STATE OF NEW HAMPSHIRE

SITE EVALUATION COMMITTEE

June 20, 2017 - 9:00 a.m. **DAY 18**
49 Donovan Street **Morning Session ONLY**
Concord, New Hampshire

{Electronically filed with SEC 07-05-17}

IN RE: SEC DOCKET NO. 2015-06
NORTHERN PASS TRANSMISSION - EVERSOURCE; Joint Application of Northern Pass Transmission LLC and Public Service of New Hampshire d/b/a Eversource Energy for a Certificate of Site and Facility (Hearing on the Merits)

PRESENT FOR SUBCOMMITTEE/SITE EVALUATION COMMITTEE:

Chmn. Martin Honigberg *(Presiding Officer)*	Public Utilities Comm.
Cmsr. Kathryn M. Bailey	Public Utilities Comm.
Dir. Craig Wright, Designee	Dept. of Enrivon.Serv.
Christoper Way, *Designee*	Dept. of Resources & Economic Development
William Oldenburg, *Designee*	Dept. of Transportation
Patricia Weathersby	Public Member
Rachel Whitaker	Alternate Public Member

ALSO PRESENT FOR THE SEC:

Michael J. Iacopino, Esq. Counsel for SEC
(Brennan, Caron, Lenehan & Iacopino)

Pamela G. Monroe, SEC Administrator

(No Appearances Taken)

COURT REPORTER: Cynthia Foster, LCR No. 14

I N D E X

WITNESS PANEL	DENNIS MAGEE ROBERT VARNEY LEE CARBONNEAU SARAH BARNUM JACOB TINUS	PAGE NO.
(Resumed)		

E X H I B I T S

P R O C E E D I N G S

(Hearing resumed at 9:00 a.m.)

PRESIDING OFFICER HONIGBERG: Good morning, everyone. We're here to continue questioning of the Environmental Panel. Mr. Walker, I think there was a scheduling thing you wanted to put on the record quickly?

MR. WALKER: Thank you, Mr Chairman. Mr. Tinus has a scheduling conflict this morning. He will be here this afternoon. So, obviously, if anybody has questions for him, he will be here this afternoon and Friday.

PRESIDING OFFICER HONIGBERG: We'll adjust. If there's someone we reach who has questions for Mr. Tinus we'll make sure that they get an opportunity to do that when he's here.

MR. WALKER: Thank you.

PRESIDING OFFICER HONIGBERG: Ms. Manzelli. Ready to go?

MS. MANZELLI: Yes.

PRESIDING OFFICER HONIGBERG: You may proceed.

MS. MANZELLI: Thank you.

CROSS-EXAMINATION CONTINUED

BY MS. MANZELLI:

Q Good morning, Ms. Carbonneau.

A (Carbonneau) Good morning.

Q I want to start this morning talking about wetland restoration. On page 8, beginning on line of 9 of your Supplemental Testimony. This is Applicant's Exhibit 98. You state that almost all of the temporary wetland impacts are associated with the placement of timber mats which upon removal typically require only minor active restoration efforts.

So is it fair to say that you think that restoring over 5 million square feet of impacting wetlands is a minor effort?

A (Carbonneau) In each individual location, yes. Typically, the restoration needed to reestablish vegetation in that location is fairly minor.

Q Approximately 1400 restoration sites in almost 5 million square feet, wouldn't you agree that this is more than a minor restoration job?

A (Carbonneau) Well, I guess there's a couple different scales to look at it. The area of approximately 130 acres of temporary impacts will require some, potentially, some active

restoration, but the magnitude of the efforts at any given location are typically very minor restoration.

Q So I want to explore with you the contours of the restoration plan. Is the plan to remove the temporary impacts and to restore each of the temporarily impacted wetlands exactly to their preconstruction conditions?

A (Carbonneau) Not exactly. The restoration will remove the temporary impact, impacting feature, grades will be restored to match what was there, and to tie into the adjacent grades which in most cases are not too far away, and to reestablish vegetation that is appropriate for the wetland, is native to the wetland and set the stage for the eventual restoration of all of the functions and values.

Q So the restoration that the Project is going to do is limited to reestablishing the preconstruction contours; is that correct?

A (Carbonneau) No. It also includes adding a native seed mix where necessary. In many cases, it's not, it may not be necessary to add seed mix. It all depends on how long the area has

been impacted and in what season the impact has occurred. So if revegetation is not going to happen clearly immediately based on just removal of a timber mat, for example, then a native seed mix will be placed that's appropriate.

Q And what we're looking at here on the screen is Applicant's Exhibit 75 Bates stamped APP 44449. This is the DES recommendation, and this is their condition that addresses what you're speaking to, right?

A (Carbonneau) That's correct.

Q So correct me if I'm wrong, you're going to use a seed mix, not necessarily to replace exactly the vegetation that was there.

A (Carbonneau) Yes. That's correct. But there will be typically a seed bank still in the soil that will represent the vegetation that was there. The seed mix itself is something that the Natural Heritage Bureau must approve. It must be native, and they must agree that it is appropriate for the conditions. So they will be approving any seed mix that is used, and it will contain, obviously, native wetland plants.

Q Now, what about the potential for reimpacting

these temporarily impacted areas? Will Northern Pass have to access or cross any of these areas in the future for right-of-way maintenance?

A (Carbonneau) Yes. That's possible.

Q And for line or structure repair?

A (Carbonneau) Yes. Also possible.

Q And for decommissioning?

A (Carbonneau) Presumably.

Q I want to revisit a topic we talked a little bit about which is the prospect of either the mats sinking in these deep organic soils that are being crossed or the prospect of there being an area where a mat was not placed that machinery drives over and causes rutting.

In either of those situations, my understanding is that based on the natural resource mitigation plan which is Applicant's Exhibit 1, quote, "In the event that additional soil is needed to meet grades, commercially acquired wetland topsoil or salvaged wetland topsoil will be evaluated for project use."

Do you recall that quote? I can put it on the screen if that would be helpful.

A (Carbonneau) No. That sounds right.

Q This is Bates stamped APP 21326.
So in a little bit more laymen's terms, the soil gets smushed down and so it's not at the grade that it originally was. When the mats are pulled out or when the equipment stop driving over and making a rut inadvertently, then either commercially acquired wetland topsoil or salvaged wetland topsoil will be filled back in to bring it back up to grade?
A (Carbonneau) That may not happen immediately. In some cases, a rebound effect does occur and you want to give the wetland that opportunity to rebound, but at some point, yes, the grades should be reestablished.
Q In some cases this could be several feet deep, right? The compression?
A (Carbonneau) That's not really been my experience so far, but I guess that's possible.
Q How tall are the mats?
A (Carbonneau) It depends, I guess. I'm sure they vary somewhat in size. There's typically a layer of boards over a timber, and I don't know the exact dimensions of the timber. It could be a 4 by 4. Could be 6 by 6. Could be larger

than that. There's a variety of manufacturers that make timber mats, and they probably vary somewhat in their height.

Q But you testified earlier that in some locations, mats will need to be stacked.

A Right.

Q And it's not as if they're stacked into the air. Vehicles won't be able to drive over them in that case. They're going to be stacked because they're getting smushed down into the soil.

A (Carbonneau) Correct. These timber mats are used by pretty much every construction project that needs to cross a wetland, and they're an acceptable way, standard management practice to be used.

Q So when the mats get smushed down or when a rut is inadvertently created by a vehicle, in your opinion doesn't that change the wetlands function values?

A (Carbonneau) It depends. Depends on the magnitude of the impact, depends on whether the impact is restored. Because restoration is required, then ultimately there should be no measurable effect on the functions and values of

the wetland.
Q So let's talk a little bit more about those restoration details. Is there anywhere in the Application that specifies on a site-by-site basis which of the wetlands are expected to have a rebound effect, and, therefore, won't be filled right away?
A (Carbonneau) No. The wetland mitigation plan includes information about restoration. To the extent that deep organic soils may be more susceptible to compaction, those have been called out, and although they're not regulated differently by DES for then any other wetland area and restoration will be required there as in every other location, the federal government makes an assumption that there could be some portion of that rebound that does not take place, and they proactively require that you include mitigation for that.
So there's the possibility. We haven't quantified exactly where that is. The federal government sort of does that for us.
Q So the answer is no. There's no where in the application that contains site specific

information on a wetland by wetland basis about which wetlands are anticipated to have a rebound effect?

A (Carbonneau) We have not called out to my knowledge in the Application exactly which wetlands had the deep organic soils. We have that information, but I'm not sure it's in our Application materials.

Q And, similarly, do you have a wetland by wetland description of how long each wetland is anticipated to be impacted? You mentioned the duration of the impact factors into the restoration. So has that been specified?

A (Carbonneau) No. We do not yet have a detailed construction schedule from the contractor so we couldn't have anticipated an answer to that.

Q And, similarly, there hasn't been calling out of during what season any given wetland would be impacted? That was another factor you mentioned should go into the restoration.

A Correct. We don't know at this time for any given location exactly when the impact will occur. The goal for wetlands is to do as much of wetland crossing in winter under frozen

conditions as possible.
Q And, similarly, for the seed mix, there isn't a wetland by wetland site specific recommendation on which seed mix to use, is there?
A (Carbonneau) There is not.
Q Now, assuming, because there's no site specific recommendation for seed mixing, there's no site specific recommendation or expectation on which soils will rebound, there's no site specific information on the seasonality or the duration of the impact, assuming then that the purported temporary impact were to become a permanent impact, none of that has been accounted for in the wetland assessment, right?
A (Carbonneau) These temporarily impacted areas are considered to be just that. Temporary impacts by New Hampshire DES, and the restoration requirements and the standards for restoration are contained within the DES approvals for the Project as permit conditions. So there's no expectation that these will be permanent impacts except by the federal government which makes an assumption that there will be some temporary impacts that are

permanent, and, therefore, they require up front to include some of that in the mitigation package which we have done.

And this is very typical of all of the transmission projects I have worked on in the past ten years. They're all handled the same way. In fact, we were asked to provide plans that are similar to what we have done in the past, and this is typical.

Q So if, I'm asking you to make an assumption here. If any of the temporary impacts were to become permanent impacts for whatever reason, then am I correct to understand that that would require additional permitting from DES, and that would occur at that time that the impact was realized to have become permanent, right?

A (Carbonneau) Yes. There's a monitoring requirement. So if the restoration work in these temporarily impacted areas is found to be insufficient or there's an additional impact, then there is either further restoration requirements, perhaps DES would have an opportunity to include it as more of a permanent impact and require additional mitigation, if

that's appropriate.
Q As we discussed last week, that would not involve the Site Evaluation Committee or any of the parties to this matter.
A (Carbonneau) Well, it's not something that we anticipate happening. So I don't really know exactly how it would be handled. But, presumably, it would be a very small change in the Project that would not require additional SEC approval perhaps.
Q Now, let's talk about restoration plans. There will be about 1400 stream and wetland restoration sites, right?
A (Carbonneau) I don't have the exact number.
Q Let's look at Exhibit 1. This is also from the Wetlands, River, Streams, and Vernal Pools, Appendix B. This is a chart that you've prepared and submitted, and we just have a couple pages of it here. Do you recognize this chart?
A (Carbonneau) Yes.
Q So if we had all the pages of this chart, would it sound correct to you that there would be about 1400 locations?

A (Carbonneau) The restoration areas would be just those where there's actually a number in the temporary impact column.
Q Okay. Does it sound correct to you that there's about 800 wetland restoration sites?
A (Carbonneau) I don't know the number exactly.
Q Do you know if it's more or less than a thousand?
A (Carbonneau) I don't know precisely. These are in some cases small segments of a segment of a wetland.
Q So you have absolutely no idea how many wetland restoration sites there are on this Project?
A (Carbonneau) The restoration sites are typically a narrow corridor through a segment of a wetland and the quantity isn't as important, the number of actual restoration locations is not as important as the way they get restored which is a requirement that they all be restored. So the exact, I have not calculated the exact number.
Q And does that mean you also have no idea how many vernal pool restoration sites there are?
A (Carbonneau) There are many fewer vernal pools. I think temporary impacts to perhaps 20 or so of

those. I don't know the exact number.
Q Would the number 42 sound accurate?
A (Carbonneau) I'm not sure.
Q Let's look at Applicant's Exhibit 1. This is Bates stamped APP 002011. So you see there it's 42 vernal pools?
A (Carbonneau) I do.
Q Okay.
A (Carbonneau) Some of which have now been avoided.
Q Okay. And I do recall you testified about that earlier. I'm sorry I forgot that. Do you remember how many have been avoided?
A (Carbonneau) I don't recall the exact number. Two of the, there are three high quality vernal pools that were identified originally as having temporary impacts. Two of those have now been avoided. So it's one high quality vernal pool. The others are not high quality vernal pools.
Q And we'll talk about high quality a little bit later, but just real quickly here so that I can understand. When you say high quality, that's according to your analysis, right?
A (Carbonneau) We evaluated that based on a

methodology that was available at the time by some vernal pool experts in Maine, and we applied that methodology to our vernal pools. So it was an acceptable method for determining which vernal pools were high quality.

Q Acceptable to you.

A (Carbonneau) And to the agencies that approved our application materials.

Q And are you making an assumption that the methodology was acceptable to them because DES recommended approval of the permits?

A (Carbonneau) The USEPA was the original agency that asked us to make a determination of which were the high quality vernal pools. They said, they specifically said we are not going to tell you what method to use, but we provided them with the information, and they have not said that that was inadequate so it was the best method available at the time in our opinion.

Q Do you know how many stream restoration sites there are?

A (Carbonneau) I can't say sitting here right now the exact number of stream restoration sites.

Q Does about 600 sound accurate?

A That's possible.
Q Now, we talked earlier the sequence of events. You filed your original Wetlands Application, and then in May of 2016, the Department of Environmental Services made a, my characterization, rather large Request for More Information. And then after May 2016 through to quite recently, you submitted various materials to respond to that request, right?
A (Carbonneau) Correct.
Q Okay. So in number 13 of the Request for More Information from DES, they asked for detailed restoration planting plans for temporary wetland stream and vernal pool impact areas, right?
A Yes.
Q Now, you haven't provided 1400 site specific wetland restoration plant, have you?
A (Carbonneau) We have not. We have provided detailed information about what is required to restore locations that have been temporarily impacted, including planting plans, seeding information, for several different general types of wetlands and stream impact areas but not a plan view set of every location. That would be

highly redundant because most of them would look identical.

Q But you didn't provide even a single plan, did you?

A (Carbonneau) The locations for all of these are already on the plans. They are identified as temporary impact areas on the plans so the locations of all of the restoration areas are on the plan set already. What we didn't do is redo all of those plans showing that this is the restoration area and call out the same method of restoring them on every sheet. We did not do that.

Q But what I'm asking is you didn't even do that on one sheet, not even for one wetland restoration site.

A (Carbonneau) No.

Q And when you provided information about wetland restoration, did you provide photographs of existing conditions for each of the 1400 restoration sites?

A (Carbonneau) We did not. Our application materials included photos of all of the permanent wetland impact areas as well as

representative wetlands that were selected based on their values as highly functioning wetlands. We asked the New Hampshire DES if they wanted photographs of every temporarily impacted wetland, and they indicated that that was not necessary. We did not need to submit that with our application materials because essentially most of the photos of, the ground photos of a wetland area kind of start to all look the same after a while, and we did not provide that. We do have them, however.

Q Did you provide logs of existing soil conditions for each of the 1400 restoration sites?

A (Carbonneau) We have a Wetland Data Sheet for every wetland in the Project area, and it includes some information about soils, vegetation, hydrology, how the wetland was flagged, et cetera. So we do have a Data Sheet for every wetland that the Project will impact.

Q Does it include the exact type of soil?

A (Carbonneau) No. It includes information about whether it's organic or a mineral soil and other information about whether it's saturated or not saturated. It's standard field data that we

would collect for any Wetland Project.
Q And you haven't done any vegetative plots for any of the 1400 restoration sites; is that correct?
A (Carbonneau) We have vegetation plot data for wherever we collected US Army Corps of Engineers Data Sheets following their protocol which includes a list of all dominant plants for the most part. Those don't necessarily relate specifically to a restoration area per se, but some of them probably overlap restoration locations.
Q And you mentioned earlier that you would be restoring the grades, but I haven't been able to put my fingers on the exact topographical contour for every one of the 1400 restoration sites.
A (Carbonneau) There's Lydar data for the entire Project area. I believe it's at least one- or two-foot contours which is fairly typical and appropriate, but for the most part, we're talking about relatively small impact areas that generally don't involve changes to the grade. Some of them may involve changes to the grade

that they would tie into the existing grade on either side, and in many cases that's only 16 feet away on the other side of where a timber mat may have been.

Q So I'm going to show you a submission that you made in January of this year. This is the cover page. This is one of the submissions that you made to the Department of Environmental Services in response to their May 2016 Request for More Information. Are you familiar with this filing, I assume?

A (Carbonneau) Yes.

Q And part of what it enclosed is a four-sheet set of restoration notes, right?

A (Carbonneau) Yes.

Q We're going to look at page 3 of 4 of that. It's a large sheet. I don't think the ELMO can get it all in a legible way, but here just to identify for you, this is page 3 of 4. I don't have a reference for this within the exhibits to the Committee. I'm trying to work with the Applicants to identify whether it's been filed or not. If it hasn't, then we'll file this as an exhibit.

PRESIDING OFFICER HONIGBERG: Okay.

MR. IACOPINO: Why don't you identify it a little more specifically for the record?

MS. MANZELLI: Sure. I'd be happy to. Can you put the title block up on?

BY MS. MANZELLI:

Q So this is an enclosure to the January 25th, 2017, letter from Normandeau Associates regarding the Joint Application of Northern Pass Transmission, LLC, and Public Service Company of New Hampshire d/b/a Eversource Energy. Further Responses to New Hampshire DES Progress Report.

It's a letter of a few pages that encloses several items including a four-sheet set of restoration notes. In particular, we're looking at page 3 of 4.

Can you show me the title block, Nicole? Which is titled Wetland Restoration Notes/Standing Water Construction Notes, and it's dated 1/24/2017.

So do I understand correctly, Ms. Carbonneau, that this is what the contractors who are in charge of implementing the restoration will have with them when they're in

the field working?
A (Carbonneau) They will have a very large set of notes, but these are the ones that are specific to wetland restoration.
Q Okay. I'm sorry. I didn't mean to interrupt you.
A I was going to say, and there are other notes elsewhere in the notes sections that apply somewhat to restoration areas, but this dictates sort of specifically what they would do.
Q And I'm interested in your use of the word "specifically" because as I review this sheet here, and I understand the way it's on the screen it's not legible. We can zoom in on any of the sections if you like.
Am I right that there's nothing on this sheet that is site specific to any particular of the 1400 restoration sites?
A (Carbonneau) That's correct. It applies to all of them generally.
Q So I want to try to understand the plan for restoration by analogizing to the poles in this case. You understand, of course, this Project involves a lot of poles, monopoles, lattice

towers, et cetera, right? I mean, that's the gist of the Project. Poles and strings.

A Yes. Installing new structures.

Q So with respect to wetland restoration, isn't it as if you've said okay, we're going to have X number of poles, and they might be monopole, they might be lattice. They might be anywhere between 75 and 150 feet tall, and we'll tell you the exact specifics at the time that we build them.

A (Carbonneau) No, I disagree with that. This is, we're talking about placing timber mats for the most part on a wetland. They get laid down on top of the vegetation. When they come off, in many cases the vegetation springs back. If it doesn't or they've been down too long during the growing season and more vegetation is needed or if there are small ruts -- don't forget these timber mats are spreading out the weight of the equipment. So minor regrading may be necessary.

The Environmental Monitor is responsible for determining exactly what happens because it's going to vary. It's going to vary depending on how long the mat is in place, what

time of year it was installed. In some cases, there actually may be no active restoration activities needed at all. But where there is, the Environmental Monitor will help apply the right remedy in that given location, and it will vary across exactly what needs to be done.

But these are going to be wetlands that are restored within an active right-of-way. Vegetation management is going to continue to occur. There won't be a restoration that is going to end up becoming like a mature forested wetland. These will be wetlands that will function within an existing right-of-way that is maintained and visited as they are now.

Q Let's talk about, in particular, replanting. So in Section A-5 of a different set of restoration notes, your response is that live stakes will be plant the assumptions rate of 500 per acre in some locations, and then in a different section you say 100 per acre in other areas. That's correct? 500 and 100?

A (Carbonneau) I don't recall the 100 per acre.

Q Okay. I think we have that exhibit for you. Just a second.

MR. WALKER: Not to interrupt you, but that prior exhibit was Exhibit 74.

MS. MANZELLI: Thank you. Do you have a Bates stamp reference?

MR. WALKER: I do. It's APP 44409.

MS. MANZELLI: Thank you.

BY MS. MANZELLI:

Q So here we have Bates stamped number APP 35059. You can see the reference to the 500?

A (Carbonneau) I'm not sure which document this is from.

Q So you see here this is from the July 12th, 2016, submission from you to the Department of Environmental Services. Does that look familiar?

A (Carbonneau) Yes.

Q So if we can turn to the back to the reference and you could just confirm that your statement is in some locations replanting will be 500, a rate of 500?

A (Carbonneau) For a typical stream crossing location.

Q Okay. And then if we can flip to the other reference, Nicole?

Same document later on, you can see the reference there to 100?

A (Carbonneau) Yes. That's for a different wetland type.

Q Okay. So I wanted to clarify for everybody. So when you're using the word stake, this is just, as I understand it, a woody cutting prepared for planting at a restoration site or in connection with other earth work projects, right?

A (Carbonneau) Yes. It's live material that gets installed. It's usually woody shrubs or trees.

Q Okay. What is your reference for these planting densities?

A (Carbonneau) The reference for the 500 per acre is -- I can't recall off the top of my head, but I know we had a reference for that. That's a streamside restoration although we don't expect that there will be a complete elimination of streamside woody vegetation during the construction of the Project. It's used in other documents, restoration documents, and I can find our references for that. I don't have them handy at the moment.

The 100 shrubs per acre is a much lower number. That we probably don't have a reference for, but, again, installing woody vegetation that's going to be routinely cut or spending a lot of time nurturing such plants in an actively managed right-of-way seemed like a lower density was more appropriate. Just, it's going to be an early successional plant community, regardless of what you plant there.

Q Are you aware that, for example, the USDA NRCS Engineering Field Handbook recommends 2- to 3-foot spacing for live stakes?

A (Carbonneau) I think that the context might be different. We're not talking about regrading and establishing a new stream bank in this case. Streams will be spanned. There may be locations where there will be a gap where woody vegetation has been eliminated due to a timber mat crossing, for example, in which case we would want to make sure we have live stakes there available to that, but we're not rebuilding or restoring a stream. So I think this is a little bit of a different application. This is where there's no vegetation at all. And we're

expecting that there will be lots of existing vegetation that's going to become reestablished as well.

Q So in summary to what you just said, your opinion is that this reference doesn't apply to this Project at all.

A (Carbonneau) In most locations, I don't know that it would apply.

Q Now, assuming that it did, this essentially calls for a three-foot spacing which would yield about 4000 stakes per acre. Does that sound right?

A (Carbonneau) Sorry. I'm not in a position to do the math in my head right now.

Q So three-foot spacing. That's 3 feet times 3 feet over an acre. It's 43,560 square feet. It comes out to 4,840 stakes per acre if you use this method.

A Okay.

Q So I'm asking you to make an assumption. Would this method call for 4000 stakes per acre in comparison to your 500 or 100 stakes per acre?

A (Carbonneau) Sure. I can agree with that. But, again, I don't think it's necessarily

appropriate for the project that we're working on, and furthermore, New Hampshire DES has approved our restoration plans, and they found them to be in compliance with their expectations.

Q Now, my understanding is that the Department of Environmental Services recommended approval by the Site Evaluation Committee, correct?

A (Carbonneau) Correct.

Q Now, I wanted to go back to our discussion about the right-of-way. We talked last week about your -- these are my words so correct me if I'm misstating your testimony, but you are constrained to work in the right-of-way because you couldn't, you didn't have rights, you didn't want to trespass outside the right-of-way. Is that essentially correct?

A (Carbonneau) We confined our field investigations to what we were legally allowed to traverse.

Q And that for some aspects of wetland mapping, not for wetland functions and values but just for mapping of wetlands, you did extend beyond the right-of-way with some desktop tools.

A (Carbonneau) Yes, but we also used those desktop tools in our functions and values assessment. We did not, we had those maps in the field and we were doing both activities. We had aerial photos while we were deliberating, and we also had those same aerial photos while we were doing functions and values assessment.
Q Right, and then there came a later time when you extended your wetland mapping through desktop references and you did not also update your functions and values.
A (Carbonneau) Correct.
Q So what about the impacts to the portions of a wetland complex outside the right-of-way that arise because of the activity in the right-of-way? Does the mitigation proposal account for that?
A (Carbonneau) It doesn't. We expect that the impacts of the Project will be confined to the right-of-way where the actual work is taking place and that the application of Best Management Practices will confine those impacts to the right-of-way and to the work areas.
Q Are you aware of DES's rule that 75 percent of

wetland vegetation must be successfully reestablished for a restoration job to be called done?

A (Carbonneau) Within two years of the construction activity which is, yes, I'm aware of that, and it's one of our permit conditions.

Q And you testified earlier that, again, correct me if I'm mischaracterizing your testimony because I'm not trying to. That in some locations it would be, the maximum would be three years from the time the first construction activity occurred until the time that the restoration was done.

A (Carbonneau) Well, the restoration doesn't begin until the construction activity is complete.

Q Yes.

A (Carbonneau) And that's when the restoration time clock starts.

Q Right. So I remember now that the three years maximum was the maximum time that the temporary impact could be in place and then restoration would begin.

A (Carbonneau) That's possible. Yes.

Q So then what we're looking at is two years after

that time, you need to have 75 percent of vegetation reestablished.
A (Carbonneau) Correct.
Q So if at that time, within two years, you have 75 percent of vegetation established and only 75 percent, doesn't that mean that the rest of the 25 might never reestablish and that would never be regulated or monitored in any way?
A (Carbonneau) We actually have to monitor for three years so we have standards we need to meet after two years, but we continue monitoring. If DES is not -- we have to submit, we, the Project needs to submit monitoring reports with photographs and assessments of the restoration, and DES has to approve those. If they find for some reason that those don't meet their expectations and there's lots of different ways to calculate what's 75 percent cover. It could be very clumpy. It could be very well distributed. If that's appropriate, in some cases wetlands don't even have 75 percent cover because they've got interspersion with water that limits the amount of vegetation. So there's some judgment call there, and the DES

will have the final word on whether the restoration is successful.

Q And their final word, if 75 percent of the vegetation is successfully reestablished is extremely likely to be that that particular restoration is done, right?

A (Carbonneau) I would say unless there's some other issue like invasive species are present or some other reason that they would -- or it appears that the soils are still unstable, then they would not approve it, but 75 percent cover is what's specified in their conditions.

Q So if the only issue is that 25 percent is not revegetated, then likely that restoration site will get the signoff, and that means if you've gone past the three years' monitoring requirement, nobody is ever going to come back and check on that 25 percent, right?

A (Carbonneau) Well, you know, these are rights-of-way that are going to be continuously revisited periodically, annually at least, for maintenance requirements, and if for some reason there was evidence that there was an erosion problem, it would be identified that the time by

the utility.
Q By the maintenance crew of the utility is not going to look at 1400 individually restored sites and have in their hands restoration plans and be quantifying the area of coverage and reach any sort of determination that oh, my goodness, you know, 30 percent is now not vegetated, right?
A (Carbonneau) Right.
Q So with respect to restoration, am I correct that the plan is to restore 1400 individual sites to their preconstruction contours, and there is no information about the exact soil conditions, the exact vegetation, or precise photographs of each site or what site is likely to rebound or what season they'll be impacted, and that you plan to replant at a rate significantly lower than what is recommended by the USDA NRCS and that the entire instructions for maintenance or the restoration folks that will be doing the work in the field is this one sheet that we looked at. Is that correct?
A (Carbonneau) Well, I can't speak to the exact number, and my contention is that the

information that's provided will be adequate to restore the wetlands. It's typical of what we do on transmission projects. It's worked very well in the past. New Hampshire DES has no reason to believe it won't in this case, and it's a standard approach. And the Environmental Monitor is required to make sure that the standards are met and that the restoration is acceptable to New Hampshire DES. If it's not, the Applicant is required to continue working on it until it does meet their standards. That's the way the rule works.

Q I want to revisit something we talked about last week. This is the rationale supporting the functions and values. We talked about the fact that your entire wetlands assessment of functions and values is supported only by the rationales that were in the minds of the people in the field and the people that did your QA/QC, right?

A (Carbonneau) The rationale that is in their minds is what's in the manual. They have the experience applying this methodology on many projects. And they even get in-house training

on it as well. So I wouldn't say that -- it's not magical thinking. It's based on the science and based on the methodology as it's written.

Q But it's in their minds only. Variance or not, it's not documented.

A (Carbonneau) It's not documented on this page, right.

Q Now, you stand that an established pillar of scientific rigor is reproducibility, right?

A (Carbonneau) Yes.

Q So am I correct that there's no way for another wetland scientist to take your Data Sheets back to the field to reproduce your results because not a single rationale was documented?

A (Carbonneau) A wetlands scientist could go back in the field and come up with their own assessment of the functions and values, and in my opinion I think they would be very close to the results that we came to on our Data Sheet.

Q But assuming these were equally experienced wetlands scientists, they would just be making a guess, right? They would be guessing as to what rationale was in the mind of your person collecting the data.

A (Carbonneau) They wouldn't know exactly which number, but those numbers that are given don't apply in every case. They are considerations, and the list as it's stated in the methodology are suggestions. They are recommendations on things to be thought about when you're doing the assessment. There's no, I mean, any good scientist who is qualified to do this work will come up with the similar results, whether or not they have written down the exact same numbers.

Q So your opinion is that a good qualified wetlands scientist will come up with exactly the same results as your team?

A (Carbonneau) I didn't say exactly the same results, but they'll come up with similar results, I believe.

Q And you mentioned that the rationales in the manual are considerations. Suggestions of what to think about. But by your Data Sheet, there's no evidence that your people thought about any rationale, right? You didn't use a different set of rationale and explain what those were. There's no documentation of any rationale whatsoever, whether from the manual or different

rationale?
A (Carbonneau) There's no documentation of exactly which qualifiers they looked at on any given wetland, but by referencing the manual that was used, it implies that they were using those considerations and qualifiers that would be applicable to the project.
Q I want to talk about high quality wetlands. So Appendix B of your report which is the Wetlands, Rivers, Streams, and Vernal Pools which is part of Exhibit 1, Bates stamped APP 291208, provides a table of the individual wetlands you assessed for the project, right?
A Yes.
Q We looked at part of this earlier. And you assessed about 1,972?
A That's about right, yes.
Q And as part of that, you can see here on the right-hand or perhaps you can't read but he'll recognize the shape of the form, you've ranked the wetlands as high quality or not high quality.
A Yes.
Q Right? It's a column that either says yes, no,

yes, no. Now, my understanding of what that means is it's essentially your way of signaling that a wetland has, in your opinion, a significant number of functions and values.

A (Carbonneau) Yes.

Q And high quality is not a legally defined term, right?

A (Carbonneau) No.

Q It's a matter of professional judgment.

A (Carbonneau) Based on scientific principles, yes.

Q And in your Application materials, you describe how you determined whether a wetland is high quality or not.

A (Carbonneau) Yes.

Q And essentially, you assigned one point for each function, two points for primary functions.

A Principal functions.

Q Principal, thank you. And then you added together all of the functions and values. If the resulting number exceeded 14, then you deemed it a high quality wetland. Do I have that correct?

A (Carbonneau) Yes. That's about right.

Q Now, that's not a methodology from the Army Corps manual, right?
A (Carbonneau) Correct.
Q Is this a methodology Normandeau developed?
A (Carbonneau) It's specific to this Project actually.
Q Did Normandeau develop it?
A (Carbonneau) Yes.
Q And are you aware that this method has been criticized in this case including by Ray Lobdell on behalf of the Forest Society and by the Counsel for the Public's expert from Arrowwood?
A (Carbonneau) Yes, I believe I have read some criticism of that process.
Q Of the 1,972 wetlands you assessed, you deemed only 46 of them as high quality, correct?
A (Carbonneau) Correct.
Q That's about two percent, more or less?
A (Carbonneau) I think that's about right.
Q Isn't two percent a very low percentage considering some of the highly functioning wetlands the Project passes through?
A (Carbonneau) I suppose you can look at it that way. I don't think that our use of that

additional step in any way changes the outcome of the Project. The primary purpose for us doing that was to make sure that in our descriptions, our narrative descriptions in our wetlands report, that we included wetlands that really were outstanding and that were worthy of a good discussion of why they were outstanding, and, furthermore, if there was an opportunity to minimize impacts to that wetland that had to be at the expense of another, that we would make the right choice in that situation.

However, it didn't supplant or replace the actual functions and values assessment that we use that meets all of the federal and state criteria. It was an added step for a very limited purpose, and it doesn't change whether that wetland, whether we tried to minimize or avoid impacts to that wetland. We applied the same standards to try and avoid and minimize and mitigate wetlands regardless of the functional results.

Q Is it true that a wetland can have just one or two functions and values and still be high value?

A (Carbonneau) If it's very important to those particular functions or it does them really, really well. It's not likely, but it's possible.
Q For example, wouldn't an instance of that be if a function of a wetland was that it was the home of an endangered plant community? That could be high value just for that one function?
A (Carbonneau) It could perform that function very highly. I don't know if it would mean that the entire wetland was high quality.
Q That's my point exactly. Under your system, even if there was one function, one important function that a wetland performed at a high level, it would never make it into the high quality ranking under your system, right?
A (Carbonneau) Probably not. No.
Q Are you familiar with the report by Watershed to Wildlife, Incorporated, which is titled Functional Assessment of Wetlands through Northumberland dated 2006? This is the Forest Society Exhibit 191, Bates stamped SPNF 06761 to 06795. Have you seen this one before?
A (Carbonneau) I believe I have.

Q And are you aware that the report shows the right-of-way passes through three of Northumberland's most valuable wetlands, each ranging from 176 to over a thousand acres in size?
A (Carbonneau) I don't recall the details of it.
Q Does it sound accurate that there are wetlands of that magnitude in Northumberland?
A (Carbonneau) Yes. I think that's possible.
Q And are you aware that because of the irregular boundary of these wetlands they cross into the right-of-way 14 times?
A (Carbonneau) I'm not aware specifically of that, but I think that's possible.
Q And are you aware that each of the 14 times these wetlands cross into the right-of-way you assessed only the part that crossed into the right-of-way resulting in 14 separate assessments?
A (Carbonneau) There would be a separate assessment for each portion of a wetland that enters the right-of-way. In many cases, it is not obvious whether or not that wetland is contiguous with the other parts in the

right-of-way or how large it is where it extends off.
Q In your assessment of these wetlands, you ranked only a third of them as high quality, right?
A (Carbonneau) I don't know the exact rankings of these particular wetlands.
Q Do you have any reason to believe that those numbers sound inaccurate? That one-third of the 14 wetlands you assessed in Northumberland you ranked as high quality?
A (Carbonneau) I have no reason to not believe that, but I don't know for sure.
Q Well, certainly you would recall if there was an area where there were 14 impacts and you ranked them all as high quality. That would stand out?
A (Carbonneau) That would be likely, yes.
Q And this wasn't one, this doesn't stand out in your memory as one of those areas, does it?
A (Carbonneau) Not specifically, but there is a lot of large wetlands in the Project area.
Q Are you aware that this report ranks all of these wetlands as high quality?
A (Carbonneau) I don't know specifically.
Q Overall, doesn't your ranking only two percent

of wetlands as high quality give the false impression that the vast majority, 97-plus percent of the wetlands that will be impacted by this Project just aren't that important?

A (Carbonneau) No. That's certainly not our intention. It wasn't our reason for doing that extra step, and we have never made a statement that wetlands in general don't have values and functions that are important. That's never been our contention, and that is not an impression that we ever intended to make.

Q Just a couple more questions.

With respect to the current design of the proposed project, based on what we've discussed, is it still your opinion that you accurately identified wetlands, you correctly determined the actual importance of the wetlands, and you provided enough information to restore them to preconstruction contours?

A (Carbonneau) Yes.

Q And even though we talked about Ray Lobdell and the Arrowwood consultants, they conclude that the proposed project would have unreasonable adverse impacts on some of the impacted

wetlands, your opinion remains that the 192-mile Project with over six million square feet of impact would not cause an unreasonably adverse impact?

A (Carbonneau) Yes. That's my opinion, and you know, for a Project of this size to have only about two and a half acres of permanent impacts is pretty remarkable. There's been a lot of effort to avoid and minimize impacts. 140 or 138 acres of temporary impacts is basically accessing these construction locations, and they'll be temporary, and they will be restored and they will function much as they do now. So yes, that's my opinion.

Q And even though your opinion is that this is a very low amount of wetland impact given the size of the Project, you did testify earlier that complete burial of the Project along appropriate transportation corridors would dramatically reduce the wetland impacts, right?

A (Carbonneau) I said that burial results in less impacts. I don't remember using the word dramatically.

Q Significantly less?

A (Carbonneau) As opposed to an alternative that is an overhead alternative or burial in the existing right-of-way, it would have less impacts.
Q And even though DES initially questioned the legality of the proposed route, DES eventually recommended approval of the Wetlands Permit based on your assessment which we've discussed at length here, and after you and your team had 27 separate contacts with the Department, and after you filed tens of thousands of pages of material, right?
A (Carbonneau) I can't speak to the number of pages, but in the course of normal Agency consultation, they reviewed the Application in great detail. They gave us questions and requests for additional information which is typical of any Wetlands Project. We provided them with additional information, and they were satisfied with our additional information and agreed to approve the Project.
Q Thank you, Ms. Carbonneau. I have no further questions for you at this time.
PRESIDING OFFICER HONIGBERG: I have the

Municipal Groups next.

MS. FILLMORE: Mr. Chairman, I need a moment to move over there. For Municipal Group 2, Kris Pastoriza will be questioning.

PRESIDING OFFICER HONIGBERG: Okay.

MS. FILLMORE: And after that, Attorney Pacik.

PRESIDING OFFICER HONIGBERG: All right.

MS. FILLMORE: We're going to need just a minute.

PRESIDING OFFICER HONIGBERG: Okay.

MR. WALKER: Mr. Chairman, while she's gathering her stuff, I'm curious here. Are they dividing topics here? Is that what's happening?

PRESIDING OFFICER HONIGBERG: I think Municipal Group 2 is Ms. Fillmore, and I think she's having Ms. Pastoriza ask questions, and then I think the other Municipal Groups are separate. They have been coordinating, but they're separate groups of intervenors. Thus far, I've seen them divide up their topics, and I kind of expect that's what they're doing here.

Ms. Pacik, do you, would it be fair to say you don't expect to be overlapping much with Ms.

Pastoriza?

MS. PACIK: I actually can't respond to that question. I'm not sure what Ms. Pastoriza will be covering.

PRESIDING OFFICER HONIGBERG: These are separate groups. If you hear a bunch of repeated topics and questions, let me know, and we'll talk about it.

MR. WALKER: Thank you.

CROSS-EXAMINATION

BY MS. PASTORIZA:

Q I'm Kris Pastoriza. Easton Conservation Commission which is part of Central and Municipals. And I have maps followed by about 17 photographs followed by another couple of maps. So these are the TDI maps, Joint Muni 217 [218], and my question to all the Panel is did Northern Pass produce any maps like these? They show 50-foot buffer for wetlands, wetlands ratings, bat trees, natural communities, rare threatened plants, bear needing areas, deer wintering areas, bear crossings, natural communities. So any comparable maps from Northern Pass?

A (Carbonneau) We have shown the natural resources that are required for the permitting process which would include wetlands and many of the wildlife-related sensitive areas and rare plant locations and archeological sites which we're not allowed to divulge publicly. We do have that information on plans. They are actually part of the process that the contractors need to determine how they are going to actually construct the project and what the schedule will be.

So that information is on a draft plan set at this point. We can't make it all public, but it is part of the Project construction planning process so that the contractors will know where they have constraints, whether they're seasonal constraints or avoidance constraints, and that information is part of the Project.

Q So your answer is mostly no. No bat trees, no bear feeding, no bear crossing, no deer wintering, no rare and threatened endangered plant areas?

A (Carbonneau) No. That's not what I said. We actually have that information on plans. We

just can't submit it for public because especially rare plant areas and archeological areas, that's all information that we have, but it's not on the public permitting plan set.

Q So your maps have bear feeding, bear crossing and deer wintering and wetlands, natural communities?

A (Carbonneau) Yes. Not necessarily bear crossing unless we knew where that was. But we do have mast areas, we have locations where there are beech stands, we have information like that. Yes.

Q Yet we don't have access to those maps right now.

A (Carbonneau) That's correct.

Q And why is it that TDI can put rare, threatened and endangered plants on their maps and you can't?

A (Carbonneau) It's state law in New Hampshire. We can't divulge that information publicly. I don't know what the law is in Vermont.

Q So when a corporation applies for a Presidential Permit, does it have the option of higher quality maps like these?

A (Carbonneau) I don't know the answer to that.
Q So and this is for everyone on the Panel, do any of you have any documents or communications marked confidential or work product that you delivered to Northern Pass or its lawyers that you have destroyed or otherwise not produced in data sessions?
A (Carbonneau) We don't have any information that we have not produced that hasn't been asked for. If it's confidential, then it hasn't been made public in compliance with law. We haven't destroyed information or not provided it where it's been asked for.
Q And that's the answer for everyone on the Panel?
PRESIDING OFFICER HONIGBERG: It really helps if you speak into the microphone and give an answer because the transcript, the stenographer won't do anything with nodding heads.
A (Magee) Yes. I haven't withheld any information.
A (Varney) No. I don't have anything.
A (Barnum) I have provided everything that's been requested.

Q So this question is for Ms. Barnum. Did your assessment of effect of the project on wildlife address the effects of construction noise?
A (Barnum) I addressed disturbance in general. Noise is one of those components.
Q So noise was addressed specifically?
A (Barnum) Not specifically.
Q Did your report address raised in the 2016 California Department of Transportation Report, Effective Traffic Noise and Road Construction Noise on Bats? Specifically, auditory fragmentation effects on eastern small-footed bat and the northern long-eared bat?
A (Barnum) My report did not address that.
Q So question for Ms. Carbonneau. On July 18th in 2016, Easton Conservation Commission sent a letter to the Army Corps of Engineers in response to their solicitation of comments on the proposed Northern Pass Project. We expressed concern about what effect an underground concrete wall running the length of the Easton valley would have on natural water flows, sedimentation and aquatic life.
So your response on behalf of Northern

Pass/Normandeau and this is labeled Joint Muni 213 dated October 6th, 2016, stated, there is a very low risk of water movement because the duct banks and vault will be effectively sealed. So is this true?

A (Carbonneau) I believe the duct banks and vaults are sealed. That's my understanding. And so they will not necessarily act as an underwater river to redirect groundwater flow.

Q So according to --

MR. IACOPINO: Ms. Pastoriza, could you just please read in the identifier for that exhibit that you're showing her so it's in the record?

MS. PASTORIZA: It's JTMUNI 213.

MR. IACOPINO: Thank you.

BY MS. PASTORIZA:

Q So there's a DOT letter dated September 22nd, 2016, where Northern Pass met with DOT. And they stated to DOT that FTB, the fluidized thermal backfill, is water permeable similar to DOT gravels, does not create water dams and behaves as a French drain in poor soils. So which is it? Is it a wall or is it a drain?

A (Carbonneau) The material, the duct bank itself is a sealed vault, for example. The material that goes in over that which fills in to a certain level below the surface is the fluidized backfill. That's a different, it's different than the bank, the duct bank itself, is my understanding. And that material does allow water to flow through so that you don't have the effect of increasing or significantly increasing or decreasing the existing groundwater flow as it is. So if the water isn't running through a duct bank that just has some cables in it it's prevented from doing that, but groundwater that is around that duct bank will continue to be able to flow as it does. That's my understanding. I'm not a construction engineer, but that is my understanding.

Q You're saying there's a separate wall outside into which the thermal concrete is poured?

A (Carbonneau) The backfill material goes into the trench. It doesn't go into the duct bank itself. It goes into the trench around the duct bank.

Q Can you say specifically what the duct bank is?

A (Carbonneau) I think the Construction Panel would have been a better one to ask exactly what a duct bank is, but my understanding is it's something that holds the cables. It directly surrounds the cables.
Q The specs show thermal concrete on either side of the thermal concrete is the native dirt and within the thermal concrete is the conduit.
A (Carbonneau) Well, then I'm mistaken, but the material that is, my understanding is the fluidized backfill, the flowable backfill material is a granular material that has similar porosity to native soils and that it will not act as either a dam or a conduit. The movement of groundwater through it is similar to what you would get in a soil backfill.
Q If we accept that what the Northern Pass contractor said to DOT is true, which is that it behaves as a French drain, can you speculate on what would happen to a French drain placed over Kinsman Notch?
A (Carbonneau) I'm not going to speculate on, I'm not agreeing that it's going to act as a French drain.

Q So in your Supplemental Prefiled Testimony, page 19, line 16, you state that there are regulatory consequences for failing to comply with these requirements, and you're referring, I believe, to the BMPs, or for violating water quality standards. Has Eversource or its subcontractors ever experienced regulatory consequences for failing to comply with BMPs or for violating water quality standards?

A (Carbonneau) Sorry. I can't speak for Eversource.

Q On page 19, line 10, of your Supplemental Prefiled Testimony, you state, the Applicants have identified appropriate BMPs for limiting the risk of erosion and sedimentation.

Are the following considered examples of Best Management Practices? And this is Joint Muni 212.

A (Carbonneau) I'm sorry. Could you tell me the page and line again? Because page --

Q Page 19, line 10?

A (Carbonneau) Of my Supplemental? It only goes to page 11. I'm not sure what you're looking at.

Q That's what I have written. I mean, are you saying that you have not said that the Applicants have identified appropriate BMPs for limiting the risk of erosion and sedimentation?
A (Carbonneau) I'm not saying that. I'm just saying that my testimony doesn't go that far so I'm not sure what you're referring to, and I don't want to take it out of context. I would just like to be able to read what you're referring to and respond to it specifically.
Q You're not willing to state that the applicants have identified appropriate BMPs for limiting the risk of erosion and sedimentation?
A (Carbonneau) No. I am willing to state that. But you're referencing something that I don't want to take out of context. So I am willing to say that the Applicants have identified Best Management Practices for erosion and sedimentation.
Q Okay. So we'll leave it at that.
So here is Photo number 1. This is an uncovered slurry tub, an open bore hole with a metal casing that was left overnight which the side of Route 116. Slurry overflow is on the

ground. There's no silt fencing and hay, which you see the little hay back there, does not filter bentonite?

MR. WALKER: Objection, Mr. Chairman. There's no foundation for this photograph.

PRESIDING OFFICER HONIGBERG: Ms. Pastoriza, you're testifying about what this picture is, what was around it, all kinds of things that don't appear there. I don't know how you can expect an answer to that. Do you want her to assume a bunch of facts about this picture?

MS. PASTORIZA: I wanted to describe the photo for people who might not --

PRESIDING OFFICER HONIGBERG: It's not your turn to testify right now. So if you want the witnesses to assume something about this picture, do that, and then ask your question.

MS. PASTORIZA: Okay.

BY MS. PASTORIZA:

Q Assume this is a uncovered slurry tub and an open bore hole with a metal casing that was left overnight by the side of Route 116. Assume that that is slurry overflow on the ground. Assume

that there's no silt fencing. Would you call this Best Management Practices if those things are assumed?

A (Carbonneau) Well, it looks to me like there is erosion control around the perimeter of this work area. It looks like they contained the slurry. If there is overflow in this location, presumably it could be cleaned up prior to the obviously-not-completed work at this location because there's still cones here. So I can't, I can't say that it is not in compliance with Best Management Practices. But again, this is really something that Jake Tinus is more familiar with. He is the water quality specialist. He's not here yet. He will be here this afternoon.

Q So are we to assume that open tubs of slurry will be left on the side of the road and that would be acceptable?

A (Carbonneau) Well, obviously, this is not a permanent situation here. I don't know if this, how long this was here or what their plans were and when they finished and when they'll come back. I don't know if that's acceptable or not.

Q Okay. Photo number 2. If you assume that this

is ACCU-VIS slurry additive dumped or spilled at a Northern Pass drilling site in White Mountain National Forest on the side of Route 12, covered with hay, and ACCU-VIS contains acrylamide which is a male reproductive toxin, developmental toxin, and carcinogen, if you assume that the site was four feet by five feet and unposted, assuming this is spilling ACCU-VIS which is slurry additive at a roadside boring location after covering it with hay Best Management Practices?

A (Carbonneau) I'm sorry. I can't respond to that.

Q Okay. Photo number 3.

MR. WALKER: Mr. Chairman, just for the record, same objection to every one of these photographs. It seems that she's going to be continuing to call for speculation.

PRESIDING OFFICER HONIGBERG: Well, I understand. I mean, she'll ask her questions based on what she's showing these people, and if they have an answer, they have an answer.

BY MS. PASTORIZA:

Q So if you assume that this is a S.W. Cole

employee standing on a slurry tub, and you assume that the uncovered five-gallon buckets contain slurry, I think you can see that there's a sagging and poorly staked too-short silt fence and you assume that it's ready to funnel slurry into the ravine, and assume that that ravine leads down a steep bank to a stream, would you consider this Best Management Practices?

A (Carbonneau) Again, I'm not going to speculate. I'm not seeing an impact here. I would say that it looks like the slurry is contained at this point, but I'm not going to speculate.

Q Photo number 4. If you assume that that's a Northern Pass inspector in the orange, looking on while the S.W. Cole employee loads open five-gallon buckets of slurry into an open pickup truck, which is also holding an uncovered slurry tub, assume that this truck drove south down Route 116 and through White Mountain Forest to an unknown location. Do you have any idea what happened to that slurry?

A (Carbonneau) I am not familiar with this, no.

Q What do you think would happen, would have happened to this truck in the event of an

accident?
A (Carbonneau) I'm not going to speculate about that either.
Q And would you consider carrying open buckets with what we assume to be slurry in them is Best Management Practices?
A (Carbonneau) Again, I don't know specifically the Best Management Practices associated with this particular drilling activity, and I don't even know that there isn't a cover for any of these. I'm not sure. I can't speculate.
Q I saw them. They were not covered. It's pretty clear in the photograph.
MR. WALKER: Objection.
PRESIDING OFFICER HONIGBERG: Sustained.
Q Okay. Photo number 5. This is, if you assume that this man is cleaning his boring rig and assume that is near the Wildwood Campground public water supply, White Mountain National Forest in Easton, would this be considered Best Management Practices?
A (Carbonneau) Again, I'm not sure. This is a better question for the water quality expert or the Construction Panel.

Q Photo number 6. If you assume this is a Northern Pass contractor dumping slurry and tailings onto the ground before hosing it into the undergrowth next to the public water supply at the Wildwood Campground in Easton, if you assume no safety data sheets were onsite though this is required, my question is do you think this man knew that he was working with a male reproductive toxin and carcinogen that is absorbed through the skin?

A (Carbonneau) I can't assume what this man knows or doesn't know.

Q Is he wearing proper personal protective equipment for this job?

A (Carbonneau) Again, I don't know. That's not my area of expertise.

Q Okay. On line 26, page 297, of your report. You state that all appropriate BMPs, including erosion and sedimentation controls, careful handling of excavated materials and groundwater, dot, dot, dot, will be present during construction. We have an exhibit. This is hard evidence to go on the ELMO.

MS. FILLMORE: I'd like to apologize.

Those are labeled as JM 216 and 217. Although I identified the map at the beginning as Joint Muni 217, that will be 218. We'll have that properly marked and available shortly.

MR. IACOPINO: If you flip that over, we can probably see what's in the bag better.

MR. LAKES: Yes, I will.

BY MS. MANZELLI:

Q My question is, and this is a very small sample of what's been left. If you assume that this is a very small sample of what has been left out on the roadside where the borings took place, would you consider that careful handling of excavated material? Leaving that on the roadside, unknown ingredients?

A (Carbonneau) Again, I really can't speak to this. I don't know exactly what's included in that material. It's a better question for our water quality expert or the construction team.

Q So Photo number 7. Can you flip back to Apple TV?

MR. WALKER: Mr. Chairman, I'd like to object to the introduction of those as exhibits as marked. I mean, this goes beyond --

PRESIDING OFFICER HONIGBERG: Mr. Lakes, you'll take these bags back. No. You'll take them back until they're presented by someone who's sworn under oath to explain what that is, they're not being shown to the Subcommittee other than in the way you just did with a request of an assumption as to what they are.

Q So Photo number 7. If we assume that this shows slurry overflowing a tub and flowing down Route 12 in White Mountain National Forest, is this Best Management Practices?

A (Carbonneau) I'm sorry. I'm not seeing that, but --

Q There's a white line between the guardrail and the road.

A (Carbonneau) Yes. I'm sorry. I can't speak to that. I don't know.

Q Photo number 8. Slurry in Stark Falls Brook. The Northern Pass photo of the drilling site is below it showing one limp hay bale, no silt fence and what I ask you to assume is slurry dumped on the ground above the slurry tub near the rig. Mr. Bisbee was informed of this issue and part of his response was, quote --

PRESIDING OFFICER HONIGBERG: Wait, wait, wait, wait, wait. You're testifying here. It's not your turn to testify. If you want to ask her questions about statements somebody made, say would you agree with the statement along the following lines.

Ms. Pastoriza: I wanted to ask her if she agrees with Mr. Bisbee.

PRESIDING OFFICER HONIGBERG: But I don't know what Mr. Bisbee said and you're not making representations about what Mr. Bisbee says right now when you're not testifying under oath.

BY MS. PASTORIZA:

Q If we assume that slurry was allowed to overflow a turbine and infiltrate the ground as a means of slurry water disposal, is this a Best Management Practice or even permissible by DES, White Mountain National Forest, DOT and local towns?

A (Carbonneau) Well, I can't represent what is occurring in this photo, and, honestly, I am not sure exactly what the Best Management Practices are for this particular activity so I can't answer that specifically. I think

reinfiltration of water into the water table is generally appropriate if the materials that you don't want to infiltrate are captured in some way, and I honestly can't say for sure what this photo represents.

Q You believe it is likely that ten gallons of slurry spilt at this spot could flow over dry grass-covered terrain for 85 feet and flow into Stark Falls Brook?

A (Carbonneau) I have no idea.

Q Does it seem possible to you that the slurry leaked out through underground fissures into the stream?

A (Carbonneau) Again, I don't know.

Q Are you aware that bentonite slurry is harmful to aquatic life?

A (Carbonneau) I am aware that if bentonite is at high levels in a stream, it can cause adverse effects, but I don't know if that's what happened here.

Q Would you agree that the BMPs Northern Pass says that they will follow will have no effect on the likelihood of frackouts or routine underground slurry loss?

A (Carbonneau) No. I don't agree with that.
Q So which BMPs would reduce underground slurry loss or frackout?
A (Carbonneau) There is a series of Best Management Practices that relate specifically to underground drilling, and those specifically would be employed wherever stream crossings, deep underground stream crossings from HDD or horizontal directional drilling are required. I know there are protocols in place. I'm not familiar with all of the details of those Best Management Practices, but they do include monitoring to make sure that the amount of material that's being used for the drilling is the same amount that's being recirculated. If there's a drop that might identify a leak of some kind, then the drilling is supposed to stop. There are other methods that -- it's an construction process that I'm not an expert in, but there are Best Management Practices.
Q Where would they be found in your literature?
A They're included by reference, I believe, and I think there will be part of the construction package, but I'm not sure if they have been

submitted in detail in their full amount. It's typically something that the drilling contractor will abide by for the construction of the Project. I'm not sure if that has already been provided or not. That would be a question for a different expert.

Q So given that we're being reassured that BMPs will be implemented, how do we know what the BMPs are if you're saying that you can't find them?

A (Carbonneau) I'm saying I'm not sure if they were submitted directly as part of the materials that were part of the SEC application. If they're not, they're included by reference. I know that there are excerpts of them included in some of the 401 Water Quality Application, for example, but I don't know if it's the full, I don't believe it's the full Best Management Practice.

Q Would you agree that underground frackouts and slurry losses are ignored unless they become visible by entering streams, wetlands or erupting on the surface?

A (Carbonneau) No. I don't believe that they are

ignored.
Q So in what way have they been reported?
A (Carbonneau) Are you asking me specifically about an event or in general the process? Again, this is not my area of expertise. I am not a contractor.
Q Well, they're central to water quality so I thought that would be your area. I mean, you're saying that they are noticed, but where are they reported if they are noticed?
A (Carbonneau) I'm not exactly sure what the reporting process is for a, specifically, for a frackout. There are Best Management Practices that are followed. I'm not the expert in that, in the water quality area. That would be Jake Tinus who is not here right now, but if there's a violation or evidence that there's been some kind of a violation of the requirements, there's certainly water sampling that is required during construction. And so that would be one opportunity for some type of an event which actually has an effect on water quality to be noticed. There has to be a water quality monitoring plan developed for the project. That

is something that the DES is requiring that we do at least 90 days before construction starts. So that document will be in preparation, and it will identify exactly what parameters need to be sampled for, where those sampling stations are and the frequency of that sampling. So that is, that will be a requirement. It's a permit condition now that those plans be developed.

Q So is water quality monitoring done during or before the geotechnical boring?

A (Carbonneau) I don't believe water quality monitoring was done before the geotechnical borings that took place so far. I don't think presampling was done.

Q And post-sampling and during sampling was not done.

A (Carbonneau) Not to my knowledge for that activity, no.

Q So do you agree with Bill Quinlan that Quanta and PAR are industry leading companies having knowledge and expertise?

A (Carbonneau) I have no knowledge of their qualifications personally, but I don't disagree with that statement because I have no basis to.

Q Photo 9. So this is recent, meaning this summer. Pole, crossarm and insulator replacements in Easton.

MR. WALKER: Objection.

PRESIDING OFFICER HONIGBERG: Ms. Pastoriza, you want him to assume that that's what it is?

Ms. Pastoriza: Yes.

BY MS. PASTORIZA:

Q If you assume that this is recent pole, crossarm, insulator replacements in Easton, and if you assume that those are four-wheeler tracks in the wetlands, would this be BMPs?

A (Carbonneau) Again, the BMPs are specific to the construction activities that the Project is proposing. I have no idea if these ruts were caused by the right-of-way maintenance staff or others.

But in a situation where a road goes through a wetland, if it is indeed a wetland, and this if case I'm not sure if it's just a depression in the road or if it's an actual wetland, this is not part of the, to my knowledge, the Northern Pass Project route, then

this would be a location where timber mats would be placed for a wetland crossing. If that's a wetland.

Q So Photo 10. If you assume that this is a hole not backfilled properly by Eversource/NP contractors south of the Deerfield substation at the first upgrade structure, and if you assume that it was at a school bus pickup and turn around, if you assume that the hole is large enough and deep enough to swallow an adult, if you assume that this was 7 weeks after the work and if you assume that the wood and marking ribbon were placed by someone other than Eversource, who had a conscience, is this Best Management Practices?

A (Carbonneau) I guess given all of your assumptions I would say that some attention to filling this hole which appears to, could be just a case of settlement would probably be appropriate if it's a danger to the public.

Q Photo 11. If you assume that this is a Deerfield substation upgrade in 2016, if you assume that over the past two weeks tree cutting, bush hogging, Brontosaurus work had

been proceeding on four sides of the Deerfield station, if you assume that on the northerly corner and easterly side the flow from the wetland was completely choked with debris and for all practical purposes had been destroyed, if you assume that the outflow of corrugated culvert under the access road had been crushed and was no longer viable, if you assume that the wetland flow and runoff washes down the road atop the existing silt barrier left from the prior work, would you call this Best Management Practices?

A (Carbonneau) Well, I would call this a construction site, and based on the fact that there's still equipment there, it seems to be a work in progress. So I'm not sure if I would agree with that. I'm not the seeing any water flow in this photo, but certainly that's about all I can say at this point in time.

Q So have you ever personally directed the proper setting of wetland timber mats for heavy equipment?

A (Carbonneau) Yes. On previous Projects. Obviously, this one is not under construction

yet.
Q Not in Deerfield?
A (Carbonneau) Yes. In Deerfield.
Q Have there been complaints to Eversource/Northern Pass/DES about Eversource/Northern Pass work in Deerfield?
A (Carbonneau) Yes.
Q Photo 12. So the next two maps show geotechnical borings in Kinsman Notch, holes with the letter after them are 65-foot holes drilled at either end of the proposed HDD locations. Holes without a letter are trenching location holes and 15 feet deep.

Assuming all this is true, and if you assume that lost circulation is a completely correct term for frackout and that poor circulation means frackout is under way, we have hole 24 A with loss circulation, 24 B and 25 A with poor sample recovery. 25 B with loss circulation. 26 A with no sample recovery. 27 A with poor circulation, cave-in and low sample recovery. Hole 29 A with discharge of water. Hole 138 with stream terrace deposits and hole 30 A with lost circulation. And if you assume

that during the drilling in hole 28 A I photographed slurry that had been discharged into Olson's Brook, have you looked at the boring logs?

A (Carbonneau) No. I have not.

Q Do you think a full assessment of the Project's potential effects on wetland and water resources require that you look at the boring logs?

A (Carbonneau) Well, you're asking me personally. That's not really my role on this project. I'm not an expert in reviewing boring logs done by contractors. And I don't know that any of this indicates that there is actually an issue. This is a recording of activities during construction, as far as I can tell.

Q Would you agree that the underground conditions are related to the effects on wetlands and watershed streams?

A (Carbonneau) It's possible.

Q Have you ever been to Lost River Gorge?

A (Carbonneau) I have driven this area.

Q And do you know if stream terrace deposits mentioned at bore hole 138 are likely strata for slurry loss?

A (Carbonneau) I don't know specifically, no.
Q Photo 13. This is Kinsman Notch higher up. Here we have lost circulation in hole 31 A. Assume we have lost circulation in hole 31 A on July 28th, drilling of bore hole 31 B on July 30th, slurry in Stark Falls Brook photographed during the boring of hole 31 B, poor circulation 6 times in hole 32 A between July 28th and 29th, lost circulation in hole 32 B on July 27th, hydrocarbons in hole 141, poor circulation in hole 31 A and 30 feet and 54 feet between July 25th and 26th, and a visitor complaining about milky sediment in Lost River on July 26th. So were you aware that the slurry losses, if you assume they were slurry losses, in the Stark Falls Brook and Olson's Brook were photographed while the drilling teams were at work and were sent to DES and Northern Pass?
A I'm sorry. Could you repeat the question? Were you asking if I was aware?
Q Were you aware of slurry losses in Stark Falls Brook and Olson's Brook?
A (Carbonneau) I was aware that a photograph was sent to New Hampshire DES. I can't speak to the

exact location of it though.
Q So the boring logs for Stewartstown and Clarksville report lost slurry amounts. For example, in one 15-foot hole in Clarksville a hundred gallons of drilling fluid was lost to ground.
MR. WALKER: Objection. She's testifying now.
PRESIDING OFFICER HONIGBERG: Ms. Pastoriza?
Ms. Pastoriza: All right. Forget it.
BY MS. PASTORIZA:
Q Why did none of the drillings logs for this area, either the 15-foot open trench borings or the 65-feet deep HDD boring logs record the volume of slurry losses?
A (Carbonneau) I don't know. I'm sorry. I was not involved in the geotechnical activities.
Q So you don't know if there's a way to get the logs that have the slurry volumes documented?
A (Carbonneau) I don't know.
Q After Northern Pass was notified of potential slurry frackouts in three streams in Kinsman Notch, did it do any assessment of the frackout

risk for this sensitive and historic area?
A (Carbonneau) I don't know.
Q Has Northern Pass done any assessment of frackout risk for any of the 50-plus proposed HDD locations?
A (Carbonneau) I don't know.
Q Does Northern Pass plan to do any frackout risk assessment?
A (Carbonneau) I don't know. That's not my area of expertise.
Q Inasmuch as a frackout risk would affect water quality, is it not related to your area of expertise?
A (Carbonneau) The water quality expert is not here. He can probably answer that question a little bit better. He is the liaison with the contractors and the engineers who are responsible for this kind of geotechnical work, and, I'm sorry, I'm not that person.
Q How do you expect the SEC to assess the public interest in orderly development/preservation criteria if they do not have access to frackout risk assessment?
A (Carbonneau) I don't know that they won't have

access to frackout risk assessment. I just don't know the answer to that. There's a methodology that's followed. It's standard construction practices is my understanding. All of these types of investigative or construction-related activities have Best Management Practices associated with them, and if they aren't provided directly, they are provided by reference to the SEC, and they will be able to evaluate the Project based on that information.

Q So are you aware that the reference in the DOT Utility Accommodation Manual to the HDD standards, that book costs $150?

A (Carbonneau) I'm not aware of the cost of that particular book.

Q Could you know if the SEC has access to this book?

A (Carbonneau) I do not know.

Q Did Northern Pass do any prequalification when selecting their contractors for the HDD?

A (Carbonneau) I am not familiar with the contractor selection process that was used.

Q So you don't know if Northern Pass required any

specific level of expertise or experience from their HDD contractor?

MR. WALKER: Objection to this line of questioning, Mr. Chairman. These are all construction-related questions, and it's pretty clear from the witness's testimony that she's not familiar with these issues.

PRESIDING OFFICER HONIGBERG: Ms. Pastoriza?

Ms. Pastoriza: I see a relationship between water and erosion and HDD.

PRESIDING OFFICER HONIGBERG: You can continue to ask this witness questions. She may continue to tell you that she doesn't know, but if you want to continue to ask, you may proceed.

BY MS. PASTORIZA:

Q Is there any level of risk that would cause Northern Pass to not attempt an HDD?

A (Carbonneau) I guess that's possible, but I wouldn't know what it is.

Q Has Northern Pass engaged in any discussions with White Mountain National Forest on the risk of frackout in the area? Kinsman Notch?

A (Carbonneau) Specific discussions, I am not

aware of them.
Q Has Northern Pass assessed the proposed underground route for impacts from earthquakes?
A (Carbonneau) I'm not sure.
Q Are you concerned that the Terracon Risk Report stated that shallow groundwater was expected beneath 63 percent of the Project?
A (Carbonneau) I'm not familiar with that report. Shallow groundwater is certainly possible in many locations, particularly where there are wetlands.
Q So has Northern Pass obtained any easements on the burial route for dewatering of trenching?
A (Carbonneau) I'm sorry. Could you repeat that question?
Q Has Northern Pass obtained any easements on the burial route for dewatering of trenching?
A (Carbonneau) I don't know.
Q Are you concerned that the Terracon Risk Report did not assess the proposed underground route from Bethlehem to Sugar Hill?
A (Carbonneau) Again, I'm not familiar with the report.
Q So you don't know if there's a more up-to-date

report that incorporated those areas?
A (Carbonneau) I'm not familiar with the report.
Q So on page 299, line 30, of your report, you state that the Project will not have an unreasonable adverse effect on water quality. I based this opinion on my own analysis of the potential effects on wetlands, aquatic research and shoreline resources, and on line 17, page 300, you stated aquatic resource impacts are expected to be virtually nonexistent.
Did your assessment of "no unreasonable adverse effects" take into account any environmental effects of slurry and chemical additives including expected losses to ground?
A (Carbonneau) Yes, it did. It included potential water quality effects which have been evaluated by my colleague, Jake Tinus, and other potential sources of erosion and sedimentation that are planned to be minimized and avoided through Best Management Practices.
Q Specific to slurry?
A (Carbonneau) Not necessarily specific to slurry, but incorporating slurry and other potential construction materials and techniques that are

typically used on the Project of this nature.
Q Can you give me an example of a project you assessed where you concluded that there would be an unreasonable adverse effect on water quality?
A (Carbonneau) This is the only Project I've worked on where it's come before the Site Evaluation Committee, and the term "unreasonable adverse effect" is actually required by law. So I don't have a specific Project where I used that terminology. I have worked on many other projects where we've evaluated potential impacts. I can only think of one where we thought that the impacts to wetlands and water quality were substantial enough that we believed that having the Project move forward would be a bad environmental idea, and it was clear that the Project would not be redesigned to minimize those impacts and the Project was never constructed, but I don't have anything specific about a water quality issue on a Project.
Q And what Project was that?
A (Carbonneau) It was a development project in southwestern New Hampshire.
Q Did your assessment take into account the

possibility of radioactivity in granite cuttings from the HDD and blasting?
A (Carbonneau) On this Project?
Q Yes.
A (Carbonneau) No.
Q Did it take into account exposure and dispersal of native arsenic through HDD drilling and blasting?
A No.
Q Have you mapped the arsenic-containing rock on the route?
A (Carbonneau) We have not.
Q What is the plan for testing bedrock drilling cuttings and blasting tailings for radioactivity, and what is the proper disposal plan?
A (Carbonneau) I do not know the specific answer to that. Any material that leaves the Project site I believe must be tested to make sure that it does not fall under the DES category of a hazardous material, but I don't have the specific plans on how that is done. Or when. Or where.
Q Could you describe some specific actions you

have taken to reduce the risk of frackout into sensitive water resources with reference to DOT's HDD Good Practices Guidelines referenced in the UAM?

A (Carbonneau) Not specific to those references. There is a requirement in our DES permit conditions, as I mentioned before, that we or the Project develop a water quality monitoring plan. It will be very specific to protection of high quality waterways, cold water fisheries, streams and other sensitive water resources. We have to identify those and establish a water quality monitoring plan that would be implemented during construction to identify potential impacts that might be occurring. During that monitoring, if there is evidence of some kind of a violation, then the Project would have to stop and figure out another path forward.

Q Do you know what the average routine percentage of slurry loss in HDD is?

A (Carbonneau) No. That's not my area of expertise.

Q Do you think it is possible to come to a finding

of no unreasonable adverse effects to water resources without knowing about HDD, how it is done, recommended practices, chemicals used, how far they travel, how persistent they are in the environment, their toxicities to the environment, anticipated normal slurry losses, risk of frackout and geological conditions on the route that would increase the risk of frackout?

MR. WALKER: Objection to the suggestion that the Project does not know, and this was the subject of the Construction Panel testimony.

PRESIDING OFFICER HONIGBERG:

Ms. Pastoriza?

Ms. Pastoriza: I'm simply asking her whether -- she's made an assessment on water quality, and I'm asking her if these are necessary things to know about to make that assessment.

PRESIDING OFFICER HONIGBERG: Okay. You can answer.

A (Carbonneau) The assessment that I've made about water quality is based on the fact that while it may be possible that there could be an impact,

it's not probable based on the implementation of Best Management Practices that are construction standards that are used on all construction projects, and I don't need to be an expert in the implementation of each of those practices to feel reassured that because they are used on projects everywhere and that the standards have been developed and the implementation of the work will be monitored that the likelihood of impacts is low.

Q So you're operating on the assessment that the BMPs will eliminate impacts.

A That they will minimize impacts and avoid impacts, and there's no guarantee that there's not a possible impact, but we are not expecting it, and we don't believe it's probable.

Q And what is your percentage assessment for BMPs minimizing impacts? You're going to minimize them by 1, 2, 3, 4, 5 percent?

A I'm sorry. I don't have a percent number.

Q So how could BMPs be a meaningful term that's used if you can't even give a percentage of how much they're going to minimize the impacts?

A (Carbonneau) I think they can be meaningful

without applying an exact number to them, and I don't think anybody could even estimate what the exact number is. Conditions are different everywhere on every project, and I don't have a number.

Q So there's no post-studies showing the effectiveness of BMPs?

A (Carbonneau) I'm not saying there are no studies showing the effectiveness post-construction. I'm just saying I don't have a percent number that I can give you.

Q Can you tell me how far aware from the Project the water supply could be impacted?

A (Carbonneau) I can't give you an exact number, no, but our expectation is that beyond the right-of-way or beyond the Project limits that the risk of contamination is very low.

Q So what about water flow? Are you stating that water will not flow beyond the Project limits?

A (Carbonneau) No. I'm stating that Best Management Practices will, to the extent that they are functional, will contain any potential water quality issues on the Project site.

Q So Photo 14. This is the hay bale we assume was

used to filter the overflowing drilling slurry tub. Is proper disposal for a hay bale used in this way to put it in a landfill?

A (Carbonneau) I wouldn't know what the proper disposal of a hay bale used for that purpose is. Typically, erosion sedimentation control materials are removed from a project or should be removed from a project site once the area is stable. That's the standard.

Q So Photo 15?

PRESIDING OFFICER HONIGBERG: Off the record.

(Discussion off the record)

PRESIDING OFFICER HONIGBERG: We're going to take a short break and be back in ten minutes.

(Recess taken 11:02 - 11:13 a.m.)

PRESIDING OFFICER HONIGBERG: Ms. Pastoriza, you may continue.

BY MS. PASTORIZA:

Q So I have one more question. Two more questions. The purpose of the BMPs is to lessen damage to water resources; is that right?

A (Carbonneau) The purpose of the Best Management

Practices depending on which ones they are, they're basically to minimize environmental impacts. So in some cases, it's for water quality and some cases it's for other soil erosion or other purposes.

Q So if Northern Pass's intent with the BMPs is in to some cases lessen damage to water resources, why is it asking the SEC to preempt local water protective ordinances?

MR. WALKER: Objection. She's asking for a legal conclusion.

PRESIDING OFFICER HONIGBERG: Well, not exactly.

MR. WALKER: It deals with a legal issue that's beyond the purview of Ms. Carbonneau.

PRESIDING OFFICER HONIGBERG: I'm going to overrule the objection and allow the witness to answer.

A (Carbonneau) Could you repeat the question? I'm sorry.

Q If Northern Pass's intent is to through the BMPs lessen damage specifically to water resources, why is it asking SEC to preempt local water protective ordinances?

A (Carbonneau) Well, I don't know what requests have been made to the SEC about preempting, specifically, water quality protections, but the state regulations and the federal regulations are being adhered to. So I'm thinking that from Project perspective, those are sufficiently protective of the water resources of the State.

Ms. Pastoriza: That's the end of my questions to the Committee. I'd like to reserve time to ask Jacob Tinus questions.

PRESIDING OFFICER HONIGBERG: Mr. Walker?

MR. WALKER: Well, we would object to that on the basis that --

PRESIDING OFFICER HONIGBERG: I don't think you can possibly do that since Ms. Carbonneau said, "That would be a question for Mr. Tinus," about a dozen times. You want to try a different ground?

MR. WALKER: Nothing further. But just to be fair, Mr. Chairman, this was something that we made clear up front. Ms. Carbonneau then also made it clear that these would be requests for Mr. Tinus, and Ms. Pastoriza continued to ask it. So I'm just concerned we're going to

have another hour of the same questions coming to Mr. Tinus.

PRESIDING OFFICER HONIGBERG: Yes, I don't disagree with that. I think if people have questions and it becomes apparent quickly that members of this Panel aren't the right people to ask and Mr. Tinus is, it would probably be best if you just said well, it looks like I have questions that Mr. Tinus needs to answer. Can I just go later. But you may not know that up front. You may figure it out as we go. And he will be here this afternoon so this problem is going to obviate itself pretty soon.

Ms. Pacik, are you ready to go?

MS. PACIK: Yes. Thank you. We'll just need the Apple TV.

CROSS-EXAMINATION

BY MS. PACIK:

Q Good morning. My name is Danielle Pacik. I am the attorney for the City of Concord, and I'm also the spokesperson for Municipal Group 3-South.

My questions primarily relate to the City of Concord, but before I start with those, I do

want to have just, I have one followup to Ms. Pastoriza's questions.

She had shown Ms. Carbonneau a map. It was from the TDI Project dated December 2nd, 2014, and it showed natural resources such as deer wintering areas, some bear crossings, some bat locations, and I believe, Ms. Carbonneau, you had said that you were in the process of drafting one and that it was confidential. Is that correct?

A (Carbonneau) We have some information that's confidential and some information that's not. But all of the specific sensitive resources that are going to affect how the Project is constructed, if there are specific time-of-year restrictions or specific construction methods that need to be employed in each of those areas, they are all on a set of plans, and those are in progress now that will guide the contractors during construction and be used by the environmental monitors to make sure that all of those locations are known and are addressed properly.

Q Okay. And so my question is, those set of plans

that you're talking about, are they going to be filed with the Site Evaluation Committee?
A (Carbonneau) I'm not sure. I assume that they will be, but they have confidential information on them. So I'm not exactly sure if they are going to be filed or not, but the information is similar to information that we have already provided.
Q Right. I'm not trying to cut you off. I'm just asking whether that set of plans that are being prepared will be filed with the Site Evaluation Committee.
A (Carbonneau) I don't know.
Q Okay. In terms of the City of Concord, I want to discuss, Ms. Carbonneau, your Supplemental Testimony which was marked as Applicant's Exhibit 98, and we have that up on the screen right now. This was submitted April 17th, 2017. Is that right?
A (Carbonneau) I believe that's the date, yes.
Q It's on the first page. Let's just make sure we're all on the same page. Yes. Is that correct?
A (Carbonneau) Yes.

Q The first topic that I want to talk about is the Karner blue mitigation parcel that you discussed on page 4. If you look -- yes. That's okay.

On line 16 and 17, it starts talking about some of the plans that you have, and you talk about, and we can highlight it as we read it, on line 18, it says, if you go to line 18, the preservation of 1,628 acres of land is going to occur in Pittsburg, Clarksville, Stewartstown, Dixville, Columbia, Concord and Pembroke.

In terms of Concord, and any land that's going to be preserved, are you referencing the 6.9-acre parcel for the Karner blue?

A (Carbonneau) Yes.

Q That's the only property in Concord that is intended to be preserved; is that right?

A (Carbonneau) That's right.

Q And you used word preserve, and I just want to talk about go this for a moment. In terms of that site, the 6.9-acre site that is a piece of property that was previously developed, right?

A (Carbonneau) Partially developed. There's a foundation structure there but doesn't appear that the rest of the building ever went up. So,

I mean, there's vegetation growing within the concrete foundation blocks. It's sandy material around there.
Q Right. There's sandy material in that location?
A (Carbonneau) Yes.
Q And I believe you spoke to the attorney for Counsel for the Public, Attorney Connor, about that site, and there was testimony that it would take at least two years to rehabilitate that site so that wild lupine would grow there, right?
A (Carbonneau) I believe the testimony was that restoration of wild lupine would take a minimum of about two years, sort of from when it was first attempted, yes.
Q Okay. And this particular site, you talk about in your testimony forested and shrubbed wetlands. You talk about fir forests, perennial intermittent and ephemeral streams, vernal pools, and some field and old field habitats. That site doesn't have any of that on it, does it?
A (Carbonneau) No. It doesn't. It is not mitigation for wetlands impact.

Q So when you use the word "preserve," you're not really preserving that 6.9-acre site, right?
A (Carbonneau) Yes. It will be preserved as open space with Karner blue butterfly habitat to be developed.
Q Okay.
A (Carbonneau) Right now it's zoned for development and by purchasing it, it has been preserved from development.
Q Correct. And this is a site that's actually in the commercial zone in Concord, correct?
A (Carbonneau) Yes. It's in one of the commercial zones. I think office park or something like that.
Q And that's not a site that the City of Concord has ever identified as wanting to conserve, has it?
A (Carbonneau) I don't know.
Q Did you ever check with the City of Concord to see whether they would prefer that site to be commercially developed?
A (Carbonneau) We did have meetings with the City of Concord. They had a strong preference against us using some parcels over others. This

was not one that I discussed specifically with the planning development though.
Q So you're not aware of any discussions with the City of Concord about this particular parcel?
A (Carbonneau) I believe it has been discussed but not by me personally.
Q So when you say you believe it has been discussed, what's the basis for that?
A (Carbonneau) There's an outreach team that Eversource has, and they endeavor to keep the municipalities up to date on what the plans are in those areas, and to my knowledge, there have been discussions that occurred after my meetings with the city planning department about the mitigation.
Q Okay. But you have no specific information about those discussions?
A (Carbonneau) I don't.
Q Now, in terms of the construction in Concord, I want to talk to you about the Soucook River crossing just for a moment.
Can you turn to Joint Muni 193, please?
This is an exhibit that was previously submitted at Joint Muni 193, and it's an excerpt

of it, and the page that we're showing is Bates stamped, and for the record it's been Bates stamped at Joint Muni 8162. This shows the Soucook River crossing, is that correct?

A (Carbonneau) Yes.

Q And in terms of this particular area, there is a bluff near the Soucook River, correct?

A Yes. There's a definite terrain change. There's a bluff on above it on the Concord side.

Q And you would agree that this is a sensitive area in Concord?

A (Carbonneau) It's all part of the Pine Barrens area which is sensitive for a variety of reasons. So yes.

Q So yes, it is a sensitive area?

A Yes.

Q And in terms of 193, we'll have to zoom in quite a bit on the right-hand side of it.

This plan shows the poles that are going to be relocated and then replaced in the location, and the poles that I'm referencing are all the way to the right, and there's one that's identified as -- well, you can't read it all but 3132-16, do you see that?

A (Carbonneau) Yes. I see the label.
Q And below it's P145 and then C189-21. You see that?
A I see the labels, yes.
Q Can you go to the next page, please?
This one actually shows the bluffs on the left-hand side. I think we just showed you the right one. And you can see the construction pads. Is that correct?
A (Carbonneau) Yes.
Q Can you zoom in for a moment?
There's a lot of lines in that area, and that shows the bluff area.
A (Carbonneau) Topographic lines --
Q Yes.
A (Carbonneau) -- that are just to the left of what's labeled as the Soucook River indicate a steep slope, and the structures just to the left of that are the ones that are on top of the bluff, yes.
Q So the poles that are being proposed to be relocated and also the new ones that are proposed to be placed in this particular area, they're near the edge of the cliff, aren't they?

A (Carbonneau) They're at the top of the bluff.
Q Can you go to the next page, please?
On the right-hand side, there's a photograph which shows the current location of the poles and its proximity to the edge of the bluff; is that right?
A (Carbonneau) Yes.
Q Now, in terms of the poles and the concern about erosion, one way to address that would be to actually relocate the poles further away from the bluff, correct?
A (Carbonneau) I don't know that there's any erosion issue here that's associated with the river itself.
Q In terms of the concern about protecting that bluff area though, one way to protect the bluff would be to move those poles away from the edge of it if this Project is approved; is that right?
A (Carbonneau) Well, moving the poles away from a sensitive resource would potentially, possibly, afford more protection, but it's not necessarily the bluff itself that's the sensitive resource. It's the overall Pine Barrens habitat around the

right-of-way in this location and the river itself.

Q Okay. So and I just want to make this clear because you are on the Environmental Panel, and perhaps this is a question for everybody on the Panel, but did anyone evaluate these poles in the proximity to the bluff and determine whether it would be more appropriate to move the poles further away?

A (Carbonneau) We did look at the location of the poles in this portion of the right-of-way for a couple of reasons, but the primary reason was on the Pembroke side there is a structure that is going to be located fairly close to the edge of the river and within 50 feet. And the goal was to see if we could relocate that proposed structure farther away from the edge of the river which the engineers were not able to substantially move because the span distance between the structures is already at the upper edge of the limits is my understanding, and they can't be necessarily raised in this location to be taller because of the FAA requirements. This is near the Concord Airport. So there are

several layers of limitations here associated with moving structures. I don't recall a discussion of actually moving them back away from the edge of the bluff. My concern was closer down to the river on the Pembroke side but similar issues with height and span would have applied if that had been looked at and I'm not sure if it was.

Q Okay. So you're not sure if it was ever looked at so you don't know whether it would be feasible to move those poles away from the bluff?

A (Carbonneau) I don't know.

Q And the focus that you had was the river and not necessarily the bluff itself?

A (Carbonneau) Correct.

Q So in terms of the Department of Environmental Services and their permit that they issued, they're focused also on the river and not the bluff itself?

A (Carbonneau) I can't say what their focus was. They did review all the plans pretty carefully, as we have come to appreciate. I don't recall a specific request to avoid placing anything at

the edge of this or near the top of the bluff in this location that they provided to us.

Q Okay. Can you turn to Exhibit 138 and that's, I believe, the Applicant's Exhibit 138.

I'm showing you now a letter that was written this year, January 25th, 2017, to the City of Concord Conservation Commission, and you directed it to Christopher Morgan and there was a letter that you sent to Mr. Morgan; is that right?

A (Carbonneau) Yes. That's right.

Q Okay. And if you turn to the last page of the letter, we've highlighted on page 4 a discussion that you had with Mr. Morgan and the Conservation Commission about the Soucook River, and in it you state that the project will be implementing appropriate erosion and sedimentation measures. And when you're talking about erosion and sedimentation measures, you're talking about erosion from the poles at the top of the bluff, right?

A (Carbonneau) Actually, in this instance, we were talking about the poles that are very close to the Soucook River which are the ones in that

general area. The poles that are on top of the bluff are not particularly close to the river itself. I mean, they're within a certain distance but for erosion sedimentation, it's any erosion sedimentation caused by the construction, earth work necessary for installing the structures and the foundations. It will be used wherever that risk is there. So even at the top of the bluff, erosion sedimentation controls would be established to make sure that materials don't run down the hill into the wetland, into the stream.

Q Okay. And you haven't identified what those erosion and sedimentation measures are going to be, though, have you?

A (Carbonneau) There are a variety of erosion sedimentation controls that may be selected by the contractor. They have to meet certain standards and the locations that they would be placed are typically shown on the permitting plans.

Q Okay. But we haven't seen those specific measures yet, correct?

A (Carbonneau) I believe there are detail sheets

with erosion sedimentation controls as part of the permitting plan.
Q That specifically identify what measures will be used for that location?
A (Carbonneau) Specifically in that location, probably not, but they are shown as erosion and sedimentation controls. They would most likely in most locations be silt fence and/or hay bales, whichever, and maybe a combination of both.
Q Okay. And so, but, again, in terms of one possible way to avoid or mitigate this particular area would be to move back the poles which has not been reviewed by you or requested to be reviewed by you?
A (Carbonneau) That's right.
Q In the last sentence of this letter, you state to the Conservation Commission that, and I'm going to read this to you. "It is worth remembering that rivers are dynamic systems and there is always some level of erosion and sedimentation that is part of the natural hydrogeomorphic process."
When you say hydrogeomorphic process, what

are you talking about?
A (Carbonneau) I'm talking about the movement of water in streams and rivers that naturally picks up sediment and deposits sediment in various locations. It happens normally. It's a natural process. It results in slight changes or sometimes in big storm events very drastic changes to the morphology of the stream channel and banks. Typical process.
Q But you understand the concerns raised by the Conservation Commission were not natural issues. It was concerns about the construction that's going to occur on the bluff, right?
A (Carbonneau) I don't recall exactly what the concern was as it was worded by the person who sent in the original letter. It's been a while. I'm trying to remember exactly what their issue was.
Q But you would agree that the concerns that they were raising were not related to any sort of natural occurrences that might occur.
A (Carbonneau) That would be my understanding.
Q And the construction at the top of that bluff which we've decided was a sensitive area, it's

going to require heavy equipment, right?
A (Carbonneau) The construction will require heavy equipment, yes.
Q Now, I want to talk about wetlands for a moment. The proposed transmission line runs 8.1 miles in Concord; is that correct?
A (Carbonneau) That sounds about right.
Q And your company, Normandeau, conducted wetland delineation in the Concord region?
A (Carbonneau) Yes.
Q And Normandeau actually conducted wetland delineation along the entire 192-mile route that's in the United States?
A (Carbonneau) Yes. Plus the area south of Deerfield and to Londonderry.
Q And it would be fair to say you didn't personally conduct the wetland delineation along that entire route?
A That's fair to say.
Q Other people assisted in the process?
A Yes.
Q And were those other people employees of Normandeau & Associates?
A Yes.

Q And they're full-time employees?
A (Carbonneau) Not necessarily. Some of them are part-time employees. We did, we were teamed with another consulting firm early on in the Project, although that is no longer the case, and some of their employees did some deliberations, but all of the delineation work was conducted by folks that were under the authority of Normandeau.
Q Okay. Are you familiar with Dr. Rick van der Poll?
A Yes.
Q And you're aware that the City of Concord hired him to evaluate the wetlands impacts in the City of Concord?
A (Carbonneau) Yes.
Q And you're aware that he's a certified wetlands scientist in New Hampshire?
A (Carbonneau) Yes.
Q And as part of his work he conducts wetland inventories?
A (Carbonneau) Yes. As part of his work.
Q And wetland inventory is the same thing as a wetland delineation; is that right?

A (Carbonneau) not necessarily. An inventory may be just identifying generally the location of a wetland. A delineation is a field exercise using a specific protocol developed by the US Army Corps of Engineers to find a wetland boundary in the field.
Q Okay. And you're familiar that he does conduct wetland delineations?
A (Carbonneau) Yes.
Q Have you worked with him in the past?
A I have.
Q And you would agree he's well-respected in New Hampshire?
A (Carbonneau) Yes. He's well-respected as a field ecologist.
Q And in terms of Dr. van der Poll's work in this case, you're aware that he conducted a review of the wetland maps in Concord, and he submitted Prefiled Testimony in this case?
A (Carbonneau) Yes.
Q And if you can turn to, we're going to look at Joint Muni Exhibit 142. This is, I'll represent to you, we can go to the first page if you want, but this is his Supplemental -- sorry.

This is Joint Muni Exhibit 142, and this is his Supplemental Prefiled Testimony submitted on April 17th, 2017, and you're familiar with this report that he provided?

A (Carbonneau) Yes. I have looked at this.

Q Okay. And I want to turn to now what he attached as Exhibit B to Exhibit 142. So Exhibit B, you've reviewed the spreadsheet that Dr. van der Poll prepared?

A (Carbonneau) Yes. We've seen this.

Q And you would agree that this is a spreadsheet that shows areas that he thought were incorrectly delineated by Normandeau in terms of areas that may have been missed on the wetland maps or areas that may have been inappropriately named as temporary impacts when they were permanent impacts. Is that a fair overview of that document?

A (Carbonneau) That's my understanding. Yes.

Q Okay. And I'm not going to go through all of them, but he did identify 40 areas, is that right?

A (Carbonneau) Yes. They are numbered 1 through 40 here.

Q And at the bottom, what he identified was that Normandeau failed to identify, and if you could blow it up in that line, 65,947 square feet of new additional temporary impacts. Is that right?
A (Carbonneau) That's the number on the table.
Q And he also found, based on his review, that Normandeau failed to identify 720 square feet of new additional permanent impacts, right?
A (Carbonneau) That's the number on the table.
Q Okay. Now, I want to talk about the wetland delineations that he found that you missed. And you understand that he originally looked at aerial photography to create this spreadsheet?
A Yes.
Q And you're aware that he subsequently spot-checked five areas to confirm his review?
A (Carbonneau) Yes.
Q And are you aware that all of those areas were confirmed by him during his spot checks in the winter?
A (Carbonneau) That is his contention. I'm aware of that, yes.
Q And one of those was actually a vernal pool that

he said that your company missed.
A (Carbonneau) Well, he said it's possibly a vernal pool, but he wasn't there during vernal pool season nor did he do his field checks during the growing season which is one of the requirements to accurately delineate a wetland boundary.
Q So let's look at Exhibit 214 for a moment.
And the area that is in the blue box, we're going to blow it up a bit, but this is along Shaker Road, and that is the area of the vernal pool that he claims that you missed. Do you see that dark spot next to that white square with an X in it?
A (Carbonneau) Yes.
Q And you would agree that's the area of the vernal pool that he says that was missed?
A (Carbonneau) Yes. I believe that is what he is referring to.
Q And according to the plans, there's actually a pole that is immediately adjacent to that vernal pool? Assuming it is a vernal pool?
A (Carbonneau) If it were a vernal pool, the structure is not in it, but it is near it.

Q And that's a pole that's going to be removed and relocated, and the pole that we're discussing is P145-140. Correct?
A (Carbonneau) Yes. That's the P145 line, and that's looks like the right structure number.
Q Can you go to Joint Muni Exhibit 215? And, again, that dark spot in the blue square which has been marked as Joint Muni 215, that, again, shows the vernal pool that he claims that Normandeau & Associates missed?
A (Carbonneau) That is the area that he claims is a missed vernal pool.
Q And, again, you can see the construction pad for P145-140, we'll zoom in a little bit, and that's adjacent to that vernal pool, correct?
A (Carbonneau) It is nearby.
Q And you discussed with Attorney Connor vernal pools, and you agreed that they're a valuable resource?
A (Carbonneau) Yes, they are.
Q Since you received Dr. van der Poll's report identifying a vernal pool that he believes you missed, you have not yet gone back to the site to confirm?

A (Carbonneau) We have not.
Q And if we can turn to Applicant's Exhibit 98, this is your Supplemental Testimony again from April 2017, and on page 6 of 11 at the bottom, there we go. Actually, I guess this is page 5. You talk about the wetland delineations and assessments, and you talk about Dr. van der Poll challenging your wetland delineations.

And on the next page, on line 2, you state, "We reviewed his comments and our wetland maps and notes and disagree what his winter observations are a cause for concern." And you indicated already during your testimony today that you didn't have concern because his site check when he went out to the site to look at whether those areas of vernal pool was done in the winter, right?
A (Carbonneau) Well, that is true that we don't believe that he did his field checks during a time of year where you can make an accurate assessment, but that's not the only reason that I don't feel it's a great concern.
Q Okay. And the other reason was because you looked at your own maps and you felt like you

had a good quality control process?
A (Carbonneau) Well, we do feel that way. We've had the Army Corps of Engineers spot-check our delineations. We feel that in general we've done a good job. We've had other consultants check our field delineations for towns that they were working for, and they agreed that we had done a good delineation job.
Are there possible locations where two scientists may disagree to some extent on the exact placement of a wetland boundary, sure. That happens. But it is not, in my opinion, cause for concern. And in particular, there are no impacts proposed in that standing water area that he believes could be a vernal pool.
Q Well, there's a pole adjacent to the vernal pool, right?
A (Carbonneau) There's a pole near what could be a vernal pool. It may not be a vernal pool. It may dry up too soon in the summer to actually be a vernal pool. It could be a vernal pool sink.
Q But if it's a vernal, pool you would want to have it identified on the maps in order to let the construction team know that that's a

sensitive area, right?
A (Carbonneau) All wetlands are sensitive areas. It's contained within a wetland, and every effort is made to avoid and minimize impacts to wetland whether they're vernal pools or not. A vernal pool does add some specific wildlife habitat value to a wetland, but it would not cause us to revise this plan sheet.
Q Other than to identify it as a vernal pool, right?
A (Carbonneau) Right.
Q And you have no plans as you sit here today to go back and reinspect that site to determine whether it was a vernal pool?
A (Carbonneau) Well, prior to construction, wetland boundaries need to be reevaluated. If there turns out to be some vernal pool species in the path of the project that could be temporarily impacted, that will be noted at that time. But, again, this one, even if it is a vernal pool, is being avoided.
Q Okay. So in terms of your statement that because it was in the winter you're not concerned that, you think maybe it was misfound

as a vernal pool.

Can you go to Exhibit C? Sorry. Bear with me for one moment. Joint Muni 142.

This is Exhibit C, and this is the report he prepared after he went out to check the sites in the wintertime, and the third one is Maplewood Farm, Shaker Road, and that's the location of the vernal pool that he had identified, correct?

A (Carbonneau) I believe so.

Q And you can see he went out and he used an auger. He shows photographs of the area that he found as a vernal pool. Yet, even so, in your Supplemental Testimony you dismiss that because it was done in the winter; is that right?

A (Carbonneau) We didn't dismiss it entirely. We just said that to accurately -- and the soils have nothing to do with the vernal pool. I think his, what he's referencing here is the delineation of a wetland boundary. So to the extent that a wetland boundary is delineated, it's really appropriate to do it during the growing season where you have vegetation as well as access to the soils and an unfrozen condition

and evidence of hydrology during the growing season.
Q So is now a good time to determine whether or not something is a vernal pool or to delineate wetlands?
A (Carbonneau) It's a fine time to delineate wetlands. We're basically past the vernal pool season. You could find tadpoles, but it wouldn't give you an indication of how many egg masses there were, for example, but you could probably still identify whether or not a vernal pool is functioning.
Q And if I was to represent to you that Dr. van der Poll went there last week and confirmed that there was a vernal pool, you would have no doubt that he knows how to identify a vernal pool. Do you?
A (Carbonneau) Right.
Q Okay. In terms of the other areas that he spot-checked in the winter, those four other wetland areas, again, you dismiss those in your Supplemental Testimony on the basis that those spot checks were done in the wintertime?
A (Carbonneau) Again, we didn't dismiss them. We

just don't believe that it is cause for concern. I mean, it's quite possible that his identification of a wetland boundary that might need to be shifted could hold up if it were reviewed during the growing season. Small differences in where a boundary line is drawn occur frequently because you're looking at information from a specific location. Then you hang a flag. Sometimes there's 25 to 50 feet between the wetland flags that you're hanging. If someone were to come and look at the soils and the vegetation exactly at a spot that you didn't check, they might choose to put the line in a different location. It's standard practice the way we delineate, and it's been known that professionals don't always hang flags in exactly the same location.

Q Well, he actually found that you missed the wetlands in certain areas, right? It wasn't just a matter of a few feet of a delineation difference?

A (Carbonneau) That was his claim.

Q Okay. And so if I was to represent to you that Dr. van der Poll went out and confirmed that the

areas that you missed were actually wetlands areas, and he went out there last week, you would, again, have no reason to doubt that Dr. van der Poll knows how to identify a wetland, right?

A (Carbonneau) Well, I would -- and we do this frequently. If there is a location where there are different wetlands scientists, we would go out and try to confirm the information ourselves. We wouldn't just take another scientist's word for it.

Q At this time, before the Application is complete and reviewed by the Site Evaluation Committee, you don't have any immediate plans to go out and check on those areas that Dr. van der Poll has identified as being missed, do you?

A (Carbonneau) We don't have plans to do that right now, but as I said, wetland boundaries need to be reflagged prior to construction. If there is a change in the wetlands at that point that are identified, then they would likely be flagged differently.

Q And that's prior to construction, but in terms of what the Site Evaluation Committee has for

information about the extent of wetlands in at least the Concord region, at this point there's a question as to whether it's correct, right?

A (Carbonneau) There's no question in my mind that we have done a adequate delineation job on this Project, and that has been confirmed by the US Army Corps of Engineers.

Q And you'll agree that Dr. van der Poll has raised legitimate questions about whether or not those delineations in Concord are accurate.

A (Carbonneau) Well, he has raised questions. I don't -- I can't speak to the legitimacy of them.

Q Okay. I have nothing further.

PRESIDING OFFICER HONIGBERG: Mr. Whitley, do you have anything? That's a no with your head shaking?

MR. WHITLEY: Yes.

PRESIDING OFFICER HONIGBERG: Mr. Thompson? Do you want to go now? That looks like a no to me.

MR. THOMPSON: I'd rather wait until this afternoon. Part of my stuff is questions of Mr. Titus.

PRESIDING OFFICER HONIGBERG: Okay.

MR. THOMPSON: I'm kind of preparing myself as things pass through.

PRESIDING OFFICER HONIGIBERG: Mr. Cunningham?

MR. CUNNINGHAM: Mr. Tinus also.

PRESIDING OFFICER HONIGBERG: All right. Does anyone have questions for the Panel that would not include Mr. Tinus? Mr. Palmer? Part of your group?

MR. PALMER: My questions would not concern Mr. Tinus, and I don't know about Carl.

PRESIDING OFFICER HONIGBERG: I'm sorry. Can't hear that.

MR. PALMER: I said my questions would not be for Mr. Tinus.

PRESIDING OFFICER HONIGBERG: All right. Mr. Palmer, why don't you go then. Off the record.

(Discussion off the record)

CROSS-EXAMINATION

BY MR. PALMER:

Q Good morning. My name is Walt Palmer. I'm the spokesman for the Abutting Property Owners group

from Bethlehem to Plymouth which is the Abutting Property Owners along the underground portion of the route.

So my questions focus on underground issues, and specifically about trenching and backfilling of trenching for this morning.

I'd like to start out by referring to the Environmental Impact Assessment for this Project. This is a page from the Environmental Impact Assessment as you can see from the title up here. And it's a part, the only part that I could find in the Environmental Impact Assessment that talks about backfilling and the impact of backfilling on the environment.

And basically what it says is that use of topsoil segregation as a Best Management Practice when trenching and replacement of the subsoil and then the topsoil would reduce the impact on prime farmland, farmland of statewide importance, and farmland of local importance. And then the final conclusion is that if these requirements were implemented, the impacts on soils would be short-term and localized.

So the assumption here, the assumption in

the Environmental Impact Assessment is that these Best Management Practices will be implemented in areas of prime farmland, farmland of statewide importance and farmland of local importance. I'd like to next put up a map.

PRESIDING OFFICER HONIGBERG: Is there a question associated with that or the --

Q I guess my question is do you see that and would you agree with that?

A (Carbonneau) I see that highlighted section from the Draft EIS, yes.

Q I'd next like to put up a map of my farm. This is a Soils Inventory Map of my farm. 120 acres. Just as an aside, today is my birthday. I'm 63 years old.

A Happy birthday.

Q I've poured my life blood into this place.

PRESIDING OFFICER HONIGBERG: Happy birthday. So you want them, it's not your turn to testify, but you're representing to the Witness Panel that this is your property and that you want them to assume that's true for the purposes of the questions you're about to ask them, correct?

MR. PALMER: Yes. Correct. Thank you.
PRESIDING OFFICER HONIGBERG: Okay.
BY MR. PALMER:
Q Do you see here on this soil map a section of soil that's labeled 28 A?
A (Carbonneau) I see that on the map.
Q And also over here a section of soil that's labeled 104? Soil Type 104?
A (Carbonneau) I also see that.
Q Okay. I'd next like to turn to the Soils Survey of Grafton County conducted by the US Department of Agriculture, NRCS. Table 5 of that survey identifies prime farmland. And two of the soil types they identify are 28 A and 104 as prime farmland.
So go back to the map of my farm, it's clear that there's prime farmland on the farm. This is Route 116 going right through here. This is the proposed route of the underground power line. Prime farmland is abutting the proposed route for, oh, approximately a quarter of a mile along that section. Do you see that?
A (Carbonneau) I do see that.
Q Okay. Now I'd like to turn to the Geology and

Soils Technical Report from the Environmental Impact Assessment. Figure 19 of that report. And this is a fairly small scale. I'll try to zoom in a little bit. First of all, if we look at the bottom of the document which is, I'll do it sideways.

PRESIDING OFFICER HONIGBERG: Off the record.

(Discussion off the record)

BY MR. PALMER:

Q You see that all land marked in purple is prime farmland. Marked in blue, farmland of statewide importance, and marked in orange, farmland of local importance. Go back up to the proposed power line route which is Route 116 along here. You can see, even though the scale is not great, that a great portion of that land is either orange, blue or purple. Do you see that?

A (Carbonneau) I see that that route intersects those colors, yes.

Q So based on this, then would you agree that in fact a lot of the proposed underground power line route along Route 116 intersects farmland that's either prime farmland, farmland of

statewide importance or farmland of local importance?

A (Carbonneau) Well, at this scale, it certainly could be interpreted that way, but my understanding is that the actual excavation of the trench is likely to occur in the disturbed section of the road shoulder and not off into the actual farmed portion of the soils or the --

Q Nevertheless, the Environmental Impact Assessment assumes that the Best Management Practices of replacement of native topsoil, of native subsoil and then native topsoil, is the Best Management Practice that will be applied in the areas of these types of farmland; is that right?

A (Carbonneau) If that's, if that's what's there now, potentially, but again, I'm not the author of the Draft EIS. That's a high level document that sort of speaks to the general practices.

Q I understand you're not the author, and you're not adopting the EIS. However, you do state in your Prefiled Testimony that you concur with the conclusions of the EIS generally, right?

A (Carbonneau) The general conclusions, not every

specific detail in it, but only with regards to the effects on wetlands and sensitive natural resources that we evaluated. That's my testimony.

Q Okay. But to get back to my original point, the Environmental Impact Assessment assumes the use of these Best Management Practices in this type of farmland area. Let me ask you. If for any reason these types of Best Management Practices were not to be used, what does that do to the conclusion of the Environmental Impact Assessment? Doesn't that render the conclusions invalid if a different methodology for backfilling is used?

A Well, it's not a site specific document, but if it calls for the replacement of farmland topsoil back in a location where it was prior to construction as a topsoil layer, then that would be appropriate, and, apparently, that is what the Draft EIS assumes and so I would agree with you.

Q My question is if their conclusion is predicated on the use of this Best Management Practice, and then for any reason this Best Management

Practice is not used, does that not render their conclusion invalid?

A (Carbonneau) For that one particular issue, I guess I would say if I were writing it, that would be my conclusion, but I can't speak for the author.

Q Okay. Thank you.

PRESIDING OFFICER HONIGBERG: Mr. Palmer, please don't interrupt Ms. Carbonneau. It makes, the stenographer cannot get both of you at the same time. Please don't interrupt her.

MR. PALMER: Okay.

BY MR. PALMER:

Q Can you tell me, in the cross-examination last week with the Construction Panel we learned that the plan is to use coal fly ash as an ingredient in the backfill in the trenches. Can you tell me when did you learn that coal fly ash was going to be used as an ingredient in the backfill?

A (Carbonneau) I recently learned that that was a potential additive to the flowable fill that could be used to backfill trenches.

Q And of course as we've discussed earlier, you're

aware that coal fly ash contains many toxic constituents such as arsenic, lead, mercury, cadmium, et cetera, et cetera?

A (Carbonneau) I'm aware that that's a possibility.

Q A possibility. You're aware of the 2014 USEPA study that showed many damage cases resulting from the use of coal fly ash and the placement of coal fly ash in the soil and the leaching of toxic constituents into groundwater?

A (Carbonneau) I'm not familiar with that document, and these are questions that are better asked of Jake Tinus who is our water quality specialist. He's more familiar with this topic than I am. Or the Construction Panel itself.

Q I will reserve the right to ask these questions of Mr. Tinus at a later time.

I could ask you. Did your group attempt to assess, when you found out that coal fly ash was going to be used as a constituent in the backfill material, did your group attempt to assess the potential impact of that on soils and groundwater?

A (Carbonneau) I did not personally do that, but I can't speak for what others on the Project team have done regarding that.
Q So you're aware of the USEPA methods for assessing whether toxic constituents would leach from solid materials?
A (Carbonneau) I'm aware generally that the EPA has methods, but I'm not familiar with it specifically.
Q Would you agree that if one learns that a potentially toxic substance is going to be used and placed in ground as part of a Project, appropriate environmental assessment would be to determine whether or not materials can leach from that material?
A (Carbonneau) In a general sense, I would agree with that. Whether or not there are already standards in place or studies that have evaluated those materials and resulted in a preapproval by state or federal water resource specialists that those materials are safe, I mean, that could be another method of determining whether or not that material has a potential to leach. It could, may not need to

be specific to one particular or every particular project. It's something that could be evaluated ahead of time by a regulatory agency.

Q Yes. That's my point is that it is very specific to the material used and the location where it's used and that this type of study needs to be done on a very site specific basis, and my question to you is has any of that type of study been done?

A (Carbonneau) I don't know if it needs to be done on a site specific basis. I can't speak --

Q No, this is a yes or no question.

(Court reporter interruption)

A I don't know if it needs to be done, and I don't know if it will be done.

Q So earlier today you testified that the backfill material will be unconsolidated and porous. I think your words were that it would be of the same permeability as the soil around it and the groundwater would be able to flow through it the same way that it flows through the groundwater on the soils around it, is that right?

A Generally speaking, that's my understanding from what I have read about the material. You know, there are obvious variations in native soils about how porous they are and how much groundwater flows through, but my understanding is that this material has a similar porosity to many native soils, probably not clay and probably not gravel but something in between.

MR. WALKER: Mr. Palmer, I'm sorry to interrupt you. Mr. Chairman, Jake Tinus has arrived. It may speed things up if we have him out here now.

PRESIDING OFFICER HONIGBERG: I don't see any reason not to bring him up.

(Discussion off the record)

(Jacob Tinus rejoins Witness Panel)

PRESIDING OFFICER HONIGBERG: Mr. Palmer, you may continue.

BY MR. PALMER:

Q Hello, Mr. Tinus. My name is Walter Parker.

A Good afternoon.

Q I'm one of the landowners abutting the underground portion of the proposed project.

A Um-hum.

Q And my questions are about the underground portion and specifically about the trenching and the backfill to be used. We've already encountered one question which I was told I would need, it would be best to ask you which is whether or not any assessment has been made since it was determined that or since it was proposed that coal fly ash would be used as a constituent the backfill material in the trenches.

My question is whether any attempt has been made since then to assess the leachability of toxic constituents from the proposed material that's going to be used and the potential impact of that on groundwater along the proposed route.

A (Tinus) No further study has been performed regarding the issue that you mentioned, but my understanding of the use of coal ash as a constituent in flowable fill and other materials is quite prevalent.

Q Okay. Thank you. And for the Panel, are you aware of the 2014 USEPA ruling concerning residual materials including coal fly ash?

A (Carbonneau) I'm not familiar with that specific

document.
Q The rulemaking stated that when material is deposited in the ground in a consolidated condition as concrete that it's probably safe, but when it's deposited in the ground as an unconsolidated material, it must be put in lined areas. Is the proposal for the underground trench that you plan to use, does that contain any kind of lining on the sides or the bottom, impermeable liner?
A (Tinus) I don't believe the design shows that, but I think that the EPA --
Q I'm sorry --
A (Tinus) The study that you mentioned in 2014, I'm not familiar with that outcome, but as you characterize the usage of the material, I think it's slightly different than what you're envisioning. It's a constituent mixed with sand and Portland cement and that sort of thing. So they call it flowable fill because it's runnier than traditional concrete. It's used so that it can get in there and fill the spaces in the trench, and it's not as porous as you think. That sort of a mixture is also used in concrete

abutments and buildings and whatnot. There's varying degrees of material. That's my understanding.

Q Well, we just heard testimony earlier today and just now that this material will be porous and will allow the passage of groundwater.

A (Tinus) I think the Construction Panel testified otherwise.

Q So is it porous or is it not?

A (Tinus) It's my understanding that it's not porous material, no.

Q So this is unconsolidated material which is poured in the ground like sand, and yet you're saying that groundwater cannot flow through it.

A (Tinus) It's more like a soft concrete, if you will, in its final texture. That's my understanding.

Q Okay. I refer you to the Prefiled Testimony of John Kayser in which he says, once placed, the thermal sand may be removed via vacuum excavation. If you're removing something via vacuum excavation, it has be to unconsolidated material.

A (Tinus) I think we're talking about two

different things. You're saying thermal sand versus thermal fill.
Q Well, it's true --
A (Tinus) What I was describing --
(Court reporter interruption)
Q I'm sorry. Go ahead.
A (Tinus) I was describing thermal fill, not a thermal sand. Thermal sand is different. I think that's used to insulate the cable, not to fill the trench. And I'm not a construction expert. I'm just explaining what I understand from conversations with those folks.
PRESIDING OFFICER HONIGBERG: Off the record.
(Discussion off the record)
BY MR. PALMER:
Q So we're not sure whether it's porous or not, but you're saying it's probably not porous.
A (Tinus) The fill material, thermal fill. You mentioned thermal sand in John Kayser's testimony and that's different material.
Q So now we're not using the native soil to backfill anymore. We're not using thermal sand to backfill anymore. What you're saying is now

we're using some new substance which you're calling thermal fill.
A (Tinus) Flowable fill.
Q I'm sorry?
A (Tinus) Flowable fill.
Q Flowable fill.
A (Tinus) Yes.
Q But wouldn't you agree that this represents a major change in the proposal if suddenly now we're using a flowable fill material that contains toxic substances?
A (Tinus) I think the discussions are still ongoing with DOT. I don't think this has been approved yet.
Q Even aside from DOT if we go back and look at the Environmental Impact Assessment, that Impact Assessment based its conclusions on the basis that native soil from the site would be used to backfill the trench. If that's not the case any longer, then is the Environmental Impact Assessment still valid on that point?
A (Tinus) I don't know the answer to that question.
A (Carbonneau) The materials that were submitted

with the Permit Applications to the Wetlands Bureau, Alteration of Terrain Bureau and the 401 Water Quality Division all indicate that there will be a backfill component that may be soft concrete or flowable fill. So that information that's part of the project was provided to the State permitting and the Army Corps of Engineers.

Q Does that specifically say coal fly ash?

A (Carbonneau) No. It doesn't specifically identify all of the ingredients.

Q It doesn't, because I've run a search through all of the materials for the word "ash," and it came up zero times.

Coal fly ash was never mentioned in any of the Application materials or any of the Prefiled Testimony that Northern Pass has submitted so far; is that right?

A (Carbonneau) Not specifically called out as I think --

Q So even --

MR. WALKER: Mr. Chair?

A (Carbonneau) -- any of the specific ingredients of any of the concrete foundations or any of

that have been called out either.

PRESIDING OFFICER HONIGBERG: Mr. Walker?

MR. WALKER: Sorry. I interrupted. What I was trying to do was object to Mr. Palmer's interrupting the witness when she was answering.

PRESIDING OFFICER HONIGBERG: You effectively demonstrating the problem.

MR. WALKER: I was demonstrating it.

PRESIDING OFFICER HONIGBERG: Mr. Palmer, please, I know you're anxious, and I know there's things you want to get to, but it will really help the process and make the transcript readable if you'll just wait until they're done talking.

MR. PALMER: Okay. I apologize, once again, for interrupting.

BY MR. PALMER:

Q All right. Looking again at this map of my property, I've sunk many fence posts in this land to put up fences for livestock, and each one when I get down to about two feet deep, I hit water.

Are you aware that the shallow aquifer in this area is probably about two feet below the

ground surface?
A (Carbonneau) I'm not specifically aware that it, how deep it is in that particular location, but there are areas of shallow groundwater throughout the project.
Q All right. So if we look at the map of the entire route, do you even know how many areas have shallow ground aquifer areas along that route?
A (Carbonneau) If the seasonal high water table is within 18 inches of the soil surface during the growing season, and we likely would have identified it as a wetland area as one of the criteria for identifying wetlands.
Q Well, I'm not talking wetland. I'm talking about upland which has an aquifer about two feet below or close to the surface.

Do you have any inventory or any idea of how many abutters along this route are using that shallow aquifer as or relying on it as a source of water as I am for watering my livestock? Do you have an inventory of that?
A (Carbonneau) Jake, do you?
A (Tinus) I think we have the inventory of wells

that was available through DES through their confidential data sharing arrangement.

Q So according to the new DOT requirements that were issued in April, the trench for the underground cable, the bottom of trench is going to be 7 feet deep. Is that right?

A (Tinus) I think it varies, but I'll take your word for it.

Q I believe that was the requirement that was specified in the letter.

A (Tinus) Okay.

Q It's going to be 7 feet deep, it's not going to be lined on the sides or the bottom, and it's going to contain this material that has toxic constituents in it. Seven feet deep, I represent to you, and I'd like to ask whether you disagree is below the shallow aquifer level for many areas along this route.

A (Carbonneau) That's possible.

Q Therefore, it means that this material with toxic constituents, leachable toxic constituents is going to be placed --

MR. WALKER: Objection to that. That's testimony. Not a question.

PRESIDING OFFICER HONIGBERG: He never got to the end of it. Let's hear what the question is.

BY MR. WALKER:

Q Is going to be placed in the trench which is going to be actually suspended in the shallow aquifer and the shallow aquifer will be flowing all around and through it the whole time it's there.

PRESIDING OFFICER HONIGBERG: So is there a question associated with that?

Q Would you agree with that characterization?

MR. NEEDLEMAN: Mr. Chair?

PRESIDING OFFICER HONIGBERG: Mr. Needleman?

MR. NEEDLEMAN: Yes, with respect to the Construction Panel testimony and the information that was brought out on redirect, the evidence was that this material is not leachable in flowable backfill.

PRESIDING OFFICER HONIGBERG: Now you're testifying.

MR. NEEDLEMAN: I'm speaking to evidence that's in the record.

PRESIDING OFFICER HONIGBERG: I understand your position. The question is for the Panel, if they agree with the statement Mr. Palmer just asked them about which I think they can answer.

A (Tinus) Can you restate that, please?

BY MR. PALMER:

Q Bottom of the trench is 7 feet deep and areas where the aquifer is only two feet below the ground surface, would you agree that the bottom part of the trench is actually going to be suspended in the aquifer?

A (Tinus) In those areas where you indicate that it's two feet from the surface, that seems like a reasonable conclusion.

PRESIDING OFFICER HONIGBERG: The record will speak for itself, but that is a very different question than the one you asked before. So do you want to, you want to continue with the question that spurred the back and forth?

MR. PALMER: Well, the rest of my question which I suppose is going to raise another objection --

PRESIDING OFFICER HONIGBERG: No, it's

already been ruled on. If you ask the question that you asked before, you'll get an answer.

MR. PALMER: Okay.

BY MR. PALMER:

Q So then would you agree --

MR. ROTH: You could have the reporter read the question back.

Q Could I ask for the question to be read back?

PRESIDING OFFICER HONIGBERG: Off the record.

(Discussion off the record)

COURT REPORTER: Question: Therefore, it means that this material with toxic constituents, leachable toxic constituents, is going to be placed in the trench which is going to be actually suspended in the shallow aquifer and the shallow aquifer will be flowing all around and through it the whole time it's there. Would you agree with that characterization?

PRESIDING OFFICER HONIGBERG: All right. Did the Panel hear the question?

A (Tinus) Right.

A (Carbonneau) Yes.

A (Tinus) I would not agree with that because I

think the premise is wrong in that the fly ash is not going to leach out of the flowable fill product. In fact, the DES considers this a waste product that's certified for reuse.

Q Okay. Before you came in, I made reference to the 2014 EPA study showing many damage cases where exactly that did happen. Fly ash was placed in the ground and toxic materials did leach out of it and did contaminate groundwater nearby to levels above safe drinking water standards.

MR. WALKER: Objection. Testimony by Mr. Palmer. He's characterizing a document without any foundation.

PRESIDING OFFICER HONIGBERG: Yes, Mr. Palmer, what's your response to that?

MR. PALMER: I don't have the document here in front me, but I'm only quoting USEPA documents.

PRESIDING OFFICER HONIGBERG: If you want to quote an USEPA document, let's pull it up.

MR. PALMER: Okay.

MR. ROTH: Mr. Chairman?

PRESIDING OFFICER HONIGBERG: Mr. Roth?

MR. ROTH: I hesitate to do this, but it seems like the Applicant's have a number of sort of Rules of Evidence types of objections to the presentations and questions by the sort of unrepresented Intervenors, and as we know the Rules of Evidence don't apply, and I simply urge the Chair to exercise some restraint and discretion with respect to these kinds of objections.

I would also urge the Applicants to exercise similar discretion and restraint because there's going to be a lot of this kind of questioning and the like by these Intervenors, and if they want this proceeding to finish sometime by the end of the year, it would make sense for them to allow it to occur and not be so objectionable.

PRESIDING OFFICER HONIGBERG: Mr. Roth, I don't think that's a fair characterization of the nature of the Applicant's objections. While there have been a handful, really a very small handful, that we could probably find a Rule of Evidence that would apply, I think for the most part they save their objections for the ones

that are really confusing, really constitute testimony, and I think the rulings thus far have reflected a willingness to cut a fair bit of slack to pro se Intervenors who are not experienced question askers. I think there's a wide range of capability of terms of asking questions among the intervenors. Those who are making a good faith effort to follow the process and ask simple direct questions are getting simple direct answers.

I think when things get complicated, and question askers try to bite off more than they can chew, they run into a problem with the Panel, with the Applicant's counsel, and with the Presiding Officer. So I think if people keep it simple, it will work much better. I think that's true for lawyers and nonlawyers alike.

Mr. Palmer, you may proceed.

MR. ROTH: If I may, I'm sorry. I agree with everything you just said, and I want to make that clear. I meant no disparagement of the Chairman's rulings. What I am concerned though that there have been a number of

objections from the Applicants that refer to foundation, and that's an evidentiary rule objection, and that's where I am concerned.

PRESIDING OFFICER HONIGBERG: Understood. Thank you, Mr. Roth.

BY MR. PALMER:

Q Okay. I just wanted to sum up, I guess, in that everything that I've seen in terms of the environmental studies so far has made the assumption that we're going to be using topsoil and subsoil, excuse me, from the area as backfill as the bases for their conclusions.

Would you not agree that now the proposal's entirely different, the proposal is to use material with toxic constituents as a backfill and that that makes, raises the requirement for further study to determine whether or not this is a safe proposal to put through prime farmland, farmland of statewide importance, farmland of local importance and aquifers that are being used as a drinking water source.

A (Carbonneau) Well, I'll speak somewhat to that, and I disagree with you. The materials that we have submitted for the Permit Applications have

indicated that flowable backfill or a concrete mixture was part of the plan. It has been since 2015 when those materials were submitted to the State. I can't speak to what the EIS drafters knew or didn't know at the time, but there is also evidence that we have provided the information to the DES and to the SEC, therefore, that flowable backfill would be a constituent of the project.

Q Flowable backfill does not describe the problem. You already testified that at no point did you say that you were going to be using fly ash in any of these Application materials. The fly ash is the issue, and the toxic constituents in the fly ash is the issue. If you have not included that in your Application so far, then how can any of it be applicable. That's my question.

A (Carbonneau) Again, we don't go into the great detail of the constituents in every portion of the materials that are used on the Project. We got no questions about it from New Hampshire DES, and we've answered every question that they've asked us to the best of our ability.

Q I'm sorry. So you're representing this as a

minor detail, the switch from clean topsoil or clean sand to toxic materials.

A (Tinus) Can I just add that you're using the word "toxic" as though this material is just taken and used and not analyzed, and part of the solid waste regulations require that it is in fact analyzed and it can't exceed certain exceedances for certain constituents for metals, for example. It's also, because it's a certified, a waste product that's been certified for reuse, it's used in other things such as a compost bulking agent. It's been used all over the country, all over the northeast, and the Departments of Transportation in most states use it. Other concrete manufacturers use it for different applications; as I said, bridge abutments, head walls, buildings, et cetera. It's in use in a lot of places. And my understanding from looking into this a little bit is that there's actually not enough of it to go around to be used, and that's what the industry says.

Q So you're basing your assessment that it is going to be safe in this situation on the fact

that it's being used in a lot of other situations, in different situations.

A (Tinus) I think we have to think about what the State agencies have ruled, and contrary to what you said about the EPA finding it a problem, there's a 2014 report out that there I saw that says that it's safe.

Q It's a 2014 report, again, I don't want to testify, I'm not allowed to testify at this point. I'll do that later. I don't agree with your characterization of the report.

Okay. I'll end my questions there. Thank you.

PRESIDING OFFICER HONIGBERG: Thank you, Mr. Palmer. I think this will be a good time for a break. We'll come back at quarter to two. Let's go off the record for just a second.

(Discussion off the record)

PRESIDING OFFICER HONIGBERG: When we come back, we'll resume with Ms. Pastoriza.

(Lunch recess taken at 12:37 p.m.)

C E R T I F I C A T E

I, Cynthia Foster, Registered Professional Reporter and Licensed Court Reporter, duly authorized to practice Shorthand Court Reporting in the State of New Hampshire, hereby certify that the foregoing pages are a true and accurate transcription of my stenographic notes of the hearing for use in the matter indicated on the title sheet, as to which a transcript was duly ordered;

I further certify that I am neither attorney nor counsel for, nor related to or employed by any of the parties to the action in which this transcript was produced, 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.

Dated at West Lebanon, New Hampshire, this 28th day of June, 2017.

_____
Cynthia Foster, LCR