts. Were those analyzed at all?
A. Yes. Members of my staff walked certain trails. They walked in the UNH woods, you know, adjacent to the right-of-way and the trail system there. You know, it's a beautiful thing when you get asked to walk the Appalachian Trail or paddle out in Little Bay. So we do our best to go on site and really undertake a representative analysis on the ground of any resource that we think might rise to the level of having an impact on it or being sensitive.
Q. So you feel by that, that you would have identified any locations, any viewing areas along the route?
A. Absolutely.
Q. Thank you. That's all I have.

PRESIDING OFFICER WEATHERSBY: Mr.
Fitzgerald.
QUESTIONS BY FITZGERALD:
Q. Good afternoon. Mike Fitzgerald. I'm the
assistant director of the Department of
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Environmental Services, Air Resources Division.

First, I believe in either your prefiled testimony or your report, a discussion of the methodology, I saw reference to what you termed as the "average viewer." I don't have the specific reference there. But could you differentiate for me, say, the average viewer who might be going to a scenic location and then going home as opposed to someone who is experiencing, you know, a significant change in aesthetics that is directly related to them, such as, for instance, the Frink Farm, and has to, you know, view that daily, all day. How do you take into consideration that difference? And does your methodology allow for some type of consideration of that type of exposure, for lack of a better term?
A. Appreciate that question. It's always, you know, a good one to ask and a challenging one to respond to in general terms. But I would say the following: We do have to make a distinction between the average viewer and the interested viewer, or someone who has,
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shall we say, a stake in whether the Project is built or not. Let me use my own personal example, if I may.

I live on a designated state and international resource. I live on something called the "Lake Champlain Bikeway." It is a very, very popular route. And I live across from a farm, a large-scale farm with a lot of crop, truck traffic, tractor traffic and so forth. Just this past year, I have a wooded area across from my property, and about 40 acres were clear-cut. And it was pretty shocking to me as a person, and to my wife. All of a sudden we were exposed to north winds we didn't have before. And we were pretty unhappy. However, we had guests who came and rode the bikeway and visited with us, and they thought the view that that clear-cut opened up was spectacular, because now if you walk to the end of our driveway, you can see the high peaks of the Adirondacks. You can see, you know, a hundred-mile view. I wouldn't have necessarily wanted that. I would have
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opposed that if I had a say in it. I am not a disinterested viewer.

In Vermont, under the review of a project like this, we are asked to consider whether the change affected by a proposed project would be shocking or offensive to the average viewer. So the "average viewer" is an accepted standard in visual analysis because it represents a disinterested viewer who would give us I think a more accurate response to a change in the environment and be able to respond to that change in a positive or negative fashion. Having said that, $I$ would never discount or disrespect the view and the change that an abutter to a project like this may or may not experience. And it is something that $I$ am respectful of and sensitive to. But if we were to poll, you know, most people, they probably wouldn't want any change whatsoever. They like things the way they are, so change is very difficult for them to accommodate. We have to take that into account.

And finally, $I$ would say, though, in
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some circumstances it becomes very clear, where a neighborhood is so dramatically affected or so substantially affected by a project, whether it's a scenic resource or not, it requires the review and attention of the Applicants and the experts. And I can certainly, you know, cite some instances, and I certainly understand the concerns in both Newington and Durham, and take those into account in the evaluation. Did they rise to level of my saying the changes would be unreasonable? No. But it certainly would probably result in a change that they would notice and for some would not be happy about.

But I will also add, finally, that one thing that's interesting about us as people I think in general is that we do adapt. And I'm not trying to say this as a -- you know, to patronize anybody or to dismiss the potential impacts to neighbors or neighborhoods. But over time, people tend to adapt to change.

We had, again, another major project in Vermont that $I$ was part of, that was one of
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the most controversial and longstanding cases before the Public Utilities Commission. It's called the Northwest Reliability Project. And there was all kinds of challenges, concerns, worries. And I actually worked for the state on the review of that project and had concerns as well. One of the striking things I found was, after the project was built, no one complained about it. They very quickly understood the change in the landscape and accepted it and, you know, managed to accommodate it in a more or less acceptable fashion.
Q. Thank you. With regards to Mr. Lawrence's testimony and report, did I understand you to say that you have been having discussions either with him or with the Counsel for the Public to sort of resolve some of the issues raised, and do we expect -- what would be the product of those discussions?
A. Well, I'd certainly respectfully ask Eversource to speak to that in an official sense. But I would say that we have been working to develop mitigation plans for all
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of the sites as appropriate and as possible that Mr. Lawrence identified both out of respect to his work, the advocacy of the Counsel for the Public, and the neighborhoods within which these areas that he identified are located.
Q. So would you expect that that would result in some sort of a document or information being shared with the Committee that would memorialize those discussions?
A. I'll let counsel speak to that.

MR. NEEDLEMAN: If I may?
PRESIDING OFFICER WEATHERSBY: Yes.
Please.
MR. NEEDLEMAN: Yes. Those were submitted as Exhibits 193 and 194. And portions of those relate to aesthetic conditions that have been proposed by the Applicant and Counsel for the Public to resolve these kinds of issues.

MR. FITZGERALD: Okay. Thank you.
BY MR. FITZGERALD:
Q. And that answer may make this question moot.

I haven't reviewed those in particular.
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But Mr. Lawrence's prefiled testimony, CFP Exhibit 4, electronic Page 4, lines -let's see here. Starting on line -- I'm sorry. Mr. Lawrence states that he found 13 areas. And the way I believe he described them was they did not rise to the -- based on -- let's see. On electronic Page 3, Line 4, Based on my review of the Project, site visits and my expertise, my opinion is that the Project as proposed will have significant adverse visual impacts in 13 locations along the Project. And he states elsewhere in his testimony that these don't necessarily rise to the criteria of the SEC rules, but he says they should be considered anyway.

What is your -- or what has been your response to that assertion, that your methodology didn't necessarily identify sites that, while they didn't rise to the criteria of the scenic resource, they should be evaluated by the Commission as a result of looking at the Project as a whole?
A. Well, as he said, and you quoted him, he agreed they did not meet necessarily the
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definition of a scenic resource. I don't know. All of them did -- not all of them. Most of them did not meet the definition of "scenic resource." So, you know, statutorily he's right, and we would not necessarily have reviewed those locations through our methodology. We were certainly aware of every single one of them. And while, you know, I may have a difference of opinion of how best to mitigate those kinds of areas, or road crossings in particular, because they are very challenging to mitigate effectively, I think that with the willing parties working together every opportunity, if he brings that up and there's a concern that should be addressed in this particular docket, then $I$ don't have a problem working collaboratively with Mr. Lawrence and Counsel for the Public to prepare mitigation plans for those areas.
Q. Okay. On Page 5 of that same document, Line 4, he states -- he's asked, In your opinion, did the Applicant's assessment provide the SEC with all the information required under SEC rules?
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And he says, No. While Mr. Raphael produced a detailed visual assessment report for the Applicant, his overly complicated methodology appears to under-represent scenic resources and to minimize visual impacts. So he seems -- and in the paragraph above that he references that he believes that the Committee -- he says the Committee should look at all visual impacts of the entire project.

Are you able to reconcile that point with him, in terms of what the Committee rules state and what is required for a visual assessment and what he thinks it should be?
A. You know, I think you could analyze every linear foot of this project, for sure. Is that reasonable or possible? Probably not. And I think there's a reason why in Maine, Vermont, New Hampshire, New York, all those states and all the Commissions, that you are equivalent with relying on rules that have specific definitions of what is to be evaluated and what is not to be evaluated. And there's a good reason for that. You
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know, having said that, would I ever object to an opportunity to make a project as amenable as possible? No. And when, you know, Mr. Lawrence brought these issues up at first, you know, I certainly responded, you know, because of the criticism, because I didn't agree with his assessment of our methodology. And I would tell Mr. Lawrence this to his face because I know Mike. We're friends. We've gone way back. You know, Mike, if he were sitting right here next to me, I would say he does not have the breadth of experience in these types of projects that I have had over the years, No. 1. And No. 2, from my experience working with him, both collaboratively and on opposite sides of the table, he, rightfully so, takes a very passionate approach. You know, when you're a landscape architect, it's hard not to look at every and consider every opportunity to make a project better. And I think that's where he was coming from. And once I recognized that, $I$ certainly wouldn't reject an opportunity to address some additional
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locations that he felt needed to be reviewed and eventually addressed, you know, through mitigation measures.
Q. So would you stick with the assessment that $I$ think I heard from you, that your report assesses the visual impacts of the Project in accordance with the rules, but that his report raises other issues that may, while they may be not specifically required by the rules, they -- you agree and the Company is willing to try to address those?
A. Yes.
Q. Is that fair to characterize that?
A. Yes.
Q. Okay. In Exhibit 51, which I believe is -Applicant's Exhibit 51, which is your report, on Page 110, electronic Page 110, you have a couple paragraphs addressing the Durham UNH campus. And I won't read the entire thing. But the gist of it seems to be that there's a lot of buildup in this area, particularly in the area of the train station. It says things like existing conditions of the visual elements in this area of the campus include a
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number of surrounding elements that are vertical in nature. It's already well established with University infrastructure, providing a sense that portions are part of the University's more utilitarian and functional areas, not focal points and gathering areas, thus it is not expected -unexpected to see utility structures, albeit some higher than those present today. But I believe you make the statement that it's sort of -- it should be anticipated that a utility structure -- a utility corridor or area should -- we should just accept that it should change, it will change over time? And how does that -- and I guess for a specific example, $I$ don't know if we can bring this up. But in Exhibit 51 -- 52, if you look at the pictures -- let me get here.

On electronic Page 19 and Page 20, and if you can just sort of toggle back and forth between those two. It's hard the way that does that. Yeah, when $I$ do it, it just appears. I don't get that -- but I would say that, you know, from a casual viewer, or in
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my view, that the imposition of poles down that track at a much higher level seem to actually draw the eye. And it seems to me that your characterization in the report is, well, this is an area that has structures already. There's a lot of vertical structures. It's infrastructure, et cetera. But this is from the bridge at the train station, which is sort of a focal point of the campus point. Certainly the athletic complex, the field house, there's a tremendous amount of traffic in this area. That seems to me to just be a pretty significant change. So could you explain your -- a little better to me your understanding -- your reasoning for why you don't think this is a significant change, why you don't think there's a significant impact?
A. Well, $I$ mean, $I$ think, first of all, $I$
wouldn't discount the fact that somebody like yourself might regard it as a significant change. But two things: One is when I put it again in the context of the setting, you know, yes, I see a historic train station.
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And that's what draws my eye. That's my interest in the view. But then $I$ see a huge parking lot. I see railroad tracks. I see, you know, utility poles that, from this view, actually, you know, again, we were talking about this earlier this afternoon, look higher and certainly more prominent in the view on the left-hand side of the picture. I see, you know, essentially a long roof line in the distance. I see a lot of stuff in there. And I think over time the weathering steel poles will sort of fade a bit, in terms of their initial prominence and drawing the eye. And I have to look at a project within its context. If none of the other structures and utility elements were present, then I would agree with you that that would be a significant change, without question. But it is definitely a change, and it's definitely not necessarily better or worse.

In my thinking, it's -- there are pluses and minuses. One is, yes, we're looking at this view, but we're also eliminating infrastructure and structures close in to the
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main crossing and where people mostly congregate and go back and forth. So, again, that's a positive when you see this. And it just -- you know, overall, you have to look at the expectation that, again, with the corridor, you know, as we discussed a little bit earlier, probably co-location in most instances, maybe not all, is the lesser of two evils if you're thinking of change in the landscape and having to establish a whole new corridor with new impacts that didn't exist there before.

So I feel it is reasonable to upgrade. You know, a utility has a certain degree of right, I suppose, and responsibility to maintain the integrity and the volume of power that is demanded in the region. And so where are they going to do that? And probably in the scheme of things, doing that within an established corridor where they've already cut the right-of-way, they always have the right to use it and maintain it, certainly factors into the consideration of that location.
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So, while I would, as I said, you know, not argue with you about your impression certainly, when I look at this within the context of the things that $I$ evaluate and the step-by-step process I look to in terms of scale, prominence, compatibility, those things we've talked about, while you might consider it an adverse change, it certainly in my mind does not rise to the level of being unreasonable.
Q. Okay.
A. I hope that answers your questions to the best of my ability.
Q. You answered it. I'm just an average guy, anyway, so...

Last I would just like to clarify. I think there's been some questioning with regards to your criteria for what were listed in your report as "state conservation areas." And as I read it, I think I understand that term to mean conservation areas that have been established in the state of New Hampshire, not necessarily established by the state.
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A. That's right.
Q. Okay. So you're addressing, no matter what the funding source, whether it was established by the town or by the Nature Conservancy or whatever they were --
A. Considered.
Q. They were considered.
A. That's right.
Q. Okay. Thank you very much. That's all I have.

PRESIDING OFFICER WEATHERSBY:
Director Muzzey.
QUESTIONS BY DIR. MUZZEY:
Q. Thank you. If we could turn to Applicant Exhibit 142, your supplemental prefiled testimony, something that we discussed earlier in the afternoon on Page 32, electronic Page 32.

The first paragraph again talks about Nimble Hill Road, the main street for the town of Newington, and then reasons why it may not be considered historic -- excuse me -- scenic. In the second sentence, doesn't have identified vantage points, no
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scenic resources outside of the Frink Farm, or unusual or compelling landscapes, et cetera.

Focusing in on the Frink Farm as a scenic resource, can you explain what makes the Frink Farm a scenic resource?
A. Well, I think just primarily it's primarily a historic resource with some scenic attributes because of the open field and the undeveloped, you know, agricultural -- well, I shouldn't say undeveloped -- the agricultural landscape around it. And I would certainly recognize that, you know, there's a local appreciation of that particular scenery, if you will. And so I think there is certainly a scenic component. I don't think that's the primary quality to that landscape. It's more of a historic farmhouse and agrarian landscape. And to the extent that's scenic --
Q. And so if we do a quick check on the rules -let's see. Where did I put the rules? Historic sites that possess a scenic quality are considered a scenic resource. So the
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Frink Farm would be an example of that?
A. Yes.
Q. Great. Okay. So how did your team then look at the other historic sites that were identified for this project? You mentioned your team worked with the historic resources specialists. How were they evaluated for their scenic qualities?
A. We only worked on ones that we knew were provided to us as being -- as having a scenic component to them. We did not, you know, analyze historic resources in and of themselves unless there was, you know, a scenic vantage point or some scenic quality associated with that.
Q. So as the scenic experts for this project, wouldn't that fall on your shoulders to analyze places for their scenic qualities?
A. Yes, and we certainly did. We looked at the Pickering Farm and we looked at the Frink Farm, obviously. We considered the historic district and the structures in the historic district. Drove to the end of Nimble Hill Road, for example, and saw some of the
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outstanding historic buildings there. But none of those had any visibility of the Project, so there was no need for any further analysis, for example, of those elements within a potential scenic or connected to a potential scenic resource.
Q. Right. I'm just looking at the list of historic resources that have been identified for this project. There are places that seem to me do overlap with visibility, but yet I don't see them on your scenic resource list. There are four individual historic properties and seven historic districts, and only the Newington Center Historic District is on your initial list of potential scenic resources that later gets winnowed throughout your methodology. And so I'm wondering if they had been evaluated by your team for their scenic values, how would that have changed your initial list that then gets winnowed?
A. Again, I think, you know, the answer is that the primary task of evaluating, you know, any visual effect on historic resources was given to the historic preservation experts. And
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our focus was more on the, you know, the scenic resources, again, with the exception where a scenic resource related -- I mean a historic resource related to a scenic resource -- i.e., being on a scenic road, adjacent to a scenic road, or one that, you know, might have a view that required, you know, an analysis to that extent. But we did not, nor were we asked to, review all of the historic resources.
Q. Okay. So you're saying that the Frink Farm has both scenic and historical values?
A. Yes. But again, the scenic value is secondary.
Q. So we also have the Alfred Pickering Farm also on Nimble Hill Road.
A. Yes, and we reviewed that.
Q. Similar landscapes. Would that also have scenic and historical value?
A. I believe so, yes.
Q. So does that appear on your list of 130-odd --
A. Yes.
Q. And given that it is on a locally designated
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scenic road, does that somehow improve the status of Nimble Hill Road as a resource, despite not being mentioned anywhere in your report?
A. What wasn't mentioned anywhere in my report?
Q. The Alfred Pickering Farm.
A. We did a visual simulation of it. But again, that farm was -- I mean, it has some scenic quality, but it did not rise to the level of, you know, a scenic asset, per se, that, you know, warranted our review in that way.
Q. I guess I'm just having trouble understanding this "rising to the value" phrase and how does one historic farm "rise" but the other historic farm does not?
A. It depends on its landscape, its presence in sort of the overall landscape of the town. You know, the Frink Farm I guess has a broader and wider viewpoint from two different roads, which, you know, being adjacent to Nimble Hill Road, you know, I guess it had a view across that field that rose to a level of concern because the line was coming right through it. The Pickering
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Farm has a line in the background and is not a publicly accessible location either. And that would also put that out of our category of review on that basis as well.
Q. So when you say "Pickering Farm," do you mean the Alfred Pickering Farm or the Pickering Road Farm?
A. I don't know the distinction between the two.
Q. Now, there's also been discussion of, $I$ believe, places such as Bennett Road, Durham Point Road also being locally designated roads. They are also within historic districts. How did that contribute to the qualities of their scenic quality?
A. Well, I mean, they're two separate elements. One, they're historic, you know, and have historic values, and the other is that it's a designated scenic road. So we would evaluate it for its scenic qualities or look at it in that context.
Q. If we look at Applicant Exhibit 51, you begin with the list of 130 -odd potential scenic places, scenic resources -- I'm trying to get to that list. If anyone knows where that
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list is before $I$ can get there, please let me know.

MR. ASLIN: It starts on Page 45, electronic Page 51 I think.

DIR. MUZZEY: Great. Thank you. (Witness reviews document.)
Q. It's Table 2. Are you there?
A. Yup.
Q. $O h$, great. So we begin with natural resources. And the only one listed is the Newington Center Historic District under National Historic Sites. All of the other ones are not -- the other historic resources that may or may not have scenic value are not listed here. Can you -- it just doesn't seem to me like that scenic evaluation happened for all of those other historic properties in the Project area.
A. Yeah. That's because, again, the bulk of the historic resources were evaluated by another consultant for the Project. We were not charged with evaluating historic resources.
Q. Oh, I'm fully aware of that, although in New Hampshire's rules, historic sites with scenic
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qualities fall under a broader category. They also fall under the broader category of scenic resources. So, thinking of the diagram, there's a little bit of overlap where we have a property that has two different sets of values. So I'm just wondering why that did not occur here.
A. What's that? Well, I think it's because the other historic districts either, A, did not have any scenic values in and of themselves in terms of relating to the Project and the Project's effect, or they didn't have visibility.
Q. All right. Just to change topics, the definition of "scenic resources" in New Hampshire also includes "towns and village centers that possess a scenic quality." Could you describe how you address that aspect of a scenic resource in your evaluation.
A. Yes. We looked at Durham Village Center. We looked at Newington Village District. We looked at Portsmouth to determine whether there was, you know, scenic qualities or
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project visibility. And, you know, obviously we did spend time relative to the Newington Village area, you know, to evaluate how the Project might affect that because there was project visibility. And so to that extent, they were looked at and reviewed as part of the overall project. But they may not, you know, for reasons I'd have to review on a case-by-case basis, either not require any review because of the lack of visibility or were being reviewed for either historic or visual effects by the historic preservation consultant.
Q. Let's see. If we skip ahead in your methodology of determining the effect on the viewer, remoteness is one of four things that you look at.
A. Excuse me?
Q. Remoteness.
A. Yes.
Q. And on Page 34 of Exhibit 51, there's various levels and descriptions of what "remoteness" is, but the highest scoring areas are two to three miles from any type of paved road or
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built environment. And I'm just wondering -with this type of project area, two areas that have been fairly densely built for some time, that would almost be an automatic fail for a resource in that category, despite being considered a scenic resource. Do you ever adjust those categories, including remoteness, based on what the prevailing scenic resource is in a project area?
A. Well, I mean, no. We have to -- I suppose that's an interesting thought. But I guess it is included in all visual analyses to reflect the difference between urban and suburban development and scenic effects in those kinds of context versus scenic effects -- I mean visual effects in areas that are less developed. So it is certainly one criterion that is standard insofar as, you know, urban and developed areas typically can accommodate visual change much more amenably than remote areas where no such development or intrusions exist currently.
Q. Also taking a look at how "scenic quality" and "scenic resources" are defined in the New
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Hampshire rules, I'm reminded of, you know, you talked about how you do things in Vermont with this concept of the "disinterested viewer" and would the disinterested viewer be shocked by something. Here in New Hampshire, "scenic quality" is defined as it means "a reasonable person's perception of the intrinsic beauty of the land form, features, human additions or alterations to the area." So it seems in New Hampshire we have the "reasonable person" who's determining scenic quality.

So, getting back to Mr. Fitzgerald's questions about the property owner versus the average person, how do you fit "reasonable person" into that with the New Hampshire rules?
A. I mean, again, we'd have to go into the semantics of the difference between "average" and "reasonable." But I think, you know, "reasonable" would mean that someone doesn't have a preconceived notion, isn't obviously or directly affected by the Project. Because I don't know, you know, how reasonable
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somebody can be when it's going to directly affect their sense of well being or what have you, you know, their resistance to change. So you really -- you know, and that's why a lot of times you would do surveys about visual preferences and so forth and so on. You really want to try to get an unbiased sense of what's this going to mean to the public as opposed to the property owner. And, you know, again, as I mentioned earlier, obviously if an area or neighborhood rises to the level of being unusually and substantially impacted, then you would certainly want to address that and accommodate that. But, you know, I think if you ask anybody, you know, do you want a power line next to your house, or do you want, you know, 40 acres clear cut right next door to you where you've lived, you know, 30 years with a beautiful forest, they would probably say no. Therefore, do we rely on a person who has a built-in stake in whether a project is being built or not? And I think if we did, most projects would not be built.
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So we have to stand back and balance sort of the need, the good, the public impression with the private, you know, concerns in that regard.
Q. So in your example of the 40 acres across the street from you, from your home being cut, would you have considered yourself to be a reasonable person in that situation?
A. No. Unh-unh. No, sir -- no, ma'am.
Q. Well, that's very honest.
A. I was pretty -- we were pretty upset.

PRESIDING OFFICER WEATHERSBY:
Director Muzzey, may I ask a follow-up question?

DIR. MUZZEY: Certainly.
QUESTIONS BY PRESIDING OFFICER WEATHERSBY:
Q. So $I$ was struggling with the same concept of the typical viewer and how to determine what's "typical." You know, people riding your bike path may be, you know, trying to train for a time trial or they may be out to smell the roses.

So you mentioned the user surveys. Am I correct that no user surveys were done in
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connection with this project?
A. I'm sorry. Done for this project?
Q. This project.
A. No, we did not do them for this project.
Q. And did you have any kind collaboration or evaluations between colleagues of what would you think would be the user here? Or was it just you decided -- how did you come to determine what the typical viewer was, other than your four criteria?
A. I mean, I think you -- depending on the resource, you know, the typical viewer would be, in Little Bay, would be the folks who come to Little Bay and do not live right next to the Project to use that resource and fish or boat or paddle and, again, without a direct interest or potential impact from the Project. That might be, you know, a
reasonable person who has nothing to gain or lose if the Project is built, per se. Then you can gauge from that what would be a reaction from that typical user. And you put yourself in their shoes as to whether this would rise to a level of being something that
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would, $A$, cause them not to want to come back or, $B$, you know, substantially undermine their experience of that resource.
Q. But, for example, for Little Bay, you may have people there who come to fish, and their focus is the water and hopefully the fish they're going to catch. But you also may have someone taking the Gundalow trip who's there not only to learn about the gundalow but to see the bay. And so people are there for different reasons. A lot of pleasure boats just go up to experience the bay. So it's hard to know what a typical user is because there's so many different types of users of many of the resources. So I don't --
A. So you've got a needle that goes this way, and you've got to try to sort of get it down to the middle, if you will, and sort of ascertain what that is.
Q. Sorry to interrupt. But did you ascertain that, or did you have -- was there like a discussion and you reached a consensus? How was that determined?
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## [WITNESS: RAPHAEL]

A. Well, we looked for, again, any examples that would help us understand how important or how noticeable currently the facility might be, or whether or not, you know, they articulate in a description of Little Bay, as I cited for Great Bay, what rises to the top as being the primary interest or concern of those users. And you do your best to estimate that or understand that. And we do in our office use the breadth of our experience in all of these projects to kind of get at that as best as we can.

MS. DUPREY: Could I follow up on yours?

PRESIDING OFFICER WEATHERSBY: GO ahead.

MR. FITZGERALD: I have a follow-up also.

BY MS. DUPREY:
Q. We were just at a public hearing the other night, Thursday night, a few days ago, with a room filled with people who did not live next door to where the Project is going to go underground across Little Bay. But like you
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said, they're users of the bay, or they live in the surrounding towns. And to a person, they were opposed to this on the basis, some on the mattresses, some on the views of the poles, others admittedly relating to environmental factors. So I was a little surprised to hear you talk, you know, about what a reasonable person was, I think, being a person who uses it, because as I said, we had a roomful of those people, and they were pretty adamant about this not happening.

MR. FITZGERALD: Could I expand on that question just a little bit, too?

PRESIDING OFFICER WEATHERSBY: Mr. Fitzgerald.

BY MR. FITZGERALD:
Q. If you would, with respect to that question, is any citizen in the towns of Durham or Newington, could they be -- would they be considered "disinterested" in your view?
A. Absolutely. You know, again at a hearing like you mentioned, you know, you got a group of people who obviously have already made up their mind or have an interest in or are
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monitoring it. Is there any gauge of the number of people who aren't upset or don't have an interest or don't think it's, you know, a major problem? How do we balance those who come out who are angry, upset or concerned with those who are not? Because they don't come out. There's no reason for them to. And this is a dilemma we face all the time in planning. I mean, I've been in situations where a very vocal few have defeated a project that the broader population has favored and supported in a general sense.

So, agreed, it's a very tough thing to get at. But we do our best from experience over time to assess, you know, the difference between the pre-project challenges and concerns and then the post-project results and reactions. And oftentimes they don't balance out. The concerns are much higher with the anticipation and not knowing what it's going to look like, what it's going to be. I mean, we're seeing representation of concrete mattresses that look like they're
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floating above the water. And when you see that, you know, it gives the impression that this is going to be horrific potentially, $I$ suppose, to some people. So people react emotionally to these types of situations, obviously.

We're trying to get to the person who's not emotionally connected or emotionally involved. We're trying to get a person that we could bring from afar or from one stretch of Newington who, you know, is disinterested and plunk them down there and say, you know, is this going to be a deal breaker for you? Is this going to be something that will change your life untowardly?

PRESIDING OFFICER WEATHERSBY:
Director Muzzey, I think we -- you were questioning and we took off on you. So please continue.

DIR. MUZZEY: No, that's great. I'm glad others had similar questions. I just have a couple more questions. Let me just find them.

BY DIR. MUZZEY:
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Q. So, looking at your simulations, some it's very clear from the before shot to the simulated shot that tree clearing is shown, but not all of them. Did they -- I'm assuming all of them accounted for tree clearing and it's just not visible? Is that accurate?
A. Yes.
Q. And how about any clearing that was done for the construction of new access roads? Is that shown in the simulated images?
A. If they would be visible in the simulation, they would have been shown, yes.
Q. And we've heard that sometimes the access roads will be restored to their previous appearance, but sometimes not. In cases where they're not, would those have been shown on the simulated images?
A. If they were visible in the simulation, yes. But I don't recall any.
Q. From the places you chose to do those views.
A. That's correct.
Q. And my final question again gets back to Applicant Exhibit 142, on Pages 4 and 5.
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There's some discussion of locally designated roads and what do they look like, what are their potential values. At the top of Page 5 there's some discussion again of Nimble Hill Road. It's described as "a resource that has some tree-lined sections, some visible stone walls, but fairly common attributes." We also know that Nimble Hill Road has at least one farm with scenic values, if not more. Elsewhere in this proceeding we've heard that there's been a lot of local planning at times, zoning, those types of local tools to actually create that type of landscape. Even at a statewide level there are certain protections in place for stone walls. These are all attributes that are valued in New Hampshire.

So to say that a road such as Nimble Hill Road, while being a locally designated scenic road, isn't going to score high because it's common, it almost seems like a penalty that a community has worked to create those types of roads, because they're common and not special and particularly scenic
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because there's a lot of them. How does the fact that a community may be working on creating those types of landscapes feed into this common evaluation?
A. Well, again, I think as I said earlier, you know, one community's scenic road is another community's everyday route. And, you know, I think there are many roads in New Hampshire that probably look like Nimble Hill Road in some respects but that are not designated scenic. I understand that the community values those roads and thus has identified them. But without any -- I mean, it's great to do that and recognize that and value the scenic roads. But the town plan gave us no guidance as to what qualities really factored into that, other than they wanted to protect stone walls and they wanted to limit clearing. There's no real evaluation of the visual quality along the road. There's no identification or elevation of why that road is scenic to them and what are its scenic qualities, other than it's a rural road in a, you know, a rural-seeming road in, you know,
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in a townscape. We have to put that in the context of other roads that are or are not scenic.

You know, if you designate a byway -- or I know in other communities they would go through a process, a planning process that would not automatically designate every Class II road as scenic, but really select which of those roads rose to the level of being highly valued and appreciated for visual scenic qualities and experiences above and beyond what you normally would expect along, you know, a suburban or exurban road of this type.

So all I had was information that I could rely on officially in the town plan and in the designation of scenic roads and was given no guidance beyond that as to why they were designated scenic, other than they were all Class II, and what values really went into the definition of that road as "scenic." You know, if you designate a byway, you've got to go through a very comprehensive evaluation of visual quality along sections
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of the route and any number of other criteria that would warrant a designation at the state level of a "scenic road." In many communities that I've done planning work with, when you designate a scenic resource, you go through a process of, you know, establishing why it's scenic, what are the qualities, and then really putting into place what can and can't happen, you know, within reason to that road.

And yes, we know we're going to retain stone walls. And I think this project is going restore any stone walls. So those will stay. There may be a little more clearing in the crossing of Nimble Hill Road, but not dramatically so. And actually, through our collaboration with the Counsel for the Public, we're going to be doing some planting plans there. So, other than that one road crossing there at Nimble Hill Road, the rest of the road will not have any visual effect from this project. And so the bulk of that scenic road will remain as is, and certainly scenic in the eyes of the town. And by the
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way, it was designated scenic with that transmission corridor already in place. So I think that was part of the --
Q. The effects of the Project weren't part of my question. It's just the way that your methodology was valuing certain resources that others in the community may feel should have ranked higher.

Just looking at Nimble Hill Road, or it could be any of the other locally designated roads either in Newington or Durham, if we took one of those roads, placed it in a more urban environment or outskirts of a more urban area, project area for this type of project -- say it was on the outskirts of downtown Manchester, and it wasn't common because we're in a urban area -- would that have gotten a higher score in your methodology in that type of scenario?
A. Possibly.
Q. So why is it now a penalty here? Because the town has worked to create more of these in this project --
A. It wasn't a penalty. I mean, I think your --
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Q. But it seems like --
(Court Reporter interrupts.)
A. No, it was not considered a penalty. It was a point of departure. I mean, I'm asked to evaluate the road and compare it within a broader context of scenery and scenic quality and scenic value. And when $I$ drive along Nimble Hill Road and I see lawns and lawn furniture and utility poles and some places that are cut and a tree line that is varied quality with weed trees in some places and nicer trees in other, it's a pleasant road. But does it rise to the level of being, you know, highly scenic when $I$ look at scenic roads in other towns and other communities? I could not come to that conclusion.
Q. Thank you. I don't have any other questions.

PRESIDING OFFICER WEATHERSBY: Mr.
Way.
QUESTIONS BY MR. WAY:
Q. Good evening. Christopher Way from Business and Economic Affairs. And yes, it is evening. A lot of my questions have already been answered, but $I$ do have a few with
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regards to the concrete mattresses. And I think, as Ms. Duprey mentioned, that came up prominently the other night in the public hearing. There was a lot of concerns, both from a visual standpoint, but also navigation, how people in the area might look towards these.

I guess just a few general questions. I was looking at your supplemental and the picture that you had there of the photo simulation that shows the mat. This is more of an engineering question. But that photo simulation, do you take into account that these are articulating as well as has been said in the construction, that they tend to fold and bend a little bit?
A. Yes, and it's very hard to see from that distance. That's why you can't really detect that.
Q. But it does figure into your --
A. We were aware of that, yes.
Q. Okay. And you mentioned that you have not had experience before with concrete
mattresses. Did I understand that correctly?
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A. That's correct.
Q. But you were aware that they have been done in other areas.
A. Yes.
Q. Have you actually seen them? Have you gone to see any areas that may have had concrete mattresses?
A. No, I have not.
Q. All right. Have you seen pictures or other photo simulations --
A. Yes, I have.
Q. -- of those as well?
A. Yes.
Q. And those seem to support what you're submitting to us?
A. Yes.
Q. As we say, we want to get this right.
A. Yes.
Q. In terms of the Newington side, you did not take a photo simulation? You did not make a photo simulation of the Newington side?
A. That's correct.
Q. I kind of understood what you were saying to Ms. Duprey. And you said it was sort of a \{SEC 2015-04\} [Day 9 AFTERNOON ONLY] \{10-15-18\}
worst case by taking the other side. But I guess what I -- there's a couple takeaways that I heard from you today, or this is one. One cannot take a situation here and necessarily apply it to a situation over here, that each case is different. So that made me pause. Then you also said that if you, in thinking about it, you thought it might have been a good idea, but you didn't have the time to do that. And then the third thing, while I'm thinking of it, because I think you raised the issue as well, is that there's photo simulations, as you say, out there that illustrate floating mattresses, or mattresses that may be probably higher than the low tide in different photo simulations. Tell me again why you decided not to do that photo simulation on that side.
A. Well, again, in this case there are similar conditions. And, you know, they're both shoreline landscapes that have very comparable visual conditions, in terms of the shoreline and the mud flats and the like. So I think at the end we felt that the one in
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the Durham side was representative. Also, we're charged, you know, to try and provide visual simulations from resources where the proposed project would have the highest visibility. And the Durham side would have the highest visibility. So we chose to do the Durham side on that basis. I felt, and we felt, that the information we had and the work we've done and the simulation we've provided was suitably representative that we could understand that the visual quality and potential effect would be, you know, very similar on the Newington side.

And then finally, again, you know, $I$
feel pretty strongly that over time the visual -- the visibility and the visual effect of the concrete mattresses -- I can't speak to the environmental or ecological effect -- but the visual effect is going to diminish. And that's because of two reasons. One is if the concrete is tinted, that will make it even more harder to see, and then over time the effect of, again, sedimentation and sea life growing on these mattresses,
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which happens I am told pretty regularly on all of these types of installations. Taken together, the presence of those mattresses is going to be noticeably diminished and less of an effect for the users of the Little Bay.
Q. And I'm not really questioning that. I'm questioning more why -- and I understand what you're saying. I'm questioning more where we took a -- we made a photo simulation of one area and chose not to on something that probably hasn't -- well, something that has not been done before with only two points. And then I'm also -- I think that the view that you're going to be having of the Newington side is going to be different than it is on the Durham side. If you had to do it all over again, given what you told us about if you had more time, would you have done the photo simulation?
A. You know, again, I think if I had to do it -I mean, again, personally, I feel -- I don't know how to quite say this. The whole visual effect of the concrete mattresses has probably been over-emphasized. And so I
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certainly didn't expect that people would zero on it to this extent. Probably, you know, it wouldn't be a bad idea. But again, we did dozens and dozens of simulations.

They are very expensive and time-consuming. So I guess you have to select which ones do you duplicate, which ones do you do to have the broadest perspective of the Project as a whole. That's not typically a decision for me to make. But, you know, I suppose if we had the time and money, we'd do a visual simulation of every resource. But that's never done and it's not realistic. So I'm not sure. I can't answer your question definitively or not.
Q. Fair enough.

MR. WAY: If I could, attorney -- if
I could just address a question to Attorney Aslin.

One of your exhibits was brought up a little bit earlier, and I think it was Counsel for the Public Exhibit 17. This was shore land at obviously very low tide. You have a boat there resting on the sand. Can
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you tell me what side of the bay that was on? MR. ASLIN: My understanding, those photos were taken from the Durham side. MR. WAY: From the Durham side. MR. ASLIN: Near the Miller, the southern Millers home. So there's Millers to the north and south of the Project corridor. Vivian Miller side.

BY MR. WAY:
Q. I don't know if we need to necessarily show it. I guess one of the questions I have, are the intertidal conditions, the flatness, are they comparable from the Durham side to the Newington side?
A. Yeah. If anything, actually, I think the Durham side has a little bit more angle and pitch at the beginning of where the concrete mattresses are going to be located.
Q. Okay. And you did -- like we said, you did not submit a simulation for the Newington side. Did you do one at your office, though, or did you start one? Or did you --
A. We did start one, but we didn't finish it. First of all, again, just didn't get to it.
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I mean, we were thinking of it, but we didn't get to it.
Q. But you started it for some reason.
A. Yeah, but we -- yeah.
Q. Okay. How far did you get on that?
A. Not far at all. We were just thinking about it, and we took a stab at it. And it was going to require quite a bit more work to do it accurately.
Q. Just tell me, too, from your experience, just to educate me, what does it take to do one of these photo simulations? What's the length of time? What's involved?
A. Well, several days --
Q. Several days.
A. -- to begin with, depending on the simulation. Obviously a field trip and the time in the field to arrange photos. Then you've got to kind of translate the engineering data into the computer environments. It's minimal three to four days per, depending on the location.
Q. All right. Thank you very much.

MR. FITZGERALD: I have one.
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BY MR. FITZGERALD:
Q. A few times during your testimony this afternoon you seemed to indicate that, in your experience, the way people view a project after it's completed versus their anticipation of the Project is significantly different. Would you attribute that to the fact that just a change has happened and there's nothing else, or that the anticipation of the change was, I think I heard you refer to it as somewhat over-hyped or overblown possibly, particularly in the case of these concrete mattresses? And are you aware of any studies or information that would support that? I mean, is this a psychological effect? Or is it, you know -how do you interpret that? How do you come to those conclusions?
A. You know, I think several things. One is I think all of us, or most of us, you know, if things are okay and we're living our life, we're resistant to change that might impact us. No. 2, in fairness to, you know, intervenors and abutters, you know, it's --
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yes, we do the simulations. Yes, we have data. Yes, we do our best to try and present what the Project's going to look like to the greatest extent practicable and possible. But it's that fear of not really knowing or not being sure of what this is going to look like, what it's going mean, what it's going to do that elevates people's emotions. And they're real. I don't deny them. But again, time and time again, I've just seen, you know, that the concerns and, you know, opposition and the level of conflict, you know, prior to a project, or contention I should say, you know, is greatly diminished once the Project is built. Often their worst fears are not realized. Often, you know, people do go back to their business, and for better or for worse, accept the change and learn to live with it. You know, I think probably all of us can speak to, you know, changes in the landscape that we've experienced or that have affected us that, you know, we've become used to. My wife and I are not as upset about the tree clearing
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anymore. We've learned to live with it. We've got other concerns to address and other interests that we want to focus on.

And I do believe there have been some studies. I also know that I've seen studies that show that clearly the distance that people live from proposed power transmission lines translate into -- correlates with a lessening of concern and opposition to them. The closer you are, the more you're going to oppose them or have concerns about them. The farther away, the less you're going to care and be concerned. So, studies have been done to demonstrate that. And I think, you know, that's human nature to kind of have that sort of concern. And it's appropriate. You know, we should be concerned.

But $I$ think, just in closing, you know, on all the projects I've worked on, you know, in my 40 years of practice, this project and this company has gone to great lengths to try and mitigate the visual effect, provide mitigation measures to property owners and abutters, made changes to the engineering
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design upon our recommendations to reduce the visual effect, and worked very hard and consciously to make this project as amenable and as best to fit as it possibly can, you know, given the change in structure height and the nature of the transmission line itself.

QUESTIONS BY PRESIDING OFFICER WEATHERSBY:
Q. That was a great segue to my last questions because $I$ have a few questions about mitigation.
A. Please.
Q. Not going to go into concrete mattresses because we talked about that.
A. Thank you. I think I'm going to be dreaming about concrete mattresses for a few days, but...
Q. So there's a lot of different types of mitigation, and a lot of them have been used on this project already. But there are some specifics $I$ just want to kind of kick around a little.

One type of mitigation that was done on another project was restoration and
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vegetation of all the road edges that were disturbed. And I know that the Applicant's agreed to do that on those road crossings that Mr . Lawrence identified. But do you think that that is something that would be appropriate to apply to all road crossings?
A. Yes, and I think it will actually happen intrinsic to the project. What I mean by that is, if you recall, you know, the field trip in Durham when we went on Frost Avenue or Cuts Drive, you saw existing vegetation along the roadside that had grown up and was providing some screening mitigation and buffering, if you will. Certainly didn't hide the tops of the structures. I'm not suggesting that. But as you came to that road crossing, you did not see a cut and clean break between the tree line and the tree line and then lawn or gravel or what have you. That vegetation has grown up over time.

I think to have some effect in efficacy in ameliorating the visibility or the presence of the Project, I talked with
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Eversource officials, and I think there's a commitment to allow re-vegetation along all these road crossings so that a more natural pattern of vegetation can come back after construction and provide some of that buffering and mitigation that existed before this project was constructed. And in fact, sometimes that's more effective than, you know, going and buying plant material at nurseries and trying to plant them in a foreign environment and establish their root system when there's already sumac and viburnum and native plants, Virginia Creeper, things of that nature, that have root systems well established, are adapted to that particular locale. And it's something I've seen in several transmission projects, where the road crossings and road edges have been allowed to grow back naturally with the native vegetation that re-grew or reseeded. And that can be a very effective mitigation measure in itself that's inherent in the process after construction.
Q. Another thing that is sometimes kicked around
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is you used both non-specular conductors for certain projects. Do you think that would be appropriate in this project as a whole or in certain areas?
A. If it's possible and reasonable, yes. We talked about that. I don't know where -- I think there's other issues related to non-specular conductors that I would leave to the Eversource experts to address. Certainly from a visual perspective it's better.
Q. Something else $I$ was thinking of when we looked at the photos of Main Street in Durham with the Dairy Bar, train tracks and all the poles, was pole consolidation. There's probably a more technical word for it. But where you can transfer some lines onto the new poles and get rid of some of the other poles. I know that's happened in a couple instances. But in many instances there's some new poles being added and the old ones are staying, and there's just sort of a cacophony look of all of the poles. And that was a really good example of it $I$ thought.

Do you think that would be an effective
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mitigation technique; and if so, are there areas that come to your mind where that may be appropriate along this project?
A. I mean, to the best of my knowledge so far, they've tried to do that wherever they can where it's reasonable or possible. I can't, off the top of my head, think of where that could be either reconsidered or altered. I think, again, they've tried to do that where it's possible and feasible to do that because of right-of-way width or nature of the individual conductors, the individual lines.
Q. Okay.
A. That's an engineering decision first and visual second.
Q. But you agree it's a valid mitigation technique?
A. Anytime we can reduce clutter in the right-of-way I think is a good thing.
Q. Do you know when this project -- I guess it's a question I should have asked the engineering group, but I didn't because I didn't think of it until visual -- whether glass insulators are being used?
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A. I don't think -- I don't know. I don't think so, but...
Q. Has that come up as part of your visual analysis at all?
A. Well, we certainly model the insulators, you know, whatever the structure would have. We don't get into the actual material. We use, you know, representative examples of the structures and then bring them in to the simulation environment to simulate them. I don't know what material they are, per se, specifically, whether they're ceramic or glass or some other --
Q. Is it your opinion that non-glass insulators would have less of a visual effect than glass? Or what is your opinion of the two types?
A. I've never really seen the insulators, you know, rise to the level of being, you know, a noticeable or highly noticeable visual element.
Q. All right. Fair enough. I have no more questions.

PRESIDING OFFICER WEATHERSBY: Mr.
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Way.
MR. WAY: One more follow-up.
BY MR. WAY:
Q. As you can probably guess, I'm wrestling with the idea of not having that other photo simulation. And I understand what you're saying about one being the worst case that would represent the other side. I'm not sure if we could use that argument if they were land structures.

MR. WAY: Attorney Needleman --
MR. NEEDLEMAN: The answer's yes.
MR. WAY: Yes. I would like to request the photo simulation of the Newington side. Thank you.

MR. NEEDLEMAN: We figured as much.
MR. WAY: Thank you very much.
MR. NEEDLEMAN: We will ask -- I'll talk to Mr. Raphael, and we'll try to figure out what it takes in terms of timing to get that produced and do it as quickly as we can.

MR. WAY: Thank you.
MR. PATCH: Madam Chair.
PRESIDING OFFICER WEATHERSBY: Yes,
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Mr. Patch.
MR. PATCH: Doug Patch. Excuse me.
In terms of the request that was just made, I would just like to note for the record, I think I asked a question about this. Mr. Hebert, in his testimony, had specifically suggested that a photo sim be done from the shoreline of what the concrete mattresses would look like. So I would ask that you at least consider asking for that. Thank you.

MR. NEEDLEMAN: May I be heard?
PRESIDING OFFICER WEATHERSBY: Yes.
MR. NEEDLEMAN: I would object to that. I think the record is quite clear and the rules are quite clear that this analysis is conducted from the scenic resource. And my understanding is what we're looking for here is a view sim similar to one that was done for the Durham side, but it would look towards the Newington side from the scenic resource and not from private property that isn't accessible to the general public.

PRESIDING OFFICER WEATHERSBY: Yes, Mr. Way.
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MR. WAY: MY request would be from the scenic resource, the same sort of conditions that were done for Durham.

PRESIDING OFFICER WEATHERSBY: I think we agree with Attorney Needleman, and at this point we'll not be requesting a simulation from the land over the mattresses into the bay.

Does any Committee member have any further questions? Attorney Iacopino, do you have any questions?

MR. IACOPINO: At the risk of angering everybody, $I$ just have a couple.

QUESTIONS BY MR. IACOPINO:
Q. Your process that you actually use when you create these photo simulations -- did you use Colorforms when you were a child?
A. Yes.
Q. That's the way I seem to think about these things. You're superimposing on the existing photograph additional conditions. So I assume that you have to have an accurate initial photograph; correct?
A. Correct.
Q. And I assume you have to take a transit out
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there or something to get scale and measurements of what's in the photograph; is that correct?
A. No. Actually, the camera, again, records the GPS information, the coordinates and the location. And then using that data, we can place the point into the model from which we are conducting or developing the simulation. We factor in the height above, you know, the ground plain or the water level the simulation was taken in, and then it's modeled within an accurate three-dimensional wire frame model of the terrain or the landscape within which you're going to place the structure.
Q. So you rely on a specialized camera rather than transit or some --
A. Right, right. Yeah, we don't typically use a transit.
Q. You also have to make sure that the color is accurate in the existing photo; correct?
A. Yes.
Q. Now, when you superimpose, say, a taller pole into the existing photograph for the
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photograph of the existing conditions, is there a menu or something that you go to to say I need a self-weathering, 105-foot pole to be put in this location on the photograph?
A. Well, the silhouette, or the three-dimensional model of the structure, is brought in to the, again, the simulation. The color is something that we would take from a representative example of a self-weathering steel pole from another photo or, you know, accurate representation of that. So it would match the color and the environment, and then shading and shadow is added in relative to what the site conditions are.
Q. Okay. But is there a menu that you go to? For instance, I need a self-weathering pole or I need an H-frame. In other words, does the software that you're using, is that the data that you put in --
A. We have to get this --
(Court Reporter interrupts.)
Q. -- that you put in, $I$ want an $H$-frame or $I$ need a monopole?
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A. I wouldn't say there's a menu. But, again, the engineers for the Project provide that CAD model to us.
Q. Is that the case with the concrete mattresses as well?
A. No. We modeled those based on the technical engineering drawings of them.
Q. And those are the drawings that we received as part of this proceeding?
A. Yes.
Q. Okay. Thank you.

PRESIDING OFFICER WEATHERSBY:
Nothing else from the Committee? Attorney Needleman, redirect.

MR. NEEDLEMAN: Just a few questions. Thank you.

REDIRECT EXAMINATION
BY MR. NEEDLEMAN:
Q. Could we pull up Exhibit 51, please.

When Ms. Mackie was questioning you, she asked you about Hicks Hill in Madbury and suggested that you had missed that as a scenic resource. Do you recall that?
A. Yes.
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Q. We had chance to look at the break. And if you look at PDF 58, is it correct that you actually did consider Hicks Hill in your analysis?
A. Yes, we did.
Q. And when Mr. Aslin was questioning you, he suggested -- or he pointed out that Route 108 is a designated road, and you couldn't recall analyzing 108; is that right?
A. Right.
Q. But there are multiple references in your report to something called, quote, Mills Scenic Byway, close quote; is that right?
A. That's correct.
Q. And is that, in your understanding, Route 108?
A. Yes. I did not know Route 108 as a scenic byway, as Route 108 Scenic Byway. We knew it as the Mill Road, but...
Q. And then one last set of questions going back to the questions that were asked about Mr. Lawrence's work as it relates to your work. His analysis identified 13 locations of concern from his perspective; is that
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right?
A. Yes.
Q. And setting aside any disagreement you have with Mr. Lawrence about whether those are scenic resources or not, is it your understanding that Mr. Lawrence indicated that, if mitigation was done in those locations -- and in particular, his focus was on planting plans -- he thought his concerns could be addressed?
A. Yes, that's correct.
Q. And as a consequence of that, you and Eversource engaged in a process with Mr. Lawrence after the technical sessions to identify ways to address the concerns he had through planting plans at those 13 locations.
A. Yes, that's correct.
Q. And what resulted were the proposed conditions that Eversource and Counsel for the Public submitted to the Committee of dealing with that issue; is that right?
A. That is right.
Q. And is it your understanding, based on your work with Mr. Lawrence and Counsel for the
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Public and Eversource, that those conditions that have been submitted address all of the locations of concern that Mr . Lawrence had?
A. Yes.
Q. Nothing further. Thank you.

PRESIDING OFFICER WEATHERSBY: Okay. Thank you. Thank you, Mr. Raphael. You're excused.

Given the hour, I don't think we'll start with Ms. Widell. Thank you for being ready to go. We'll resume tomorrow at 9:00, and we'll have examination of Ms. Widell, and hopefully Mr. Selig and Mr. Hebert as well tomorrow. I think everyone has the new status report, new order of witnesses.

So have a good evening and we'll see you all tomorrow.
(Whereupon the Day 9 Afternoon Session was adjourned at 5:53 p.m., and the hearing to resume on October 16, 2018 commencing at 9:00 a.m.)
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[WITNESS: RAPHAEL]

C ERTITICATE
I, Susan J. Robidas, a Licensed Shorthand Court Reporter and Notary Public of the State of New Hampshire, do hereby certify that the foregoing is a true and accurate transcript of my stenographic notes of these proceedings taken at the place and on the date hereinbefore set forth, to the best of my skill and ability under the conditions present at the time.

I further certify that I am neither attorney or counsel for, nor related to or employed by any of the parties to the action; and further, that $I$ am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

Susan J. Robidas, LCR/RPR Licensed Shorthand Court Reporter Registered Professional Reporter N.H. LCR No. 44 (RSA 310-A:173)
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